GUNMAKING

HISTORICAL OVERVIEW

There are those who argue that of all the types of craftsmen who were at work in the mountains during the days of self-sufficiency, those most challenged were the gunsmiths. And the best of the gunsmiths were, arguably, the best craftsmen, overall, in any community in which they worked. The production of few other items was more challenging, for the gunsmith was required to be a master in toolmaking, ironworking and blacksmithing, and the high arts of fine relief sculpture and inlay. The best pieces are priceless and so fearfully guarded that many collectors refuse to publicize the fact that they collect at all for fear of theft. These finest pieces work as intricately as Swiss watches, are as rugged and durable as Rolls-Royces, and are comparable artistically to fine paintings, music, or sculpture. Interestingly, they have the additional dimension that comes from their being, almost paradoxically, instruments of death—the tools by which enemies were slain, the frontier was conquered and tamed, and the table was filled with game. The fascination they hold for us is undeniable. Works of art that kill.

The subject is extraordinarily complex. So complex, in fact, that when I asked Wallace Gusler, former master gunsmith at Colonial Williamsburg, for the name of a history that I could trust, his reply was simple and to the point: "There is none." Every history written is accused of inaccuracy; every theory presented meets opponents and detractors. It seems almost impossible to pin down movements and schools and trends with real assurance, largely because of the frequent absence of signed, dated pieces that can be confirmed and accepted as prototypes. Gaping holes stud the logical, tidy continuum of design and development that some yearn for, and those holes get filled by hypotheses that are immediately contradicted. Others argue that there is no logical, tidy continuum anyway—that trends began independent of each other. And so the arguments continue.

Thus, you are going to have to forgive us if we tread carefully through this mine field as we try to put the gunmakers you are about to meet in some kind of historical context. For those of you who are interested in pur-

suing the subjects in greater depth, we have provided a Bibliography of the most often recommended books—and we wish you well.

The earliest and most widely used and available guns in our Appalachian settlements were the muzzle-loaded, flintlock longrifles. The term "rifle" itself is vital here, for it signifies a dramatic development in arms. It means a gun the barrel of which has a bore that has been "rifled." In other words, a series of shallow, spiral grooves have been cut into the inside walls of the barrel for its entire length to force the bullet to spin as it exits, thus giving it an extra stability and accuracy that the earlier "smooth bore" muskets and fowling pieces could not give. The best estimates, based on the existing evidence, are that the first rifle was a late-fifteenth-century German piece made for Maximilian and now owned by the Smithsonian. It is pictured in Blackmore's *Guns and Rifles of the World*.

The version of the rifle that came to America with the pre-Revolutionary War settlers was, basically, the result of the melding of two earlier design traditions. One was German. Several pieces from the second quarter of the sixteenth century survive. One is detailed in *Decorated Firearms* on page 108 (see Bibliography). It is a .50-caliber carbine with a wheel-lock ignition system (similar to the principle used by Zippo-type cigarette lighters) for providing the spark necessary to ignite the powder, a 25⅞-inch octagonal barrel, a full cherry stock, staghorn buttplate with a sliding horn panel covering a hole for the storage of several balls, a pronounced cheekpiece (as the gun was fired offhand with the stock against the cheek and not against the shoulder), and heavily inlaid and decorated as were most arms. The decoration of arms, in fact, is one of the earliest decorative traditions.

The second was French. Guns from this tradition were shoulder-stock (made to be fired while the gun rested against the shoulder) fowling pieces with a flintlock ignition system. Though historians disagree as to who designed the first flintlock (some attribute it to Marin le Bourgeois, who died in 1634, but this cannot be substantiated to the satisfaction of the most careful historians), all agree that it was a French innovation that appeared in the early 1600s and was definitely in use by the third decade of the seventeenth century (see *Decorated Firearms*, pages 3–6). Part of the credit must also go to Louis XIII who, through his extensive patronage of the Lorraine and Lisieux schools of French gunmaking, helped foster a climate in which such innovation could take place and focused it in the capital city. From Paris, the flintlock-ignition system spread rapidly through Europe and into England during the seventeenth century.

The wedding between the French and German traditions that is so vital to our early rifles took place when German gunsmiths adopted the French flintlock-ignition system and fowling-piece buttstock and produced a rifle made to be fired while the stock rested against the shoulder. An early example, dated about 1735 and described on pages 158–59 of *Decorated Firearms* has a bulky, rather inflated stock, a butt-trap with a sliding wooden cover, an octagonal .57-caliber barrel twenty-seven and a half inches in length that flares at the muzzle, is rifled with seven grooves, has an iron-bar rear sight and a simple brass blade for a front sight, double-set triggers, three ramrod pipes, a horn cap at the end of the forestock and relief carving on the stock itself. Significantly, the pronounced cheek stock has been modified into a smaller cheekpiece, and the flat sideplate for the lock (as opposed to the concave sideplate that disappeared in France about 1690) has been adopted. Also important is the relief-carved border around the patch box—a border in outline so similar to the brass plates that border early American rifle patch boxes that most historians regard it as the precursor of this American characteristic. This type of rifle is known as a Jäeger.

Jäegers arrived with the German and Palatine Swiss immigration to this country about 1709. These immigrants, along with a number of French Huguenots, settled in the Lancaster Valley section of Pennsylvania in a settlement named Hickory Town—later renamed Gibson's Pasture, and then, around 1729, renamed Lancaster. Others established settlements that later became the cities of Reading and Bethlehem. Lancaster, Pennsylvania, however, became the largest inland town in pre-revolutionary America. Since a high percentage of its population was German, and since a number of rifles were made there, that part of the country had a powerful influence on the development of the American longrifle. So powerful, in fact, that some historians make the facile assumption that the Lancaster County rifles were the most important influence of all. Men like Wallace Gusler quickly discount this, however, noting correctly that the movement of German gunsmiths throughout the colonies paralleled that of the Scotch Irish, and reminding us that there were Germans in the Shenandoah Valley by 1729; and that Winchester, Virginia, was laid off as a town in the 1740s, and there were Germans there. Gusler also notes that a man could argue that in those areas like Lancaster that were heavily German, the tendency might well be to hold onto a German design tradition more strongly, and resist design innovation longer, than in areas that harbored fringe gunsmiths who might well have been the real cutting edge of the evolution of the American longrifle.

In any case, the longrifle did evolve, combining the German Jäeger characteristics with those of the lighter, more slimly proportioned English fowling pieces, and adding the only purely American innovation: the two-piece, brass, hinged patch box. The result was known as the Kentucky

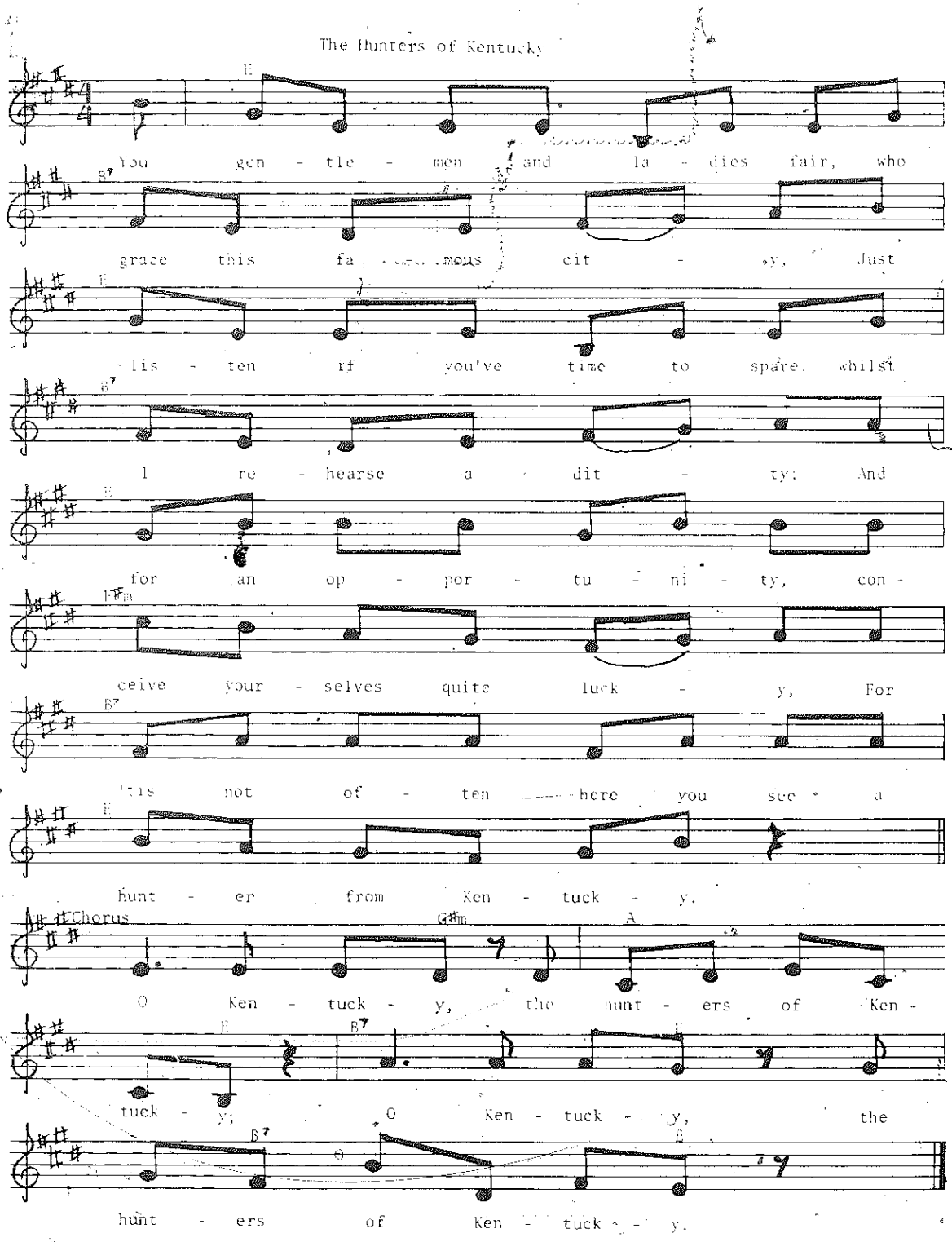

PLATE 159

2. We are a hardy freeborn race, each man to fear a stranger,
Whate'er the game we join the chase, despising toil and danger;
And if a daring foe annoys, whatever his strength and forces,
We'll show him that Kentucky boys are "alligator horses."
O Kentucky, etc.

3. I suppose you've read it in the prints, how Pakenham attempted
To make old Hickory Jackson wince, but soon his schemes repented;
For we with rifles ready cocked, thought such occasion lucky,
And soon around the hero flocked the hunters of Kentucky.
O Kentucky, etc.

4. You've heard I suppose how New Orleans is famed for wealth and beauty,
There's girls of every hue it seems, from snowy white to sooty;
So Pakenham he made his brag, if he in fight was lucky,
He'd have their girls and cotton bags in spite of old Kentucky.
O Kentucky, etc.

5. But Jackson he was wide awake, and wasn't scared at trifles,
For well he knew what aim we'd take with our Kentucky rifles;
So he had us down to Cypress swamp, the ground was low and mucky,
There stood John Bull in martial pomp, and here was old Kentucky.
O Kentucky, etc.

6. A bank was raised to hide our breast, not that we thought of dying,
But that we always like to rest, unless the game is flying;
Behind it stood our little force: none wished it to be greater,
For every man was half a horse, and half an alligator.
O Kentucky, etc.

7. They did not let our patience tire before they showed their faces—
We did not choose to waste our fire, but snugly kept our places;
And when so near to see them wink, we thought 'twas time to stop 'em;
And 'twould have done you good, I think, to see Kentuckians drop 'em.
O Kentucky, etc.

8. They found at last 'was vain to fight when lead was all their booty,
And so they wisely took flight, and left us all our beauty;
And not if danger e'er annoys, remember what our trade is,
Just sent for us Kentucky boys, and we'll protect you, ladies.
O Kentucky, etc.

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rifle—not because it originated in Kentucky, but because it was called that in the extremely popular ballad called "The Hunters of Kentucky" written about the Battle of New Orleans. The name stuck, and now the term is generally accepted as meaning the American flintlock longrifle.

A commonly held notion is that the Kentucky rifle was of age before the Revolutionary War. Joe Kindig, Jr., in *Thoughts on the Kentucky Rifle in its Golden Age* (page 30; see Bibliography), says of the gun: " . . . it was somewhat shorter and the butt was somewhat heavier than on rifles made twenty or forty years later, but in general, the Kentucky had attained by

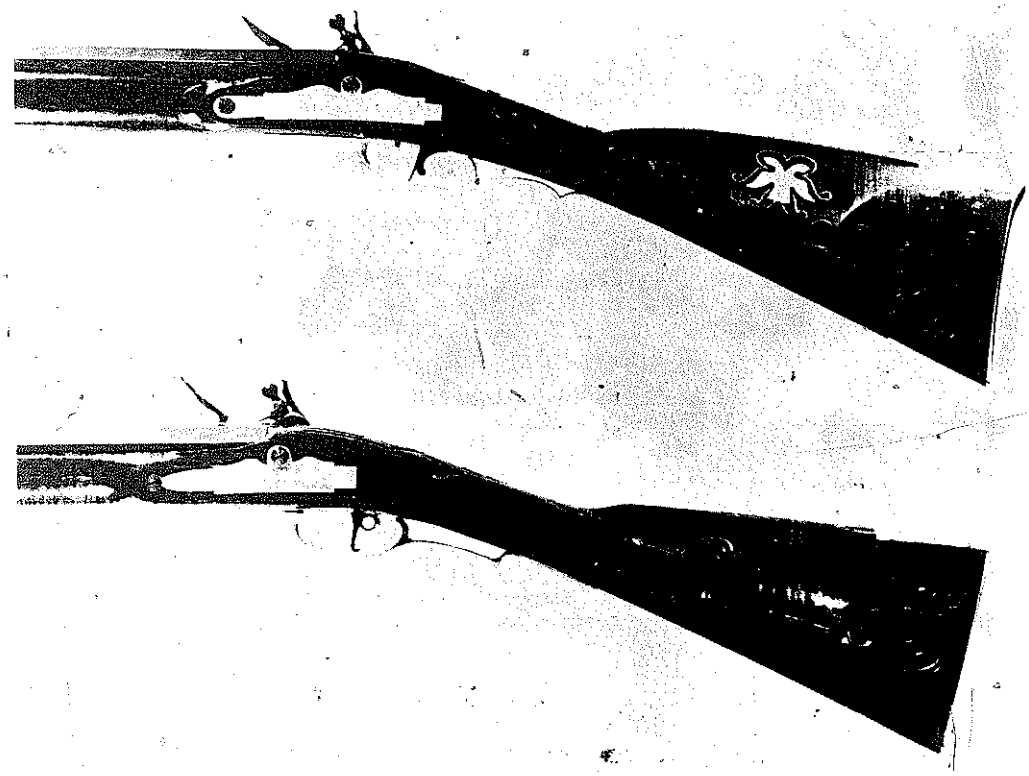


PLATE 160 Two rifles made recently by Homer Dangler of Addison, Michigan. At the top is a copy of a rifle made by J. P. Beck, and at the bottom is a copy of a rifle made by John Newcomer. John Philip Beck was a gunsmith of the Lebanon School in Lebanon County, Pennsylvania, from the late 1760s until his death in 1811. John Newcomer was a Lancaster County gunsmith who died in 1782.

this time that character that distinguished it from all other firearms. It had an octagonal barrel forty or more inches long [for greater accuracy], a full graceful stock of plain or slightly curly maple, a brass patch box, other brass mounts, and possibly one or two silver inlays. The patch box was plain with very little engraving and probably no piercings. The relief carving was simple and sparse." Though all this may have happened as early as 1750, Gusler says that there are no surviving dated pieces known that can support this. He states that the earliest known Kentucky-like rifle is one made by John Shrite in 1761 in Reading, Pennsylvania. And this rifle doesn't quite fit the description of the true Kentucky, for although it does have the longer barrel, it retains the German wooden patch box. The earliest known, dated, surviving piece carrying a hinged brass patch box is on a rifle dated 1771 that came out of the James River Basin School in Virginia and not out of Lancaster. And, Gusler continues, its patch box is naïve—obviously evolutionary and made at the beginning of the design's development. Guns with the fully developed brass patch boxes appeared in Pennsylvania by 1774,

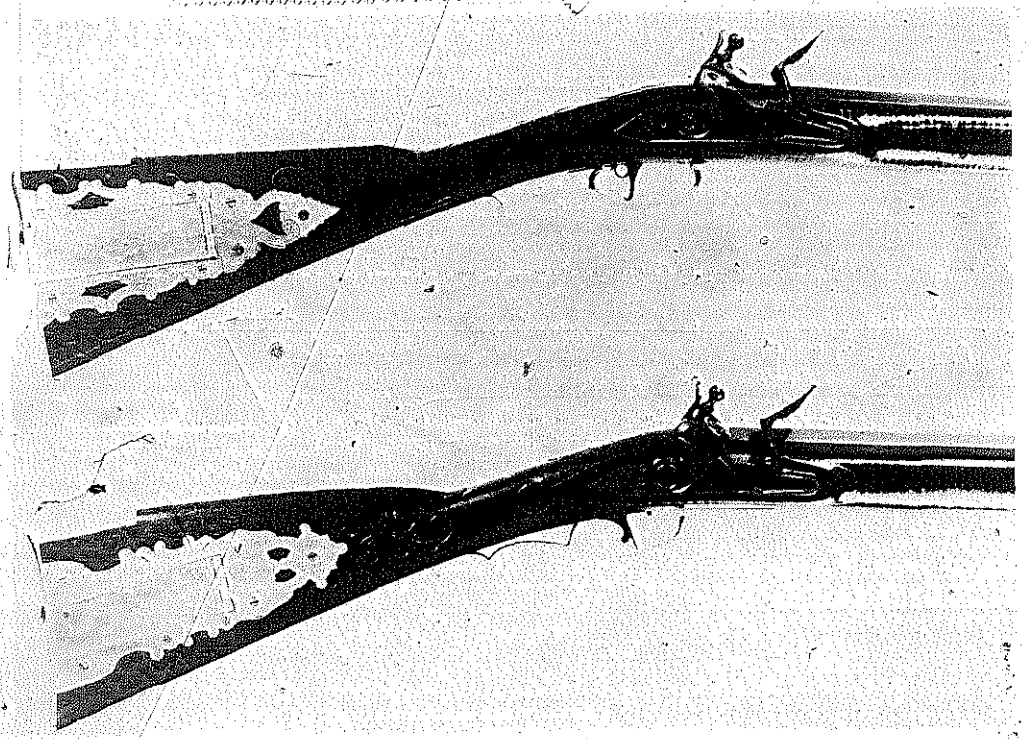


PLATE 161 The same rifles from the opposite side. At the top is the John Newcomer copy, and at the bottom is the J. P. Beck copy.

and by 1776, they were everywhere. Their geographical distribution by then, Gusler notes, was incredible. German gunsmiths were all over the colonies and developing quite independently of any Lancaster domination over the field.

In the twenty-five or thirty years following the Revolution, Kindig is convinced that the Kentucky was in its Golden Age with its extensive carving and beautiful inlay and decoration. This period ended with the recession following the War of 1812.

Another major design landmark appeared in America as early as 1776 in a rifle owned by William Campbell: the substitution of iron trim (buttplates, sideplates, etc.) for brass and silver. In fact, says Gusler, the roots of the tradition are probably French, since they continued the use of iron mounts from the seventeenth to the eighteenth century. But iron mounting is still regarded by many as an American mountain innovation. At any rate, its use was in full swing in the late eighteenth and early nineteenth centuries in southwest Virginia. Why iron? Some say it was a cheaper and easier technique. But Gusler points to a letter dated 1810 that states specifically that brass, in fact, is cheaper and more easily cast whereas iron has to be forged and then filed. Gusler speculates that the reason for iron

mounting is probably tradition. There were three screws, for example, holding the French buttplate in place, and numerous Tennessee iron-mounted rifles have the same construction; two screws identically mounted on the back of the buttplate.

By the late eighteenth and early nineteenth centuries, there was an active gunmaking tradition in our part of the Southern Appalachians. Gunsmiths and their families had migrated down the Shenandoah Valley into Tennessee and North Carolina. Though the connections between the Pennsylvania gunmaking schools and our early settlers were numerous (it is rumored, for example, that one of Daniel Boone's [1735–1820] guns was a Dickert [or Dechard], made by Jacob Dickert [or Dechard], a contemporary of Boone's, in Lancaster County, Pennsylvania; and there were numerous Pennsylvania Dutch settlements in the area such as Burningtown, near present-day Kingsport, Tennessee), a type of longrifle evolved in our mountains that was almost without decoration or inlay. This was probably prompted by the conditions in the area—settlers could not afford to support and subsidize the gunsmith as artist. Some of the best examples of guns of this type are those made by the famous Bean family, which traces its ancestry to the McBain clan in Scotland. William Bean's family was one of the first to settle permanently in the territory that is now Tennessee, and their son, Russell Bean, was, in 1769, the first white child born to permanent settlers in that territory. (The family, by the way, later knew Andrew Jackson well during the time he sat as a judge in Jonesboro, Tennessee. It is said that Jackson once arrested and punished Russell Bean for slicing or biting off one of his baby's ears in a fit of anger caused by his suspicion that the child was illegitimate.)

The Bean rifles are almost devoid of ornamentation or frills, and Gusler hypothesizes that this would almost have to be caused by a lack of wealthy patrons on the frontier and not by ignorance. William Bean, who moved his family from Pittsylvania County, Virginia, would have had to have come in contact—if only through repair jobs—with the stunning workmanship the Simpson (in Staunton, Virginia) and Honaker (in Pulaski County, Virginia) schools were producing in the 1790s. Gusler admits that the Bean rifles, and those like them, have their own integrity, but he regards them as a degenerate style that cannot be revered as a high point in American gunmaking.

In an attempt to find out more about those gunsmiths that predated—and possibly influenced—the mountain gunsmiths working in our area today, we went to Kingsport, Tennessee, to talk to a gun buff and historian, Jim Moran. Here is what he told us:

"Jacob Gross, a German, came to Tennessee to the north fork of the Holston River. His first land deed was for 490 acres in 1790. No doubt his

work influenced a lot of these mountain gunsmiths. He made a very good rifle. And the tendency—not only here but everywhere—was for the apprentices to marry into the gunsmith's family. Now that's a link between Douglases, Taylors, Wheelocks, Whitlocks, and Duncans.

"But the Bean clan was the biggest influence. They were English without a doubt, and the earlier ones were contemporaries of Daniel Boone. They were longhunters together. I have a rock in the back yard from Russell Bean's birthplace, which is only a few miles from here, and we know that Daniel Boone spent time there. Later, I'm sure Hacker Martin [see page 263] was influenced by their work. I know some of the farmers would bring old marked rifle barrels in and he would restock them, sometimes without buttplates and with a greasehole instead of a patchbox. I had one Bean rifle that was restocked by a Douglas who married into the clan, and he had a shop right close to Hacker's place. And I've seen four or five other rifles just like it.

"I used to have a Bean rifle that Charles and William Bean made for a J. Bean, which could have been Russell's son, James, or his grandson, James or Jessie. And it was dated in the early 1800s, but somebody stole it.

"They evidently had connections with a Robinson and a Donaldson who were ironmongers who came out of Virginia. They had a bloomery over there in Virginia with a trip hammer and all. When they dedicated some bloomery named after Robinson's wife up here, Baxter Bean, who was sixteen at the time, won a foot race there. So there were connections there.

"I think to begin with that the mountain rifles were of smaller caliber than the average Pennsylvania [Kentucky] rifle, they had gotten farther away from the basic German Jäeger rifle influence, which was a big bore.

"It's hard to tell now, however, what the original calibers were because many of them have been freshened out so many times. Every time they were rebored and recut, that made them larger.

"The site of one old Bean shop is out this side of Jonesboro on the present Jonesboro road. There are two mill stones down there in a pasture where this place was, and when I first moved here in 1937, it still had the remnants of the water-powered sawmill there, and that was Robert Bean's shop.

"One of the famous gunsmiths I haven't told you about is Samuel Lafayette Click. Some of his descendants told me that he learned the trade in the penitentiary. He made the nicest half stocks—lock, stock, and barrel—that were ever made in the tri-city area. Even the latter-day Beans weren't making guns like Samuel Lafayette Click. He didn't put his hammers on with a screw. He had them on a spindle with a slotted nut on top. His better-grade later rifles had patent breechplugs. He made most of his barrels which he always marked. He moved up and down the north Holston River. Practically all big farms had a blacksmith shop. He would go and do

all their blacksmithing and board with them—stay there maybe a month and usually make them a gun. The quality of the gun reflected the financial background of the people that had it made. He made some real fancy guns, and he did a lot of rework—restocking. I can spot his stocks. He was noted as a hard drinker, and an old timer told me, 'You know, he ruined nearly all the rail fences in Scott County.'

"I said, 'What do you mean?'

"He says, 'Well, he'd always go to Gate City, Virginia, and get drunk on Saturday and come back and get tired and lay down in the middle of the road and build him a fire and burn up the rail fences in the process. And what's more, he carried two converted Army Colts pistols, and if people came by in a wagon and kicked the fire out of the road because their stock was afraid to pass the fire, he'd come up shooting, and they were afraid of him. So they'd tear down a piece of rail fence to go around him.' They had rail fences on both sides of the road. Now that's true. I don't think that's a tall tale at all.

"Another tale on him happened down at Rotherwood below the big elm there. That was an Indian treaty ground. The first Indian treaties were under the big elm. DeSoto mentions the same tree. Well, they'd have shooting matches down there in the bottom below Rotherwood, and one Saturday down there, there was this fellow that owned some of these pegged boots, and he was laying over there passed out against a stump. Somebody bet old Samuel Lafayette, says, 'I'll bet you five dollars—(which would be the same as a hundred now)—that you can't shoot the toe out of old Joe's boot without bringing blood.'

"They had to discuss what shooting the toe out was. It had to be a bullet through both sides of the boot. Well, he hauls off and shoots Joe's boot, and Joe boils up and starts running, and they finally catch him and take his boot off and Joe hadn't lost any blood, so Samuel won his five dollars.

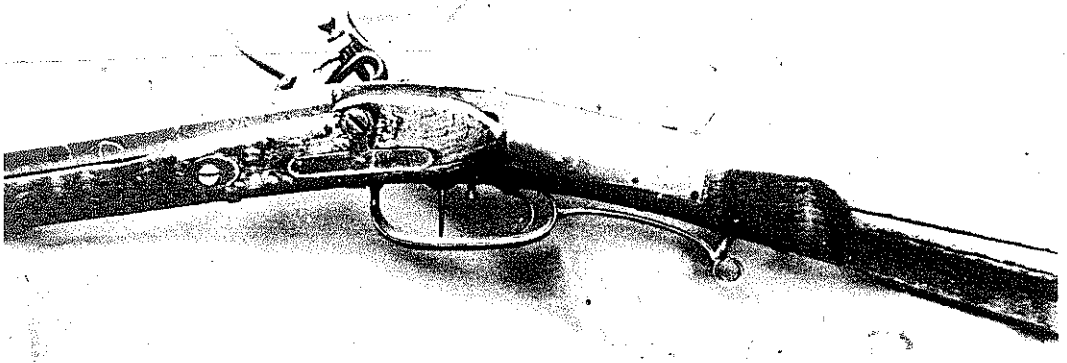
"He was operating, I'd say, about 1870. He tempered the steel for the Clinchfield Railroad. They ran into a geological streak over there that had a lot of silica or something in this limestone, and they weren't doing any good cutting that stone over there. So he tempered all their drill bits. That was before they had hydraulic drills. They just stood around in a ring and whacked them with sledge hammers you know.

"But he was a good ironworker. Some of his pieces had solid wrought iron—not thin wrought iron like the Bean buttplates.

"Now I'm just giving you my opinion of the Smoky Mountain rifle. I do think that if the Beans did not bring the design in here from Pennsylvania, or a stop in Virginia, they did modify it to fit the frontier here. Here are the basic differences:

"One is the tang. The tang came down over the comb of the stock, and

PLATES 162–168 An original Bean rifle, part of a private collection in Tennessee. The hammer was made by Hacker Martin and added later. Note the distinctive triggerguard, with its rear loop, as well as the distinctive sideplate. At some time the wrist portion of the gun snapped and was later reinforced with a metal sleeve.



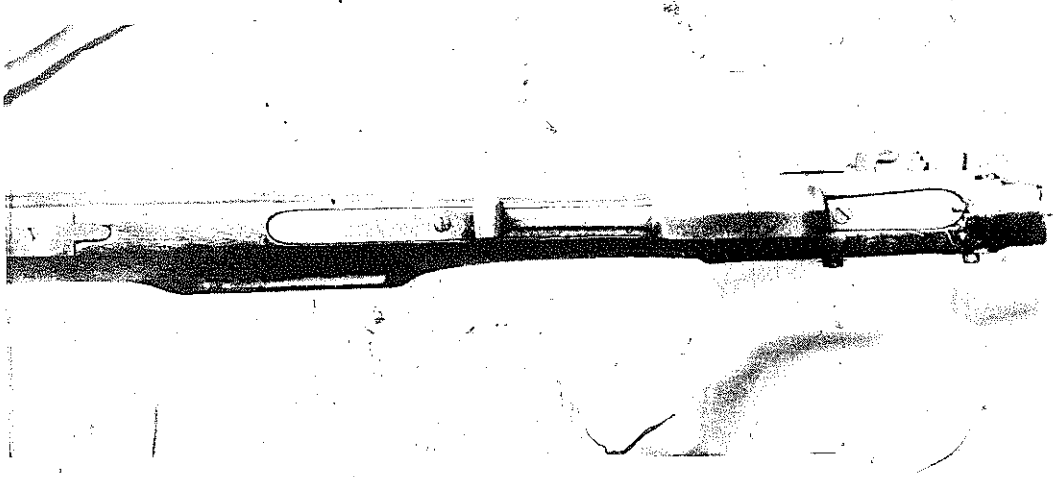


PLATE 163 The triggerguard from the underside.

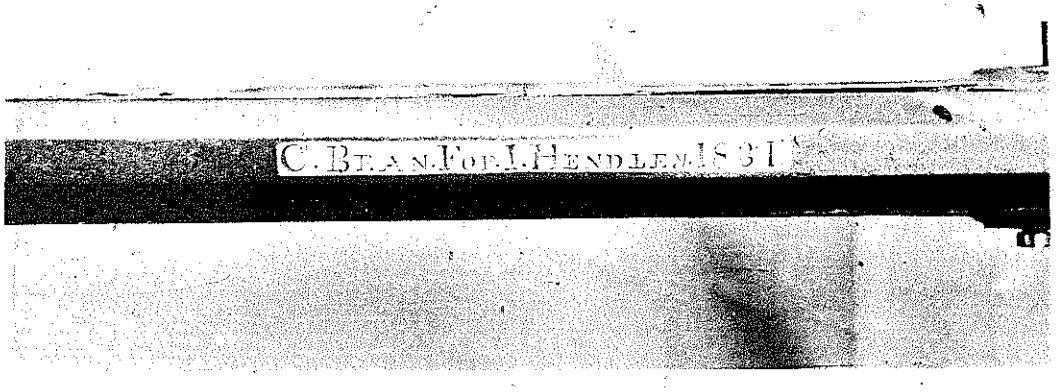


PLATE 164 The original name plate mounted on the top flat of the barrel.

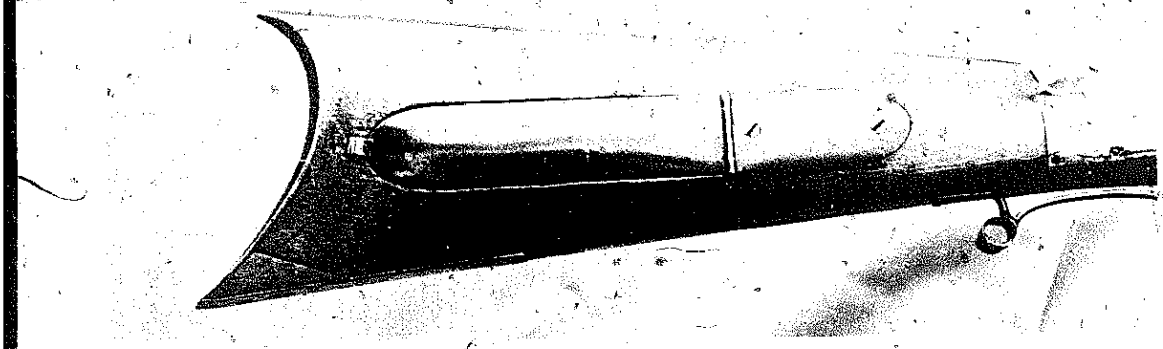


PLATE 165 The banana patch box and extended pointed bottom butt portion of the stock are typical Bean features.

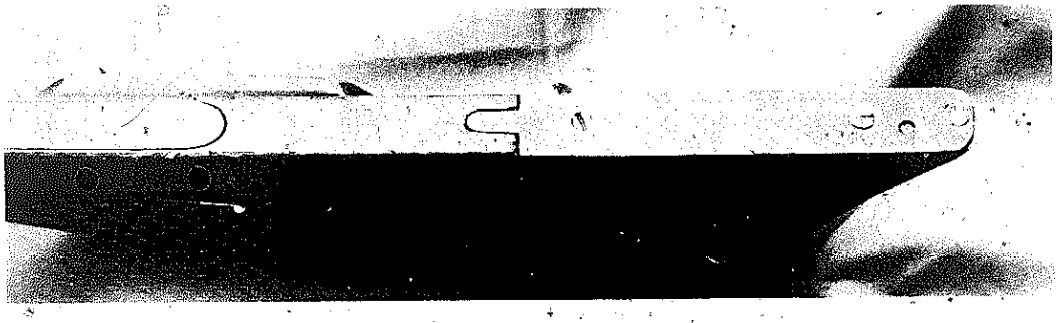


PLATE 166 Additional Bean features include a long bottom portion of each buttplate.

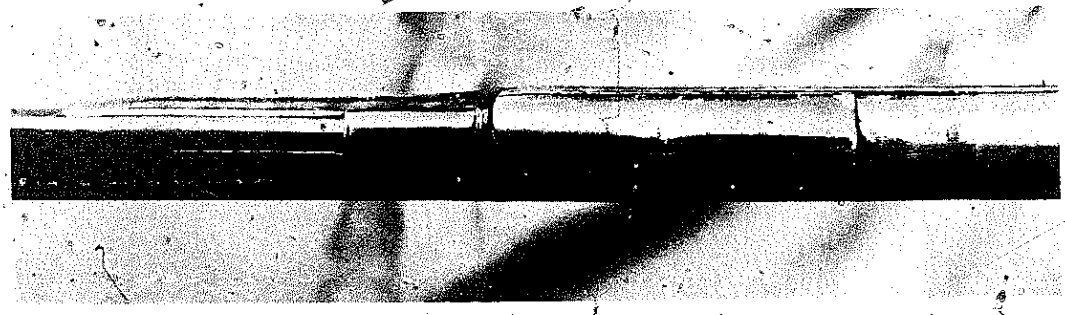


PLATE 167 an extended tab on the rear thimble . . .

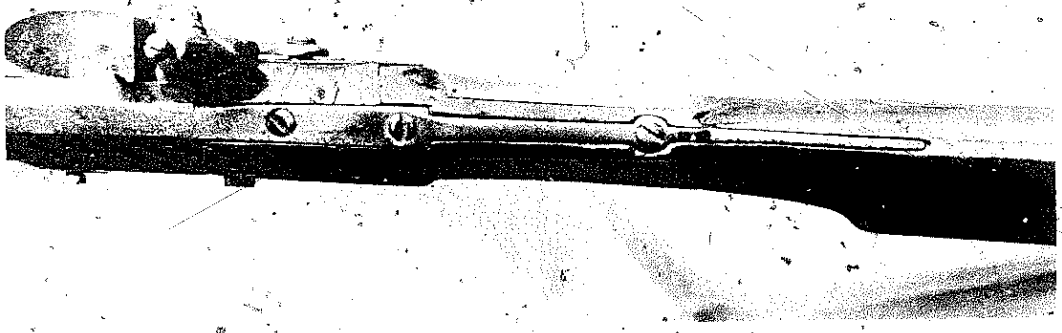


PLATE 168 . . . and a long tang extending up over the comb of the rifle stock.

in one or two cases came all the way to the buttplate. That took care of the reduction in the grip size of the stock. The Pennsylvania was husky in the small of the stock [the wrist], and when that was modified, that long tang braced that up.

"Another is the triggerguard. The two ends of the triggerguards in most cases were stronger. The design is very distinctive. Later smiths started duplicating it, but at one time, I think they all laid off of each other's triggerguards.

"And the patch boxes are different. Paul Fink had a Russell Bean rifle. Russell was a big man and it was the biggest rifle I've ever seen. Paul is one of the foremost historians in this area, and he said he had the history on it and thought it was a Russell Bean rifle. It was brass trimmed and its stock and all was original. And it had the double patch box—hinged in the middle. And the old Bean rifle that I had that was stolen had the double patch box.

"The rifles were not elaborately inlaid except every now and then in their late period they would make one for someone that was silver mining or some rich farmer. But the early ones were simple, and coated with a mixture of carbon black and varnish or linseed oil so that you would get no glint off the wood—no reflection from it. It was better for sighting, and you couldn't be spotted in the woods so easily. The finish was often applied to the entire rifle.

"Another modification that the Beans used a lot was the swedged barrel—the one with the flared end. It gave them better balance, possibly, but it also cut down on the weight in the middle of the barrel. Some of these had a marked flare to them, but most of the flare was eliminated through the years by the policy of cutting an inch off the end of the barrel to make the gun shoot accurately again after it had been worn out over the years by sand from the cleaning rod. They did that instead of reboring and freshening out the barrels, and it ruined a lot of them.

"The Bean rifles, as a general rule, didn't have the silver plate markings on the barrel. Because of the reputation of Bean rifles, many forgeries were made in later years. A rifle made by one of their peers would have the name of one of the numerous Beans engraved on it. Authentic Beans are now rare."

Later gunsmiths like Hacker Martin must have been influenced to some extent by the Bean clan as Martin learned gunmaking from his grandfather, who was a contemporary and neighbor of members of the Bean family.

In the nineteenth century, the Kentucky underwent several other modifications besides the trend toward iron mounting. Earl Lanning, a gunsmith in Waynesville, North Carolina, told us about one of these:

"Sam and Jay Hawkin went to St. Louis. They were Christian Hawkin's sons. This was about 1820. Now Christian Hawkin was a fine Maryland maker—beautiful art rifles—and he worked around Bladensburg, Maryland, where Carl Pippert lives now. His two sons went out to St. Louis, though, which was a jumping-off place for trappers and so forth. They set up their gun shop there, and found that these men needed a different rifle out West because everybody was on horseback, the terrain was much rougher, the game was bigger and harder to kill, and everything was going to see harder service and wear than it had back East. The guns needed to be shorter because of the horseback travel, so people were cutting a foot off the barrels and all. So the Hawkin brothers made a rifle that was shorter, heavier, had terrific strong breeches, and they beefed up the whole wrist portion so that if you had to knock a grizzly bear in the head, you might not break the stock; or if a guy got thrown off a horse some cold morning and the gun fell, it probably wouldn't break. Most of them were fifty-three or -four or -five caliber, and they had a gain twist barrel. It was just the ultimate in a big-game rifle at that time. It had good sights, good triggers, the locks were very good. It was the kind of gun that a guy could go out there in the wilderness and not have to worry about anything malfunctioning. If a grizzly bear got after you, you sure didn't want any problems.

"So the Hawkins were there when the big Rocky Mountain push started, in the 1840s and '50s, back when Bridger and all those boys were going out, and most of them had Hawkin rifles. They did a tremendous trade right there on that river. Now there's so much interest in that history out there with the primitives, and their rendezvous and all, that I'd say 50 per cent of the muzzle loaders made today are Hawkin types. Most of them are poor excuses for the real thing. But if I was going to hunt big game in the Rockies today with a muzzle loader, the Hawkin is the gun I'd want."

Other variations included the switch from flintlock to percussion-cap lock firing systems in the 1820s, and the shortening of the fullstock to halfstock in the 1830s. However, these modifications were overshadowed nationally by the advent of breechloading rifles and then repeaters, which made the muzzle loaders old-fashioned. Robert Watts, a gunsmith we interviewed in Atlanta, Georgia, said, "There was a transition period in the longrifle's history between the time when they were commonplace and the time when they went out of fashion. During that transition period, which continued into the early part of this century, a few die-hards kept using them, and people like Hacker Martin kept making them—barrels and all. These people were important because twenty-five years ago, you couldn't buy Douglas barrel blanks and brass buttplates and all. You could buy Bluegrass locks in

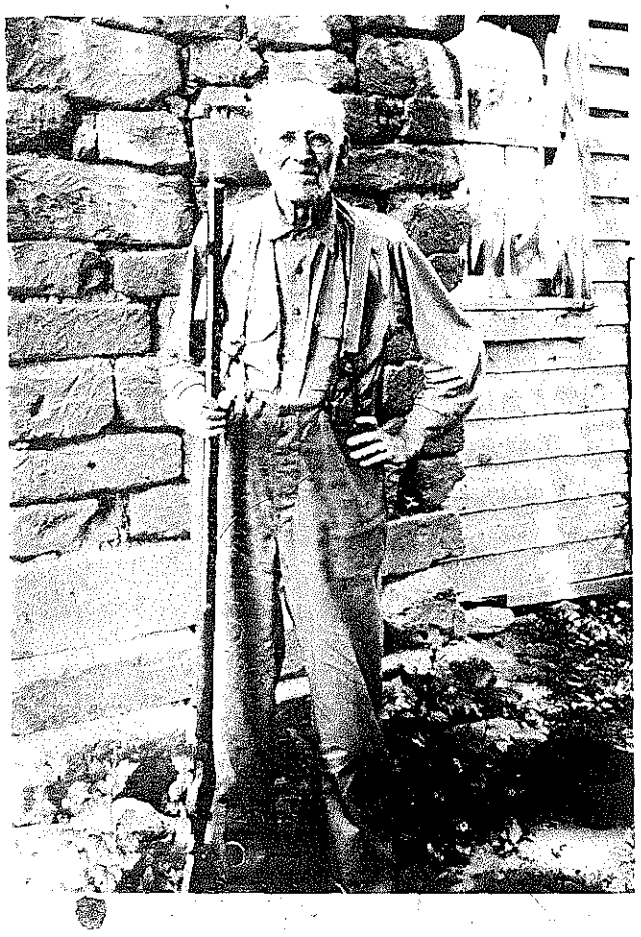


PLATE 169 George Lanning, a gunsmith from Fannin County, Georgia, holding one of his rifles. (Photo courtesy of Earl Lanning.)

most any country hardware store, but they weren't much good. They were cheaply made as replacement locks for shotguns and rifles."

In the 1920s, a tremendous revival of interest in the Kentucky longrifle took place, spurred on by enthusiasts like Red Farris, Walter Kline, Boss Johnson, Bull Ramsey, Bill Large, Joe Kindig, Jr., John G. W. Dillin, and many others whose names will be referred to frequently. Earl Lanning talked with us about the end of the muzzle-loading era, and the revival that is now in full swing—a revival that all the gunmakers we talked to are part of:

"The Sharp's rifle was the ultimate at the end of the black-powder days. It was a cartridge gun, but you didn't have to have any loading facilities for it. You just poured the powder in the case and stuck the bullet in it, and it was a great long-range gun. Then Winchester reared its ugly head with a repeater, and everybody didn't want no damn single shot. They wanted something that would shoot like all get out. And that was the end to all of it right there. The Sharp's rifle went right down the drain. If a guy didn't want a Sharp's, he sure didn't want one of those muzzle-loading things. He wanted a Winchester repeating rifle, and that killed it.

PLATE 170 Samuel Salyers, who built the second house in Norton, Virginia. He was the father of Col. Logan Salyers of Civil War fame. He is holding an early percussion rifle. (Photo courtesy of Alice Lloyd College Photographic Archives, Lyn Adams, and L. F. Addington.)

"So nobody wanted any of that junk up until about 1920 when this muzzle-loading rifle thing got started. Then it started to come back just a little bit, and most of it was centered around southern Ohio and southern Indiana. Of course, the rifles were used here all the time [in the Appalachians] because we were so isolated. They never went out of style here. I can remember when I was a little boy I had an uncle that had a muzzle-loading rifle—the first one I ever shot—and it was the only gun he had. He went squirrel hunting three or four times a year, and he could do the job with that. And then he killed hogs with it. And everybody's uncle had one back when I was a boy, and nobody thought much about it. Hacker [Martin] and a few more were still fooling around making them (but not as part of a revival necessarily). Hacker farmed a little, ran his mill, and piddled with these old guns right on. Bull Ramsey knew old Hacker in the early days, and got him to do some repair work for them back in the earliest days of Friendship, and Sunrise where the first match was held. Hacker would do repair work for them, and build a gun or two for them every once in a while. Bull got a few from this early period, as did several other men.

"Then the thing began to roll. Bill Large started in the late twenties

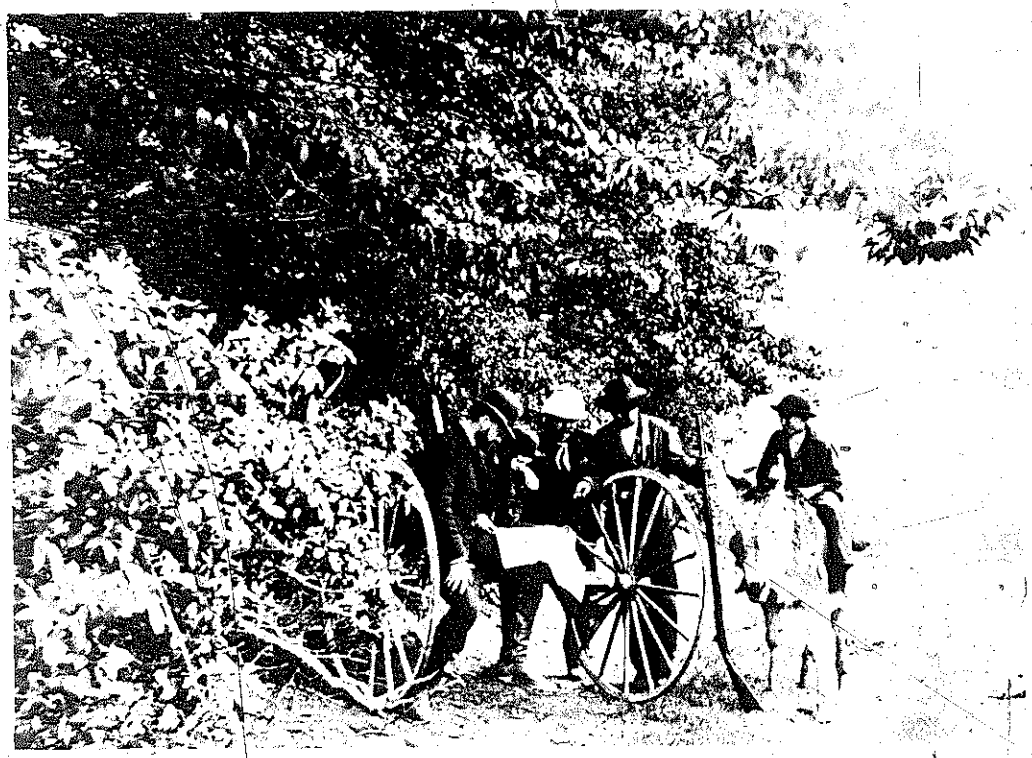


PLATE 171 Photo of a real estate exchange taken in Big Stone Gap, Virginia, in 1887. Note the percussion rifle one man holds. (Photo courtesy of Alice Lloyd College Photographic Archives, Lyn Adams, and the Filson Club)

building some barrels (whereas men like Hacker had never stopped—they were among the few still carrying on the tradition, bridges between the two worlds). Hacker was a true gunsmith if there ever was one in the world.

"There are a very few people now still capable of [building one from scratch, including making the barrel]. There's just a tremendous amount of work in forging the barrel. I think Bud Siler [see page 283] and I together could probably do it. We've talked about it, but neither one of us has got enough energy to take it on. Wallace Gusler is a fine gunsmith and a wonderful craftsman, and he's made hand-forged barrels. But it's just not practical. A hand-forged barrel would cost a thousand dollars if made now. I guess people like Gusler would make you one right now if you wanted to get in on the tail end of the list, but I don't know what the bill would be.

"But you don't have to feel guilty anyway about using a factory-made barrel on a gun you might want to make. They were being turned out by manufacturers even back in the eighteenth century. They say that creeks around Lancaster County, Pennsylvania, were so polluted that they

PLATE 172 Uncle Sam Sloane and his homemade percussion half stock, muzzle-loading rifle. Photo taken in the early 1900s. (Courtesy Alice Lloyd Photographic Archives and Lyn Adams.)

PLATE 173 Two men, one with a homemade banjo and the other with a percussion, half-stock rifle. (Photo courtesy Alice Lloyd College and Lyn Adams.)

couldn't water livestock in them from the sediment and stuff from forges where they were making gun barrels. So those makers up there were all buying their barrels along with the imported locks—all that.

"Now that the revival is on, there are gunsmiths around that are making guns that are just as fine as anything being made back then—maybe better. Makers like Carl Pippert [Bladensburg, Maryland] and Wallace Gusler [Williamsburg, Virginia] and John Bivins [Winston-Salem, North Carolina] and Fred Riley [Tampa, Florida] are as good as they come. They're among the best, and what they make could fit right in with the best of the eighteenth-century work. It's revived now, and I don't think it will ever die out again."

THE HANDMADE ERA

Hand-forged Barrels and Locks: Wallace Gusler

Until parts for rifles were generally available to the gunsmiths through manufacturers, they were made by hand by the gunsmith himself. Few traditions illustrate more aptly the consequences of *not* recording traditions than the making of a gun barrel by hand. Wallace Gusler, the nationally-know gunsmith at Williamsburg, talked at length to us about the struggle he had trying to find a single living human who could show him how the barrels were once made. Finally he accumulated enough information to be able to do it himself, but the information did not come from that one elusive human fossil he sought (who apparently no longer existed), but from numerous individuals, each of whom gave him part of what he needed to know. Even today he admits that he is not completely convinced that the method he used at Williamsburg (and later trained gunsmiths there to carry on) is absolutely authentic historically. It was simply the closest he could come.

Making a barrel, of course, begins with a flat bar of wrought iron. The iron used in the Southern Appalachians often came from local bloomeries [see "Ironmaking and Blacksmithing"]. Robert Watts, one of the gunsmiths we interviewed for this book [page 366] said, "Mountain rifles were not all iron mounted, but a large percentage of them were. My theory as to why this is true is that local charcoal iron was much more readily available than brass. There were bloomery forges all over the mountains—even in north Georgia. One I know about was in the Lookout Mountain area. We used to go up there caving. Go up toward Rising Fawn, and you can still find slag left there. In fact, I still have some pieces I picked up there.

"I believe that a lot of the iron used on southern mountain rifles was refined there instead of being shipped in. I recollect reading somewhere that twenty-two pounds of wrought iron is needed to make a six-to-eight pound rifle because of all you lose in heating and reheating and grinding and filing. It would be a lot more economical—particularly if you were going to a remote area in a light wagon—to carry a finished rifle barrel than it would to carry twenty-two pounds of wrought iron."

And Jim Moran, a gun buff and historian we interviewed at length in his home in Kingsport, Tennessee, told us, "The McInturffs were in here in the early times over in Limestone Cove. Hacker Martin told me that the softest gun barrel he had ever freshed out was a McInturff barrel. They made a type of iron there that you could shave with just a drawknife. It was that

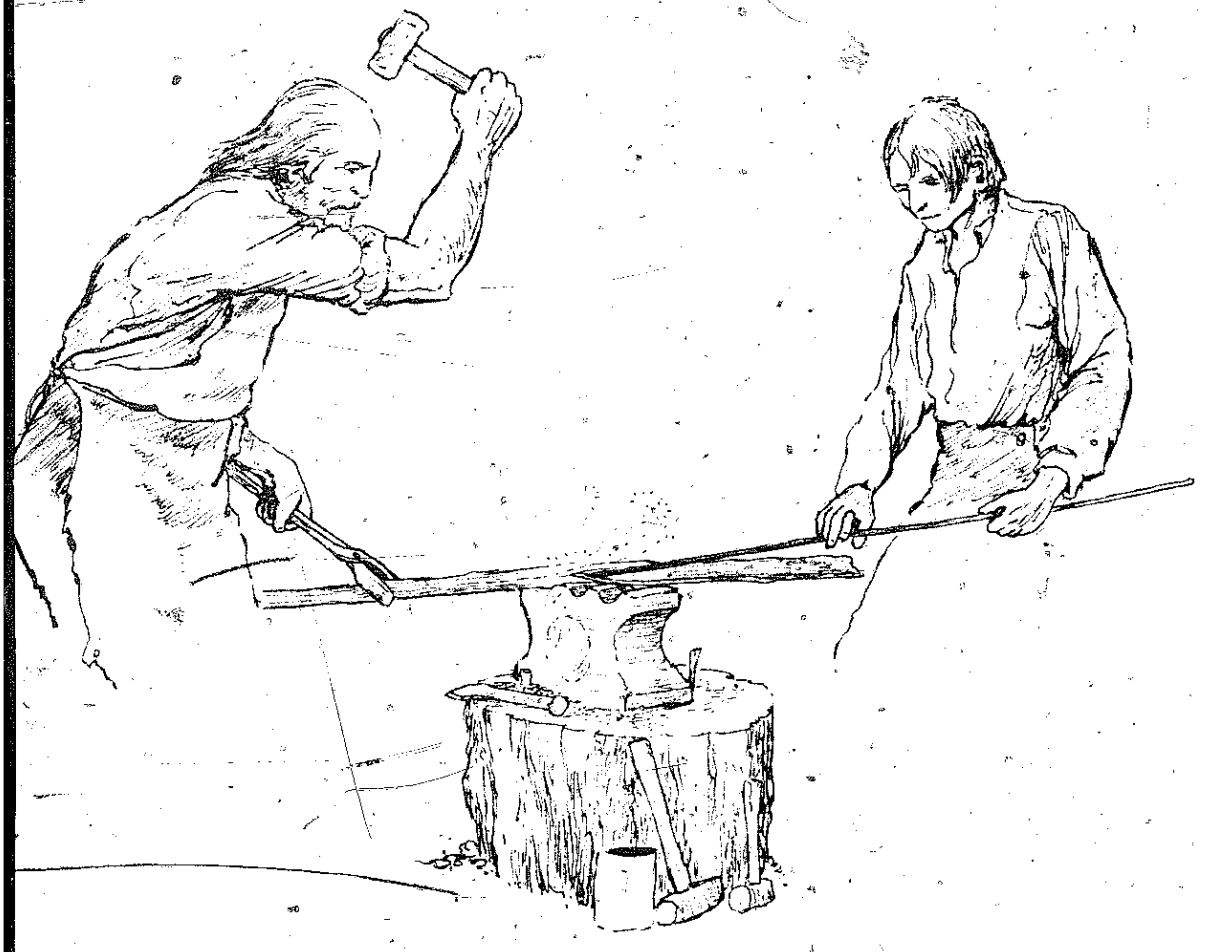


PLATE 174 A gunsmith and his apprentice hand-forging a gun barrel. (Drawing by Hershel House.)

soft. They cut the flats on the barrel with a drawknife—scraped them down. They strove to get real carbon-free charcoal iron because it would not shoot slick. It had a good velvety finish, and it held a patch. You didn't get a hop-skip with your ball inside the barrel like you would if you had slick spots in the barrel.

"And Jacob Gross' great-great-grandson told me that every winter he would go to Iron Mountain. That's Laurel Bloomery. He would go up there and stay two or three months working up a bunch of barrels. They made the iron up there. It was locally made. Of course, the guns that were brought in here with the settlers—that's a different proposition. But the ones that were made in here were made of locally produced iron by and large. Only a few gun barrels were brought in, and much of that was during a later period. There was one gunsmith, for example, either a Fairchild or a Douglas, who did a little flat boating. They'd go down the Clinch River on

to Chattanooga carrying grain and hams and timber and stuff like that, that was going on down the Mississippi. That was a rough ride through there, and they sometimes took a big loss. But they'd usually leave the boat down there and walk the old Indian war path back bringing two rifle barrels. So some came in that way.

"Men would also take barges down to Knoxville and come back. I interviewed an old man named Jack Wolf about twenty years ago. He was an old man about ninety years old and was still shooting fish with a cedar heart bow. He told me a lot about boating and rafting. Once they had been to Knoxville and were getting ready to come back on the train and ran out of whiskey, and he went and asked the engineer to hold the train for him while he went and got the whiskey, but the engineer wouldn't do it. He was half-drunk then, but he had his tow rope. They carried those ropes back and forth with them since they were handmade and pretty valuable. So he took his tow rope and tied up the wheels of the train so it couldn't move. They put him in jail, and the others came home without him."

Wallace Gusler talked with us at length about how he makes a gun barrel in what he believes to be as close to the traditional method as one can come:

First he heats the flat bar of iron in his forge to the proper temperature for fusing the edges together, and then lays it on his suage block and welds the edges together, starting from the middle, around a long rod called a mandril. A flux made of borax, iron filings, and sand helps prevent the formation of scale and helps increase heat during the tedious operation, which requires hundreds of welding heats to complete. (Wallace told us that during the course of his research, he had found that the flux sometimes used in our mountain was made of mud wasps' nests.) The weld line can either go straight up the barrel, or around it in a spiral, depending on the smith's preference. During this time, the eight flat sides of the barrel (or "flats") are hammered in. They serve no functional purpose—just style.

Next the barrel is annealed— heated to a dull red and buried in the hot coals of the forge to cool slowly—and then bored. In boring, the barrel is set in a sliding carriage, lined up with a chuck, and held in place with wooden wedges. A bit turned by a heavy crank is attached to the chuck, and the barrel is pushed into it as an assistant turns the crank. In the early stages, the bit only hits the high spots inside the barrel, but after twelve or fifteen successively larger bits have been used, the last ones begin to cut the whole length of the barrel. The borings are saved for flux.

Then a square reamer is substituted for the bit, and any roughness left inside the barrel is polished off. Two square corners on the reamer do the cutting; the hickory backing piece simply presses the cutting edges against the inside wall of the barrel. Paper shims placed under the backing piece in-

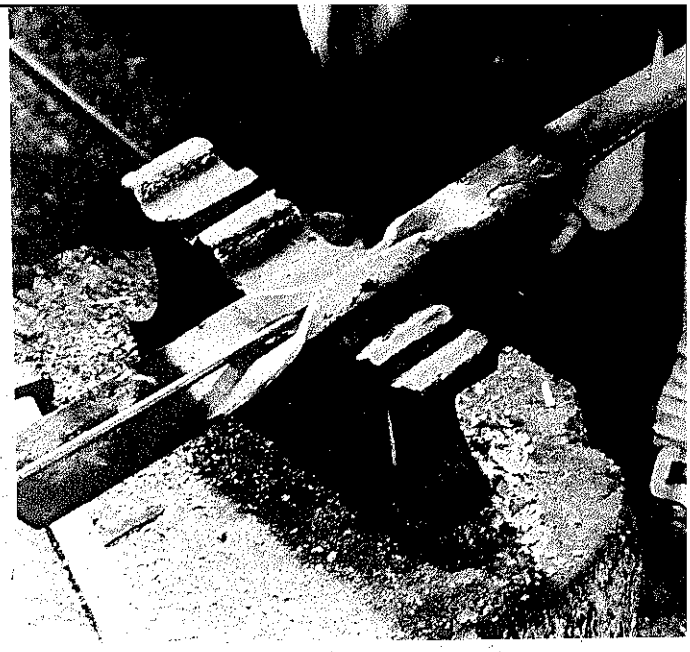


PLATE 175 Wallace Gusler hammering the heated barrel stock around the mandril. (Photo courtesy of Colonial Williamsburg.)

PLATE 176 Wallace Gusler working at the Williamsburg forge. (Photo courtesy of Colonial Williamsburg.)

PLATE 177 Wallace Gusler hammering the flats into the heated barrel. (Photo courtesy of Colonial Williamsburg.)

crease the overall diameter of the reamer and keep it cutting and polishing effectively. Once this is finished, the outside flats of the barrel are filed and then smoothed and polished with emery. Since three of the flats will be hidden by the stock, only the top five are really polished.

Now the barrel is ready to be rifled. Spiral grooves running the length of the barrel are cut into the inside of the barrel. Their function is to force the lead ball to spin when it is fired, thus stabilizing its flight and giving it greater accuracy. The number of grooves cut into the barrel and the tightness of the twist vary depending on the gunsmith and on the style of the rifle. Since the grooves that are cut mirror the grooves that are cut into the rifling guide itself, a different guide must be used whenever a different groove pattern is desired. For example, if five grooves are to be cut into the barrel, the guide itself will have five parallel spiral grooves evenly spaced around its circumference. If each of the grooves is to make one complete revolution in each four feet of barrel length (a standard muzzle-loading rifle pattern), then each groove on the rifling guide will make one complete revolution of the guide itself in each four feet of length.

The grooves themselves are cut into the barrel with two steel teeth that are set into an iron rod mounted in the end of the rifling guide. Hickory shims behind the teeth—and under which paper shims are regularly added to raise the teeth—make the teeth cut more and more deeply as the job progresses. After the teeth are pulled and then pushed through the barrel once—thus making the cut for the first groove—the teeth are cleaned and the guide rotated to its next position [the neighboring groove] and pulled and pushed through again to begin cutting the second groove. This continues until each groove has been cut once. Then shims are added and the process repeated until the grooves are the desired depth.

Though there are almost no people alive who can demonstrate the traditional method of making barrels, there are a few left in our mountains who are direct, living links to the traditional rifling process. One is a man we found with the help of John Rice Irwin, who runs the Museum of Appalachia in Norris, Tennessee. His name is Charlie Blevins, and his father, who was a farmer and part-time gunsmith and blacksmith, was born near Rugby, Tennessee, in the same area where Charlie still lives. Charlie learned gunsmithing from his father, and though he no longer does it himself, he still owns some of the rifling guides he made while he was active. He ordered all his barrels unrifled and then rifled them himself using five grooves per barrel and one turn in four feet for his muzzle loaders. He claims that once the barrel was set up to be rifled, he could do the whole job in several hours, cutting them about $\frac{1}{32}$″ deep and using hog lard as the lubricant for the cutters.

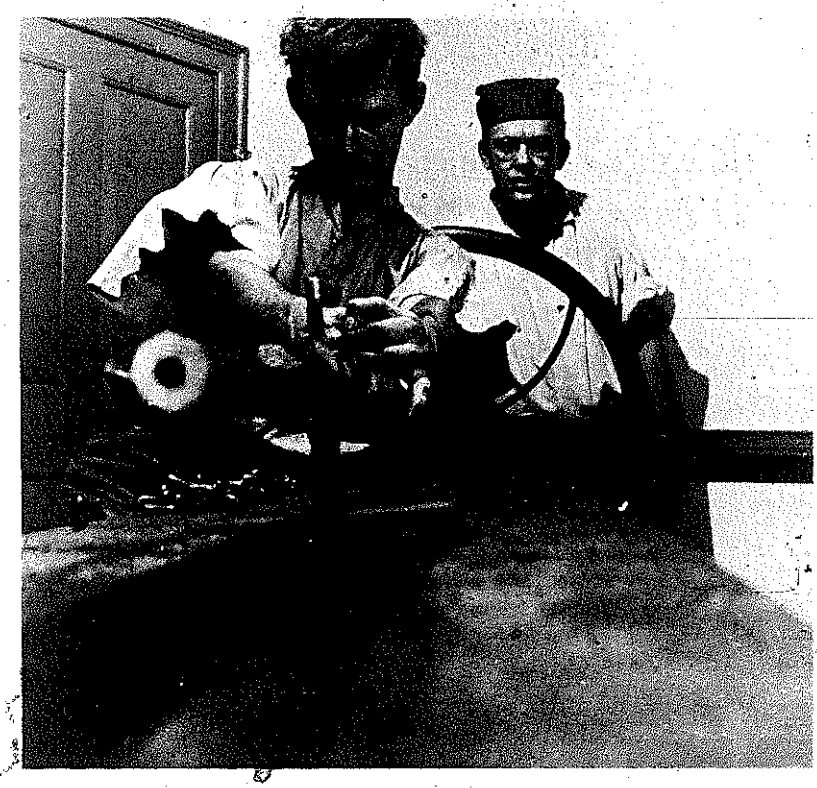


PLATE 178 Wallace Gusler and his assistant boring a barrel. (Photo courtesy of Colonial Williamsburg.)

PLATE 179 The end of the drill bit after one pass through the barrel. (Photo courtesy of Colonial Williamsburg.)

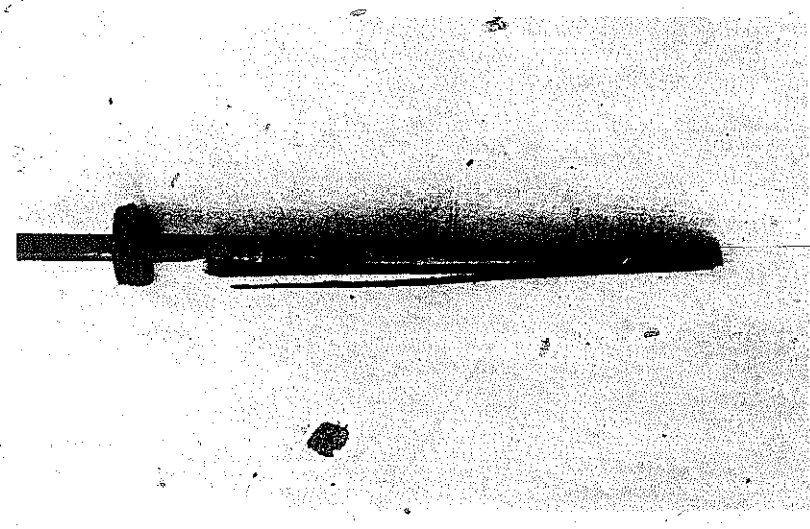
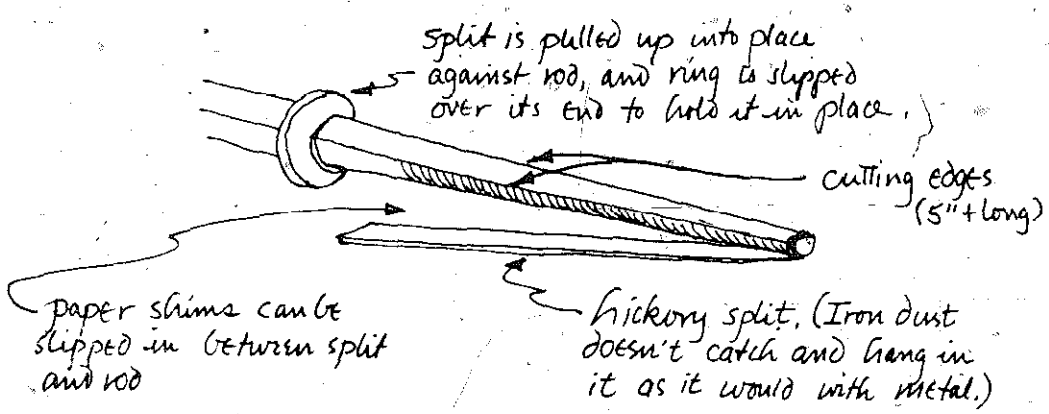


PLATE 180 The end of the square reamer that Charlie Blevins, a Tennessee gunsmith, once used to smooth and polish the insides of his gun barrels before rifling them.



(When using this square reamer, Charlie uses hog lard as a lubricant.)

PLATE 181 Diagram of a square reamer.

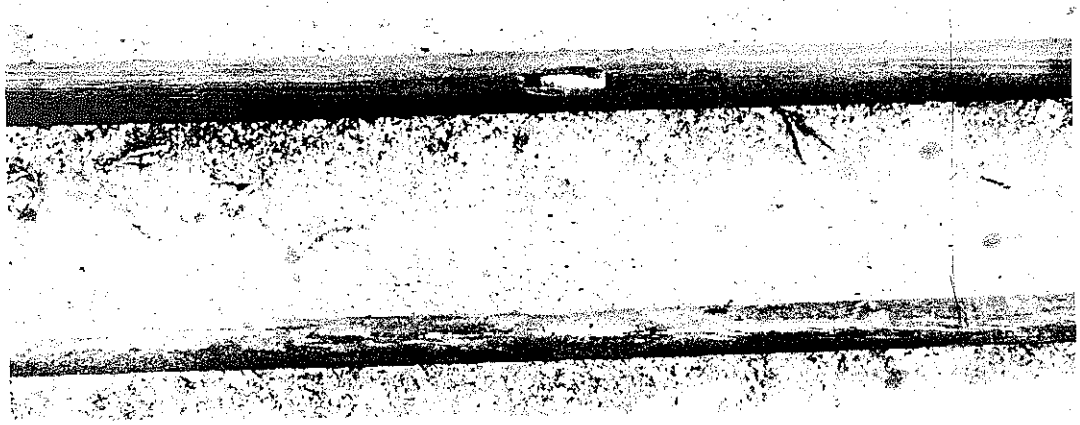


PLATE 182 The cutting teeth, though worn, are still visible in these rifling rods that Charlie Blevins once used.

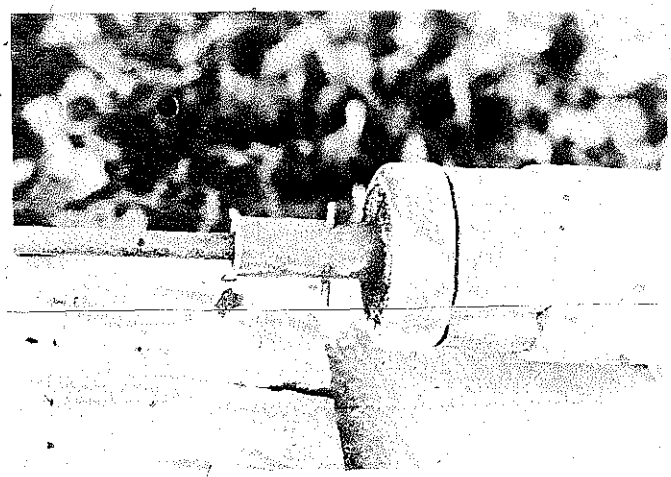


PLATE 183 The rod that cuts the grooves in the inside of the barrel is mounted firmly in the end of the rifling guide.

PLATE 184 Wallace Gusler and his assistant preparing to rifle a barrel. (Photo courtesy of Colonial Williamsburg.)

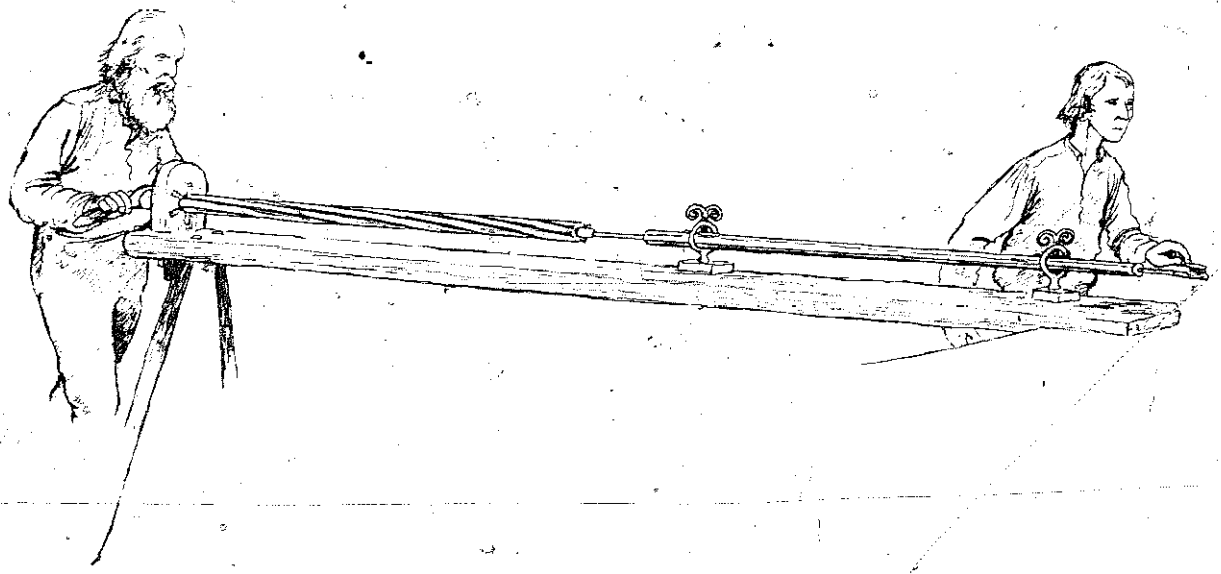


PLATE 185 A gunsmith and his apprentice rifling a barrel. Drawing by Hershel House.

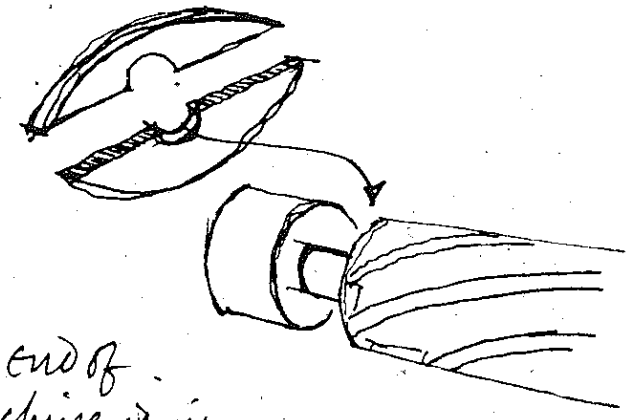
PLATE 186 An old photograph of a mountain woman named Mary Owensby rifling a barrel. (By permission of the Doris Ullman Foundation and Berea College.)

The rifling guides he showed us were made by him out of yellow poplar poles, each spiraled differently depending on the gun being made. He says that a heavy charge of powder and a light ball required a barrel with more twists (the guide he is pictured with here has one turn in 14"), whereas a heavy ball being used with a light charge of powder needed less twist for accuracy.

In making his rifling guides, his first task was always to scribe the initial spiral line onto the pole itself so that he could begin the long whittling process. To do this, he used a trick his father taught him, which is illustrated in Plates 189–91.

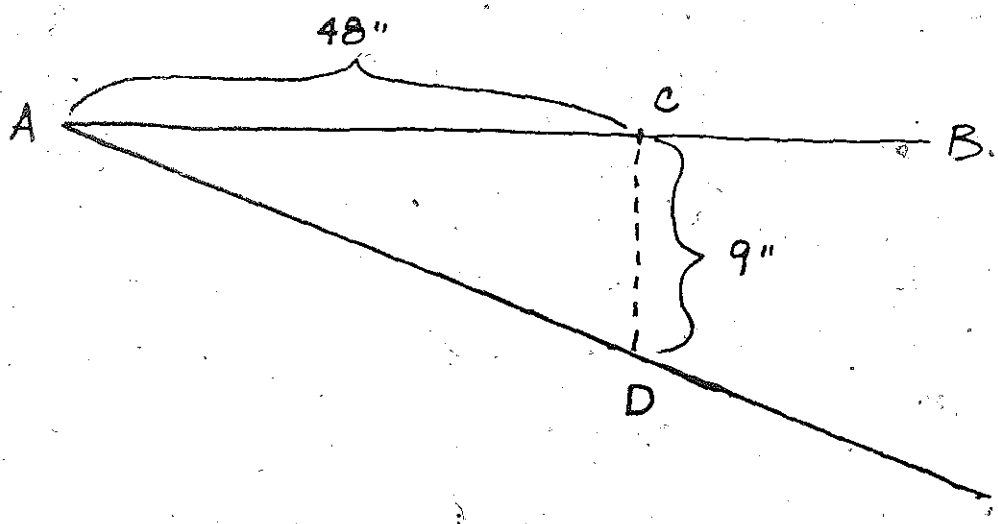
To rifle a barrel, Charlie would slide the barrel into the two holes in the wooden blocks at the front of his rifling guide and then wedge the barrel into place from both sides to grip it firmly whether he was pushing or pulling the guide.

PLATE 187 Charlie Blevins with his rifling guide. The guide fits into the long wooden box in the background. At one end the box has wooden teeth that fit into the spiral grooves forcing the guide to twist as it is pushed into the barrel or drawn backward through it.



Handle at end of rifling machine is in two parts, fitting loosely so it with stay stationary while gunsmith pushes.

PLATE 188



Steps in making a rifling machine:

1. Measure length of each revolution of the spiral on line A-B. Thus, if you desire 1 turn in 48," measure out from point A 48" to point C.
2. Now measure circumference of poplar pole and drop down that distance (say 9") at a 90° angle from point C to establish point D.
3. Now stretch a chalk line from A through D and beyond. This should all be done on a flat work surface.
4. Place pole along line A-B, and roll it straight across the chalk line thus marking one spiral line along the length of the pole.
5. Figure how many grooves are needed, and what their widths must be in order to come out even around the pole's circumference, and using the first line as a guide, begin cutting.

PLATE 189

PLATE 190 Charlie demonstrates Step Three in making the rifling guide.

PLATE 191 Using a paper tube, Charlie shows how he would roll a rifling guide across the chalk line to complete Step Four.

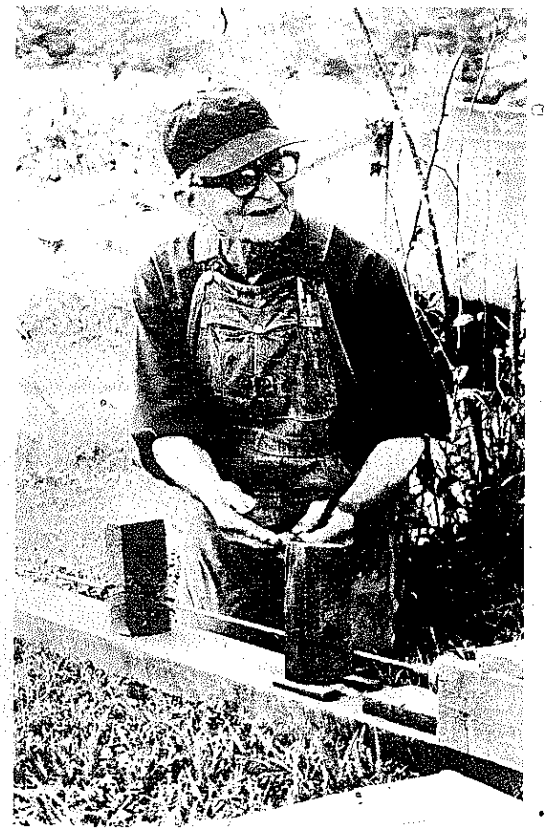


PLATE 192 To begin to rifle a barrel, Charlie pulls the guide back, inserts a barrel into the holes in the two blocks, wedges it into place, and begins to cut. The diameter of the metal rod closely matches the diameter of the barrel's bore. The rods are easily interchangeable depending on the rifle's bore.

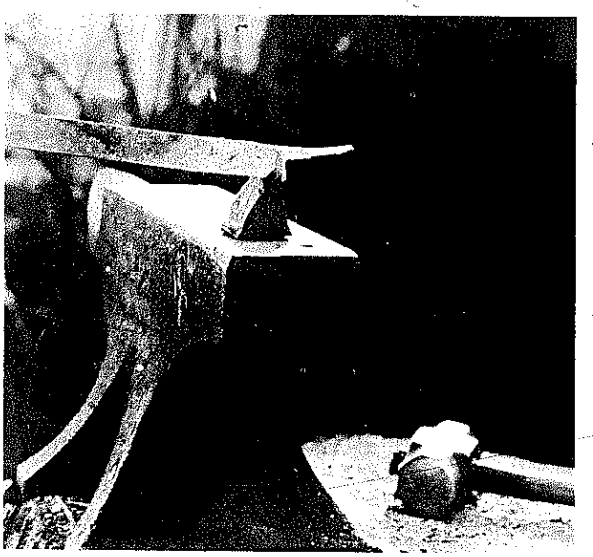


PLATE 193 Wallace Gusler drawing out the tang. (Photo courtesy of Colonial Williamsburg.)

After the barrel is rifled, the gunsmith draws out the tang that holds the breechplug end of the barrel in the stock, and then threads both the barrel and its plug to seal up the end of the barrel. This end will contain the powder charge and bullet and is closest to the shooter's face, so it must be threaded tightly and well. After the touch hole is drilled, the barrel is proved by loading the breech end with four times the normal charge and firing it from a distance to make sure it will be able to stand the pressure of the explosions inside it as future shots are fired. If there are any cracks or swells, the barrel is rejected.

PLATE 194 In using his bow drill, Charlie often mounted the piece to be drilled (here held in his left hand) in a vise and then pressed the drill against it with his chest.

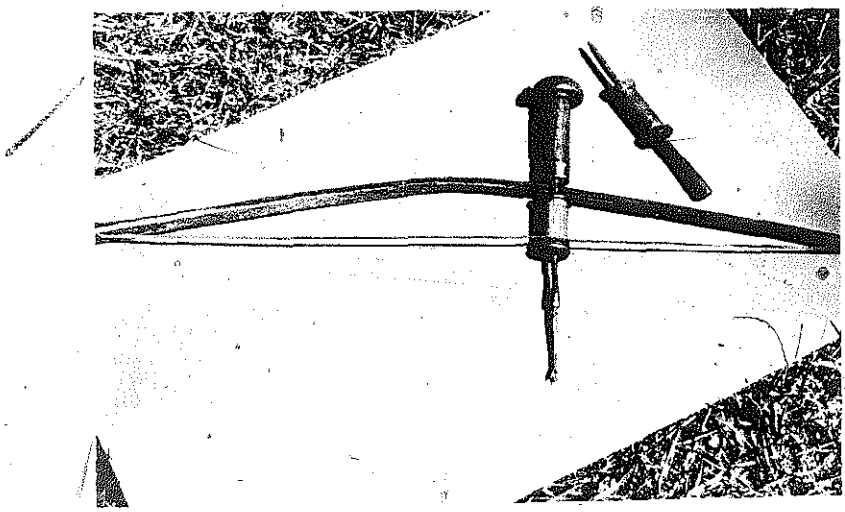
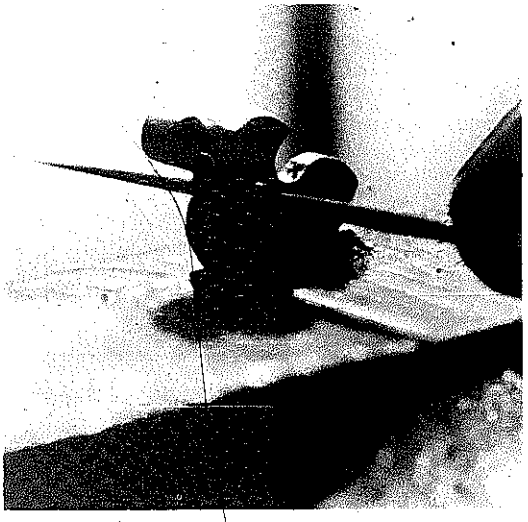


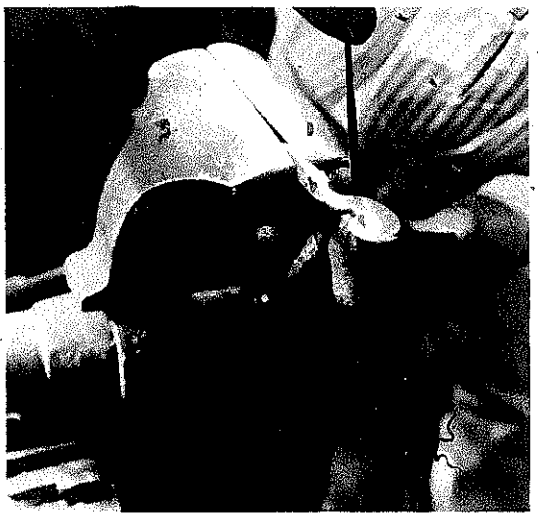
PLATE 195 A beautifully made bow drill used by an early gunsmith.

The touch hole, as well as holes that must be drilled in many of the other iron parts, was drilled by some early gunsmiths with a bow drill. Since more efficient techniques had been developed by the eighteenth century, Wallace Gusler regards the use of this rather primitive tool as an evolutionary throwback—a return to a less efficient past. Nevertheless, as Charlie Blevins demonstrated in Plate 194, he did use the tool frequently, making his bits from old files that he heated, shaped on his anvil, and then quenched in cold lead to temper (the hot bit would slide into the cold lead easily).

When the barrel was completed, the next part to be made was the lock [see pages 283–91]. Each of the pieces of the lock, starting with the cock and the lock plate, had to be forged out of iron and carefully filed and shaped—one piece at a time. The finished springs were tempered by immersing them in lead that had been heated to the boiling point, and then quenching them in linseed oil. Then, to remove some of the resulting brittleness, they would be heated slowly in the forge to soften them. The pieces of the finished lock would be case hardened by placing them in a crucible filled with powdered charcoal, ground charred bone, and charred leather. The crucible would be placed in the forge and the pieces inside heated red hot for five to six hours so they would absorb carbon and be converted into steel. Then the pieces would be quenched in water and the lock would be assembled.

Additional parts, such as the buttplate, sideplate, and triggerguard, were either sand cast from brass or forged from iron. On many rifles from our area, iron mounting was the rule, and so the blacksmiths would make these pieces also.





PLATES 196–197 Wallace Gusler filing a lock point. (Photo courtesy of Colonial Williamsburg.)

PLATE 198 Wallace Gusler tempering the lock in a crucible. (Photo courtesy of Colonial Williamsburg.)

Completion of the barrel, lock, and mountings brought the gunsmith to the point where he could begin the actual assembly. This process is described in the Hershel House section, and it remains in many ways much the same as it would have been in the days of hand-forged barrels and locks. The difference, of course, is that Hershel and his contemporaries buy their barrels and locks from mass manufacturers rather than duplicating the processes just described.

Powder, Flint, and Balls

As with barrels and locks, black powder, flints, and lead balls are now widely available to the gun enthusiast through manufacturers. Before this was true, however, all these items had to be made from scratch.

A few people still do it. Carl Darden, for example.

Carl lives on a mining claim in northern California with his wife and three young sons. One of several things that makes them special is that they actually live a self-sufficient existence rather than simply talking about it. Carl's steady stream of letters to us is filled with news of their activities and their dreams.

An ancestor of Carl's was a Tennessee mountain man who finally moved to California. As a teen-ager, Carl visited him often. In one of his letters, he said of this relative, "At night after supper, he'd sit by the big wood heater in the living room and tell me about the Tennessee mountains or about working on the Reading Railroad or on a steamboat on the Big Muddy.

"In those days, he kept an old Civil War musket which he let me hunt with. I thought it was the greatest thing a body could get hold of, and about the crankiest if you didn't keep it clean and well-oiled. . . . Like his boys, I took to the coastal mountains and the redwoods more and more. In my early twenties, I lived with my uncle some and split redwood fence posts for a living, and then I went to work on the county road near Annapolis, California, in sight of the blue Pacific. Lots of mountain men out there in those days. . . . We'd all go squirrel hunting on weekends and talk about muzzle loaders. . . . Finally, I got an old gun barrel for a couple of sawbucks from a gun shop, borrowed a set of files and carving tools, collected some selected scrap iron and a piece of seasoned maple from a nearby canyon, and began to make a muzzle loader bit by bit by hand and with no power tools. After two months of sweat, busted knuckles, dozens of mistakes, and asking gunsmiths so many questions that they started ducking out on me when they saw me coming, I finally put together a nice .25-caliber cap-and-ball rifle. That was right after I married Fran and we were expecting our first youngster. By that time I was a sign painter and was spending every spare minute target shooting and panning for gold on the Yuba River north of Grass Valley.

"After moving around some, I suddenly realized that I could actually do what I've always wanted to do: move into a wilderness place, take my muzzle loaders and my old-time home crafts and just plain live like my ancestors did. I'm sure they would have approved heartily. . . . Now we live full time in California's northern coastal mountains where I and the

boys have walked many miles down old abandoned roads through frosty fallen alder leaves listening for the sounds in the crisp morning air that all hunters have listened for since the dawn of time. Even if I don't get a deer or bear, the day is made with an invigorating walk in the tangled closeness of nature. I show the boys edible plants, animal tracks, and what mushrooms are safe to eat. Both Mark and Antone know what greens to pick, what plants to stay away from, and how to find a clean spring to drink from. At home, they get schooling from Mama, and in the forest they learn the lessons of nature from Dad. They may well be the last of a fast-vanishing breed of mountain men.

"The big push today is to get out all the surplus people from the country and mountains into the cities where the government can keep track of everybody and their money. . . . People who are far back in the boondocks may avoid the big roundup. Right now, many wilderness areas in the United States are gated off and locked by the Bureau of Land Management and the U. S. Department of Agriculture. That much has been taken from today's Americans without even a whimper from freedom lovers. No longer can the venturesome soul pick up and head out for parts unknown and cut a living out from nature with ease. And most Americans have been led to believe that such a venture is unproductive and loutish. The few who have managed to do it in recent times have discovered that the job is rough, but the rewards of being self-sufficient are more than worth it in the long run. Caring for livestock and poultry happens to be a full-time, seven-day-a-week chore, and if a body wants to zip back and forth in an automobile and just goof off or work a town job, farming and homesteading should be studiously avoided. But if you want to be totally your own boss, this is a good way—maybe the only way—left to do it."

In his letters, Carl talks not only about the life-style he and his family have chosen, but also about making powder and flints for the muzzle-loading rifles he has made so much a part of that life. The following is a selection of material gleaned from several months' worth of letters to *Foxfire* beginning on April 29, 1977:

"We've begun to pick manzanita berries which Fran boils and makes jelly from the juice. It comes out tasting like crabapple jelly. The manzanita shrub is in the apple and rose family, and it's fruit is about the size and shape of a doby marble. The word manzanita means 'little apple' in Spanish.

"In about two more weeks, the spring gooseberry will be ready to pick, and wild strawberries are next. We've also been digging cattail roots, catching trout, digging clams at low tide, fishing for shoreline sea fish, catching crawdads, hunting quail, gathering about nine different kinds of wild greens, woodland spices, and many other goodies nature has to offer.

"Today I found a big hollow oak tree with bees in it and plan to drop it in a couple of days and recover both honey, and beeswax for candles. Should be enough honey to do us all summer. This summer the wild cherries and plums will come on, then the dewberries, native blackberries, and Himalaya blacks come on ripe, along with salmon berries, thimble berries, huckleberries, black raspberries, juniper berries, and red raspberries.

"I also hunt deer, bear, elk, brush rabbits, raccoon, and ring-necked pheasant, and chukar in season with my flintlock rifle and fowling piece. We've also given up 90 per cent of common grocery store food because it is overprocessed, has only half of its original food value, and is loaded with toxic poisons under the guise of food preservatives.

"Between gathering wild foods and purchasing decent old-time foods, we manage to spend about a half of what most families squander on food. When we prepare to bake bread, I dig out a container of hard wheat and grind our own flour with a hand-cranked grain grinder. If I kill a wild hog, I put up sausages with a stuffer, make salami, pickle and smoke hams and shoulders, and do all the other traditional things that should be done to any self-respecting hog.

"As time goes by, we spend more time purchasing, hunting, and producing good natural foods than ever before. Under close supervision, Mark, who is six, is learning to load and shoot a muzzle-loader rifle at moving and stationary targets so he can begin to hunt at maybe eight years old. The muzzle loader he owns is a .22 with a 40" octagonal barrel made up as a Tennessee rifle. It's still eight inches longer than he is tall. He should grow that eight inches in the next two years easy. Mark loves to go hunting and fishing, and after his chores and home-schooling, he'll have plenty of time to pursue these two endeavors.

"Antone, his brother, is plain silly about trout fishing and huckleberry picking. Antone asks to go fishing about every three days.

"I know I was asked to talk about black powder and muzzle loaders, but when a fellow gets to talking about such things, to me it automatically includes everyday living and so many other thoughts; particularly such thoughts and feelings as our forefathers experienced back in the times when the muzzle loader was the only kind of gun mankind had.

"I won't ever forget the first powder I ever made and tried shooting in a cap-and-ball rifle. The mixture wasn't in the right proportions and the ball only went half way up the barrel. There I was with a hung bullet! Well, I had to take the barrel off the gun, put it in a vise and unscrew the breech plug and drive the thing on out with a ramrod. I was about as disgusted as a wet monkey.

"Another time I went buck hunting in California's Sierra Nevada Mountains and had left camp with an empty rifle. I hadn't gone more than a

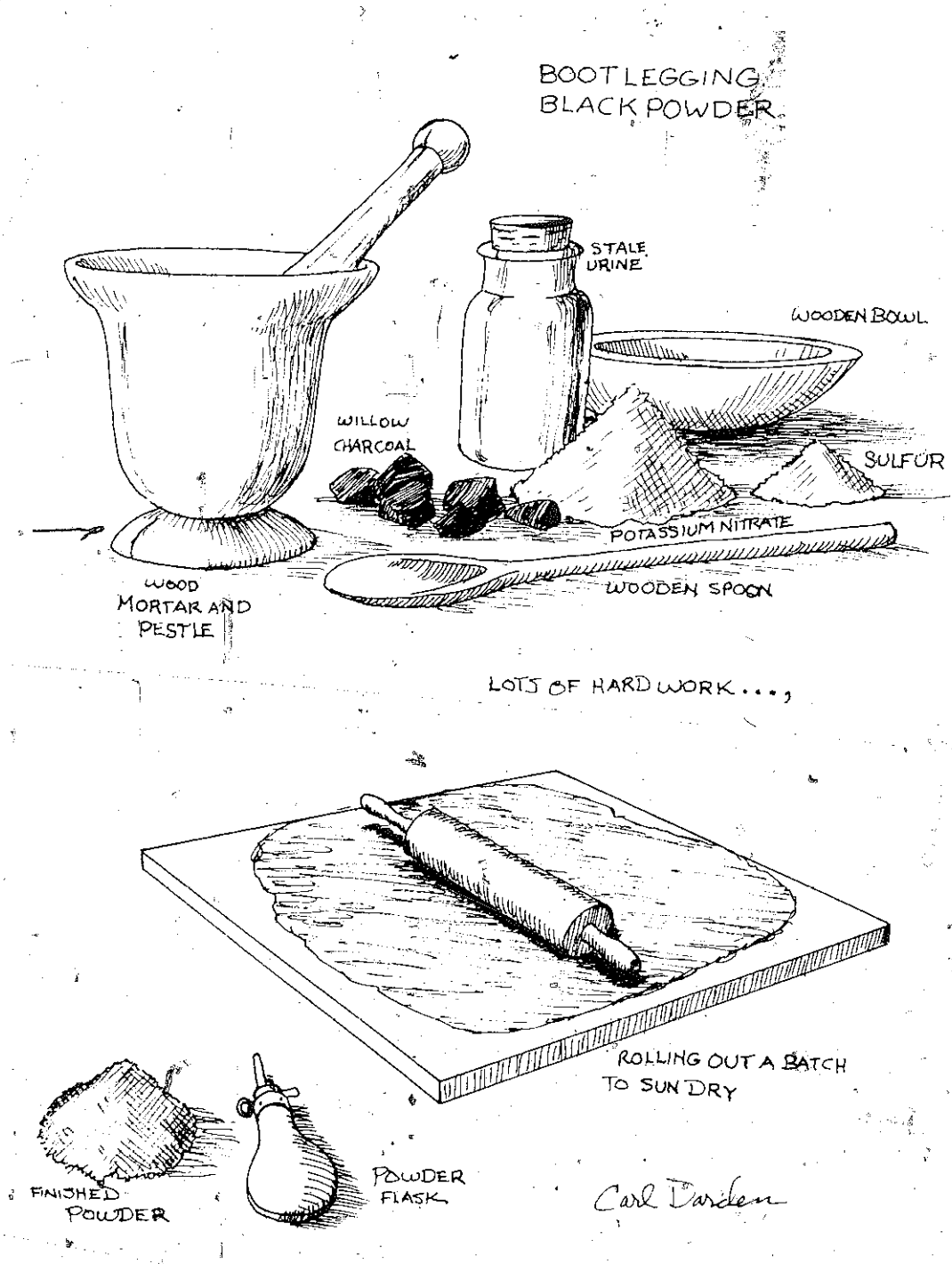


PLATE 199 Drawing by Carl Darden.

quarter of a mile along an old logging road when I heard a sound from around the turn in the road. Easing forward slowly, I could see a nice forked horn buck feeding as I looked through the brush, and he was coming toward me slowly. At the same time it dawned on me that I hadn't loaded the rifle. As quietly and quickly as I could, I began loading the gun. First, I quickly poured a measure of powder down the barrel, then got out a greased patch and ball and proceeded to run the patched ball down on the powder. By this time my hands were shaking. Putting the ramrod back in place, I capped the tube and cocked the hammer. By now the buck was about fifteen feet from me, yet unaware I was a few feet away in a shaky cold sweat. As I slowly raised the rifle to fire, the deer sensed something was wrong and bounded away as my shot went wild. I tell you, I had to sit down and get ahold of myself before I went back to hunting—with a loaded gun this time. So you can get some idea what can happen when hunting with a smoke pole.

"Black powder is and isn't hard to make depending on which end you look at it from. It is a long and tiresome task if you make more than ten pounds at a time.

"Out on the West Coast, as in some southern states, the trend by the government is to prevent its sale with mountains of red tape. Making your own black powder, however, is not unlawful as yet, as far as I know.

"By weight measure, black powder is made of seventy-five parts saltpeter finely ground, fifteen parts charcoal, and ten parts sulfur. All ingredients must be fine ground separately. This can be accomplished with either a mortar and pestle, or with a hand-cranked flour mill. Never mix all three ingredients before grinding unless you want to turn your mill into a deadly grenade, or your mortar into a cannon that can blow off your fingers or even your hand.

"Then the ingredients can be mixed with a small amount of water so the mixture comes out with biscuit-dough consistency. Usually when I mix the ingredients, I add just enough stale urine to make the batch bunch about like biscuit dough. The urine, substituted for water, gives the powder more oxygen and higher performance.

"Flowers of sulfur is ideal for gun powder, and it can be bought in most drug stores in four-ounce bottles or pound cans.

"It can also be found in pure deposits around volcanoes, and in early times, because it was found where molten lava issued from the earth, the sulfur condensed around the rims of the volcanoes was called brimstone.

"Today, in certain places around the world, sulfur is recovered from underground deposits by pumping live steam underground through pipes. The sulfur melts and, being lighter than water, is easily pumped out at another

point close by. Then it is pumped into big ships that haul it to industries all over the world. That's why you can buy a hundred-pound-sack for about three dollars in most places.

"Saltpeter, the chemical that produces the oxygen for the other ingredients when lit off, can be made by putting urine and manure of any kind in a big cement tank mixed with water until you have about three hundred gallons mixed up. Then you put on a tight lid and let it sit for about ten months. You have to have a drain pipe and valve at the bottom, and a stainless steel filter screen installed beforehand or you'll have one big mess on your hands. At the end of that time, you run the liquid that drains off through ashes into shallow wooden trays lined with plastic sheeting and let them stand for evaporation in the sun. When the water evaporates, potassium nitrate crystals (saltpeter) will form in the bottom of the trays.

"In the old days in cities, most outhouses were fitted with trays or drawers under the seats that could be pulled out from behind the building. They had night-soil collectors who were paid so much every month by the outhouse owners to keep those drawers emptied, and they'd come around with a special wagon into which they dumped the contents. When the wagon was full, it was hauled out to where another fellow bought the contents and dumped it into concrete tanks where the bacteria works it just like yeast works wine or bread dough. Then the liquid was run through ashes into shallow tiled or plain concrete evaporating trays or basins to recover the saltpeter.

"Today, saltpeter can also be bought in most drug stores in bottles or cans.

"Charcoal provides the carbon needed when the powder is lit off. When burning, the carbon assists in making potassium carbonates and carbon sulfates during the one one hundredth of a second that it is burning. Most of this is released at the muzzle of a smoke pole in the form of powder smoke. Some remains in the barrel in the form of fouling and should be swabbed out about every third shot if the shooter wants the round ball to continue to shoot true.

"The charcoal should never be made from hardwood as hardwood has too much ash. Such woods as chinaberry, willow, cottonwood, soft pine with no knots, or redwood and Western cedar make the best grade charcoal. A fifty-five-gallon drum with a snap-on lid and a match-stem-sized hole in the lid set over a fire pit is a good charcoal maker. Take the wood and chip it or cut it into inch chunks and put a bucketful in the drum. Then build a hardwood fire under the drum and when smoke begins to spurt from the vent, light the wood with a match. When the flame goes out, your charcoal is made. Rake the fire out from under the drum, plug the vent with a bit of asbestos fiber or a nail that fits in tightly, and let the drum sit overnight to cook. You can then crush and powder the charcoal with a

mortar and pestle, or run it through a hand-cranked grain grinder to a flourlike fineness.

"By the way, just yesterday I took time out and made a batch of powder, and this time, when I mixed the ingredients, I added homemade alder charcoal instead of redwood and improved the powder's performance 100 per cent. I recently bought a tight little sheet-metal heater stove for camp cooking and by accident discovered that getting a load of alder going good and then closing it up tight and dampering it until it went out and turned cold converted the alder into nice pure charcoal.

"When making black powder, never add any other ingredients or explosive powders unless you wish to turn your muzzle loader into a grenade that can kill you or cripple you for life. Keep your black powder stored in steel, airtight cans in a cool, dry place and out of the reach of children. My parents failed to do that, and I've carried powder marks on my face for the last thirty years. A ten-year-old may think he knows what he's doing, but ten years don't give him enough prudence to think many things out ahead of time before he lights that match.

"The nice thing about shooting black powder is that commercial black costs about two cents a round, and homemade about a half-cent a round. The flintlock is by far the cheapest to shoot. It needs no percussion cap primer—just a flint and primer powder. I'm freely giving the formula because any kid who can read can go into about any library and look it up if he wants it bad enough. And I'm not worried about mad bombers because most of them usually use other types of explosives.

"As far as flints go, sharp-eyed hunters using a flintlock will always keep their eyes open for flint, chert, agate, or hard jasper along river gravel bars and stream beds to pick up and bring home.

"Careful and artful chipping with a small hammer [see Plates 200–201] on a big block of wood with an old railroad spike driven into the center as a small anvil can net a hundred or more gun flints per day once the shooter gains experience in chipping stone. These same flints bought from a sporting goods store will cost from forty to seventy-five cents each. When I make them, I sell them to other shooters for ten cents each. Sometimes I trade flints for lead.

"Seems I've always been able to make good rifle flints for my rifle, and I've had a lot of shooters come and trade a lot of things for them. One fellow brought a goose and traded for fifty flints. I've traded for fresh salmon, crabs, coon hides, outdoor magazines, placer gold, fresh garden produce—one fellow even came and played his guitar for two hours in turn for a dozen flints. Best trade I ever made because he sang all my old fa-

PLATE 200 Drawing by Carl Darden.

vorite Appalachian mountain songs. You don't run into a trade like that very often.

"Picking the right stone to chip flints from requires about 50 per cent experience and 50 per cent intuition. Sometimes rejecting a chunk of chert, chalcedony, jasper, or agate turns out to be the right choice, and a flintknapper may discard more material than he chooses when hunting gravel bars and creek beds for working material. Sometimes just looking can tell you that a stone will not break right to produce 'spalls' that can be worked

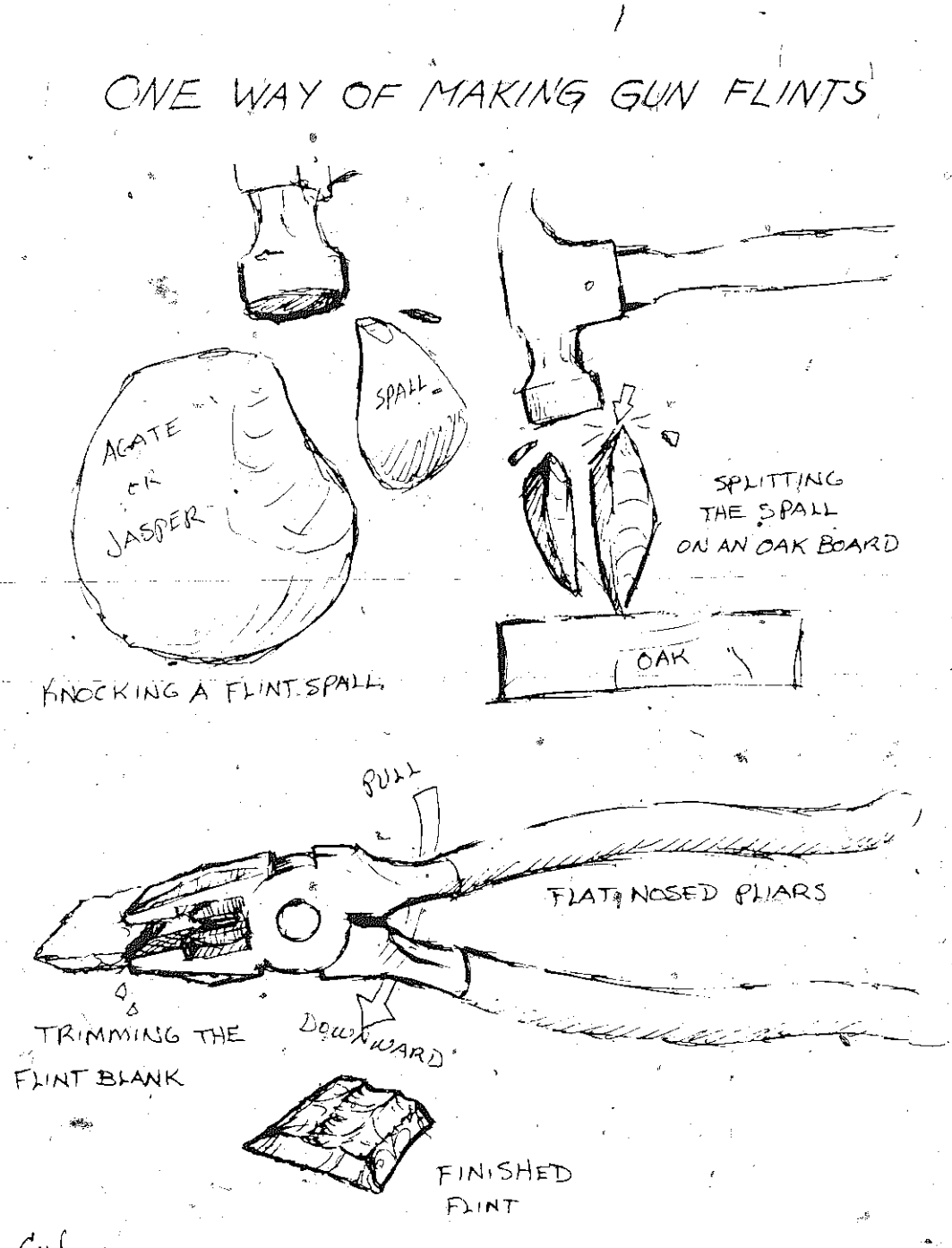


PLATE 201 Drawing by Carl Darden.

into flints. I always carry a rock hammer and a gunny sack, and when I see a likely piece of jasper or agate, I chip a corner to see how it holds up. Like as not, the whole stone may shatter making it into leaverite (leave-'er-right there where you found it). When I find a good stone with no flaws or fractures with a hardness of more than six on the scale, I take it with me and keep on adding to what I have until I have about all I can easily carry. When I get this material home, I pile it in the back yard and work on it in my spare time. I remember once I brought home a real pretty translucent green rock. Weighed about twenty pounds. I worked it down into flints real easily, and a friend came by who owns a rock shop up north. He was looking at my flints when he came across the green ones and threw a cat fit. I asked him what was the matter, and he told me I had made flints out of a piece of jade. Didn't make any difference to me as long as they'd fire a flintlock rifle. I just couldn't help his hurt feelings a bit after the deed was done, so I gave him ten of them, and all the broken pieces I couldn't use.

"But it's a nearly dead art, and the man who takes it up, even for a hobby, is perpetuating a trade that once was one of the greatest industries in the civilized world—the last bit of man's stone age.

"It's a scary thought to know that so many people are alive today artificially because of modern inventions. The passing of such free cultures as the fruit tramps and the hobos and the gypsies are seldom thought of, let alone missed or wept over. But it's the same for the tinker, cooper, potter, woodcutter, blacksmith, miller, ferryman, old-time gunsmith, powder miller, horseback mailman, bowmaker, tanner, windmill salesman, general handyman, postmaker, miner, prospector, moonshiner, and a thousand other tradesmen that most parts of our society have forgotten or don't know anything about in this day and age of specializing. As a young man, I was a tinker (I still repair pots and pans rather than throw them away), coopered churns, buckets, and barrels; still make musical instruments, made whiskey and beer, mined placer gold, worked at blacksmithing, worked as a tanner and as a cowboy, explored unvisited places in the wilderness as a wanderer, made furniture, built cabins from materials at hand, made a few wooden water pumps, cooked meals for tunnel crews on a wood stove, made gun flints and arrowheads, smelted my own lead to make round balls from, and a dozen other self-sufficient and unique things few individuals even consider today. The arts and trades are being lost and forgotten at an ever-increasing rate, and if hard times fall upon us in some way or another, our survival rate will be low.

"In this day and age, there are few people who understand the rewards of starting from scratch to build something. When you want a thing badly enough, and you don't want to pay high prices for shoddy work, or you can't get it any other way, making it by hand always turns out to be the

most satisfactory way if you're capable of making it and can get the materials. The American pioneer spirit isn't dead yet, but it's been pretty badly abused, misused, and avalanched with promises of the easy and luxurious machine-made life with hidden sacrifices to our self-respect and freedoms.

"And the way our lives are accelerating in these times, if we don't find a sensible way of slowing down, the sum total of mankind will eventually go collectively insane because of the rate we're going.

"I often wondered what was going through a man's mind when his power bill came to $35 a month—particularly when my power bill has never gone over $8 a month for our family of five people, and in the winter at that. Or what went through his mind when his food bill came to $400 in a month and his refrigerator was almost empty the week before payday. Or when he spent $60 for gas that month and $12 for oil and spare auto parts.

"Our move to the wilderness is to be a near-total break with society for as many reasons as both of us can think of. For one thing, our economy is getting ready for a big fall, and if a body has a way to make his own living instead of depending on what industry has to offer, the coming hard times can be weathered.

"The idea is to get by just as primitive and low-priced and with the lowest impact on Mother Nature as possible. Yet, one should be as innovative as possible without falling back on manufactured products that leave an impact on nature, or those requiring service maintenance that the owner can't do himself.

"Right now, we're living at the 1915 level, and regressing bit by bit. When we sell the car and buy a horse and ranch wagon, we will have taken the big step. Then we will be at the least point of impact on the balance of nature. That's one of the reasons we're glad we've decided to gravitate out into a wilderness area. Living close to product convenience tempts us to spend more and consume more.

"We have rejected 90 per cent of today's modern conveniences, including processed, packaged foods, TV, electric lights and appliances, electric tools, and other modern blessings. Our food is provided by our own hands or bought from natural-food stores and prepared from scratch in the kitchen. Brought down a raccoon yesterday that the dogs treed that went twenty pounds. The old muzzle loader roared, and the deed was done. Sure was good eating at supper last night. Gonna make a coonskin cap for Mark as soon as I cure the skin.

"Self-sufficiency and self-support breeds the kind of self-respect and confidence you can't buy off a supermarket shelf."

As the demand for powder grew in the Southern Appalachians, fairly large operations came into being for its manufacture. As Jim Moran told

us, "Powder was made in this area. The big powder mill that was around here is gone now—the place burned up and all. But it was on Boozy Creek, and it was operated back in the early 1800s and possibly before by the Hughes family. They were also gunsmiths. They were somehow connected with the blockhouse which was on the Wilderness Road. That was where Boone wintered after his son was bushwhacked on the Wilderness Road. Now that was quite a settlement around there. One winter I went up on Timbertree Branch near the blockhouse site and there were about ten or fifteen cabins around there made out of poplar logs. They were only about twelve feet square—didn't have any windows or anything in them. I think they were the residue of that holdup of immigration when those people got that far and they were afraid to go on. I went back over there about five years ago, but there's none of that left there now.

"But these Hughes, they ground that powder on millstones. I found that out. I know one man who found the old order book for the powder mill. He had it photostated. That mill blew up twice. One time they found shoe tacks in the charcoal. The story was that it was sabotaged. One time it blew a fellow's hand off.

"Willow charcoal is what they used for the powder. And then saltpeter—you know you hear about saltpeter caves. Over around Saltville they've found a lot of the vats and stuff where they leached that out from bat guano. That was done during the Civil War. In fact, they've uncovered one of those caves in the last ten years or so and found the vats still intact in the cave. That's Saltville, which is about thirty-five or forty miles north of here. And the same thing in Big Stone Gap. Powder for the Battle of King's Mountain was made on Powder Branch near Erwin, Tennessee."

Another of these operations was located in Mammoth Cave. Recently, in a remarkable experiment there, potassium nitrate crystals from saltpeter were produced again in the traditional method. Carol A. Hill, one of the coordinators for the Saltpeter Research Group, describes the prodecure that was used that day:

"Before the 1870s, caves were the primary source of nitrate used in the manufacture of gunpowder. Saltpeter mining was one of the first major industries of the new frontier, and one of the principle objectives of exploring new territory was to find saltpeter caves. Caves were mined by individuals and also commercially for national defense purposes during the Revolutionary War, the War of 1812, and the Civil War. Many homesteaders in the Virginias, Kentucky, and Tennessee had their own individual saltpeter caves and from them would make their own gunpowder in home-constructed V-vats or 'hoppers.'

PLATES 202–204 The leaching vat or "hopper" was made without nails using a peg-and-hole construction. (Photos by Pete Lindsley.)

PLATE 203

PLATE 204

PLATE 205 Laying the drain trough. A foot adze and hatchet were used to hew the trough. (Photo by Pete Lindsley.)

"Making a V-vat entailed using a peg-and-hole construction. The holes were made with a hand auger (Plate 202); the pegs by whittling down the end of a log with a hatchet and then by trimming with a knife (Plate 203). The frame was then pounded together with a wooden mallet (Plate 204). A froe was used to make the side boards. Bolts of wood that were straight-grained and well-seasoned were the best for this purpose. The glut was used as a wedge to split the log base of the collecting trough. The trough was then hewn out with a foot adze and hatchet. After the hopper was constructed, twigs were laid in the bottom of the vat, and then wheat straw was laid on top of the twigs and along the side boards to help keep the vat from leaking (Plate 206).

"Cave dirt was tested for its nitrate potential by the following procedure: A footprint or mark was made in the dirt and left for twenty-four hours. If the print was scarcely visible by the next day, then the dirt was deemed high in niter. A mattock was used to break up the cave dirt, and a wooden saltpeter paddle was used for digging and scraping (Plate 207). The dirt was removed from the cave in gunny sacks and poured on top of the twigs and straw in the V-vat. Buckets of water were then poured over the saltpeter dirt to leach it of its nitrate or 'mother liquor.' The mother liquor (also sometimes called 'beer') would run down the sides of the V-vat and into the split-log base and out into the collecting trough (Plate 208). A dipper gourd was often used to transfer the mother liquor into a container (Plate 209). This same liquor was poured again and again over the saltpeter dirt because releaching caused more nitrates to be dissolved. According to the old reports, releaching went on until the solution was of sufficient density to float an egg.

"The next step was to combine the mother liquor rich in calcium nitrate with woodashes that contain high amounts of potassium hydroxide. The best woodashes for this purpose were made by burning hardwoods such as oak and hickory. The mother liquor was either poured directly over the woodashes or the woodashes were leached in barrels and the leachate directly combined with the mother liquor. Upon combination, a white haze could be seen (Plate 210), and this white precipitate (calcium hydroxide or 'curds' as it was called) would slowly sink to the bottom of the barrel. If the solution contained an excess of calcium nitrate, the product was termed 'in the grease.' An excess of woodashes produced a condition called 'in the ley.' The woodash leachate was poured into the mother liquor until the white curds could no longer be seen precipitating out of solution. The remaining solution thus contained the still soluble potassium nitrate. This solution was dipped out into an apple-butter kettle (or 'evaporator'), and a fire started under the kettle. Turnip halves were then thrown into the boiling solution to help keep it from foaming and to take up the dirty brown color. Oxblood (or alum) was also added to the boiling liquid and caused the organic mat-

PLATE 206 After the vat was completed, twigs and straw were used to line the bottom of the vat. (Photo by Pete Lindsley.)

PLATE 207 The mining operation consisted of scraping the rocks of loose dirt and carefully stacking them against the cave wall (rear of picture); breaking up the dirt with a mattock; loading the dirt into sacks using a saltpeter paddle (lower left of picture); and carrying the dirt out of the cave by wooden bucket or gunny sack. (Photo by Pete Lindsley.)

PLATES 208–209 The cave dirt was dumped on top of the straw in the V-vat, and water was poured over the dirt (Plate 208), picking up the soluble nitrates from the dirt and then flowing into the catchment trough. The "mother liquor" or "beer" was ladled into a container to be combined with the wood ashes (Plate 209). (Photos by Pete Lindsley.)

PLATE 210 When the leachate of wood ashes is combined with the mother liquor, white curds of calcium hydroxide form as a haze. (Photo by Pete Lindsley.)

PLATE 211 The final product: saltpeter crystals.

PLATE 212 Crystallized potassium nitrate crystals.

ter to rise to the top of the liquid and form a scum which, with continued boiling, was constantly ladled off. After a few hours of boiling, the hot liquor was poured through cheesecloth in order to filter out the remaining scum and organic material. Upon cooling, fine, bitter, needle-shaped crystals of niter (potassium nitrate) formed in the liquor (Plate 211). These crystals were then collected and dried (Plate 212). Potassium-nitrate crystals were far superior to calcium or sodium-nitrate crystals because they are non-deliquescent (do not take up moisture from the air) and, hence, would not make the gunpowder wet and unusable. The nitrate crystals thus obtained had to be further refined and purified. This purification procedure was done either by the individual and homemade into gunpowder, or it was done after the saltpeter crystals were sent to a refinery where the final gunpowder was made."

Lead was also mined in the mountains (one mine was located in Fort Chiswell, Virginia, according to Jim Moran), and the mountains are full of stories about settlers who accidentally stumbled across pure veins of lead back in the hills, carved out chunks with their pocket knife to take home, and then forgot where the veins were when they went back for more. Stories also abound concerning hunters short on lead who would exhaust all efforts to reclaim any lead balls they shot, whether it meant digging them out of a bear's hide or out of a tree trunk.

At any rate, the lead was melted in homemade ladles and then poured into bullet molds in much the same way as demonstrated by both Hershel House and Frank Cochran in later sections of this chapter.

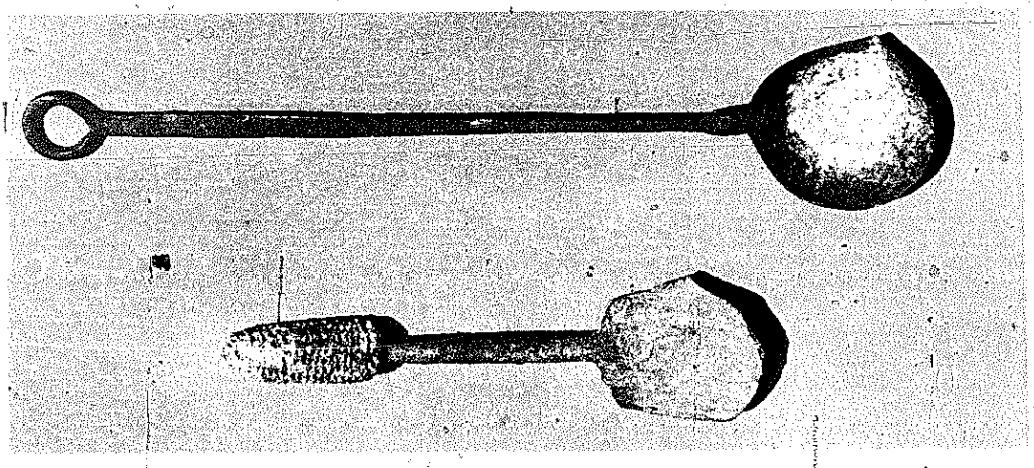


PLATE 213 Two handmade ladles used for making lead balls. The top one is hand forged. The bottom one, with its corn cob handle, was beaten out of pig iron on a buffalo head.

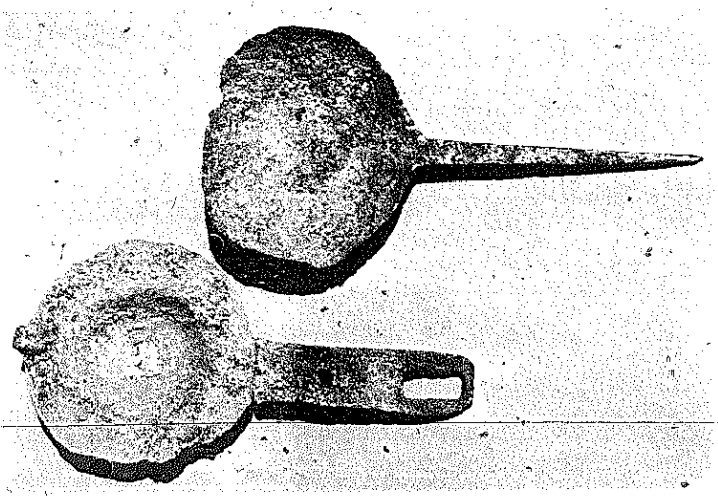


PLATE 214. Two crude handmade ladles for pouring lead bullets.

PLATE 215 A wooden bullet mold at John Rice Irwin's Museum of Appalachia.

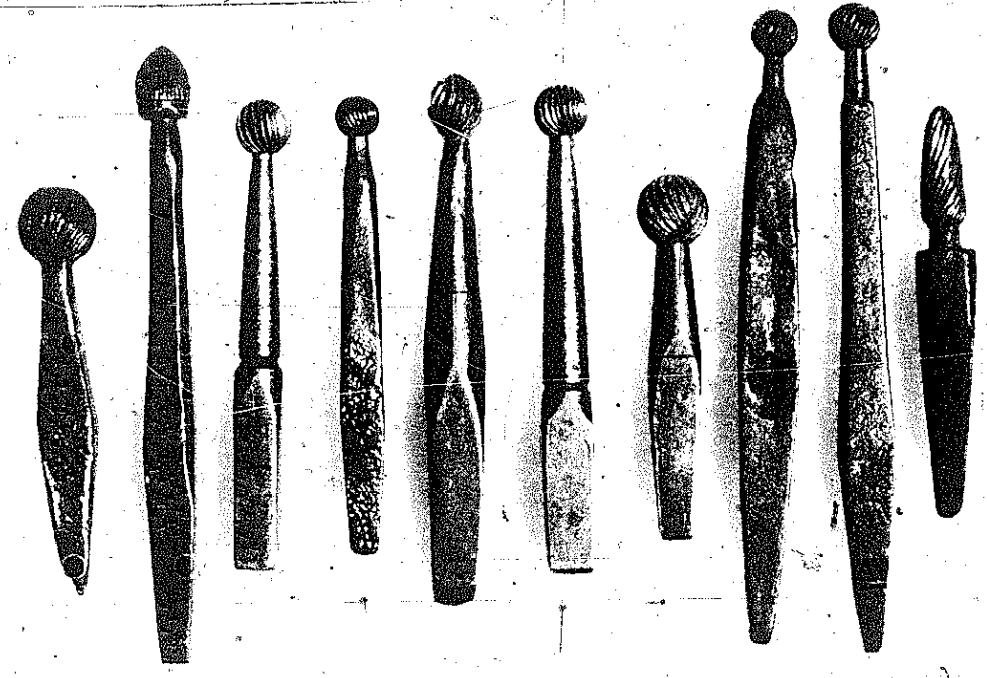
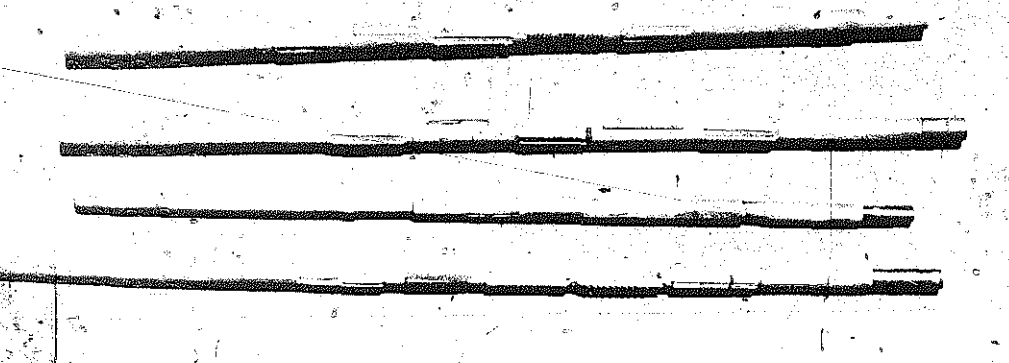
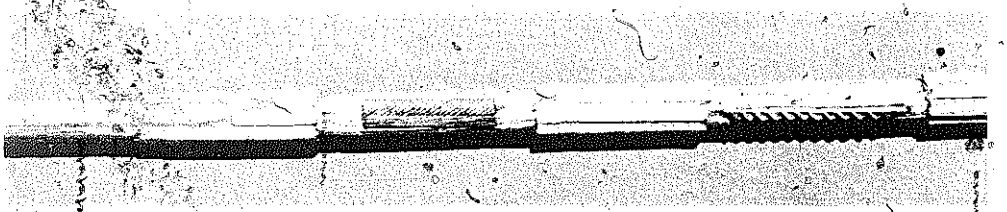


PLATE 216 A collection of cherries, the heads all hand cut, used for making bullet molds. The two halves of the soapstone or iron molds (the iron was annealed and relatively soft and easy to cut) would be squeezed together in a vise around one of the cherries as the cherry was turned by a brace and bit to create the mold. Often a gunsmith would supply a completed bullet mold and cherry with the finished rifle.



PLATES 217–218 Used "freshing" robs.



"Freshing Out" Barrels

Through use, the rifling inside a gun barrel got worn to the point where it no longer did its job. Though a barrel can now be freshed out by a number of more modern machine techniques, earlier gunsmiths were not so fortunate. They had two choices. One was to remove the barrel, take their square reamer and smooth out its inside, and rerifle it completely. This would change the caliber of the gun, but it is a method that was common.

Another was to turn out a wooden rod exactly the diameter of the rifle bore, and carve three bands into and around the rod and a groove down its length that connected the three bands together. The rod would then be inserted into the removed barrel, and hot lead was poured down the groove into the barrel itself. The lead filled the three bands, cooled, and then the rod was carefully removed, leaving a print of the inside of the barrel on the three bands.

Using these bands as a guide, two cutting blades made of files would be mounted in the wooden rod. One was wider and would not cut, but would polish the "lands" or raised portions between the rifling and remove the burrs left by the second blade, which recut the grooves one at a time as the rod was shoved through the barrel. When all the grooves had been gone over once or twice and the blade had stopped cutting, a paper shim would be placed under the cutting blade and the process repeated. Hog lard was

the lubricant, as before. When the grooves were the desired depth, the barrel would be remounted in the rifle ready to use again.

It is said that Hacker Martin used the chaff of wheat as shims instead of paper. Since he was a miller as well as a gunsmith, this is likely. In early gunsmithing, as with most other mountain survival skills, one used whatever was handy as long as it did the job.

Hacker Martin

In this century, as interest in muzzle-loading rifles soared, collectors, would-be apprentices, and the curious found and celebrated the living fossils—those last links to the knowledge required to make a rifle—barrel and all—by hand. There weren't many of them left, and many of the ones they found then are dead now. One of the best known of these was Hacker Martin, who died in 1970.

The best account we were able to find of Hacker's ancestry and early history was put together by one of his apprentices, Robert Scott Carr, Jr., for the February 1968 issue of *Muzzle Blasts*. He gleaned the information from Hacker himself during the time they worked together. The basic facts are that Hacker's grandparents were of Pennsylvania Dutch stock and were part of that migration into the mountains of Tennessee that took place in the late eighteenth and early nineteenth centuries. Their names were Elbert and Sarah Martin and Abe and Deborah Keefauver, and they settled on Big Limestone Creek near Jonesboro, Tennessee. Davy Crockett was born on this same creek in 1786.

Hacker was born to Mary Ellen and John S. Martin on September 9, 1895, in the house built by Elbert Martin and Abe Keefauver in 1799. He was named after Newt Hacker, a judge in Jonesboro, and much of his early childhood was spent in the shop of his grandfather Martin, a professional blacksmith and gunsmith. Hacker went through the eighth grade, and his grandfather Keefauver wanted him to go on to college, but he decided to stay at home to help on the farm. He stocked his first gun in 1914 using a walnut post from the porch of his grandfather's house. And, like most mountain boys, following a tradition that still continues in full force, he became a fine shot. As Carr says, "Making the half-mile trip to Keebler Crossroad Store with a nickel in his pocket, young Hacker purchased a paper sack of black powder and, with a dime more, bought caps. With these ingredients and a muzzle-loading rifle, he brought home many a rabbit, squirrel, or bird to sweeten the pot. A man never went out to the store or to a neighbor's without taking his rifle. 'Most men would forget their hat before

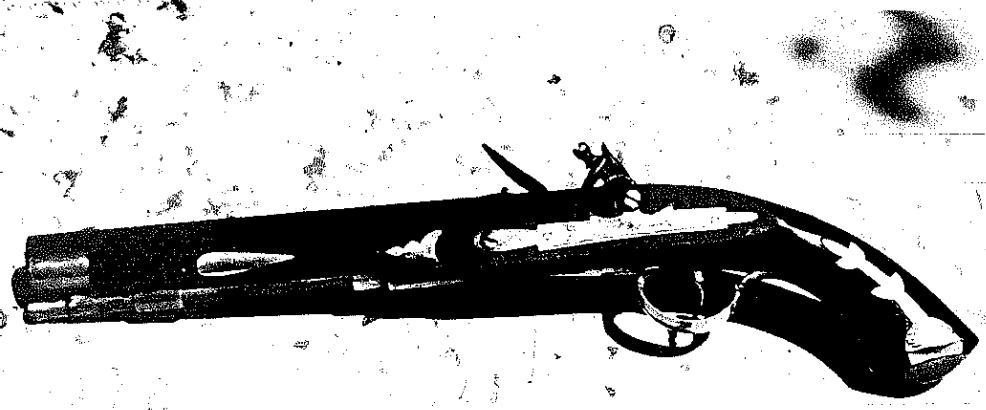
PLATE 219 Two patterns Hacker Martin used in the creation of his pistols.

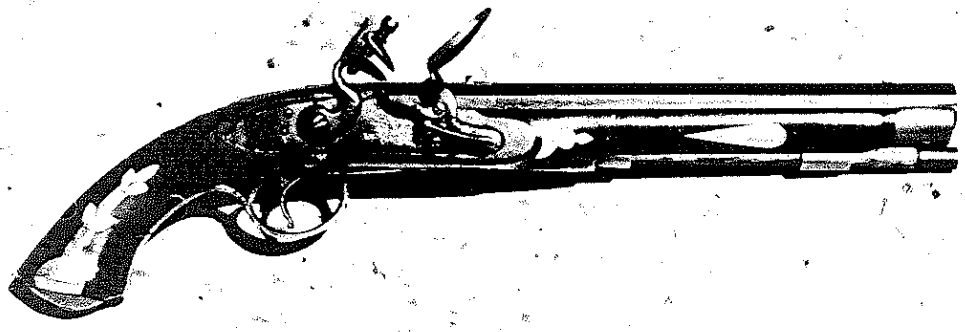
they forgot their rifle, as one never knew when a fox, squirrel, or rabbit would run across his path,' related Hacker."

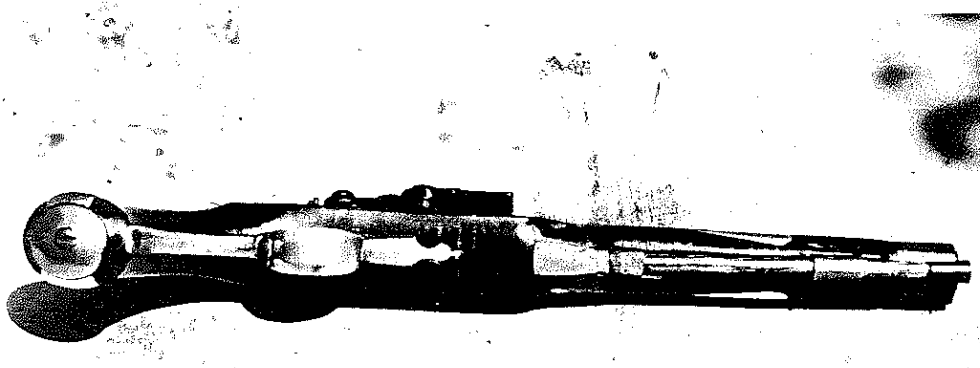
In 1917 he served with the Army Air Force in England as an aviation mechanic, and then he did a little shipbuilding in Columbia, Oregon, at the Columbia River Shipbuilding Corporation before returning home, at his father's urging, to east Tennessee, where, in 1922, he married Maude Bacon. Their three children, Raphael, Donis, and Betty Jean, are still living.

In 1940 Hacker and his wife bought the Cedar Creek Mill near Jonesboro, Tennessee. It had been built by Mrs. Martin's great-grandfather, Conrad Bashor, in 1840 near the site of the mill and shop that William Bean had built in 1775. There he began to build his reputation as a miller and gunsmith, moving later in his life to a larger mill in Appomattox, Virginia, where he died on May 22, 1970.

A large portion of the work Hacker did was repair work on fine rifles that were brought to him by some of the most famous collectors and museum directors in the country. But he also made numerous magnificent rifles and pistols himself. In an article for the October 1965 issue of *Muzzle Blasts*, Robert Scott Carr, Jr., tells a story that is revealing—one of hundreds of such stories that circulate about Hacker and make his guns so sought after and treasured: "Those who know Hacker and visit him in his shop admire him as the last of the only true artists America ever produced. The Kentucky riflesmith. Hacker believes to build a rifle like the old timers you must use the same methods and tools they used. Hacker tells of a collector friend of his who was showing his collection off to a famous gun expert. The expert, after looking over the collection, picked up a pistol Hacker had made for a friend only two weeks before. The expert told the owner that it was the finest pistol in his collection, and he proceeded to tell when the pistol was made and in what location. The collector had to take the lock off the







PLATES 220–222 A beautiful pistol, now in a private collection, made by Hacker Martin about 1952 in his Appomattox shop.

PLATE 223 Gilbert Angel of east Tennessee with a Hacker Martin rifle. (Photo courtesy of Earl Lanning.)

pistol and show the expert the new wood before the expert would believe the pistol was a new one and not made in the late seventeen hundreds."

There are also stories that circulate about Hacker's legendary, quirky personality. The more we found out about him, the more fascinated we became. Since the Jonesboro area is not far from us, we decided to see if we could find some people who once knew Hacker, as well as track down the mill and get some photographs. We got more than we bargained for. We started the search with Earl Lanning, a gunmaker in Waynesville, North Carolina. He had visited Hacker on several occasions, and Hacker had made a rifle for him at one time. Earl produced a number of photographs for us that he had taken, which he invited us to use in this chapter. He also referred us to Garnett Powell in Johnson City, and Jim Moran in Kingsport—both gun buffs and historians. We found Garnett Powell easily, and he and his wife welcomed us into their home, fed us, and spent hours with us talking guns. Hacker's reputation was intact with Garnett. As he said, "Bull Ramsey was a good friend of Hacker and so was Red Farris. Both had told me what a great craftsman he was, and Bull had a fine flintlock rifle made by him.

"Bull and Hacker carried on a very active correspondence. Hacker was always writing Bull about carpetbaggers and damn Yankees who were always visiting him and eating him out of house and home. Letter writing

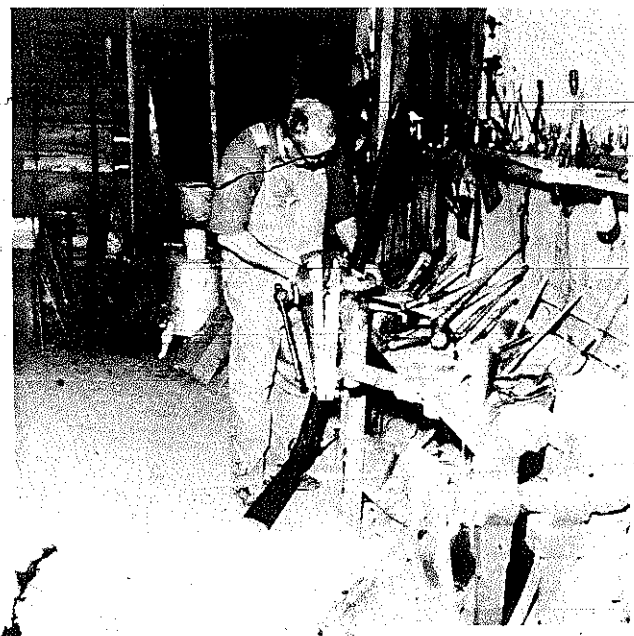


PLATE 224 Hacker Martin in his grist mill/gun shop in Appomattox. (Photo courtesy of Earl Lanning.)

PLATE 225 Hacker Martin holding a miniature flintlock rifle he made for one of his grandsons. (Photo courtesy of Earl Lanning.)

PLATE 226 Hacker Martin priming an Alfred Duncan rifle. Jim Holley stands in the background. (Photo courtesy of Earl Lanning.) Earl believes that the rifle is the same one written about on page 155 of *Lure of the Great Smokies* (see Bibliography).

PLATE 227 Hacker Martin firing the Duncan rifle. (Photo courtesy of Earl Lanning.)

was always a time-consuming bother that never allowed Hacker to get caught up with his ever-increasing gun work. He told Bull in one letter about a bulldog he had that would eat up every visitor or gunbug that dared to come around.

"I finally decided I had to meet this famous gunsmith, and during a spring break in school I went on a trip to visit Hacker. I finally located his mill and drove up in front of his house to be greeted by numerous posted signs—'No Trespassing,' 'Beware of Dog,' 'Trespassers Will Be Shot'—posted all around the yard and gate.

PLATE 228. Hacker Martin with his wife and granddaughter. (Photo courtesy of Garnett Powell.)

"Expecting anything, I cautiously advanced to the front porch and was met by the kindest, most gracious lady who informed me Hacker, her husband, was down in the mill.

"I threaded my way down the path and found a tall, fine-looking man who made me welcome. We became good friends and visited and corresponded until he passed away.

"I never encountered the legendary sour disposition that many said he possessed. It was always a friendly, gracious, and brotherly reception on my visits. Mrs. Martin was also a hospitable and generous hostess while I was in their home.

"Hacker taught me much about the old methods of gunmaking, as he did anyone who would take the time to ask and learn.

PLATE 229 Remains of the mill and gun shop outside Jonesboro, Tennessee.

"He had little patience with the 'fast-buck boys,' as he called them, and his time was too precious to waste on them. He always had time to visit with his friends and people he liked.

"He was the epitome of the old-time gunsmith. The two-hundred-year-old methods were still practiced by Hacker. He knew the secret arts of forging and tempering. I remember he would praise his young apprentice, Roy Patterson, in all phases of his work, except Hacker said he never mastered tempering springs.

"His favorite was a young man in Johnson City, Tennessee, named Lester Smith. He was taught engraving by Hacker and did some stockmaking for Hacker when he was at Gray Station making guns.

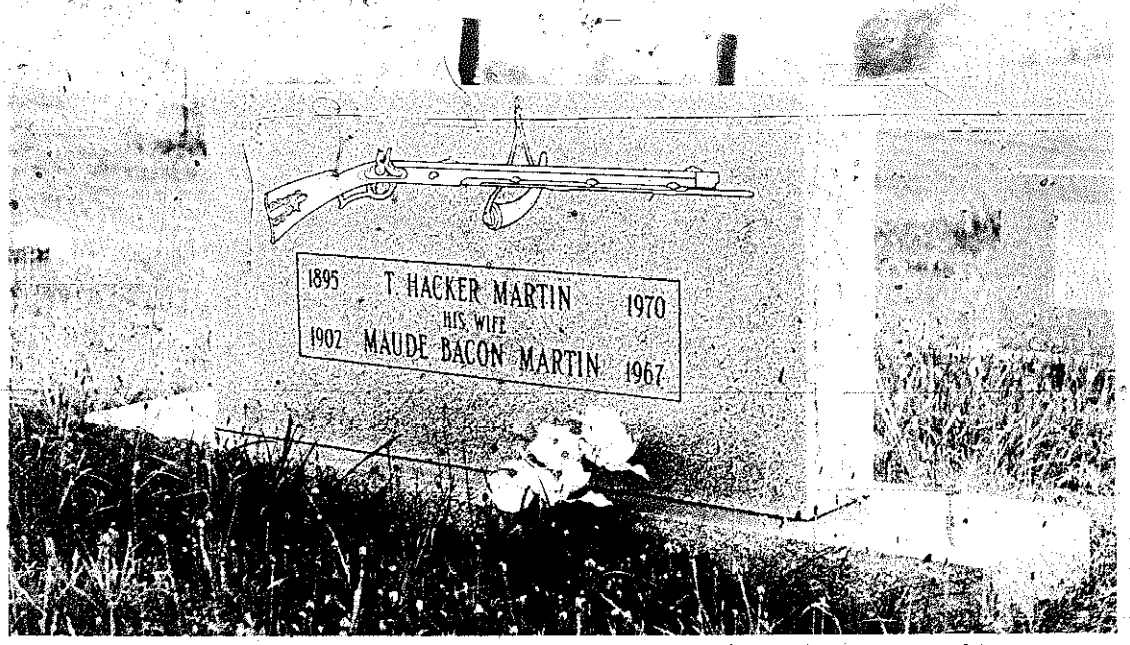
"Lester Smith could inlay metal to wood as perfect as any man alive. He was a master engraver, and his work in his late years can be found in some of the best collections in the country. Hacker felt that Lester's work was exploited by some of the fast-buck boys. I agree with that. Lester never was paid a decent price for his work. He was too much of a gentleman to protest when things were misrepresented. He died a rather tragic death several years ago. A few years ago another gunsmith that worked with Lester was soliciting money to erect a proper headstone at Lester's grave.

"Several people who studied with Hacker are still around, but I've yet to see any of their work that can compare with the old master. When Hacker made a gun and put his finish on the metal and stock, you had to sometimes remove the lock plate to tell it wasn't two hundred years old. Now that's real art."

Garnett sensed our growing interest and offered that evening to take us out to Hacker's old mill. We accepted immediately and found not only the mill, but also his daughter, Betty, and her husband. They showed us

PLATE 230

PLATE 231 The headstone on Hacker and his wife's grave.



through the mill and also gave each one of us one of the original paper sacks [see Plate 230] that Hacker had printed to sell his meal in. Betty also gave us directions to the churchyard in which he is buried, and in the last light of that day, we took photographs of his tombstone.

The next morning, Garnett took us to meet Jim Moran:

"I was introduced to Hacker Martin in 1944 by L. L. Hodges, who was gunsmithing then, and who was possibly related to Hacker through marriage. I went with L.L. to his shop because I had a gun that I brought up here from Dresden, Tennessee, that was discovered in an old cabin up on my grandfather's farm, and I wanted Hacker to repair it. I had been inquiring about gunsmiths in the area [trying to find someone who would fix it], and I had been out in the country and actually seen some of the natives still shooting with hog rifles—particularly down in Hancock County, the only county in Tennessee without a railroad.

"Hacker looked at the piece, kept it, and repaired it. I have a letter from him which he wrote me about the piece later. He had replaced a tube and a nipple for three and a half dollars, and had written saying that the piece was not worth the twenty dollars it would cost to rebore and rifle; it either had a welding flaw or a deep powder bed in it. Hacker had an old crank-operated boring machine, and it would have taken him two or three days to bore it out, so I never had the barrel fixed. I just used it as a wall piece. This gun was a J. and W. H. Mall, Allentown, Pennsylvania, Number 1657 rifle, restocked and remounted by Hilliary Jones of Dresden, Tennessee, 1800.

"I went to Hacker's mill to pick up the gun, and I remember that at the time, he had the top of it shored up with rough timber because it was about to fall in from an overload of at least 600 rifles and several thousand board feet of stocking materials, cherry and curly maple. He traded work for most of those guns with a Mr. Cooper who was one of the early 1900 dealers in Pennsylvania. He would bring his junk guns down to Hacker, and Hacker would repair some of the better ones for him. He sent me up in the loft and said, 'You pick around there and you can find a rifle that we can patch up to shoot a lot cheaper than the twenty dollars it would cost to fix up yours.' Well, I found an E. L. Pancost rifle from the Monongahela River, and it was a full-stock, back-action plains rifle with a nice curly stock. L.L. had bought this same rifle from Hacker and was squirrel hunting when the stock fell apart because of the glue getting warm and melting out. He told me when we were up in the attic that he had brought the gun back, but that the bore was good, and so forth. It was a .44 caliber. So I bought it for ten dollars, patched the stock and recently gave it to my son. That rifle killed the first deer killed legally in the State of Tennessee at Tellico Plains. And that same day I also bought two more for five dollars apiece, and Hacker

restored those. In his attic, I remember two fowling pieces that were the silver-inlaid, early Spanish fowling pieces with very dark walnut stocks. I had a feeling for guns then, but I hadn't read enough about them to know what was what. I didn't take those.

"In a later visit, I found a Hudson Valley type, five-foot barrel, Indian musket up there without a buttplate and bought it from Hacker, and then Hacker found out what it was and never would repair it. He took it up to Virginia, and it burned up in his shop up there. But now that was one of the personal characteristics of Hacker. He was generous, and I was always fair with him, but I was a trader and he was a trader. If he thought I got the best of him (which is what he thought in this case) it would take me a year to repair the damage. I think I bought it for six dollars or so. He was selling most of them for five dollars.

"Hacker was notorious for his speed. He was one of the fastest workers I've ever seen. And he was from the land of make-do, of course. His carving tools were made out of old files, and he was a good steel-tempering man. He could make wonderful gun springs. He was always looking for old pitchforks which he would use. And one thing he especially prized were the elevation springs from old horse-drawn road graders. They had some big springs in there to raise the blade, and they had cranks on them, and he was always looking for those things, and I found some for him. He wanted them because of the spring steel.

"And he always had a sense of humor. One of the first visits I made, Hacker was working on some pieces that he said were for the Smithsonian but might have been for Williamsburg. Both pieces were wheel-locks, and both Saxon-type or German-type rifles. One was ivory inlaid, and Hacker was doing some inlay replacing, and I asked him, 'What do you use? Ivory?'

"He said, 'No, just old bone. In fact, this inlay is out of the jaw bone of an ass.' And he would just laugh when he would make a crack like that.

"I remember another little trade I had with Hacker. One thing that ties this area in tightly with the Pennsylvania rifle industry is the lower Palatine German element that came into this section with the early settlers. Most of the gunsmiths in here were of German extraction. And there was a fellow here named Bernie Kiker; lived on the Nolichucky River down there, and he was a blacksmith, I think. He had collected some guns for a man in Washington that had migrated from this section. They were original flintlocks. I tried to run some guns down, but I was always too late because Bernie had been there first. This was about 1944, because Hacker had told me about Kiker first, and I went down to see him. He was an old man—about eighty. He had a little pistol lock that I bought from him—an English lock—and I was going to put it on a rifle. The hammer was missing

or something, so I brought it to Hacker. Hacker recognized it at once. See, he had a good memory. He said, 'I don't know whether I want to repair that or not. You got that from Bernie Kiker, didn't you?'

"And I said, 'Yeah.' Well, he finally repaired it for three dollars and a half. I guess he had probably offered Bernie a dollar for it, and Bernie wouldn't take it, and I bought it for maybe two dollars. One of those things. But it blew over. Hacker and I were basically good friends.

"Hacker was a mountain man in that he would stay away from the women for a long hunt every now and then. His wife and children would stay down at the home place and he'd bach out at the mill, and maybe he'd go home for Sunday dinner, and maybe he wouldn't. And his father was of the same stripe. He was a blacksmith—long beard—and he drove an ox and buggy. He had a brother that was a fiddler and made violins, and Hacker started maybe before his gunsmithing times fiddling and making fiddles and banjos. He made some fine fiddles.

"Later he bought the Isenberg Mill over around Appomattox. A fellow from here went over there and apprenticed and worked with him for a while. His name was Robert Carr, and I have a letter here from Hacker saying, 'My new apprentice is doing fine.' The first time they came back, we had them to dinner a night or two before Christmas, and then they invited us out there and we talked until about twelve o'clock about this and that. I remember we had some cinnamon bread or something exotic in keeping with the mill. We had a nice visit. Then, about two weeks after that, I got this letter from Hacker. Maybe somebody had been kidding him. Mutual friends would kid Hacker about things and get him upset. But it's a hot letter. It said, 'I don't want any east Tennessee Jew city slicker coming over here with a bunch of brats (I had six children) and staying around my place and eating me out of house and home.' That was the essence of it. Now that shows you that when Hacker got stirred up, he was really stirred up.

"He was working on a piece down there one Saturday, and people kept coming in to get five pounds of meal or something, and they were bothering him, and he made a mis-lick with a hammer and ruined the piece. He was working in front of the window at his bench, and he took that hammer and let out an oath and threw it through the window and took about four panes of glass with it. Well, for the next four or five years, he had a pillow stuck in it. Of course, he could have fixed it. I guess I have some of his habits. I don't get around to fixing things.

"There were several earlier periods in Hacker's life. Once they tried to lock him up for being a deserter in World War I—or draft evader. All the time he was in the Canadian Air Force. Now he didn't want to be drafted, and maybe at that time he had long hair. I've seen one picture of Hacker

in his younger days and he had long hair. That was not too different at the time, and yet it *was* depending on where you were. Anyway, he ran away and went to Canada. I heard him say that, and I saw a picture of him standing by an old Jennie. Now maybe he was a mechanic, and maybe that's where he picked up some of his skill. If he wanted to, he could be a pretty good machinist depending on the demand.

"And then during the Depression he was in Florida with an apprentice named DeVault. He was on the Tamiami Trail and had a one-cylinder gasoline engine, and DeVault told me that it broke a piston ring one time and Hacker made one out of wrought iron, and he brought the old engine back up here with him. He was making tourist-type trade things down there, and DeVault said that for two months, all they lived on was oranges. Hacker couldn't sell anything. Couldn't buy any groceries.

"When he got into making guns, I think that his later decorated rifles were mostly the result of customers who wanted show pieces, and he changed his trend from the simple work to pieces like that because that's where his bread and butter came from.

"Hacker could stripe his ramrods by hand. He'd just get a piece of steel wool with some of that nitric acid—his hands were always eaten up—and he would start down there at one end and just s-h-r-o-o-o-m. And that was it. Grab up a piece of toe sack with linseed oil and go over it real light to kill it.

"Hacker is important for a number of reasons. For one thing, he preserved a lot of the individuality and the spirit of freedom—'if you're right or wrong, by God, do it.' He was full of it.

"But even more important, his greatest influence was gathering the remnants of a past and sort of reintroducing and modernizing the methods enough to make them economical. At a time when these other shops were falling down, he did get around and get up some of the tools, and he must have picked up some of his know-how about making pieces from descendants or old-timers that were still surviving in the neighborhood and told him how they did it. For a while, he did weld his barrels, for example. He lap-welded them, of course—he didn't spool-weld them. But I've seen him make barrels. He used the same sized scelps they made on these forges for wagon tires. It was just about what he wanted. Maybe work it down a little smaller or something like that. Later he went to manufactured barrels a good bit.

"But he never went to machine screws on his serious pieces. He had some screw dies, and I've seen him make screws. He'd take a piece of 3/8" rod and grind it down to make the screw and the tip. Then he'd saw it off and work out the screw heads.

"But Hacker was here, and Ferris and Cline, they knew it and they came

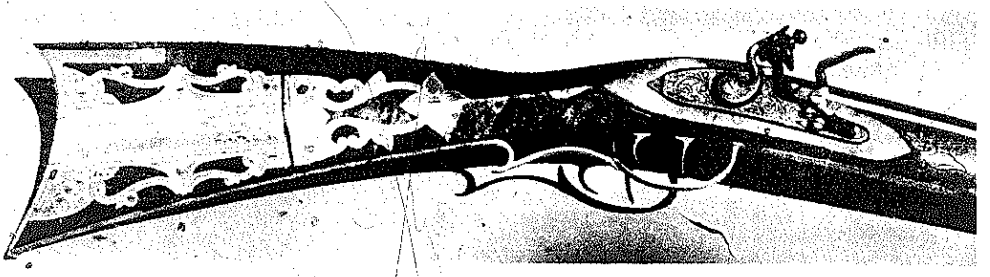
PLATE 232 Hacker Martin and his apprentice, Lester Smith. (Photo courtesy of Garnett Powell.)

to Hacker. They had the interest and they had the guns, but they had to get back to [people like] Hacker to find some of the background. He was a living fossil, if you want to put it that way. He wouldn't chew Bulldog tobacco, for example. He made his own twist.

"And I've seen Hacker grinding barrels. He had an old grindstone about three feet in diameter and a foot thick rigged up down there on that waterwheel, and he'd grind them on that."

Both men talked at length about an apprentice Hacker had named Lester Smith who stocked and inlaid many guns for Hacker. With Garnett's help, a number of letters Hacker wrote to Lester were made available to us, and portions are excerpted here as being especially revealing of a master gunsmith always under enormous pressure from the outside. The first, dated November 9, 1944, was written during the time one of Hacker's sons was serving in World War II, and Hacker was first approaching Lester about working with him. Portions read:

". . . How is the gun work getting along? I am swamped with it, as usual. Butchered a beef this morning and have a mess on the stove about tender enough to eat right now (eight o'clock P.M.). I wish you were here to help me polish it off! Or, better yet, bring your belongings and come for a six-month stay. There is a plenty of all sorts of old gun work, and in between jobs we could play the fiddle and tell big tales, etc. There is a reasonable amount of cash return, too, although a fellow is not likely to get to be a millionaire at it (not with present income tax). You might be surprised if you knew how much I have saved up in the last two or three years, and I have been sick, more or less, and just dragging along more than half that time. If the gun trade slacks up (it has not slacked for more than seven years), the mill will keep two or three hands over busy if the trade is pushed a little, which is not much trouble to do. Maybe we can make some ar-



PLATES 233–236 A flintlock rifle, now in a private collection, beautifully stocked and inlaid by Lester Smith.

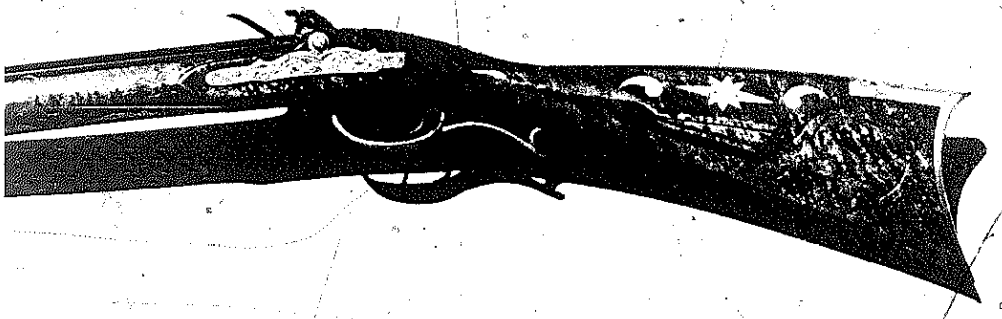


PLATE 234

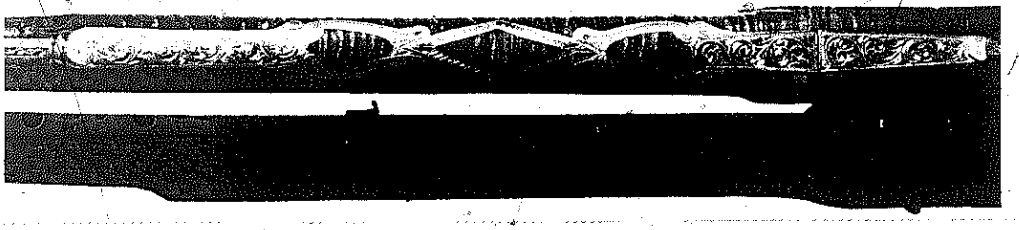


PLATE 235

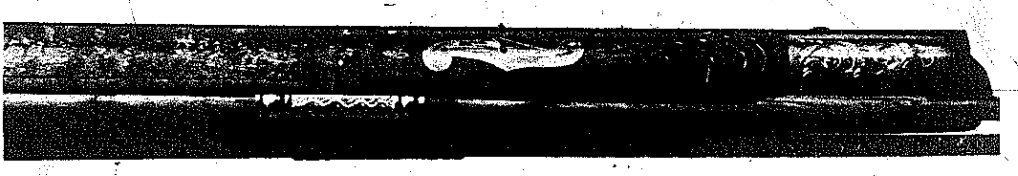


PLATE 236 The forestock of the rifle. Note that even the thimble is beautifully carved.

rangement so we can be of some help to each other. I can furnish you with plenty of stocking jobs right now, and any other sort of old-time gun work you might like to try. I see that you are not afraid to tackle any work about a gun, and that is exactly what it takes. I had a good man helping me once, but I could never get him to try any barrel or stock work—he was afraid he would spoil the work and would never tackle these jobs, though I asked him to many times.

PLATE 237 Hacker Martin and Jim Holley with some of Hacker's rifles. (Photo courtesy of Earl Lanning.)

"I would be glad if you can arrange to do a few jobs of stocking on old-time full-stock Kentucky rifles for me sometime about the beginning of this coming year—sooner, of course, if you are able to. If you lack some tools, I will gladly make you some—the right gouges, chisels, saws, etc. speed up the work very much. I need some more myself—just keep putting off making them—too doggone busy.

"Mr. [Jim] Holley believes he can get us plenty of barrel iron (tubing) just the right bore and size outside. This saves most of the time making barrels as I have had to make .45-caliber barrels from .25-caliber blanks which is quite a reaming job and takes as long, often, as rifling six or eight barrels would take. I grind one octagon in an hour or two. I will furnish the buttplate, guards, triggers, locks, and barrels, and the brass for the patch boxes, thimbles, muzzle caps, etc. Also the coin silver for the inlays, and I would be glad to know your price on making a stock (I would furnish curly maple) with, say, twenty-four silver moons, fish, fancy hearts, etc. on the stock, and finished with nitric acid and red shoe dye, like that dandy job on the old rifle you got from me. Boy, how I wish this blasted war was over and I could build a good big brick shop with lights in the roof on the north side and some machines handy to speed up the work.

"You and me, with two or three other men I know of could really amount to something making guns, pistols, etc. If my boy gets back from the war safe, he aims to help make guns, and I know of two other fellows who want to, but are tied to other jobs on account of the war.

"Hoping to hear from you soon, I am Sir, Sincerely Yours, Hacker Martin."

Lester began working with Hacker, even though sick with a disease that would take his life at an early age. Hacker was constantly worried about Lester's health, though he was pushed simultaneously to produce more work. It must have been a difficult time for him. In a letter to Lester dated February 9, 1945, he wrote:

"I've been making some more set triggers, and hope to have a dozen sets done by tomorrow quitting time. Mill work is light—bad weather—but the gun business is rushing, as usual. Heard from Jim Serven out in California. He only wants us to make him up five Kentucky hog rifles—all flintlock. He would furnish old barrels (to be newed inside), part of the buttplates, guards, and stuff, and all we do is do the rest. New stocks, new inlays, new patch boxes, new triggers, new thimbles, new ramrods. Why not make new rifles and be done with it, I ask you? Be worth $400 to $500 to make up the five as he wants them.

"I know where we can sell, for cash, between 200–300 hog rifles. So if you know of anybody you can get to help you make stocks, etc., it would be a good idea to get them started. There will be plenty of guns to fix up, but prices may not continue high after the war ends, or slacks off. Meanwhile, go right ahead on the three rifles you have—but be careful of yourself, and don't go at it too hard or hurt yourself in any way, for a fellow can do only a certain amount of work without harm.

"Say, I forgot to give you a sack of cracked wheat before you left the mill. It might be good for you as it is full of vitamins, minerals, flour, bran, hearts of wheat and so forth—besides, it eats mighty fine mixed with cream and sugar and a small chunk of butter the size of your fist—if you like butter.

"It makes the sick, well, and the well, weller.

"Have you got your shop covered yet? I hope you have it fixed up snug and warm so you can be comfortable while you make guns. I often let my fire get too low, or go out, when I get busy on a gun, which is not good for what ails you, or me.

"Drop me a few lines once in a while and let me know how you are getting along. You won't have to wait for your money when you get the rifles fixed. I may have a little work to do on the locks, etc. after you get through with the stock. That fancy one has to be changed back to flintlock and some work done on the lock of the new one you are fitting up. Keep track of all your work so you can charge enough, for that is the most important part, or so it seems to me!

". . . Ole man Bull Ramsey and Red Farris are wanting a big bunch of

Kentucky flint guns and pistols made. Boy, what a life. Once I wanted all the gun work I could do. Now I want all the help I can get, and can't get it! If it was not for you, I would sure be out of luck.

"Well, I'd better close. It's about bedtime and I am getting cold. Let me know when you get the guns ready. Best of luck. Your friend, Hacker Martin."

In a third letter to Lester, dated March 23, 1945, more of the pressure that Hacker was under is revealed, and it is easy to see why he might have been worried by and suspicious of some of the people who crowded around his shop:

". . . What we need most is a bunch of good stockers like yourself. I doubt if there is a dozen real top-notch gun stockers in the U.S. right now.

"Heard from B.R. a few days ago. He got home safe and sound, but had to detour about two hundred miles to get home. Boy, I don't think so much of him as I did before. He didn't pay enough for the rifles he got from R.C. and you in my opinion. He bought a couple of real fine rifles off an old lady on Beaver Creek for twenty-five dollars, one about brand new. Worth fifty dollars each. Well, maybe it's none of my business, but he looks more and more like a cheap sh—t to me. That rifle he got from you really should be worth sixty-five dollars at least the way guns sell now where he is.

"I believe he is wanting to get you away from me so he can have you to make stocks for him all the time. Well, it's a free country, and all I can say is I hope you don't quit me. In fact, I believe you can do better with me than you could with him—or anybody else, for that matter. I have worked on his guns almost entirely for the last six months. Guess how much cash he paid on this work? You'll have a fit! Thirty dollars cash! Of course, I got a mess of old second-hand railroad tools and junk—a lot I never needed nor wanted for that matter. Mostly stuff picked up for nothing, or next to it.

"Boy, wait till you see a letter I got from Red Farris about us and our gun work, especially stocks! Red is, as you know, Secretary of the NMLRA. He broke down complete. Even says we ought to charge *more* for our grand, sweet, fine, artistic gun work, by Gorsh! Wants us to come up to the big show at Cleveland and show the Dudes how we rowell out barrels and chop out stocks, etc. Can you imagine you and me surrounded by a couple of thousand gun bugs, each asking forty-nine questions a minute, [and us] trying to work at anything, much less a gun, under such conditions? Me, well I can't do any noticeable amount of work with two or three people talking to me at once. How about you? Red even offered to pay fifty dollars on our expenses there and back. Well, Ol' Red is a pretty good feller, at that, and is willing to pay a fairly decent price for fine work. He wants some of the old plain iron-trimmed walnut-stocked Kentucky

rifles like used to be made around here so much back about the time of the Civil War.

"Red is even wanting Bull, him, and us to get into the gun business all together. He and Bull would do the advertising, we would get to be famous, do all the work, and they would get the money. What do you think? *I* think we need no advertising. No help selling guns. Nobody to spend the money we make but us. . . .

"Trusting you are enjoying good health and hoping to hear from you soon, I remain, yours Sincerely, H. Martin."

Hacker remained his own man to the end, and when he died at the age of seventy-five an article about him appeared in the July and August 1970 issues of *Muzzle Blasts*. Its author, Ogilvie H. Davis, said in part, "Most every collection of note in the country today has a rifle by either Hacker Martin or Lester Smith. All are dearly cherished possessions, for there is just no finer work available."

Fine work is being done today by a new generation of gunsmiths, but in the minds of those who knew Hacker, there will never be another quite like him.

MAKING THE NEW ERA POSSIBLE

Today, muzzle-loading rifles are being made by thousands of men and women. Some are high school students working in industrial arts classes making rifles as their term projects; some are adults who are making one rifle for their own use, or who turn out several a year as a hobby; some are adults who make their entire living serving the demand for guns in a field that has exploded in popularity.

No matter who they are, however, almost all have in common the fact that they have been vastly aided by the availability of generally reliable gun parts from an impressive array of manufacturers. Arguments about which company supplies parts of higher quality go on endlessly.

One thing that is sure is that the suppliers are out there, and most of them mean to be around for years to come. Some of them—The Golden Age Arms Company in Delaware, Ohio; Log Cabin Sports Shop in Lodi, Ohio; Dixie Gun Works, Inc. in Union City, Tennessee—offer almost every part imaginable. Others supply only barrels and have become successful at that specialty: G. R. Douglas Company in Charleston, West Virginia, for example, or Bill Large in Ironton, Ohio. It is interesting to imagine the reaction of an early barrelmaker if he were to see the recent article about Bill Large by Dr. M. P. Graffam in *Muzzle Blasts* and read, "I asked him how long it takes to make a barrel, and he said that he starts on a batch of twelve

PLATE 238 Wig looking at a lock with Dottie and Bud Siler at a picnic table in their back yard.

at a time. Automatic drills are used, one drilling at a rate of seven inches a minute, and the others at a slower rate, 5/8 to 7/8 inch per minute. Reaming takes from three to five minutes. Rifling from fifteen to fifty minutes depending on hardness of the steel used and the caliber. A breech pin can be made in from five to seven minutes. The plain, average barrel takes a total of about two to three hours, breech pin included."

Some companies offer knives and accessories, others produce powder, and some survive by marketing books about muzzle loaders. Some are family operations that are relatively small and personal but highly successful. Bud and Dottie Siler are typical. At one point in his life, Bud wanted a muzzle loader but couldn't afford to buy one. A man in a hardware store told him about Earl Lanning in Waynesville, North Carolina, so he looked Earl up and the two became good friends. Occasionally he and Earl traveled together to visit other gunmakers, and as Bud's interest grew, he designed and made a few locks for friends who were assembling their own rifles. Now he and his wife run a thriving business from their small home's basement, producing the nationally known Siler lock full time.

The Siler family began in the mountains with the arrival in this country of Plakard Dedrick Siler, one of whose sons, Weimar, was a fifteen-year-old drummer boy at the start of the Revolutionary War. Bud's father, Clifton K. Siler, was part of the Macon County, North Carolina, branch of the family—the same branch that produced Rufus Morgan (see pages 391–441 in *Foxfire 4*).

Bud and Dottie now live in Asheville, North Carolina, in a pleasant oasis of a home/garden/orchard surrounded on all four sides by crowded highways—the newest symbol of Asheville's tremendous growth—and have built an unassailable reputation producing one of the finest locks in the muzzle-loading business.

Article and photographs by Mark Palpal-lotic with help from Mitch Walker.

Bud and Dottie Siler: Lockmakers

BUD: The history behind these guns is the reason I got interested in them to start with. One of my ancestors, Jacob Siler, was supposed to have made a gun for Daniel Boone. The rifle is in a private home near Washington, D.C., now. That ancestor is supposed to have moved south from Pennsylvania with the Boone family. When you read the history of Daniel Boone and the frontiersmen, there's the fact that muzzle loaders are something you can have and use today that they also had and used then. Earl and I got started in it like you all are doing: going out and meeting people and developing a real interest.

Earl started in this thing before I did. He started in about the early fifties, and I started in the early sixties. He would travel around a lot. He wore a car out trying to meet people he'd heard about like Hacker Martin and Carl Pippert. He'd find out where they lived and just go visit and talk with them and learn all he could.

I guess Hacker Martin was the character of all characters. I didn't meet him, but Earl met him and can relate some really classic stories about him. Hacker made a rifle for him. Hacker had signs all around his place that said, "Beware of Mad Dogs," "Keep Out." You could feel very unwelcome, I heard, at Hacker's unless he knew you. He was just a mountain character, but they said he really had a knowledge of music. He could tell you anything about classical music, or anything. Stradivarius violins and how they were made. Anything. I'm sorry I didn't get to meet him. He could forge the barrels, and nobody else could do that I ever heard of in modern times. Wallace Gusler and one present gunsmith at Williamsburg can do it now, but I don't know anybody else that can *forge* the barrels. But yet Hacker forged his, I am told. That was handed down in his family, you know; it's just an art that was never forgotten in his family. He didn't have to go out and get taught or read about old methods. He just learned it from his forebears. But he sort of turned into a recluse and moved up into Virginia and bought a farm up there. He just didn't like to have too many people coming around.

Now there are a lot of people around who can hand *rifle* a barrel today. That's an art that just never did die out. It's the *forging* the barrel from a flat piece of iron that did die out. Even some of the early gunsmiths bought their barrels already forged but unrifled. They'd keep their tools sharper and possibly do a better job of rifling than the factories. But the middle-eighteenth-century gunmaker would start with a flat piece of iron, heat it, form it around a mandril, lap-weld it together, and then rifle it. Then, from about 1800 on, most of the gunmakers bought their barrels already welded by a factory and saved money by rifling themselves.

When they welded their barrels, one method was to have a seam all the way down the length of the barrel, and the other method was to spiral it just like a barber pole. And to make locks, they would heat the metal red and shape it on an anvil. They then had to file it because the old gunmaker didn't have surface grinders and band saws. Hacker Martin could forge a lock. I've got one of his frizzens that he did that way.

Another way today is to take a hacksaw and saw the parts out. I've done that, too. You start with a block of metal. It's tough going, but it can be done. There's several good blacksmiths around. Hershel House could probably do it. I know Hacker Martin could. Wallace Gusler at Williamsburg has done it. But it's always a slow, hard job for me. I'm not a really good blacksmith.

Before you could get these investment cast locks, if you wanted to build a rifle you had to locate an old lock from an old gun wreck and incorporate it into the new gun, or sit down and whittle it out somehow—saw it out or blacksmith it out to make up your lock. Even those weren't widely available. Then we found out we could apply this lock need to the casting process. That way you could get parts much cheaper than trying to machine them. For us, it was then just a matter of designing our particular lock.

DOTTIE: One of the reasons Bud started in the lock business was many of his friends around here were building guns. Bud specialized in the locks, and he got encouragement from his friends, and he put their locks together [for them]. He might not appreciate me saying this, but he is a craftsman, and he's known as one of the better lock men in the U.S.

BUD: I got a lot of encouragement from Earl and George Shumway and John Bivins and Bill Large.

DOTTIE: He just made a close fit, and all these parts are precision. He gets more satisfaction working in metal than wood. Maybe someone else did the stock better, or the engraving, but Bud's talent seemed to be locks.

BUD: Some people are better in metals, and some in wood. There's an art to all of it, but I do better in metals.

DOTTIE: For each lock part, he made the pattern and the mold himself. And he built my wax machines that I work on. Most all of it he has done by hand.

BUD: The lock we designed is actually more or less a copy of a rifle in the Pennsylvania Historical Society. It's an eighteenth-century style—middle to late eighteenth century.

We designed it because eighteenth-century guns were popular, and we felt like it would continue and get more popular with the Bicentennial approaching. Then people decided they wanted them, and now we can't make enough [to supply the demand]. It started for us in 1967, full time, that is. Had to hand make them before that.

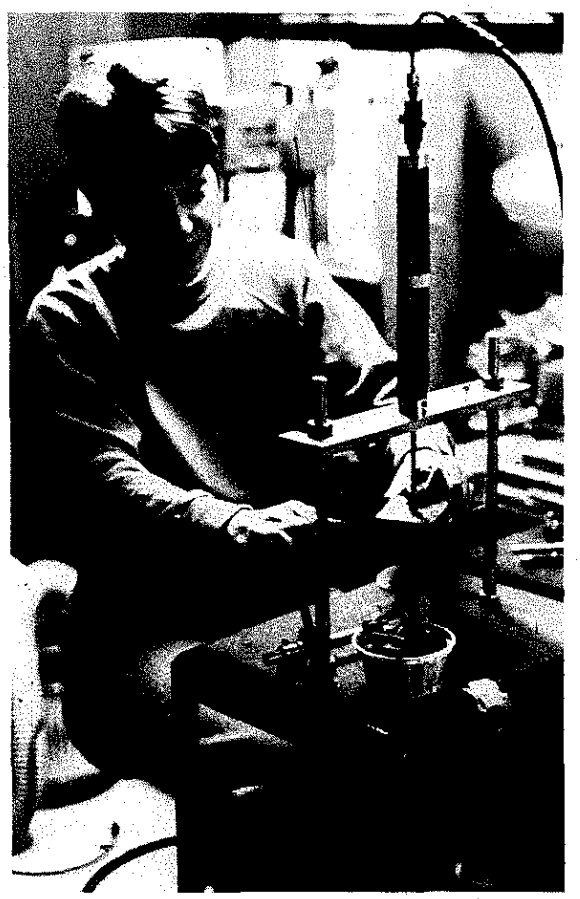


PLATE 239 Dottie holds the mold for one of the lock parts in her left hand. The vertical tube injects hot wax into the mold, and when the wax cools a moment later, Dottie separates the two halves of the mold, inspects the wax piece for any flaws, and if it passes inspection, drops it into a box ready to go to the caster.

DOTTIE: We were still working [at other jobs] before that. As orders increased and we got calls, we were able to quit our jobs and go into it full time. Before that, I was a legal secretary, and Bud worked for the U. S. Geological Survey.

BUD: I was in the water resources division checking water supplies in western North Carolina and north Georgia. I didn't have any training in machinery. I wasn't the first to get into the lock business. Bob Ditchburn was one of the first I knew of, and I think there was one right before him that started in investment casting, and processing locks: Bob Chadwick in Pennsylvania. Russ Hamm came in there also. Now those were the three I know of that were first, and I really got the idea from Bob Ditchburn. I have to credit him with helping me a lot. He's at Gettysburg, Pennsylvania. He doesn't advertise his work, though, and it's hard to get locks [from him]. He's a fine craftsman, but his interest is in archaeology and fine gun restoration and rifle making.

But investment casting has really caught on. The reason so many gun products are investment cast today is that it makes a faithful reproduction of whatever you're trying to produce: either a lock, buttplate, triggerguard, or any hardware for the gun. Each part is identical to the last one, and any type alloy can be cast.

It starts out as a wax pattern that's injected into a mold, and for each steel part that you want later on, you have to have one wax pattern like it [Plate 239]. The caster sprues the wax pieces on a tall form called a "tree." Then he dips the tree in ceramic slurry. They're dipped about eight times in this ceramic. It takes about a week to do this. Then they turn the tree upside down and burn the wax out of it in an autoclave. They turn it back up and heat it to about two thousand degrees. Then they pour the steel in the ceramic shell at three thousand degrees, and it fills all of the cavities. When the steel cools, they chip the ceramic off—it's only about an eighth of an inch thick—then sand blast the steel parts and saw them off. They can't use the same mold again, obviously. This is called the "lost wax" process, precision casting, or investment casting.

Any of the hardware on the gun can be cast: the buttplate, the triggerguard, the thimbles that the ramrods fit in, and, of course, all lock parts, and breechplug. It would even be possible to do the barrel. One of the modern pistol makers uses investment castings for the barrels. The advantage is that it's fast and you don't waste materials. There's little machine work to be done, so you're not wasting chips and borings and this sort of thing.

It is a really old process. Benvenuto Cellini did it during Da Vinci's time. They did it in gold and bronze. They couldn't do it in steel. That was the only difference in them and us today. They didn't have the alloys we use today. But they could do it in brass and bronze, silver, gold, and *possibly* iron, but we are not sure iron was used in pre-twentieth-century times. I have read the Egyptians used lost-wax casting in gold three thousand years ago.

There are eleven cast pieces to each lock. There's a little spring called a sear spring and the screws that aren't cast. I don't make the screws. They're done on an automatic screw-making machine. They're my design, but a company makes them according to my specifications, several thousand at a time. There are eight screws per lock. I don't assemble locks anymore, but made hundreds of locks until three years ago.

I used to do that but had to get rid of some of my equipment because my shop is small and it got too crowded. I hated to give up lockmaking. But now I sell them as kits, just like you see right here [Plate 240]. I also include a red plastic plug that helps in the assembly and then is discarded. It screws in a threaded hole, and it helps line up the bridle before you drill it. It's not part of the finished lock. When you get the kit, you've got to do some drilling and some work yourself. Just drill and tap it, and there are three parts you have to harden. The frizzen has to be hardened and tempered, the fly, and the tumbler. The springs are already hardened. Using an electric furnace is one way to harden parts. An acetylene torch is another.

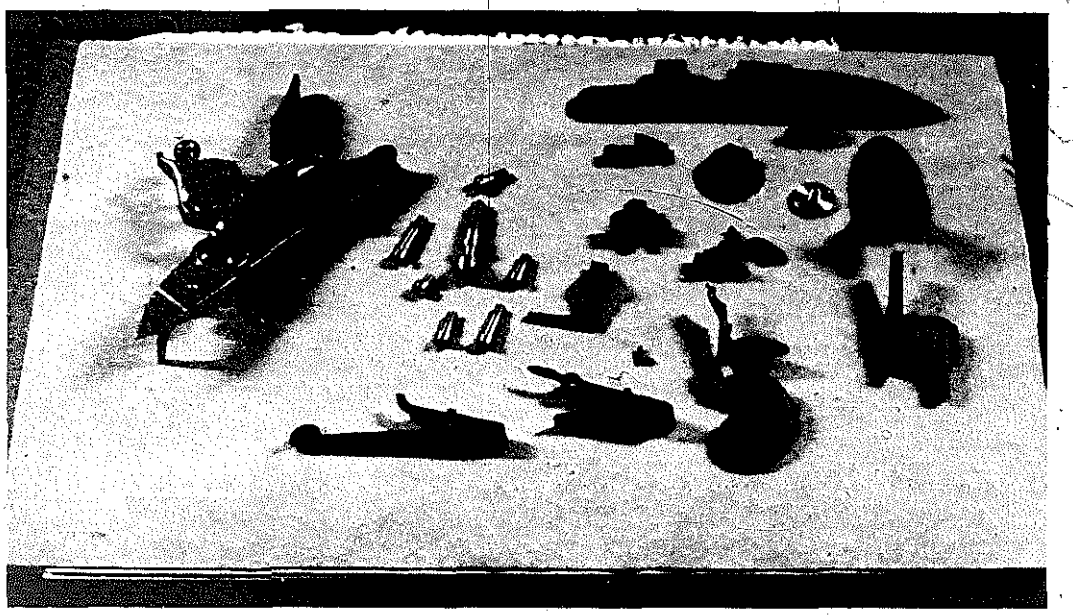


PLATE 240 A finished Siler flintlock, at left, beside its component pieces.

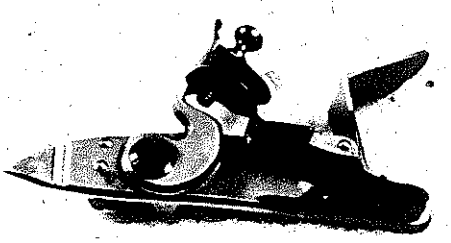


PLATE 241 A finished Siler flintlock.

Most people use acetylene or a propane torch and heat the part red. That's about fifteen hundred degrees. And then you quench it in oil. When you quench it, that causes it to get glass hard—too hard to use it for anything because it's so brittle it'll break. So then you temper it. You reheat it back up to a lesser temperature—something like six hundred degrees, four hundred, or whatever the part calls for—and that softens it to the point that it's usable. It's still hard enough to give good service, but it's not so hard that it will break in use.

The springs are already hardened because that's pretty critical. You can miss a little bit on some of the other parts and still not affect the use or life of the lock.

DOTTIE: With each kit we sell, we send a sheet of instructions, and have them simplified as much as we can so that one can understand exactly what to do [see Plate 240].

They aren't very hard to put together. This one [Plate 241] has had a lot of finish work done on it to make it look pretty. But it doesn't take all that to make it operate. You can leave it with a sandblast finish and still have it operate perfectly. But the spindles on each end of the tumblers need to be turned and smoothed so that they will operate freely. The gates have to be ground off or filed, and then you drill and tap the parts where necessary.

BUD: One fellow claimed he could do one in forty-five minutes, but I don't really see how. I've heard a lot of people doing it in three hours. To finish one up like *I* like it takes about eight hours.

DOTTIE: But he's a perfectionist.

BUD: Someone who had never done one before, he'll fumble around-some, and so he ought to spend two or three days on his first one.

The most basic thing you need to do a really good job is a drill press, because if you try to drill it with a hand drill, you're liable to get slanted holes and wobbly holes. It would probably still work, but you wouldn't be real happy with it.

We've got two sizes of locks in this eighteenth-century style, and we have two percussion locks that are the same style, but percussion is a later system. A lot of people like to do like Hershel does. They want to have a gun that they can take one lock out [and replace it with another]. Shoot flint one day and percussion the next day. Use the same gun for different matches.

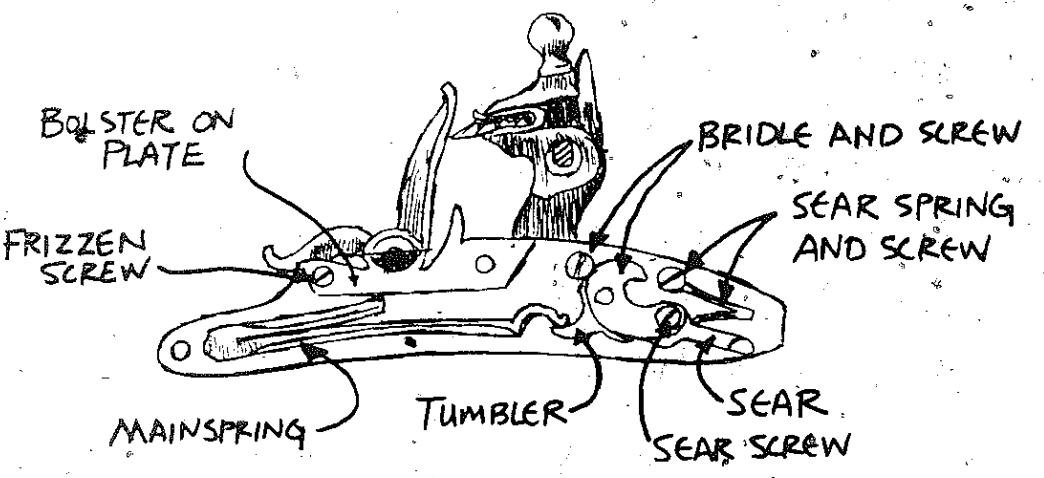
Our lock would look out of place on a large match rifle, but it *would* work. It'd fire a cannon if you wanted it to. That's why I have two different sizes. One for a small slender mountain-style rifle, and the other one for a larger, early-period rifle.

The small one wouldn't be suitable for a large rifle as far as looks go. In fact, the musket locks are bigger than what I have. The original musket lock is about six and a quarter inches long, and this is five and a quarter. The musket lock was made out of really heavy stuff, too, so it won't break in rough field use because there wouldn't be any way of fixing it on the march. If you broke a sear in a musket then, you were just out of action. Or a spring or anything. That spring, you know, is kind of a sounding board for that little click you hear. It has a kind of ring to it that's real pleasing [laughing].

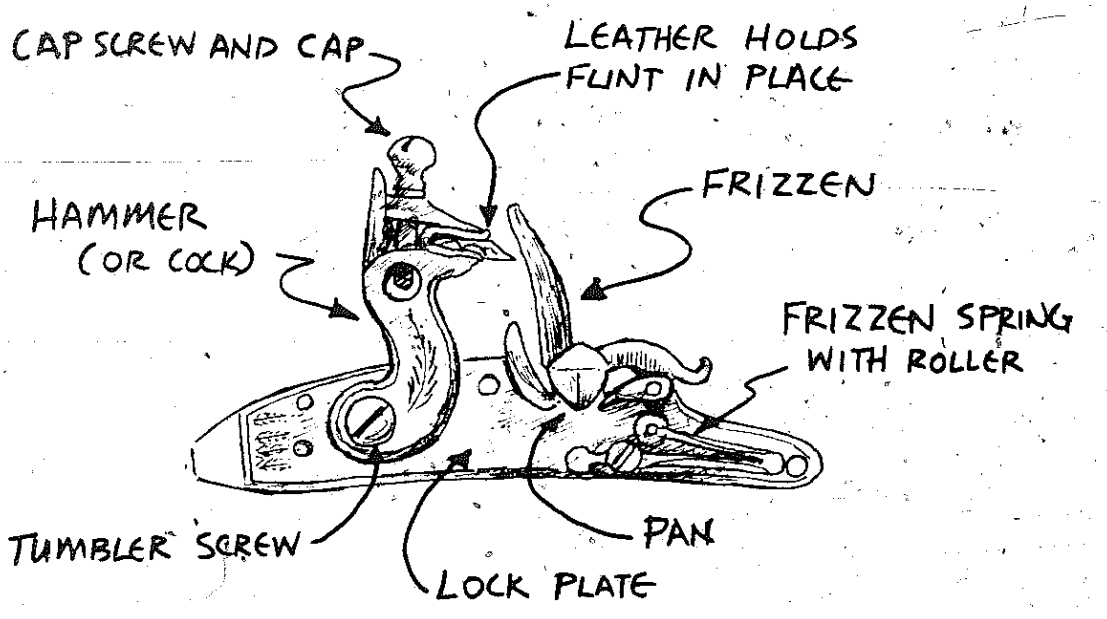
And now we are developing a left-handed lock that will be the same style as this lock. That's a need that's been neglected in this style lock. That's what we're working on right now—trying to get it done.

We wholesale at least 90 per cent of our locks. We do our own packaging and shipping. The flintlock kits run $32, and percussion kits sell for $19.50. And the left-handed lock that I'm going to have will be $32 also. We mail 'em all over the U.S. I don't guess there's any state we don't send them to. Mostly California, Michigan, Illinois, Indiana, Pennsylvania, and we

LOCK INSIDE:



LOCK OUTSIDE:



(DIAGRAM BY HERSHEL HOUSE)

PLATE 242 This diagram by Hershel House shows the parts of a lock.

sent some to Australia, New Guinea, Africa, Canada, Spain, and Japan. There's a big interest developing in Germany on these muzzle-loading rifles, and there may be a market there someday.

The first advertising we did was in Friendship, Indiana, where they have the National Muzzle Loading Rifle Shoots; and we went up there and showed what we had. Enough people saw it and liked it to get us in production.

We met Hershel House at that National Muzzle Loading Rifle Shoot at Friendship. Thousands upon thousands of people show up at these shoots, and they have two big matches each year and about three smaller turkey shoots in between that. And that's where you meet all the gun people.

DOTTIE: We had a booth set up, and we had our lock at the booth, and I remember meeting Hershel when he came by the booth.

BUD: He had written us, but we hadn't met him before.

Once you get into this gunmaking, it's like a disease. I don't call it a hobby. It's more like a disease. You can't get out of it. I've seen people come here, and you know they're so excited they are hooked for good. And they stay that way. I've seen people in their seventies that have been at it for some years now, and they're just as interested as they were when they started years ago.

One reason it's growing, I believe, is the fact that it's something you can do at any age. It's not something you are likely to outgrow. And you meet so many darned nice people. Seems like everybody that's into muzzle loading is nice folks. And they can get together for shoots, etc. Also you never learn all there is to know. That's another reason why people keep their interest going.

DOTTIE: I'm glad the interest is there, because I really enjoy being able to work at home. I can put my blue jeans on and run downstairs to work.

BUD: You get a lot of nice comments, too. Letters. And you feel like you're doing something to help people. I got a phone call today from Joe Scorsone who built a gun for a man who was from Bob Brownell gun supplies in Iowa, and he called him from Iowa and told him he just couldn't praise it enough. Well, that makes you feel good. Joe just had to call me and tell me.

DOTTIE: You know the feeling you get when you finish a piece of furniture, and when it's all shiny and pretty. It's kind of like that with this. When you know you've done the best you can, send it out, and get a letter back of praise and thank you, it's a good feeling. A feeling of satisfaction.

BUD: I really think this demand will keep on going, too, because of the big interest people have in it right now. It's so big that I can't imagine it dying out. It's growing. Look at Earl's classes [in gunmaking at Haywood Tech in Sylva, North Carolina]. If the locks ever *did* go out, the backup

for me, I think, would be in the investment-casting business itself. I'd kind of like to get into that *if* this ever runs out. At least that's an interest I have. But I don't foresee this business slowing down unless the gun-control laws reached the point that they actually put the squeeze on the muzzle loaders, too. But we don't foresee that right now. I do foresee the fact that it's really going to hurt the sale of the more modern-type rifles and pistols—particularly pistols.

DOTTIE: All of which could make this kind of gun more popular.

BUD: A lot of people claim that's one reason this type of gun is getting so popular. They feel the handgun is going to be restricted, and now at least they'll have something they can practice a spell with. I just hope guns like this are never used for crime. It's hard to imagine. Shoot at somebody and miss and have to stop and reload! I heard of one man that reportedly committed suicide with one back about 1940. He shot himself, but that's the only time I've ever heard of anyone getting killed. They're used for shooting matches, sport, and hunting.

I really encourage people to try making a muzzle loader, rather than buying the ready-mades. If you want to try it, you should get with someone that's good at it, like Earl Lanning [instead of learning from a book]. Attend the class he teaches. If you don't, you'll fumble along with several rifles over a period of several years before you turn up with something really good. But you can take that class at Haywood Tech in eight weeks—or however long it lasts—and you can come up with a rifle that you'll be happy with because you've got somebody to show you every step, the right way, from the start to finish.

And use good parts. There are a lot of locks and barrels being made in Italy, Spain, and Japan, but they're not top quality, and usually the user is disappointed after he finds out better a little later on. In a way, it's a shame to think people are wasting that much money that they are going to regret later. Get off to a good start with top materials and proper instruction if possible, and then enjoy it as long as you live.

Garnett Powell

Garnett Powell has watched the field grow over the years, and he feels strongly that access to parts has been one of the greatest benefits of the current revival. When we asked him to elaborate, he did.

One thing that has come out of all this is the ready availability of things like hardware for a reproduction, Kentucky or mountain style, Bean rifle. Few people have access to original parts. And I think the reproduction parts are justifiable. Not everybody has the technical skills of the blacksmith

necessary to sit down and forge all this out. And if he had the skill, chances are he might not have the forge and the tools and the anvil and things needed to make the parts. Most people today use the investment-casting process, and this lets you produce hardware at much less cost than hand forging. The availability now of swamped barrels is one of the best aspects of the current revival. Making one of those by hand would be an almost impossible task for most people, but at the same time, they still have to use some of their ability as craftsmen to inlet the barrel, which is not an easy task because of the curvature. So it isn't all done for them. Some craftsmanship is still required.

One thing people buying reproduction parts need to watch out for is the quality of what they buy. A person buying a kit is, with a few exceptions, buying a lot of junk. Many of the parts are made in Spain with questionable metal. In fact, a lot of the cheap rifles that are being sold today by some who advertise in magazines are Spanish or Japanese junk. You'll notice in recent *Buckskin Reviews* that John Baird has criticized the NMLRA for carrying advertisements for this crap in *Muzzle Blasts*. A guy takes his life in his hands with it. He would be a fool to ever shoot one of them. On a correctly made barrel, breechplugs are threaded and seated on good solid binding threads, where on some of these imported pieces they are just stuck in with a weld to hold them. Of course, this is where the maximum chamber pressure is generated, and it can blow the whole business right back in the shooter's face. And there go your eyes. But John Baird has led the fight against this inferior stuff, and we owe him a real vote of thanks for taking issue and in trying to protect the newcomers who might buy this type of gun, unwittingly.

It's silly to settle for inferior parts when there are parts around that you can count on. You can count on a Bill Large barrel, for example. Unlike many on the market, the Large barrels are still cut. With a cut bore, the edges of the lands are sharp so that when you put the patch in there, they actually cut into the patch and hold onto the ball to get a good seat. I'd say the largest maker of barrels being made today are Douglas barrels—they are made with a swedged bore. This is actually a bore that's thrust into the metal under pressure instead of being cut, and the rifling is very shallow by nature because the swedging process can only go so deep. This works fine for a cartridge rifle, but with a patched ball I personally prefer a deep-cut bore. I think there is a difference. I have a rifle with a Douglas barrel that is a good shooter, but in my experience it can in no way duplicate a cut rifle barrel for accuracy. You take a gun that has been freshly recut or "freshed out" as the old-timers said, and it will shoot rings around a gun that has been shot several hundred times to where the edge is worn off those lands. Bill Large's barrels are extremely accurate and precise because of his cutting

PLATE 243 T. J. Cormack shooting a Hawken rifle at an early NMLRA shoot. (Photo courtesy of C. Frederick Beck and Garnett Powell.)

process, and he's one of the few men, to my knowledge, in the world today that's making a barrel of that precision. When Bill's gone, that will be the end of a great era. The type of barrel that he makes costs you about twice as much as an average muzzle-loading barrel. That's why some of the great barrelmakers of the past are just topics to talk about now. Someday I predict a Bill Large barrel will be revered like a Harry Pope barrel is today.

Now in patch boxes and this type of thing, I would go to Log Cabin Sports Shop in Lodi, Ohio. I know Dan Kindig. I knew his father, Wes, who founded the organization, very well. They have been selling muzzle-gun parts for years, and everything that Log Cabin sells, to my knowledge, is quality that you can depend on. They probably have one of the largest selections of patch boxes, hardware, barrels, nipples, drums—the whole bit—a builder would ever need.

On the subject of locks, there have been some real good locks made and offered to the trade over the last twenty years. When I first got into this business, there were probably one or two people like Hacker Martin capable of making a good flintlock. But in the last twenty years, there have been some real good locks offered, some of which—if you had an old rifle minus the lock, and it was a particularly good style—you could just take and almost fit them into place. In flintlocks, I seem to encounter more people

praising the Siler lock than about any other. The fitting of it is very precise. Again, this is due, I think, to the casting process that he's using. He's able to produce a quality piece at a reasonable price.

Now with all these quality parts around, there's no excuse for settling for cheap, inferior stuff. And there are enough new parts around now that you can almost duplicate any style of old rifle, and all for a reasonable price. Take the Hawken rifle, for example. There have been several firms that have made and offered bastardizations of the Hawken features and used the name, but most of them were just trying to capitalize on the name and their offerings in no way resembled a real Hawken. But now Ithaca is putting out the Cherry Corners Hawken kit [Cherry Corners in Ohio had been putting out an authentic Hawken but couldn't produce them fast enough and so sold out to Ithaca under the condition that they would continue the quality], and from general appearances it's a reasonable-looking replica. This arrangement gives a person like me, who might want a Hawken to shoot, a chance to have a fairly authentic replica—a safe one and a well-made one —with the actual features of the Hawken as far as physical design and basic features are concerned. And it's a step in the right direction because the only other way you can get a Hawken replica is to hire a custom gunsmith to make one, and the cost would be rather expensive. But here's a chance for under three hundred dollars to get ahold of the parts and assemble your own with the drawings they provide. These are some of the things that I think have been good about the revival.

THE MODERN GUNSMITHS

Of gunsmithing today, Garnett Powell said, "In my opinion, today there are probably more people practicing the art of muzzle-loading rifle making than you would find at any time since probably 1850. And many of them are highly competent. Many of them are as good as some of the golden-age makers. There is still that element that just throws something together, but by and large, each rifle that these people make is an improvement over the one they've made before. It's a learning continuum and they're developing, and you watch people in the process of the fourth, fifth, sixth rifle, they begin to acquire the skill of inletting and the skill of working with wood, and the rifles improve.

"The tendency in the first rifles is to make them too heavy in the forestock and wrist so that they are more like a club than a firearm. I've seen old rifles where the forestock was almost paper thin the whole length of the barrel. People say, 'Well, that was bad in a way because it made the gun fragile,' but that was done for the purpose of balance and holding. Rifles that were

typical of the frontier period were the longrifles, and the longrifle name itself denotes the purpose. The purpose was accuracy, plain and simple, and that's why the barrel length [was long]. By the time the pioneer settler got to this part of the frontier, the buffalo were gone. About the largest game they'd encounter would probably be a bear, and of course, we didn't have grizzlies. Just black bear. And a deer or a black bear can very easily be brought down with a .38–.40 caliber. So most of these guns were really for rabbits, squirrels, and so forth, for the table—thus you hear the term 'squirrel rifle.' And the barrel was made real long and of small caliber for extreme accuracy. And one turn in forty-eight inches was a pretty standard bore twist. In muzzle loading, if you increase the twist, you begin to lose accuracy. They hit a happy medium of where they had the ball spinning just enough to stabilize it, but at the same time not have so much spin on it that it would cut down on the velocity and reduce the killing impact. One turn in forty-eight inches became fairly standard, and this again accounts for the long barrel. And on a full-stock rifle, if you had an extremely heavy stock, you would have something so heavy that it would be real difficult for a person to hold up and shoot. It takes a fine gunsmith to take that wood down to where he can produce a full stock and yet come up with a piece that's light enough that you can take a bead and hold it steady enough to bark a squirrel in the top of the highest tree. Some awful fine copies of the walnut-stocked and iron-trimmed mountain-style rifles are being crafted just over the mountain from here in nearby North Carolina. I've seen some that were true copies of the fine Bean rifles made around here."

Whether making true reproductions, modified reproductions, rifles of their own personal design, or simply hammering together inexpensive kits, the tradition of making rifles in one form or another is alive and well. Each maker is different. Some, like Wallace Gusler, can take justifiable pride in the fact that they can make every single piece that a rifle requires—and they are paid in the thousands of dollars for their mastery of the art. Most are satisfied with less, but they take pride in the finished piece nevertheless.

In the following sections, we present six men we interviewed, each of whom is unique in his own way. The first, Hershel House, built a rifle for us using a combination of purchased parts (the barrel and lock) and parts he made himself as we watched. Through Hershel, we can see all the steps involved in putting a rifle together.

Because of space limitations, we could only ask the others to show us some of their rifles and talk about their work. Despite this limitation placed upon them, we think you will get a good idea of the range of styles being produced from Jim Chambers' eighteenth-century Lancaster, Pennsylvania, reproductions through Joe Farmer's Bean-style creations.

If you yourself become interested, check around in your own town. Chances are there are several gunsmiths within a few miles of your home who would be willing to give some help.

Hershel House

> "Anybody that tries to write a treatise on riflemaking from start to finish . . . is a candidate for an insane asylum. Several famous authors have tried it, and who is fool enough to try to make a rifle from their written instructions?"
>
> Hacker Martin, as quoted in the August 1970 issue of *Muzzle Blasts*, page 9.

Subscribers to our magazine have been urging us for years to do a series of articles on gunsmiths. It is such a complicated subject, however, that we shied away from it. Two of us finally decided to take it on, however, during the time we were each making a flintlock rifle with the help of our high school industrial arts teacher, Des Oliver.

While this was going on, we got a letter from one of our subscribers, a Marine helicopter pilot named Jim Wright, about a friend of his; named

PLATE 244

Hershel House, who specialized in building Kentucky flintlock rifles. He urged us to visit and interview Hershel, and so we got in touch, and Hershel offered to let us stay with him at his small farm for a week and document the making of one of his rifles.

Hershel put us up, fed us, and worked with us that whole week to build a rifle so we could photograph the whole process. On the last day, we all went down into a field beside Hershel's house, set up some targets, and fired the rifle Hershel made. The very first shot hit the target.

Hershel has always lived in the area around Morgantown. His great-grandparents settled in Woodbury, Kentucky, only a few miles away from Hershel's present home, in the 1890s. Woodbury is located on the Green River, and it was founded in the 1840s when the river was dammed and a lock put in to open the river to trade. Steamboats brought mail and supplies up from Evansville, Indiana, and lumber was shipped out. Residents of the area used to take weekend river excursions to Mammoth Cave, still one of the most popular tourist attractions in the country.

Hershel's great-grandmother ran the hotel in Woodbury. Grandma Finney, as she was known, died in 1947 when Hershel was six. His grandfather, known in the area as a fine squirrel hunter, is eighty-seven and has been partly responsible for Hershel's interest in flintlocks.

Though the dam and the locks at Woodbury have fallen into disuse now, Hershel still goes to the river, passing his old home and the old hotel, and he remembers waking up to the sound of boats blowing at the lock at dawn when he was a boy.

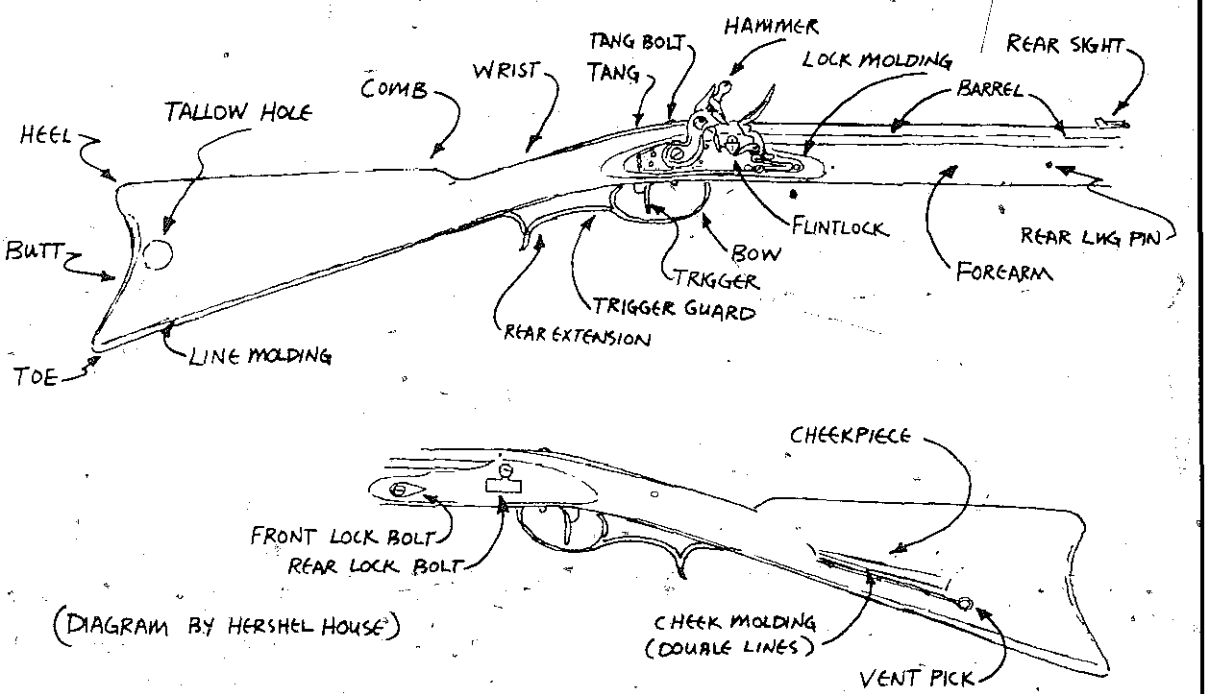


PLATE 245

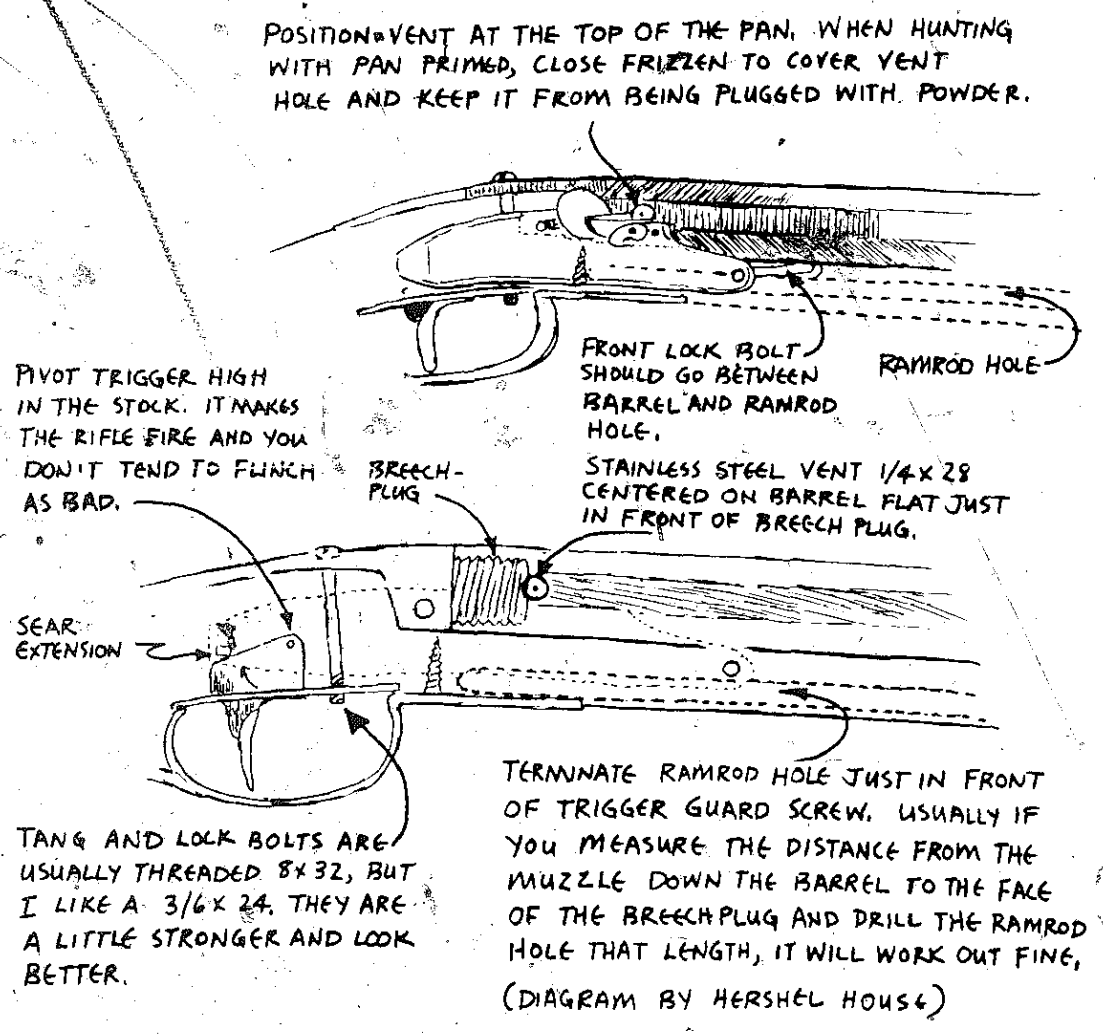


PLATE 246 Hershel's diagram offers several tips on the construction of a rifle.

Hershel has always been interested in old things. His grandmother on his father's side ran the last grist mill in Morgantown. He found a mill of his own in Gilstrap, Kentucky. It had only been used for one year before the engine broke, so the owners used the engine for junk iron and the almost new mill sat covered in hay for nearly fifty years. Hershel bought it, and later bought a blacksmith shop where he found an engine that he plans to hook to the mill.

He first began working with guns around 1956 when he found an old half-stock percussion rifle in a barn. It had belonged to the father of the woman who owned it, and she let Hershel have it. He fixed it, got it firing, and got a tremendous amount of pleasure out of it. Then, in 1959, he saved enough money to buy the materials he needed to build a longrifle to use for squirrel hunting on the river, and to shoot at area shooting matches.

In 1961, he joined the Marines for four years, and when he came out of the service he found out about the National Muzzle Loading Rifle Association and joined it. It was through association with that group, and through attending their annual shooting matches in Friendship, Indiana, that he met such men as Earl Lanning, Jim Chambers, George Shumway, and Bud Siler—all men who were interviewed about gunsmithing for this book.

Hershel takes great pains to make sure the rifles he builds are as authentic as he can make them. The one he made for us is the very simple, basically plain, but very reliable mountain rifle known in his part of the country as a "poor boy's rifle." He has researched all its features carefully, and feels sure that its design is accurate. Unlike the products of some of the other gunsmiths that were interviewed for this book, this rifle has a tallow hole instead of a patch box, no buttplate, and no decoration except a few shallow parallel grooves carved into the stock to emphasize the lines of the rifle.

Hershel has also done some personal research into the differences between the performance of flintlocks and caplocks:

"Beginning about 1830, there was almost a universal changeover to the cap system. It was partly because one of the aspects of the flintlock was that it was awful vulnerable during rainy weather. You couldn't hardly keep the priming dry. When damp, the guns sometimes misfired or fired slow. There were two ways around this. Some hunters had a hood made out of the leather from a cow's knee that slipped over the entire lock. The gun was loaded and primed and kept on half-lock, or safety position; when game was spotted, they removed the hood, cocked, and fired. The other method was, when it began to rain, to pour out the priming powder, peg the vent with a small feather, and thus close off the main charge. Then, when you wanted to shoot, you just removed the feather, reprimed the gun, and shot.

"But when the cap system came in, the lock was either taken out and completely replaced, or the flint hammer was taken off and replaced with a percussion hammer, and the vent hole bored out and a drum or nipple put in. Then you just used a copper cap. When it was hit by the hammer, the cap would pop like a modern cap, and a jet of fire went down through a hole and into the main barrel, and this was more reliable.

"But if a man takes the time to learn, a flintlock can be just as good. A good flintlock is pretty darn fast, and they're a lot more colorful and more closely linked to early history [which makes them additionally attractive]. Plus, there are certain advantages. If a flintlock fails to fire, all you have to do is take a little vent pick and go in and clean out the vent hole and fill the pan with fresh powder and fire away. If a caplock fails to fire, you've got to take the drum or nipple out with a screwdriver or wrench. So if you're in

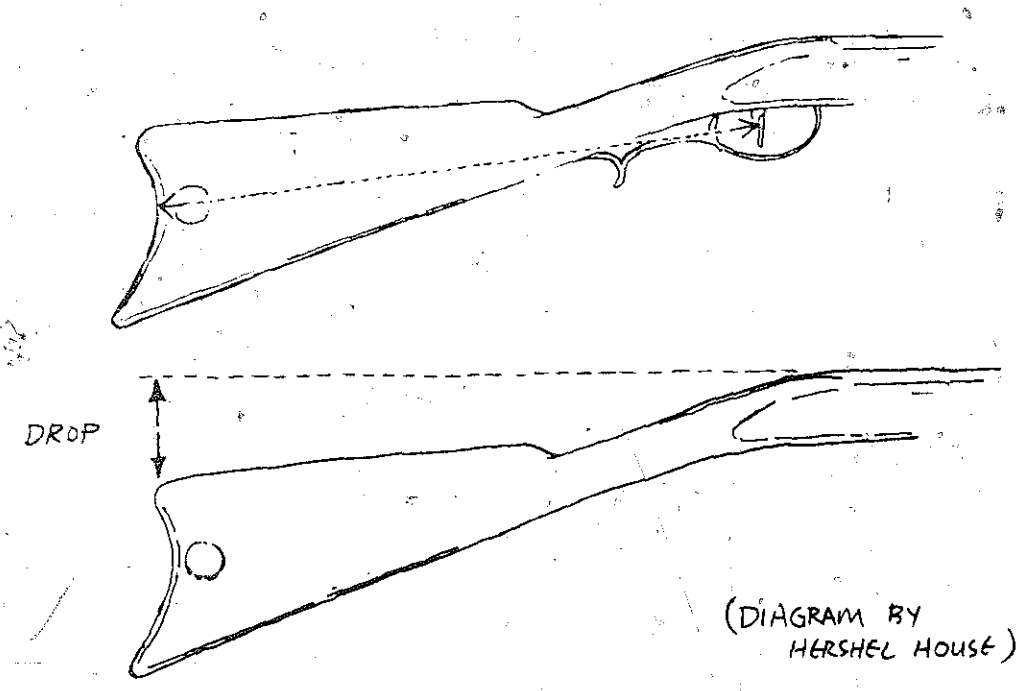


PLATE 247 These diagrams illustrate pull (top) and drop (bottom).

the woods and your caplock misfires, you're in big trouble. With a flintlock, you can correct it pretty fast, even if you have to pull the charge.

"Also, if you lose your little box of caps, you're in bad trouble. But you can always find a flint somewhere. In the haste of battle or the hunt, it was also hard to reach in there and find one of those tiny caps. So I prefer a flintlock myself, and that's mostly what I make."

Hershel charges $500 for the type of rifle he made for us, and he guarantees it for life. If it has to be repaired, he'll do it free of charge. Partly for that reason, he always has more work than he can get to. Another reason is that his work is authentic. "I try to get my guns as close as possible to the old styles. I think that's one reason that my work is fairly popular."

On top of that, he's one of the nicest people we've ever met.

Article and photographs by Doug James and Jeff Lane.

Choosing the Stock and Pattern

Select a piece of wood at least 5′ long, 10″ in width, and 2″ thick. This would be suitable for two stocks. If the stock is not kiln dried, it should be air dried for at least four years or longer, to allow for a minimum of warping and shrinkage. Most rifle stocks were made of curly maple, and sometimes walnut and occasionally fruit wood such as cherry and apple.

Since this rifle is for an average-sized man, the pull will be 13½″. The pull is the distance between the trigger and the center of the butt (see Plate 247). Your drop will be 2¾″ for the average man. The old rule of thumb

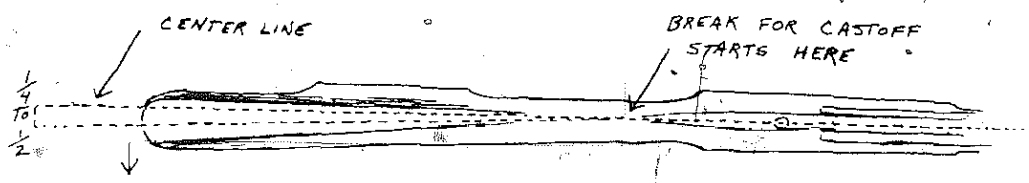


PLATE 248

for measuring pull was to stick the butt of the rifle at the elbow and reach for the trigger as if you were going to fire it (see Plate 244).

The castoff is the slight curve of the stock between the wrist and the butt away from the face at the cheekpiece (see Plate 248). It enables you to get the rifle into your shoulder without having to lean into it, and also keeps the gun from kicking you in the face.

To get castoff in your rifle, first draw a straight line from the center of the muzzle to the center of the butt. Then make a dot at the extreme butt ½" to the right of the line for a right-handed man, or ½" to the left of the line for a left-handed man. Then draw another line from the center of the breechplug to that dot. That will give you your castoff.

Barrels

This rifle barrel was bought from G. R. Douglas, a barrel company in West Virginia. It's a rifled .45 caliber with ⅜" across the flat. Barrels come in 44" lengths, but Hershel shortened it from the muzzle end to 42" to give it better balance (a procedure, incidentally, that is recommended by the company). Later on he will cut his stock to fit the barrel. The breech is already threaded to ⅞16" with 18 threads per inch.

The mountain gunsmith went to an iron furnace to buy iron straps (flat bars of iron) and welded his own barrels in his forge. He also reamed and rifled their barrels (see earlier section on Wallace Gusler).

When using a Douglas barrel, note that there is always some runoff. The term runoff refers to the fact that in the boring process, the hole does not stay true but varies to one side or the other down the length of the barrel. G. R. Douglas stamps their name on the side of the barrel to which the runoff goes (the point where the distance between the end of the hole and the outside edge of the barrel is the least). This brand name should be placed *down* in the stock so that the gun will shoot high instead of to one side or the other. To compensate for the fact that the rifle will shoot high, the front sights should also be left high. This is actually an advantage, as a high front sight compensates for the fact that after a few shots with black-powder rifles the heat waves coming from the barrel will cause a lower sight to "dance" or float.

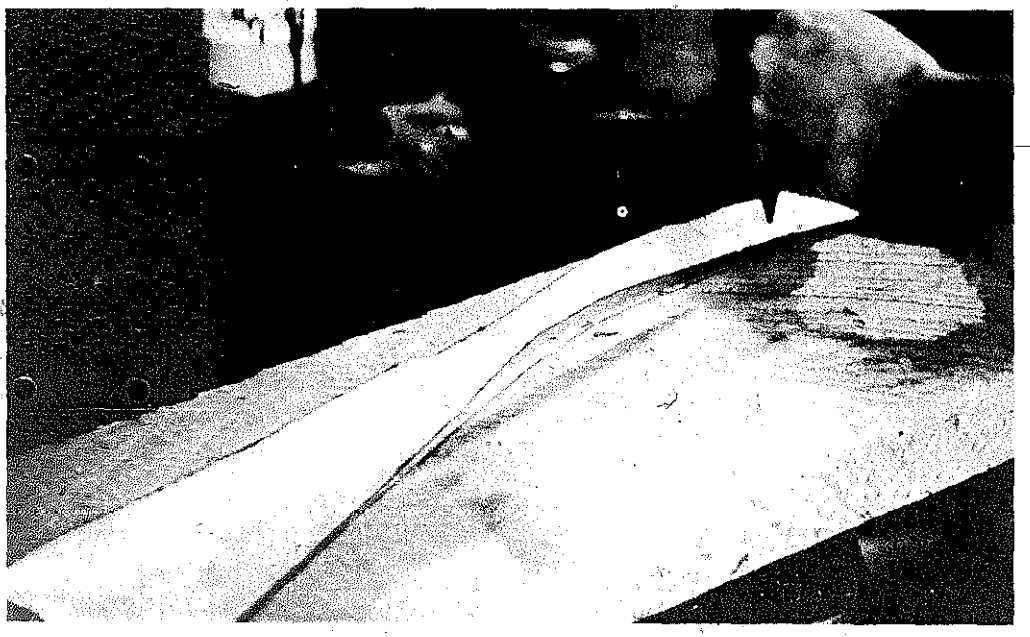


PLATE 249 Hershel takes one stock pattern he has selected, lays it down on a slab of curly maple, and traces around it.

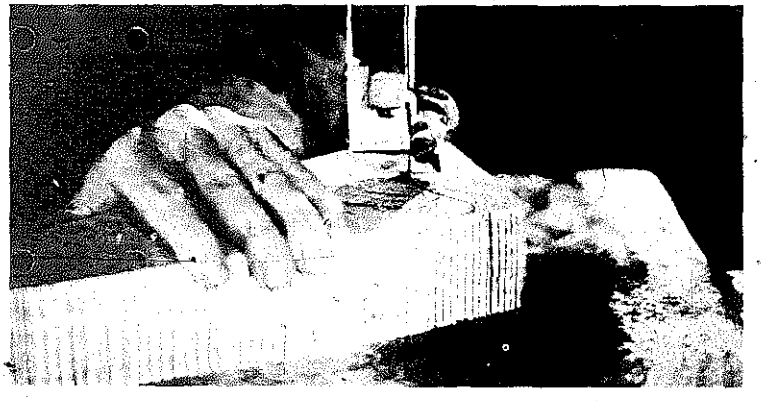


PLATE 250 Hershel cuts out the butt of the rifle on the bandsaw.

Cutting Out the Stock

After drawing the pattern on the stock blank, cut around the outline with a bandsaw leaving the lines.

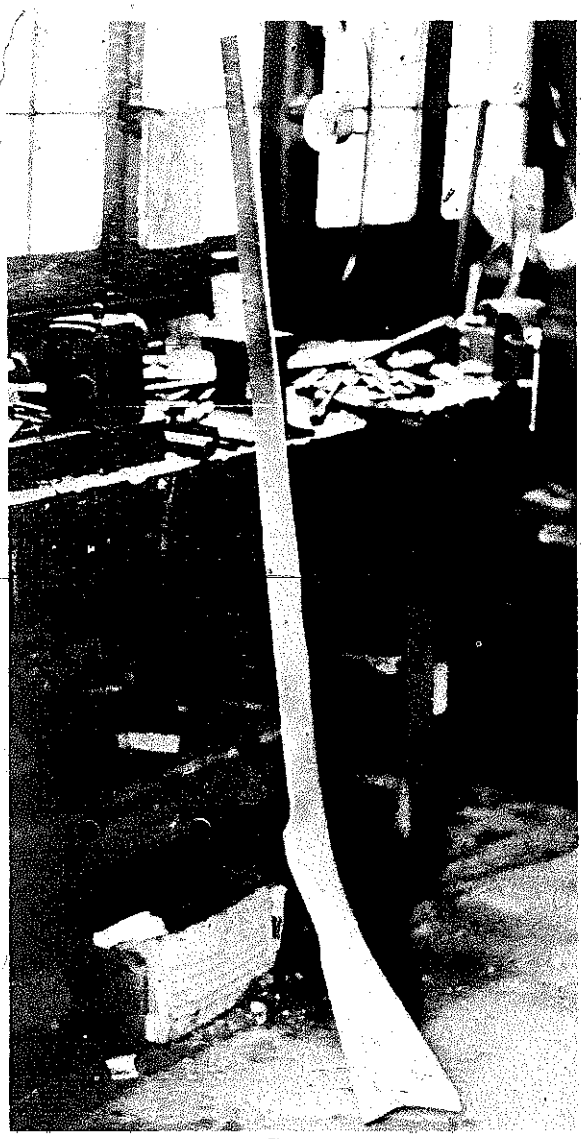


PLATE 251 The stock blank after it has been cut out, and before channeling for the barrel has been done.

Inletting the Barrel

To establish the position for the barrel groove, measure 3/8″ from the outside edge of the stock on the side that the lock will be on, and draw a perpendicular line down the front of the stock. This assures that a maximum amount of wood will be left on the other side for the cheekpiece. Then place the barrel's end against the stock and trace around it as shown (Plate 252).

Hershel uses a spindle shaper and a special octagonal bit to shape the channel for the barrel. When cutting the groove, he is careful to leave all the lines so that he will get a tight fit. Before he had the shaper, he used a

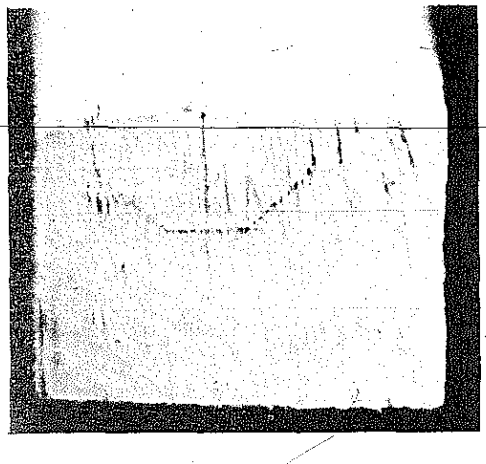


PLATE 252 To draw the shape of the barrel on the end of the stock, first center the barrel on the original line drawn down the length of the top of the stock. Then drop the barrel half its width and trace around it.

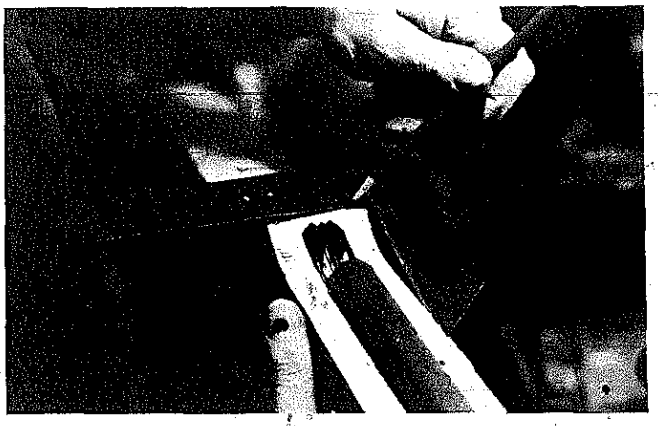


PLATE 253 Hershel cuts the back of the breech flat so that the breech of the barrel butts up flush.

skill saw. He would first set the blade to cut half the depth of the barrel, and would then mark around the barrel at the end of the muzzle (Plate 253), and saw the two deepest lines as shown in the illustration. Then he would reset the blade, saw the two shallow lines, and chisel out the wood from the channel.

The mountain gunsmith would scribe a line on each side of the barrel down the length of the top of the stock and channel the groove out with a series of box planes.

Breechplug and Tang

Hershel uses a standard machine-made breechplug measuring 7/16" by 18 threads per inch. These are available from any gun dealer.

He first takes the breechplug to his forge and draws out the tang to a spear point. This spear-point tang was characteristic of the mountain rifle in Virginia.

PLATE 254 This is the tang after being drawn out and shaped in the forge. This must be done before the tang and its attached breechplug are mounted to the barrel to avoid damage to the barrel in the drawing-out process. Most of the old mountain rifles had long tangs.

After drawing out the tang, he attaches the breechplug/tang assembly to the barrel and punches a line with a cold chisel on the underside of the breechplug, as shown in Plate 255. Then he inlets the breechplug itself into the wrist so that the tang will lie flat on top of the wrist, draws around the tang, and chisels out the appropriate amount of wood to inlet the tang and allow it to lie flush with the top of the wrist. He then removes the barrel/breechplug/tang assembly from the stock to prepare for the next step.

PLATE 255 Note particularly in this picture the line made across the underside of the breechplug and the barrel. Hershel does this as a precaution so that if the breechplug was accidentally moved or taken out (or taken out on purpose for a thorough cleaning or to check the bore), he could remount it in precisely the right spot.

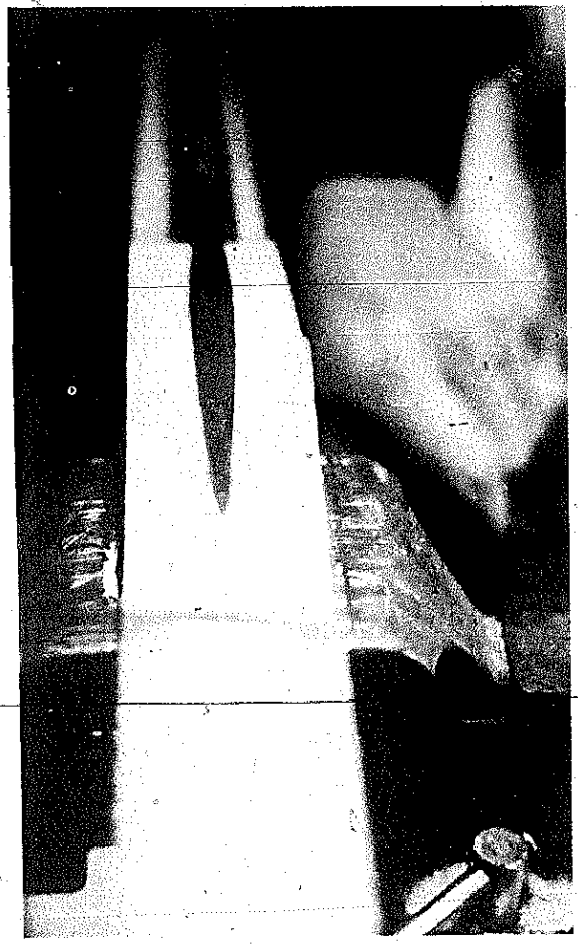


PLATE 256 The tang inletted into the wood.

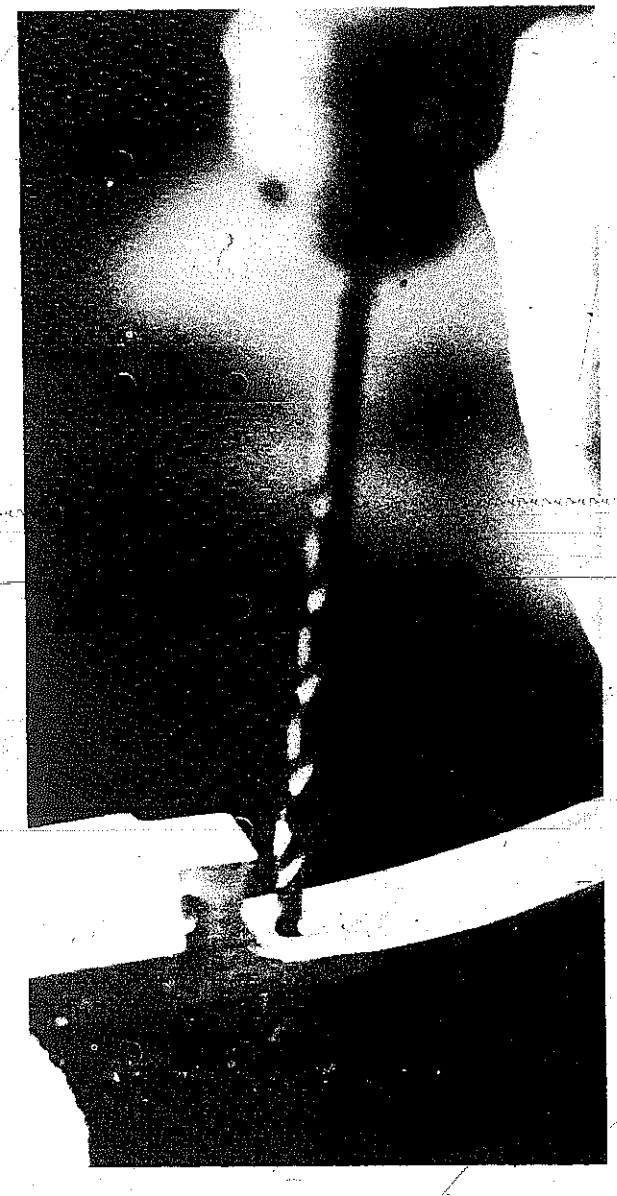


PLATE 257 Hershel drills a hole into the tang for the bolt that anchors the rear of the barrel. This bolt goes through and screws into the trigger plate and anchors the tang.

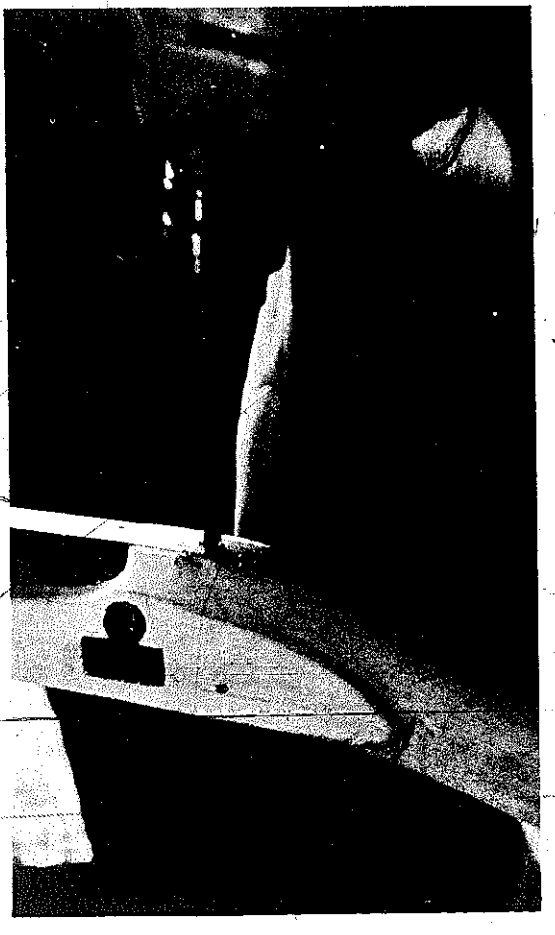


PLATE 258 This hole is for the screw that taps into the trigger plate and anchors the tang.

PLATE 259 Hershel drills feeler holes to make sure that the long drill bit drilling the ramrod hole is on course.

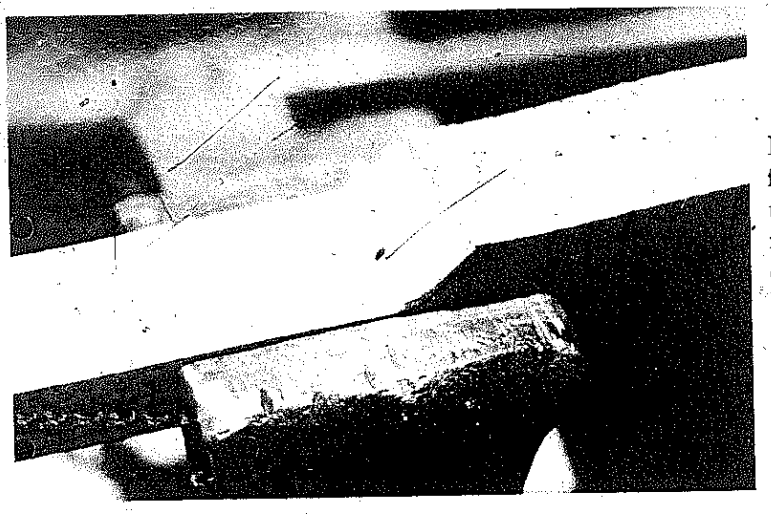


PLATE 260 The first feeler hole centered between the lines for the ramrod guide groove. The distance between these two lines is three eighths of an inch.

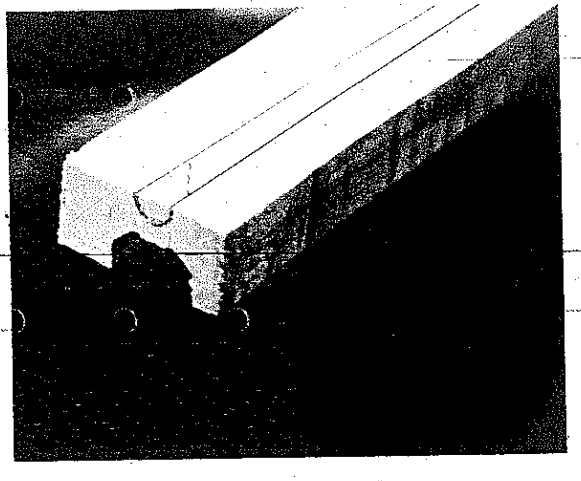


PLATE 261 Here Hershel has cut out the barrel groove and is ready to cut out the ramrod guide groove. To draw the half circle for the groove, he puts a three-eighths-inch ramrod against the front of the stock, leaving one-eighth inch between the barrel groove and the ramrod guide groove, then traces his half circle. He cuts this out with a special rounded bit on the spindle shaper.

Drilling and Shaping Ramrod Hole

To position the ramrod hole, Hershel sets it up right under the barrel groove. Then he goes to the point shown in Plate 259 and drills a hole directly in the center of the barrel groove. He draws two lines 3/8" apart with that hole directly in the center, as shown in Plate 260, then matches those lines with the lines at the muzzle, as shown in Plate 261. Next, he takes a special round-bottomed shaper bit and shapes the groove. The depth of the groove should be set to where there is approximately 1/8" between the barrel and the bottom of the ramrod groove. If you don't have a router or shaper, you have to chisel out the groove, which Hershel has done previously.

Then he drills his ramrod hole. He uses a long drill bit he made himself. These bits are available, however, from *Log Cabin Sports Shop in Lodi,*

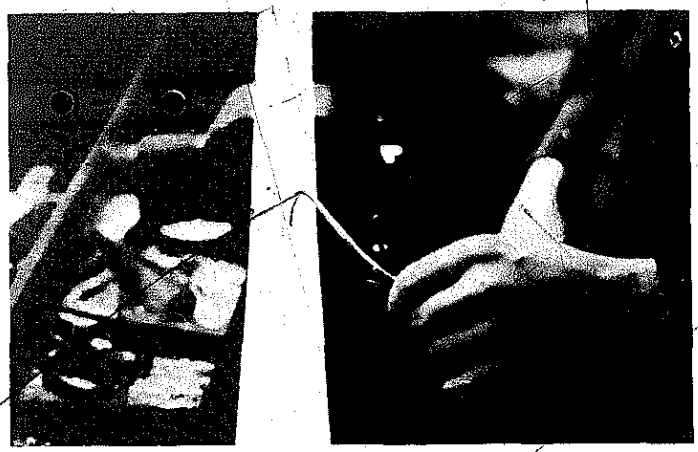


PLATE 262 Using a caliper, he checks to make sure the distance between the ramrod guide groove and the bottom of the barrel is only about one eighth of an inch along the entire length. This will insure that the ramrod hole will run straight on through the forearm.

PLATE 263 The special bit Hershel made to drill the ramrod hole. To make the bit, he heated it, beat it flat, and ground and filed the edges and tip down. This bit is 25/64 of an inch in diameter.

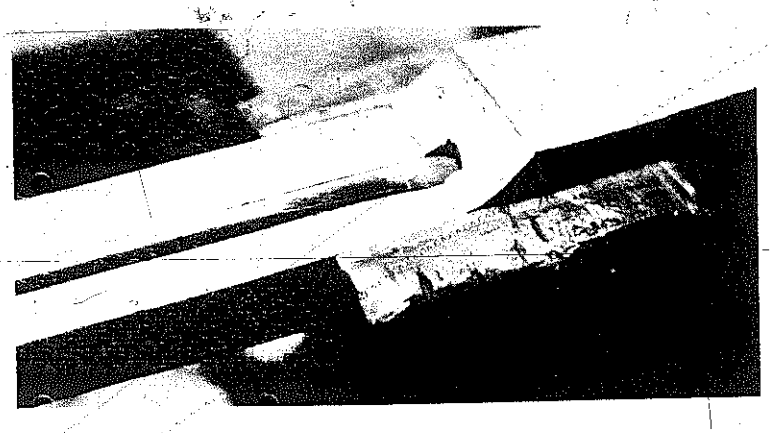


PLATE 264 Ready to drill the ramrod hole through the forearm.

Ohio. He drills the ramrod hole into the forearm about 1½". Then he drills a hole directly in the center of the barrel groove at the end in the path of the ramrod groove. These holes are "feeler" holes to make sure the drill bit is on course. The feeler holes are about 1½" apart. To know when the ramrod hole is deep enough, he puts the drill bit inside the barrel and wraps tape around the shaft of the bit. As soon as the tape meets the end of the stock, he stops drilling.

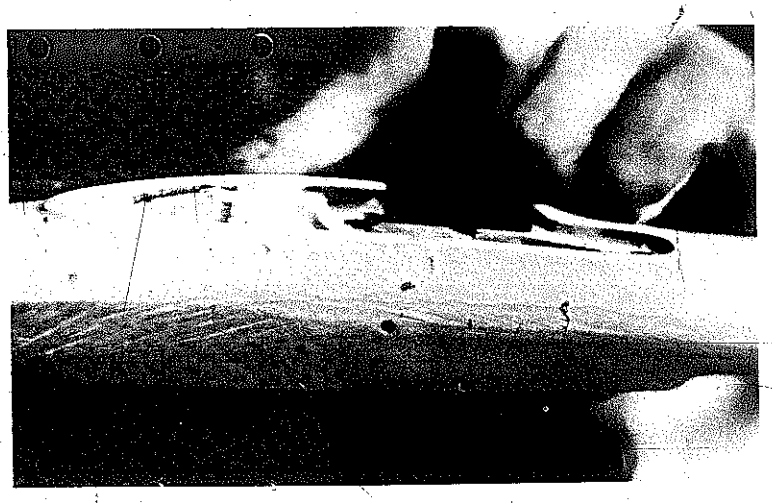


PLATE 265 This is the last feeler hole to determine if the ramrod hole is still on course. The trigger-guard will cover it when the rifle is finished.

Lugs

Lugs are the pieces of steel that are inset into the underside of the barrel and secure the barrel to the stock. Hershel uses three lugs, which he makes from a ½" square piece of steel stock, as shown in Plate 266. He cuts it lengthwise twice into four equal pieces.

Next, he makes all the necessary cuts to inset the lugs into the underside of the barrel. He uses a dovetail notch (see Plate 267).

PLATE 266 To make his lugs, he takes a square piece of steel stock and cuts it twice lengthwise to make four pieces.

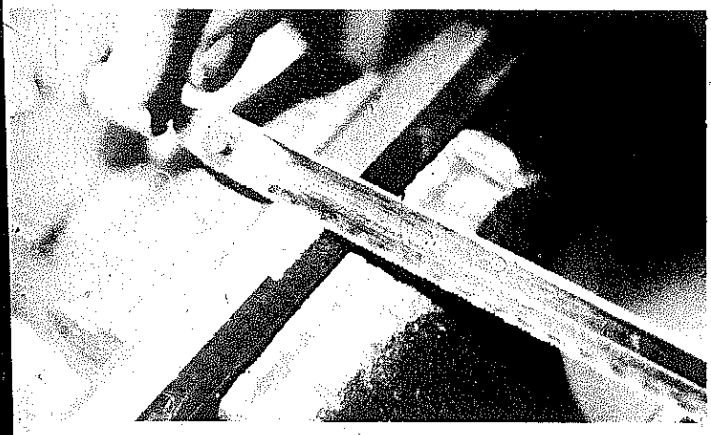


PLATE 267 Hershel cuts the dovetail groove in the barrel for one of the lugs. He also uses this dovetail notch to mount the front and rear sights.

PLATE 268 Hershel files down the rough edges of the barrel after he has inset the lugs.

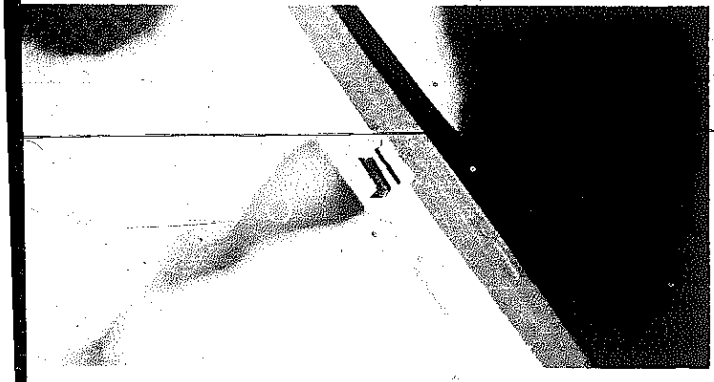


PLATE 269 One of the lugs completed and inset into the barrel.

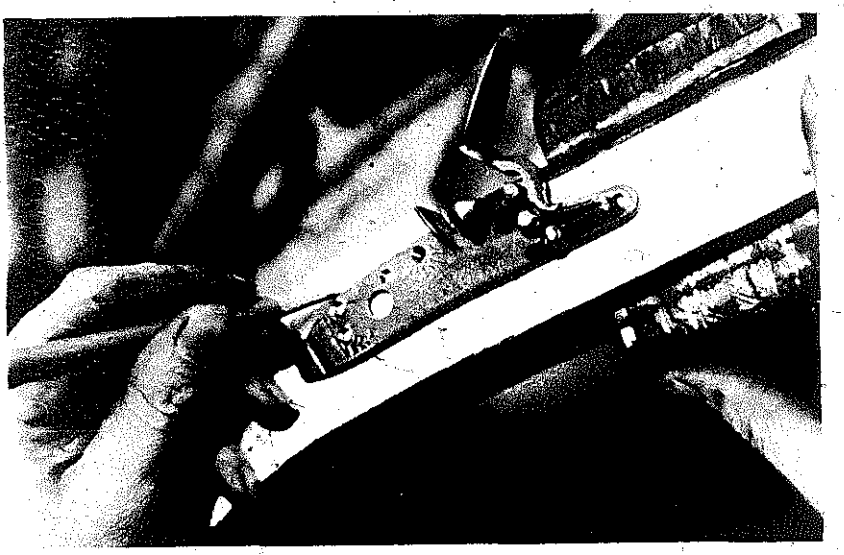


PLATE 270 After taking all the parts off the lock (the "guts" as they are called), Hershel places the lock plate on the stock in the proper place and traces around it. (Note the lines on the stock for the ramrod hole and barrel groove.) The top of the pan should be about lined up with the center of the end of the barrel.

The Lock

Every basic mountain rifle that Hershel has seen has a good late-period (1800–1940) English lock. In his opinion they were the best locks of that period. These locks were imported from Birmingham, England, a lockmaking center, in large quantities and sold through hardware dealers in the eastern states. They were either made by hand or drop-forged. "It has always been a mystery to me how the mountain gunsmith living in inaccessible areas was able to obtain these fine locks. I'm sure the gunsmiths made locks from time to time and were capable of doing it." Since most of the mountain rifles had these English locks, Hershel uses replicas of them (obtainable from Log Cabin Sports Shop or Golden Age Arms Company in Worthington, Ohio, or Dixie Gun Works in Union City, Tennessee) on all his mountain-style rifles.

To position the lock, it must first fit tight against the barrel and even with the breechplug so that when the spark hits the powder, the powder inside the barrel is not too far back to be ignited. The lock is then positioned so that the two lock bolts go into the right spot (see Plate 270). One goes between the barrel and ramrod hole, and the other goes into the breechplug for support. Finally, the bottom of the pan (the part of the lock that holds the powder) has to be aligned with the vent in the barrel (see Plate 270).

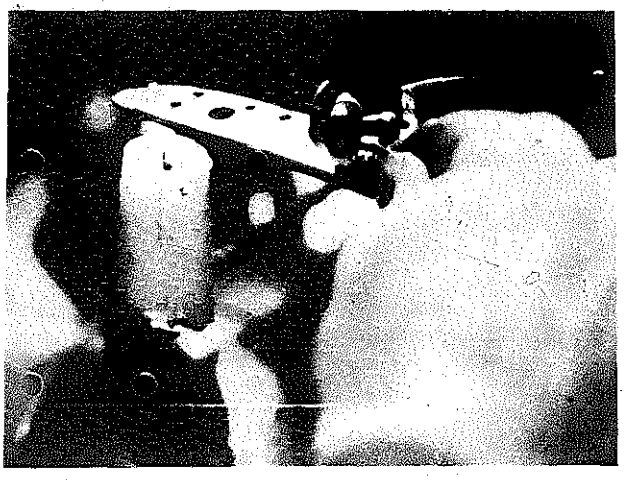


PLATE 271 Hershel holds the lock over a candle so soot will collect on it. When he places it into its proper spot on the stock, the soot will rub off and reveal the high places so he'll know what wood still needs to be shaved off to make a tight fit.

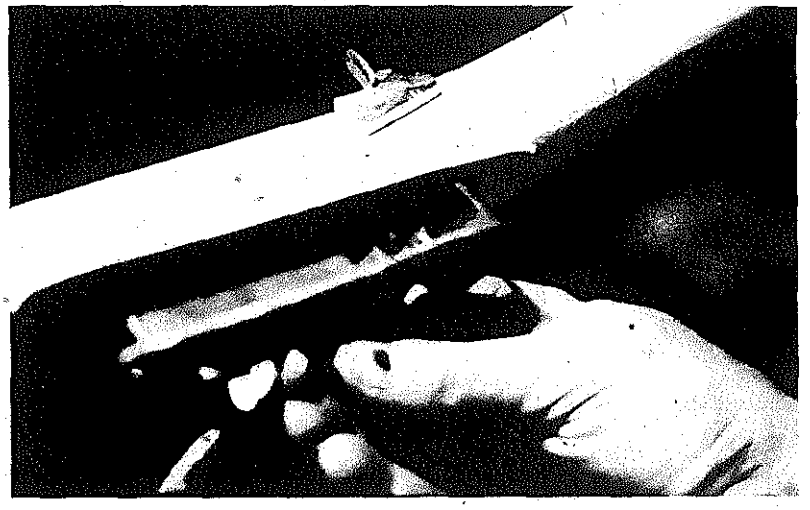


PLATE 272 The lock is held in the right position so that Hershel can mark the right location for the trigger.

To find out where the vent must be drilled into the barrel, he puts the ramrod into the barrel as far as it will go—until it hits the breechplug—marks the ramrod, and uses it as a ruler to mark the right spot for the vent on the barrel.

After it has been determined where the lock must go, the hammer and the guts are removed. The rib or the bolster around the pan is inlet first. When the rib is fitted into the stock, he traces around the rest of the lock and chisels out the excess wood so that the lock fits snugly into the stock. Putting soot on the lock (see Plate 271) is an old trick that helps here.

After he has chiseled out the spot for the lock, he puts all the parts back into the lock and chisels out more for these. He then drills a hole for the part of the lock that the trigger trips.

When setting the lock, he sets it deep so it butts up against the barrel. There should not be a space between the side of the barrel, where the vent is, and the pan, or carbon will build up and corrode the barrel and lock.

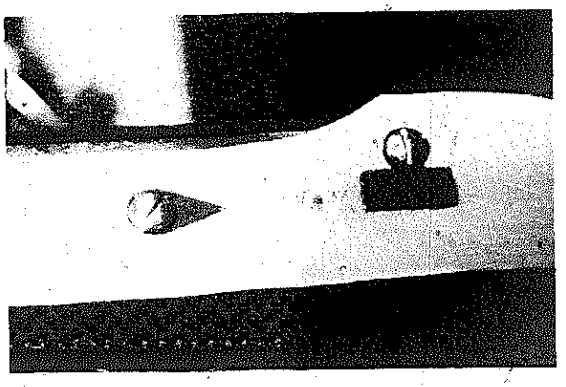


PLATE 273 The completed sideplates after they have been inletted into the stock.

Sideplates and Lock Bolts

Hershel made the sideplates from an old piece of iron that was once a cultivator guard. Using a pattern, he traced them on the iron, drilled the necessary holes *first,* then cut them out with a hacksaw and filed down the rough edges.

Most of the true old-time mountain rifles didn't have lock plates. The lock bolts were simply tightened snug against the wood.

Making the Trigger

Hershel first cuts out a piece of blank steel for his trigger, as shown in Plate 274. Then he files it, as shown in Plate 275. Next he takes it to the anvil and beats it to flare out the pad (the part you pull with your finger when shooting). He then cuts down the thickness of the trigger, as shown in Plate 276, and smooths it and shapes it so that it looks as shown in Plate 277.

PLATE 274 The trigger blank before any filing or shaping has been done. At this time, the blank is about one and a quarter inches square.

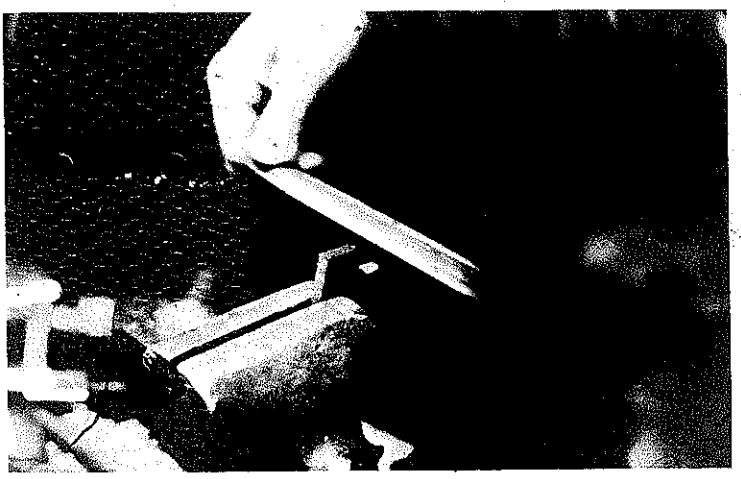


PLATE 275 Hershel shapes the trigger blank with a file while taking off the rough spots left from cutting it out.

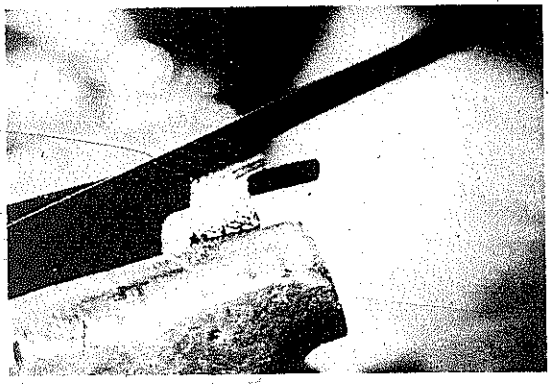


PLATE 276 The trigger blank was one quarter inch thick. As this is much too thick for the final product, except for the trigger pad itself, he rasps about one eighth of an inch off each side, scoring it with a hacksaw to make the rasping easier.

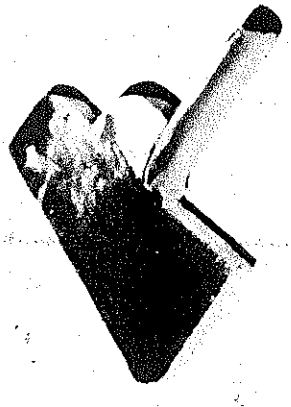


PLATE 277 The finished trigger, ready to be inserted into the gun.

He makes his triggers because he likes to make as many parts of the gun as possible. They can be bought, however, from gun shops, but they would have to be smoothed. He says, "It's just about as easy to go ahead and make your trigger yourself. If you buy one, they run about two or three dollars."

To set up the trigger, he positions the trigger to fit against the sear. This insures that it will fire instantly. He also has to get his pull right. To do so, the trigger should be positioned so that it is about fourteen inches (or a little

under) from the butt, depending on the size of the man. The old-time way of measuring was to stick the butt of the rifle in the crook of your arm and reach for the trigger as if you were going to fire. If you can reach the trigger comfortably, then the pull is right. (When a man had a gun made for him, he'd check the pull on the patterns that the gunsmith had and choose the one that was the most appropriate for his arm length.)

Then he chisels out the wood where the trigger goes into the underside of the stock. The trigger has to work free.

To drill the pivot hole (the hole that holds the pin that holds the trigger in place), stick the trigger into its place and drill through the stock and trigger at the same time. The hole should be high for leverage so you won't have to pull hard to make the gun fire. To make the pin for the trigger, Hershel takes a small finish nail and cuts the head off. Then he buffs the nail so the trigger will move freely without catching.

PLATE 278. The trigger plate, which is about three inches long. It fits under the triggerguard and helps stabilize the trigger and provide an anchoring point for the tang bolt.

Trigger Plate

The trigger plate is a piece of metal 3" long that anchors the tang bolt. Hershel cuts the trigger plate out of a piece of steel 1/16" thick. After cutting out the trigger plate and shaping it, he drills a row of holes in its center, then files out the extra metal (see Plate 278) and smooths it. The slot is where the trigger goes.

PLATE 279 Hershel drills the hole in the tang that the tang bolt goes through in order to mark the place on the trigger plate where a hole has to be drilled for the tang bolt.

He then inlets it into the stock at the wrist. After inletting it, he drills a hole into the front of it small enough so that he can thread it with a 3/16" tap. He then threads it, and drills from the trigger plate up to and through the tang. He then countersinks the tang so that the head of the bolt will sink into it. After countersinking, he bolts the tang to the trigger plate.

Triggerguard

The grip rail is the rear extension of the triggerguard that your hand fits around to help hold the gun into your shoulder. To make the grip rail, Hershel takes a 3/8" piece of steel rod and rips it down the center for a distance of 2 1/2" (Plate 280) and cuts it off 1/2" below the slot. He takes the rod to his forge and flattens the end, then puts the end into a vise and spreads the two wings so they are opposite each other. One end should be about 1/2" higher than the other. Then he flattens the two wings a little as shown in Plate 281.

Then he curves the short piece of metal sticking up between the two ends of the grip rail to match the curve of his finger. After curving it, he smooths it with a rat-tail file.

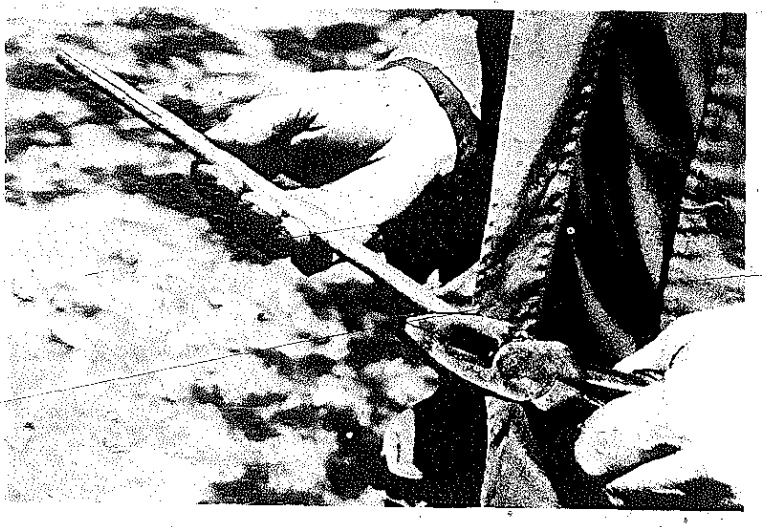


PLATE 280 The metal rod Hershel used to make the grip rail. First he cuts about three inches into the rod with a hacksaw (see slot in rod above), folds the two halves back, and cuts the rod off at the point just above his thumb.

PLATE 281 Hershel has flattened the end of the grip rail and formed a curve for the owner's fingers.

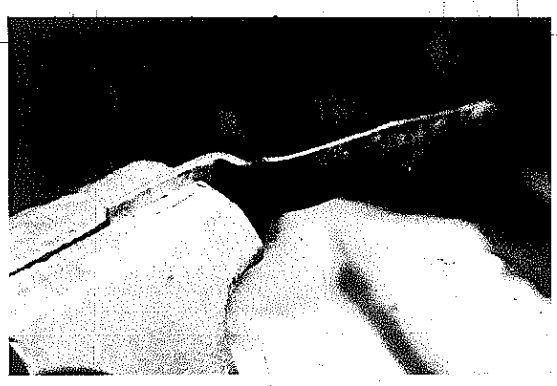


PLATE 282 The half-completed triggerguard.

PLATE 283 Hershel uses a vise to do most of the bending of the triggerguard. Here he smoothes the sides of the lower part of the triggerguard.

The triggerguard is the round bow that goes around the trigger. To make the triggerguard, Hershel takes a steel rod 5½″ long and flattens it out. Then he bends it into the shape he wants, as shown in Plate 282. The distance between the square end and the first bend is 1½″. The widest part of the triggerguard, which is the bow, is ⅞″ wide.

Before he makes his next bend, he files down the rough sides of the triggerguard. After he has filed it smooth, he makes the final bend at the spot he is pointing to at the back part of the triggerguard in Plate 284. The back part of the triggerguard should touch the trigger plate when bent down. After Hershel has made the triggerguard and grip rail, he rivets and solders the two pieces together. He sets the grip rail against the triggerguard, then drills a hole ⅛″ in diameter through both pieces, and counter-

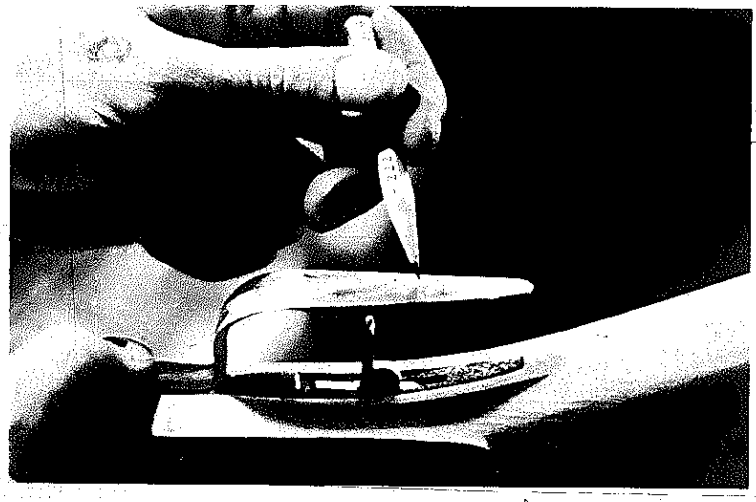


PLATE 284 Hershel points out where to bend the back of the triggerguard. The part of the guard that is bent down will touch the trigger plate.

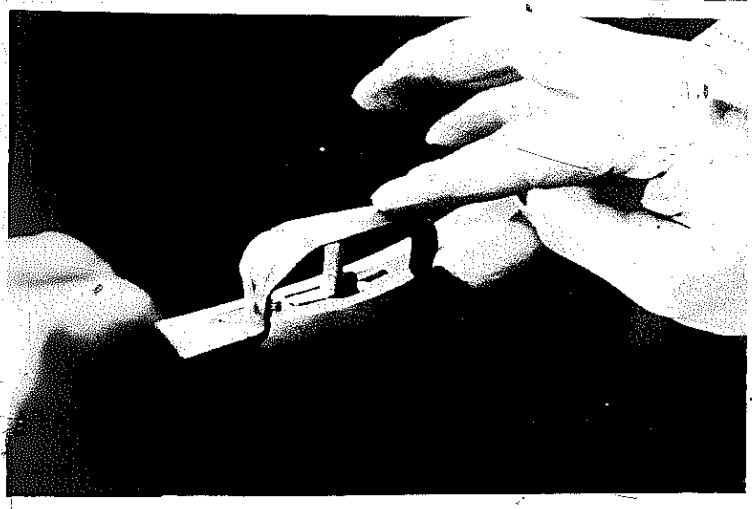


PLATE 285 Hershel lays the front part of the triggerguard on the trigger plate and stock to position it.

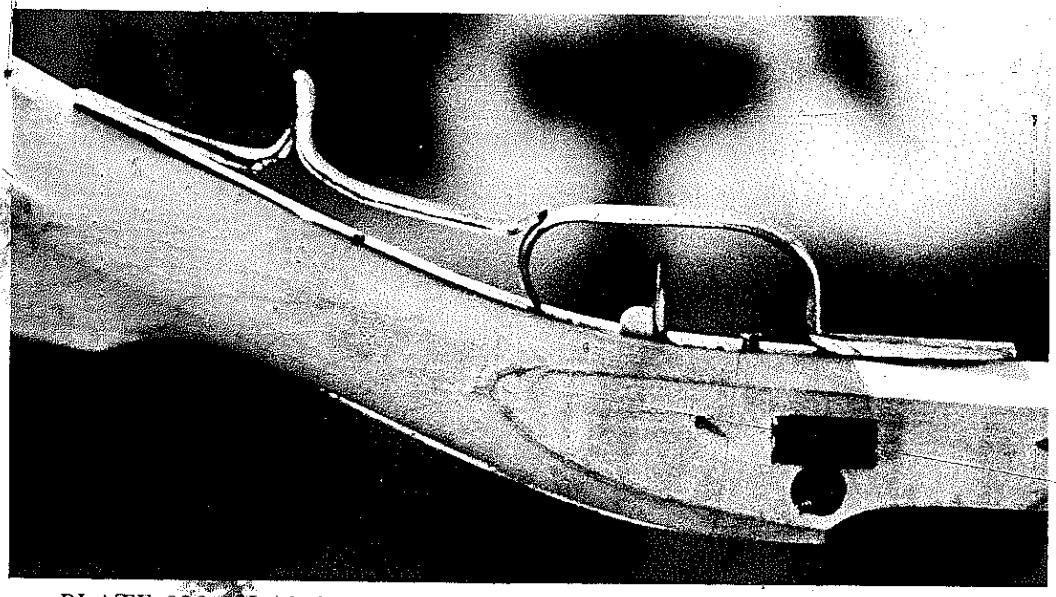


PLATE 286 Hershel gets ready to bend the grip rail up to meet the triggerguard to which it must connect. Here the triggerguard is laid out to determine the right place to attach the grip rail.

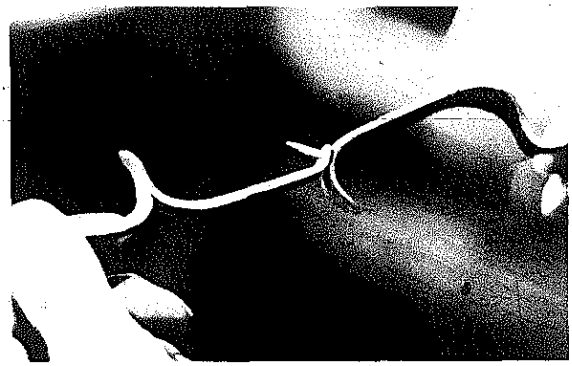


PLATE 287 To rivet the grip rail and bow (triggerguard) together, Hershel drills a hole through both pieces the size of the nail he is going to use as a rivet. Then he runs a nail through both pieces, cuts it off a little long, and pounds both ends flat.

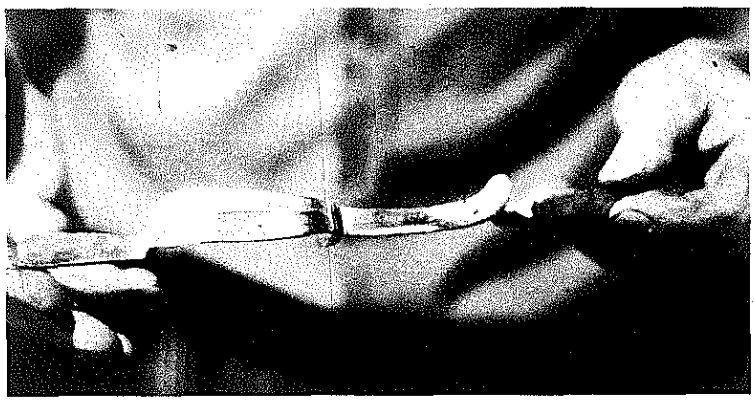


PLATE 288 Hershel solders around the rivet for reinforcement. Here is the completed triggerguard and grip rail after being soldered, filed, and smoothed.

sinks the hole so that the rivet will sink slightly into the metal. After that, he puts the nail in and flattens it out on an anvil. Then he solders the joint to make it tighter and improve the appearance. Then he files and smooths the rough edges. Instead of soldering the guard and grip rail, the old-timers would have bronzed them or braised them in a forge.

The guard he has made here is one of the typical guards. Other triggerguards and grip rails had low grip rails or came with a reverse grip rail that locked your hand into place. Some triggerguards have thumb latches.

To inlet the triggerguard and grip rail, Hershel first lays the two ends that will be inletted into the rifle into place on the stock and traces around the ends. Then he removes the triggerguard and grip rail and chisels out the wood for the front, inlets it, and then does the same for the rear. He then drills two holes, one into each end, and screws the assembly to the stock.

Filing and Rasping the Stock

When Hershel starts rasping, he takes the big rasp and cuts the stock down to almost what it will be when finished. Then he takes smaller files and files rough scratches out of the stock. One of the common mistakes made by most builders is leaving the wood on the forearm and the front extension of the stock too heavy and bulky.

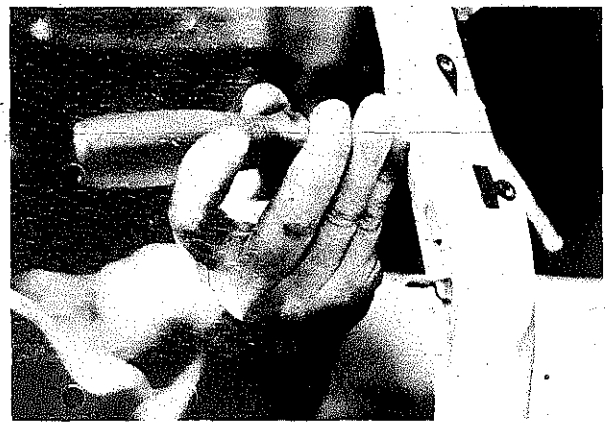


PLATE 289 Hershel inlets the triggerguard. He is careful to inlet the front of the triggerguard first and screw it down to stabilize it before pushing the back into place and inletting it.

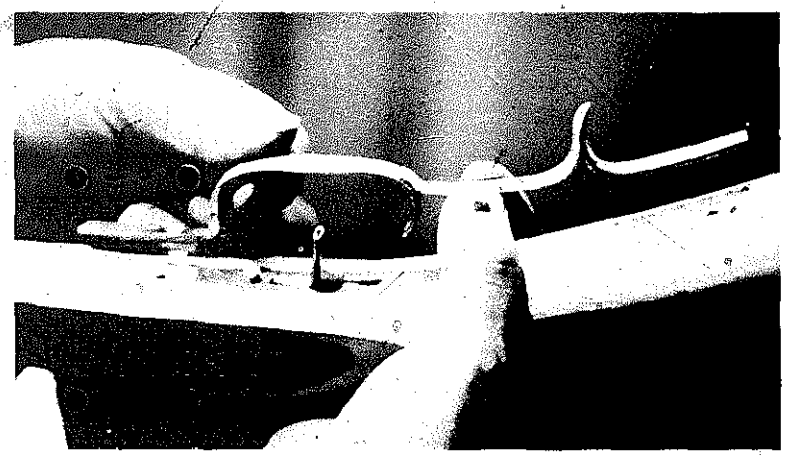


PLATE 290 Hershel puts the completed triggerguard into place, and is ready to screw it down. After securing the triggerguard, Hershel rounds the front part of the triggerguard to match the roundness of the stock.

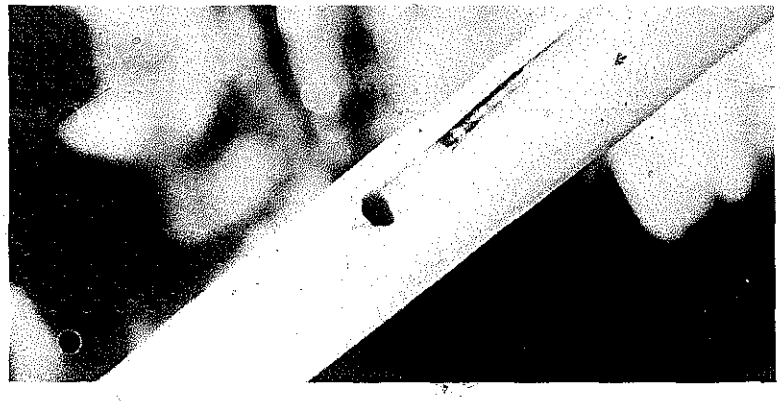


PLATE 291 The ramrod entry hole before it has been rasped down.

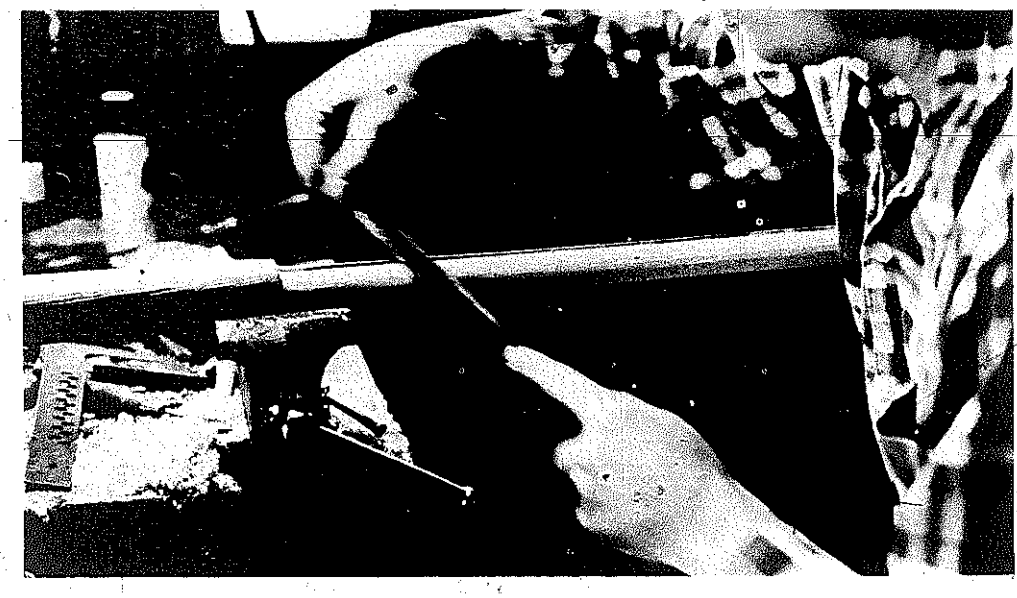


PLATE 292 Hershel rasps the forestock to smooth it. It is important that he does not leave too much wood on the forestock or it will be bulky and heavy.

PLATE 293 The butt of the stock after it has been rasped down.

He cuts the front extension down to a feather edge. The forearm should be rounded out—not left square. Another mistake often made is that the builder may want to round or roll over the wood around the trigger. It should be left flat so that the trigger plate and lock have a flat surface to rest on.

The barrel should not be in place at this point or it may be hit by the file and scratched.

Cheekpiece

First Hershel draws the cheekpiece onto the stock, then he cuts out around it roughly with a hand saw. He says, "You make it proportional to the size of the gun. I judge the shape of the cheekpiece by eye. Don't make the cheekpiece too long, and keep it shallow. If you don't keep it shallow, it will tend to kick you in the face when you shoot the gun."

When he has shaped it out roughly, he finishes it with chisels, files, and sandpaper.

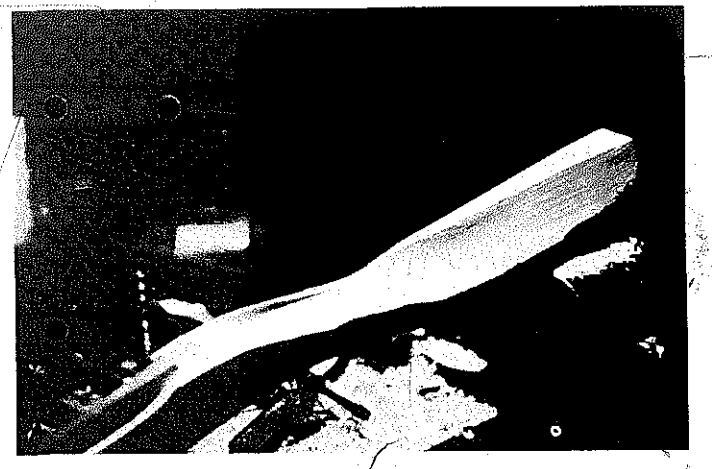


PLATE 294 Knocking off the majority of the excess stock with a rough wood rasp, Hershel files down the stock for the cheekpiece. Note the sweeping motion from the wrist to the butt.

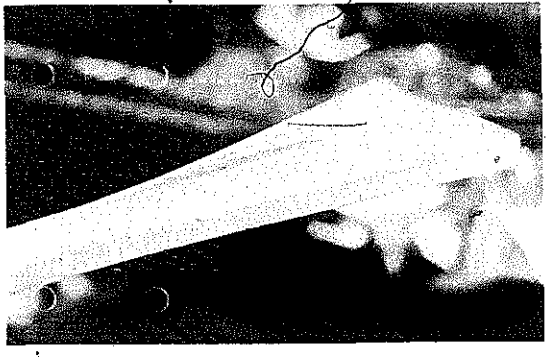


PLATE 295 This is the cheekpiece after being cut out. Now only sanding is needed.

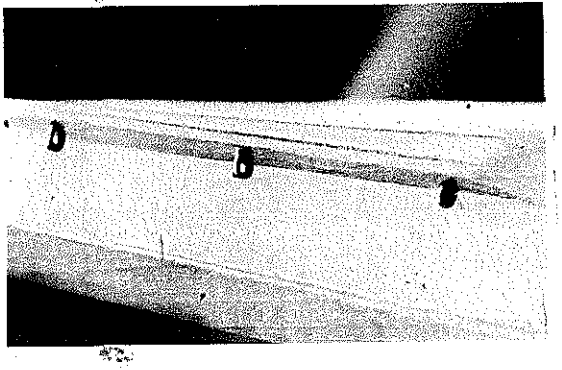


PLATE 296 Here is the cheekpiece showing the eyelets that will hold the vent pick.

Ramrod Pipes

Hershel makes the pipes to hold his ramrod out of any piece of thin metal —he made the ones for this gun from a water heater jacket. First he takes a 3/8" drill and a piece of paper and wraps the paper around the drill, leaving 1/4" of paper extra on each side. Then he takes the paper, which is now the pattern, and traces it onto the metal. Next he cuts out the pieces, and makes the pipes. He starts by putting one in a vise and bends it, as shown in Plate 297.

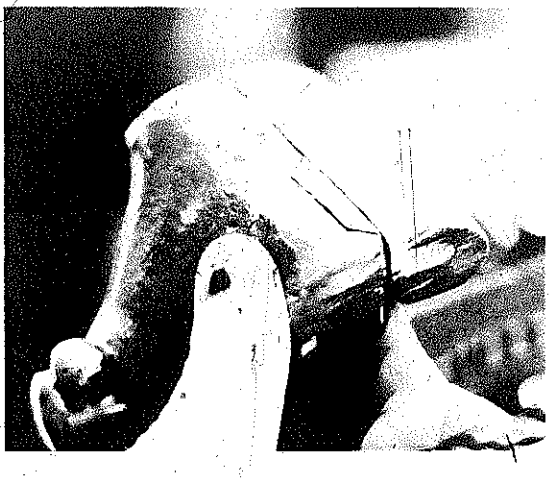


PLATE 297 The first step in bending the ramrod pipes is to bend the metal ends up about one fourth inch parallel to each other.

PLATE 298 To make a ramrod entry pipe round, Hershel bends the piece of metal around a three-eighths-inch drill bit.

PLATE 299 The finished ramrod pipes are one and a half inches long.

PLATE 300 - Here Hershel is chiseling to inlet the ramrod pipes.

After the edges have been bent, he puts the drill bit onto the center of the piece of metal and bends it around it. The edges, which are ¼" wide, are left over to form flaps that nails can be driven through to hold the pipes in place.

He then takes a rat-tail file and files the roughness out of the entries of the pipes. He flares the front of the entry pipe to allow the ramrod to enter more easily.

To position the ramrod pipes, Hershel measures 3½" from the muzzle to place the first one. The second goes halfway between the first pipe and the ramrod hole in the forearm. To inlet the two ramrod pipes, he lays the pipes on the ramrod guide groove with the lips (edges) up. Then he traces their outline onto the stock and chisels them out. Then he cuts the slots for the edges or lips, and sets the pipes into place.

After inletting the pipes into the stock, he drills one hole for each pipe through the stock and the pipe edges. Then he puts pins made from small finishing nails with their heads cut off into each hole, securing the pipes in place.

Sights

Before Hershel makes the front sight, he cuts the barrel off to the dimensions he wants it to be on the final product. He lets his barrel hang over the stock about 1/16". After cutting the barrel, he files the end of the barrel where the rifled grooves are. He files the grooves at the crown of the muzzle to make it load easier.

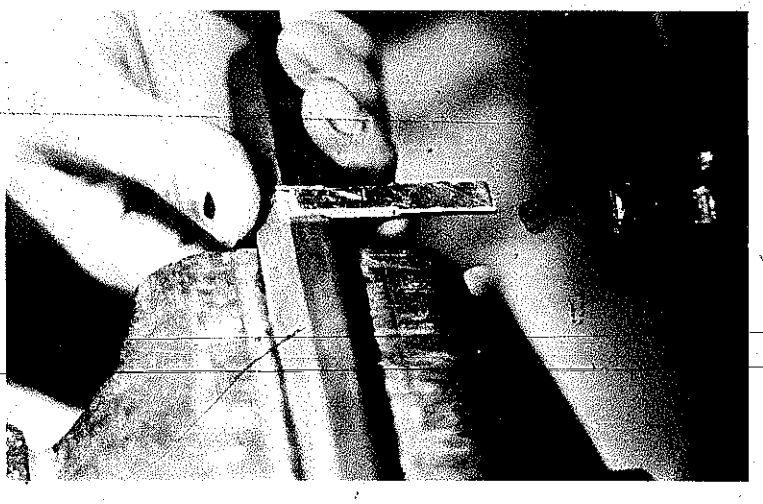


PLATE 301 Hershel drives the copper base plate into place. The front sight will be mounted on top of this copper base.

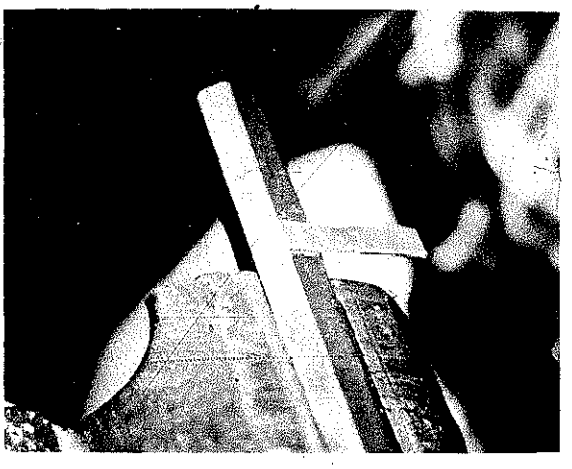


PLATE 302 The plate is now in place and ready to be cut off. Note the groove cut into the center of the sight where the silver blade will go.

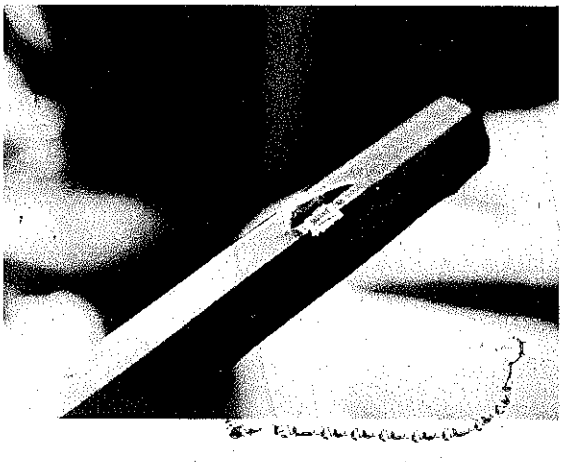


PLATE 303 The completed front sight with the silver blade soldered on top. Hershel made the silver blade out of a silver quarter.

The base of the front sight is made from a piece of flat copper. Hershel then takes a silver quarter and cuts out the shape of the blade with a hacksaw and smoothes it. After that, he takes the copper plate and mounts it on the dovetail groove cut for that purpose. Then he puts the blade into place and solders it on. He uses hard-core silver solder.

The hunters in old times knew what they were doing when they set the front sight down on the barrel. They used a low silver blade. When polished, it was easily visible even in bad light. In the woods in dim light, it was a common mistake to take in too much front sight and overshoot game. Hershel's grandfather, who was a notorious squirrel hunter in this region (Herschel Finney), told him that the best sight was one made of bone. This type of sight picked up the largest amount of light and was easily seen. The only problem was that it was easily broken.

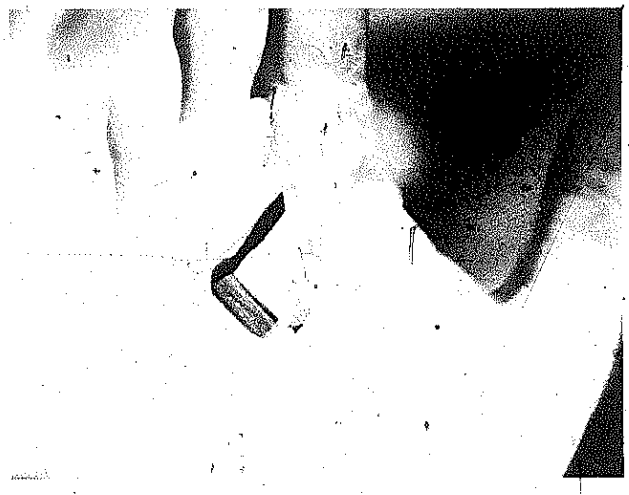


PLATE 304 The rear sight blank which is cut out of a piece of half-inch-square steel stock.

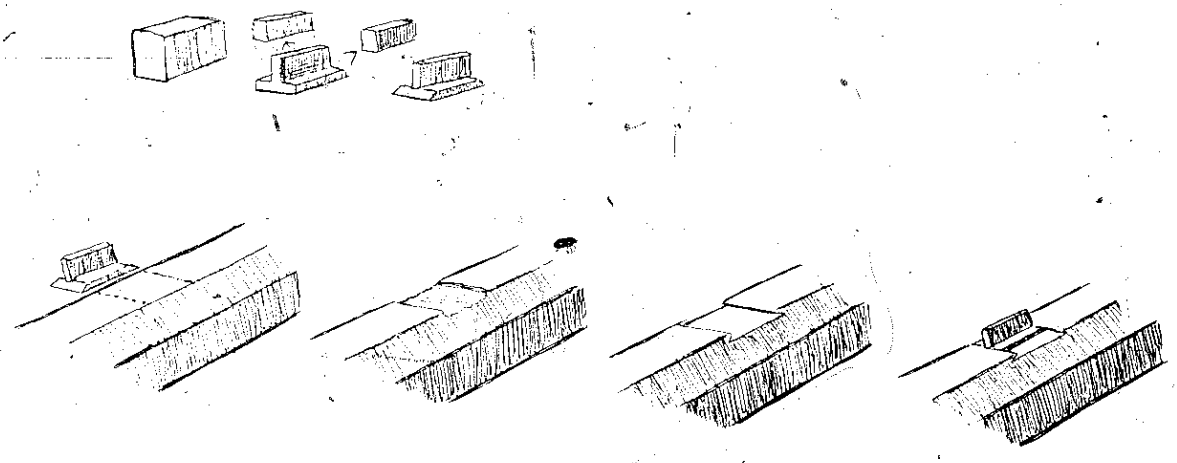


PLATE 305 Diagram by Hershel House.

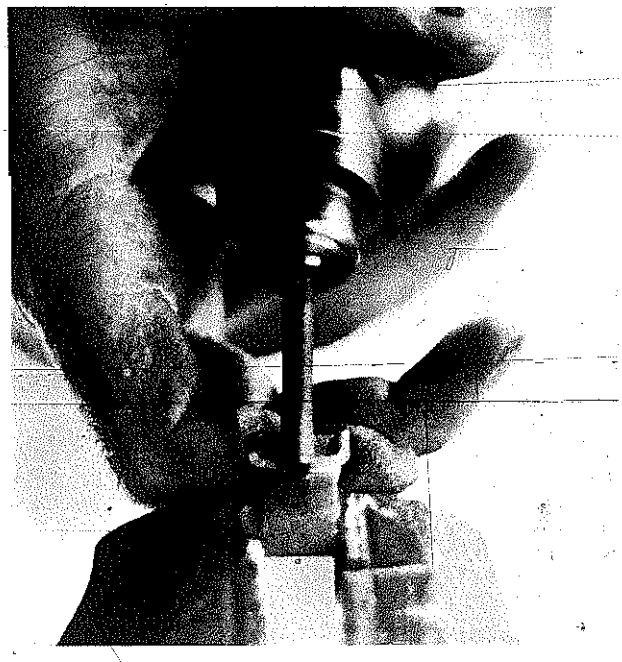


PLATE 306 After completing the rear sight, Hershel rounds one end of the groove of the sight with a drill.

Because the shooter of today uses his rifle a good deal in match shooting, he prefers to have a sight a great deal higher, for reasons described earlier.

For the rear sight, Hershel cuts out one half inch of square steel stock. He uses the same metal that he used to cut the trigger. Next he beats down two sides on the anvil. Then he takes his drill and starts to shape it out as shown in Plate 305. After shaping the rear sight, he levels up the bottom. Next he determines where it is going to be placed on the barrel. He does this by holding up the rifle as though he were going to shoot it, placing the rear sight about ten inches from the breechplug. Then he has someone move the rear sight up and down along the barrel, focusing on the front sight, until he gets the least amount of blur around the notch on the rear sight. He marks that spot and mounts the rear sight in place, cutting out the place for it with a hacksaw and a three-cornered file (the three-cornered file is used to get into the undercut edges). Then he drives the sight into place and does the final shaping and cleaning. One advantage of the muzzle loader is that the sights are out away from your eye.

Stainless-steel Vent

Hershel sets the hole for the vent right at the junction of the breech and the barrel. He lines the hole up so that it is at the bottom of the powder pan. After this is done, he bores a pilot hole into the barrel, using a number three drill bit. Then he takes a $\frac{1}{4}''$ by 28 threads per inch tap and taps the hole. Then he takes a $\frac{1}{4}''$ stainless-steel rod and taps it. After tapping it, he drills a $\frac{5}{32}''$ hole into the end of the tapped rod almost $\frac{1}{8}''$ deep. Then he screws the rod into the barrel with the hole facing the inside of the barrel.

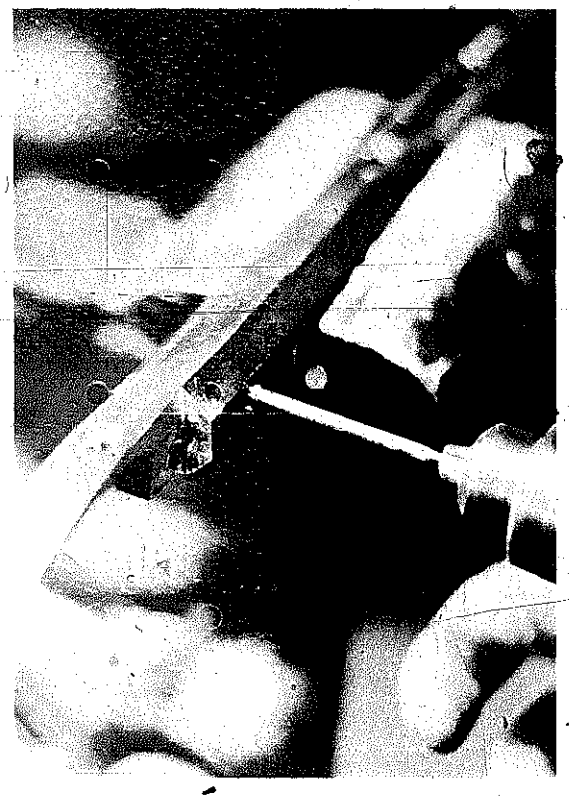


PLATE 307 Hershel drills the pilot hole for the stainless-steel vent.

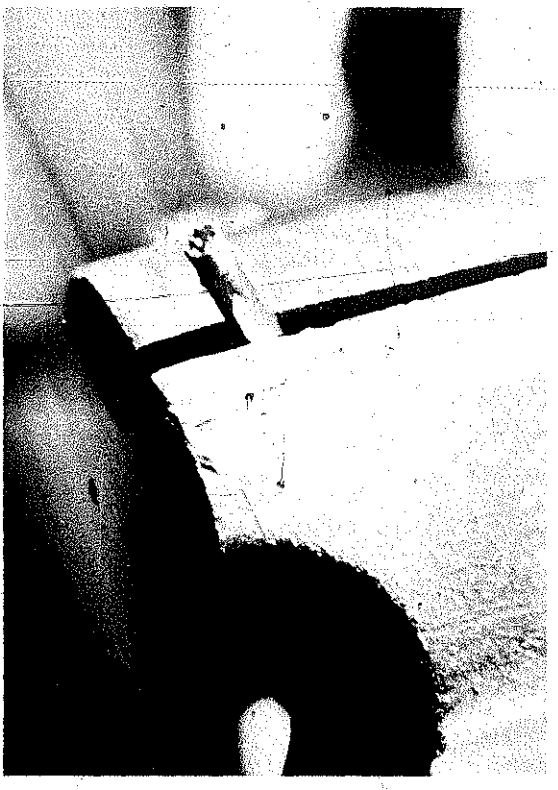


PLATE 308 Here is the stainless-steel vent after being threaded.

Next he cuts the rod off flush with the barrel, and drills a 1/16" hole into the rod until it breaks through into the hole drilled from the other end. This opens the vent and completes it.

The better guns have vents made of stainless steel. By putting a stainless-steel vent in the gun, it fires more quickly and prevents the snapping and hissing that sometimes happens on guns without the vent. A man who has worked with both kinds of guns will know the differences between them well.

Stainless-steel vents may be purchased at any of the muzzle-loading supply houses. They come ready to screw in and finish.

Tallow Hole, Vent Pick, Decorative Molding, and Feather Hole

It is rare to see an old mountain rifle that doesn't have a tallow hole—especially if it is a southern-made rifle. The tallow hole goes on the side of the rifle that the lock is on. The tallow hole is centered up and down, and is about 1/2" from the butt of the stock.

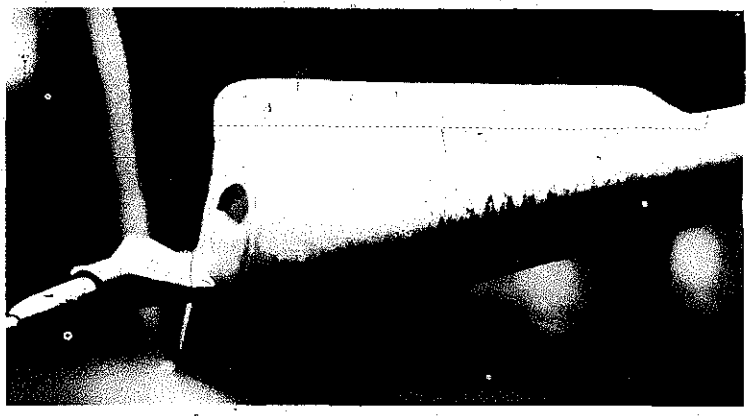


PLATE 309 The completed tallow hole.

To make the tallow hole, Hershel drills it with a brace and bit about ½"–¾" deep. Old-timers made a mixture of beeswax and beef tallow to go into the hole. They heated the mixture in a ladle and poured it into the hole. They would put this mixture on the patch to make the ball go down the barrel easier and also to help keep carbon from building up in the barrel.

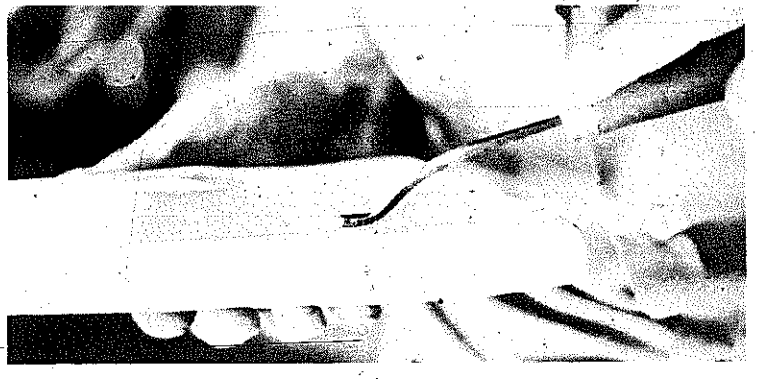


PLATE 310 Here Hershel is using the checking tool to cut the small groove up the butt of the stock. This decorative groove is one fourth of an inch above the bottom edge of the butt tapering to the bottom edge of the stock just below the center of the trigger plate. He puts one of these grooves on each side of the stock.

MOLDING: Hershel cuts his decorative molding with a checking tool. The groove is just a simple line cut along the edge of the stock for style. Some rifle makers add a good bit of decoration, but a simple mountain rifle like this one would not be that fancy.

VENT PICK: The vent pick is used to make sure the vent is open and not clogged. This should always be checked before the rifle is taken out and shot. The vent will sometimes get clogged when the rifle is left sitting between hunts or shooting matches. Hershel makes the three eyelets to hold

the pick out of nails, the heads of which are cut off. The shafts of the nails are bent into the shape of a U. He drills holes where the two points will go into the wood so he doesn't split the stock. He drills six holes under the cheekpiece for the three eyelets.

FEATHER HOLE: In the old days when rifles were used a great deal, vent holes burned out rather fast. Stainless steel was unknown. Some fine English guns had platinum vents, but they were expensive and unattainable in the backwoods. When vents burned out, a rifle would leak the powder charges during the loading process. Thus, hunters, when loading their rifles, would first plug the vent hole with a small turkey or chicken feather shaft, which kept the charge from leaking. The feather was removed after the rifle was loaded and before the lock was primed. A special hole was drilled underneath the rear of the stock just behind the triggerguard and usually centered with the cheekpiece. The feather was kept there.

Raising the Grain, Staining, and Browning the Barrel

Before Hershel can put a finish on the stock, he must first raise the grain. He does this by wetting the stock with a wet cloth, then resanding when it dries. He does this about three times—or until the grain doesn't raise anymore. He does this so that if he ever gets the gun wet, the water won't raise the grain and ruin the finish.

Hershel uses nitric acid to stain the stock. It is cut one part nitric acid to three parts water. He also puts iron filings or steel wool into the solution, and the acid eats up the filings or steel wool. He adds this material until the solution is static (won't take any more). When heat is later applied to the barrel, the dissolved steel rusts and gives the stain its color. Mix this in the open air, for it is important not to breathe the fumes of this solution as it may sear your lungs. Mix the stain in a crock so the heat generated in the process doesn't burst the container. If the solution starts to react with the container, soda water will neutralize it.

After adding the iron filings, he applies the stain to the stock, then heats the stock with a propane torch. This is the same method used two hundred years ago: They used aqua fortis (old name for nitric acid) and held the rifle over the forge to heat the stock. He goes over the stock with the torch until he gets a glaze on it, and then rubs it down with some thinned, boiled linseed oil and a piece of steel wool. Next he heats the linseed oil into the stock using the propane torch, paying special attention to the nooks and crannies that he couldn't get to before without burning the stock (linseed oil won't burn and acts as protection in these areas). The color of the stock will deepen into a mahogany color by the following day. The next day he

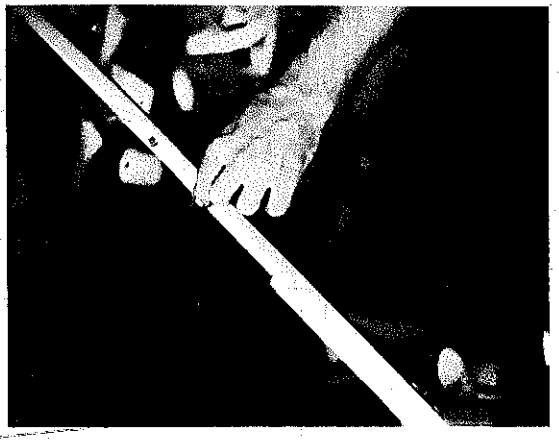


PLATE 311 The stock before applying the heat to the stain. The stain has already been applied.

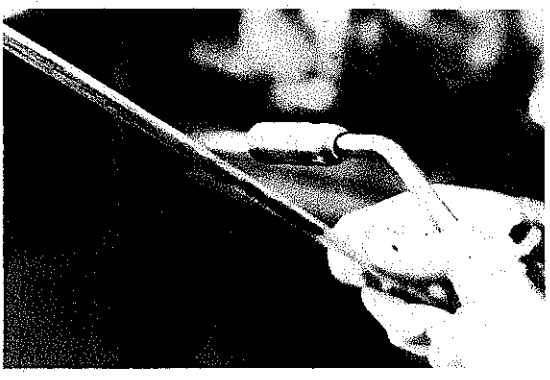


PLATE 312 Here Hershel is heating and setting the stain into the ramrod.

applies boiled linseed oil, full strength, three or four times. The linseed oil that has been put on helps keep the stock flexible so it won't dry out and become brittle. It also builds up a fine, old-time-looking finish. Continue to apply a coat of linseed oil once a day until a good finish has been achieved. Never hang the gun high on a wall or above a fireplace as the stock will dry out.

Hacker Martin explained the stock finish he used to Ogilvie H. Davis in the August 1970 issue of *Muzzle Blasts*:

> We usually use nitric acid and water, half and half, with some steel wool eaten up in it to make the color black. This we smear on the well-sanded stock with a small cotton rag which is held in the split end of a small stick. This protects the fingers from being burned by the acid. The new stock is then sanded down and smeared with Esquire brown shoe dye. Then the stock is lightly sanded down again and rubbed with wool waste. Next, we go over the stock with a swab dipped in linseed oil, in which there is about one ounce of turpentine to the pint of oil. The stock is then wooled and oiled several times.

When the stock looks nice enough, it is let dry good, and then waxed with the best floor wax available, or varnished a few times with Spar Varnish. For a top job, use red violin oil varnish. It imparts a finish slick as glass.

To brown the metal parts, Hershel first cleans and shines them. To get the barrel clean, he drawfiles it with a metal file until all the scale and oil is removed down to fresh metal. When he drawfiles the barrel, he also knocks the sharp corners off the octagonal barrel. He does this to break up the glare of the sharp corners; the glare impairs the shooter's vision and tips off game. After filing, he sands it down with sandpaper. Do not put your hands on the filed or sanded parts or fingerprints will show in the browning process.

After filing, the barrel is plugged with a dowel rod and the vent with a toothpick. For our gun, he applied paste bluing to the barrel, and then brown bluing. This gave it a nice old-time dark-brown look. To apply the brown, he heated the parts and the barrel with a torch and applied the browning solution, which turned them to a rusty brown. Then he applied the bluing compound by just rubbing it on straight from the bottle.

The reason he did our gun this way was that we were in a rush and had to have it finished. The better and older way of applying browning solution takes about a week to do, whereas the above only took one day. With the older method, the barrel was stripped, and then a cotton swab was used to paint the barrel and the other metal parts with a browning solution. This can be obtained from Log Cabin Sports Shop now, but was made from home recipes years ago. A recipe from *The Science of Gunnery,* published in 1841, follows:

1 oz. Muriate Tincture of Steel
1 oz. Spirits of Wine
¼ oz. Muriate of Mercury
¼ oz. Strong Nitric Acid
⅛ oz. Blue Stone
1 qt. Water

These are well mixed and allowed to stand to amalgamate. After the oil or grease has been removed from the barrels by lime, the mixture is laid on lightly with a sponge every two hours and scratched off with a wire brush every morning until the barrels are dark enough, and then the acid is destroyed by pouring boiling water on the barrels and continuing to rub them until they are nearly cool. Presumably "muriate tincture of steel" is ferrous chloride ($FeCl_2$), "spirits of wine" is ethyl alcohol, "muriate of mercury" is mercuric chloride also known as cor-

rosive sublimate ($HgCl_2$), and "blue stone" is copper sulphate. Another recipe for "Birmingham Imitations" calls for the following:

1 oz. Sweet Nitre
½ oz. Tincture of Steel
¼ oz. Blue Vitriol
6 drops Nitric Acid
14 grains Corrosive Sublimate
1 pt. Water

When the barrels are dark enough, drop a few drops of muriatic acid in a basin of water and wash the barrels slightly to brighten the twists." [This obviously refers to finishing a "twist" in shotgun barrels, the final acid wash to remove some of the brown finish.]

It is important that all grease or oil be removed using lime as mentioned. Dust hydrated lime on a cloth pad and rub vigorously, renewing the lime as necessary. Otherwise, boil the barrel in a weak solution of lye. Do not handle the cleaned barrel in the bare hands as oil from the skin will leave finger marks. When boiling, if you do it that way, put wood plugs in the ends of the bore and hold by the projecting ends.

We found these recipes in *For Beginners Only*, by B. M. Baxter, published by the National Muzzle Loading Rifle Association.

After sitting overnight, a fine coat of rust would cover the barrel. Give it another coat of solution, being careful not to touch the barrel. In humid weather, the barrel will rust rapidly. Repeat the process for four or five days or until it has a good coat of rust. When it has a good, even rich covering, scald the barrel by holding it under a hot faucet until the barrel is hot. This will neutralize the acid in the browning solution. Then give it a good coat of linseed oil or motor oil while the barrel is still warm.

Hacker Martin explained his bluing and browning process to Ogilvie H. Davis in the August 1970 issue of *Muzzle Blasts:*

Gun browner is made by taking a pint of water, a pint of rubbing or radiator alcohol, mix and throw in a handful of Bluestone along with a teaspoon of nitric acid. Shake the mixture well and set away for a few days. If you want it extra fast, add a quarter of an ounce of Corrosive Sublimate of Mercury. Wet the iron with the solution, then let it set until dry and rub off with steel wool, wet again and repeat until the brown suits you. This may take three days or three weeks.

You can blue the above by boiling the rust off in plain water, then wooling down, continuing until the color is dark enough to suit. No trouble getting this solution to take hold. I wipe the surplus grease off a barrel, and smear it on hard. I scrub the iron, in fact—no trouble in getting it to stick. Do not get the mixture on your skin, as too much will cause a burn.

For applying the mix, a piece of rag set in the cleft end of a wooden stick is fine. This can then be thrown away when the job is done, as the acid eats up the stick pretty fast.

Hardening the Frizzen

To harden the frizzen, Hershel heats the frizzen to a light orange color and dips it in light motor oil. If the metal is too soft and won't harden, then it has to be half-soled. (This means attaching a second piece of harder metal to the face of the frizzen.) The latter was the case with our rifle. The frizzen was too soft and wouldn't harden, so Hershel had to harden the frizzen by adding a piece of hardened steel he cut from an old file. It was cut to

PLATE 313 Hershel uses a piece of an old file to make the frizzen piece. He rivets it to the face of the frizzen and then grinds the rough edges down.

PLATE 314 Here Hershel is ready to cut off the excess metal from the old file and then remove the excess edges with a grinder.

fit the face of the frizzen. Then he ground down the surface and the edges with an emery wheel. He then drilled three holes through both pieces of metal for the rivets. Before he pulled the rivets down tight against the frizzen, he heated the file piece and quenched it in oil to anneal it and keep it from breaking.

After he had it riveted on and filed down to fit exactly, he put the lock back together, adding a piece of flint, and checked it to make sure it would spark properly. If it had not sparked properly, he would have had to put it back in the forge and heat it hotter and repeat the process.

One of the better sparks is a yellowish-orange spark. The hottest spark is a white one that just sits and sizzles. That spark is too hot, and it means the frizzen is too hard. To take some of the hardness out, he would have to heat it a little. A beginner should probably buy an already-assembled lock. These locks will spark properly when brought.

Ramrods

The size of the ramrod should be about ⅜″ in diameter at the tip for a .45-caliber rifle. To make the one for our gun, Hershel started with a straight hickory rod ½″ in diameter and worked it down to ⅜″ on one end tapered down to about ¼″ on the other so it won't stick in the pipes in wet weather.

Hershel has made his ramrods before, but now he buys them from Log Cabin Sports Shop at ten dollars a dozen.

To make a ramrod, Hershel just cuts a piece of straight hickory one inch square and uses a drawknife until it is round. "Don't ever buy one of those dowel rods from a hardward store. If you get a ball that's hard to drive down the barrel, the dowel rod might break and might go through your hand."

The rod must be made out of a good piece of hickory that has the grain going straight from one end to the other to prevent splintering with use. It should always be cut a good deal smaller than the ramrod hole in the forearm. The reason for this is that while hunting in humid or wet weather, the rod might swell in the forearm and get stuck.

Molding Lead Balls

Hershel first cut some small pieces of lead from the big chunk of lead he has. Then he placed them in his ladle in the forge and melted them down. After they had melted, he poured enough molten lead into the mold to fill it; then he opened the mold allowing the hot ball out and cool. He

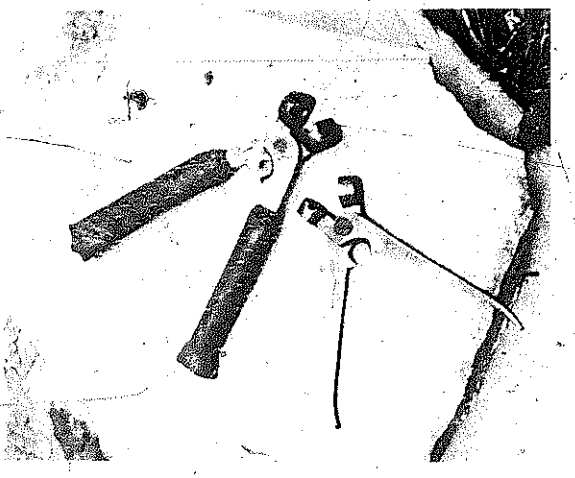


PLATE 315 This photo shows Hershel's .445 mold and .315 mold. These molds are for .45-caliber and .32-caliber rifles.

PLATE 316 Hershel pours hot lead into a mold and makes a ball. The gunsmiths call it "running bullets" or "running balls."

poured about two or three balls first and then put them back into the ladle to be melted again. He did this to warm the mold for easy use.

Whenever he found a ball with an air hole or bubble in it, it was a sign that the mold or the lead wasn't hot enough. These were remelted because they would not shoot properly.

The ball should be five thousandths of an inch smaller than the caliber of the gun so that there will be room for the patch around it. The size of the mold for a .45-caliber rifle should be .445. After the bullets are poured, the spur left on each (where the lead entered the hole in the mold) should be clipped off (called "spurring" the ball), using the pinchers built into the mold. Cut the spurs off as close to the ball as possible.

When loading the ball into the gun, Hershel tries to load with the spur up. If what is left of the spur went down the side of the rifle, it might affect the ball's course. To prevent this, sometimes Hershel will take the butt of his knife and pound down anything left of the spur.

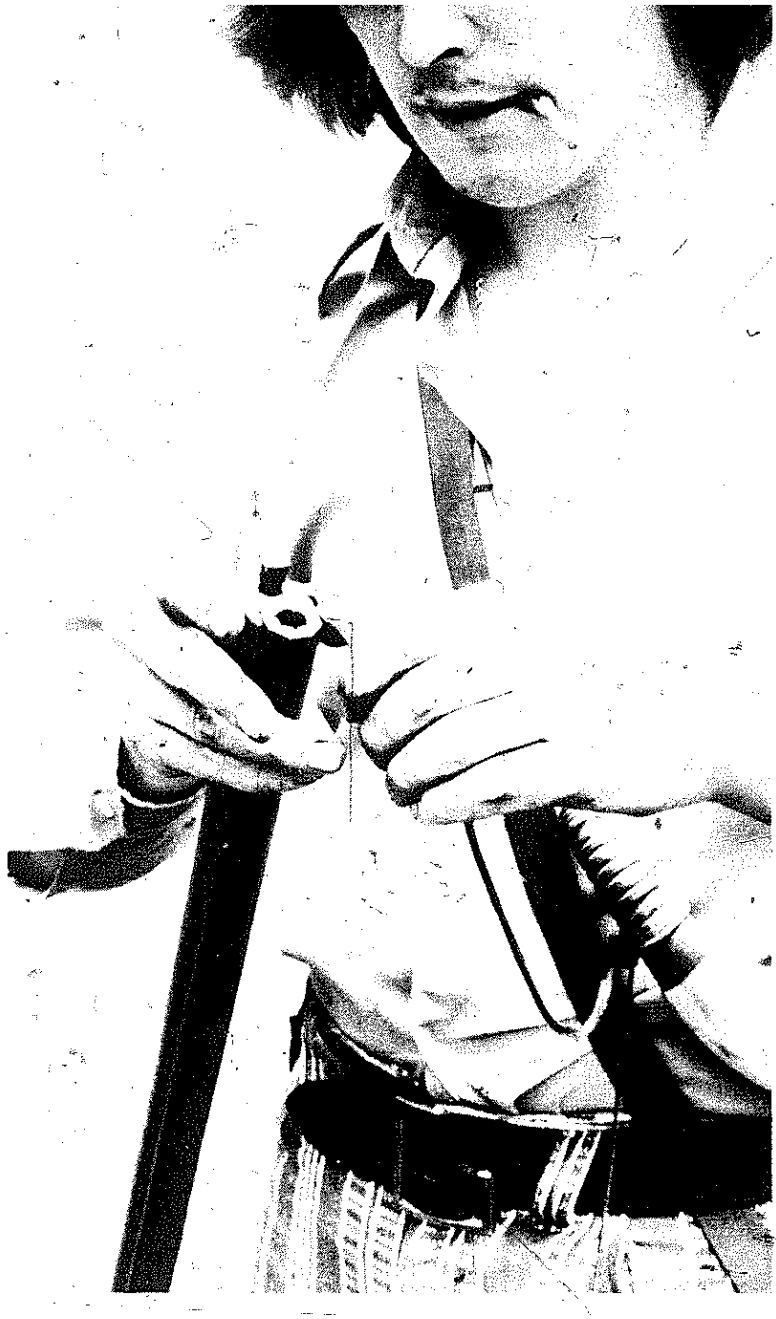


PLATE 317 Hershel puts a 45-gram charge of powder into the rifle.

Loading and Firing

Before you fire a new gun, you should first dry the barrel with a clean patch and blow down the barrel to make sure the vent is clear. (After firing, blowing down the barrel creates moisture inside that helps break down the carbon that tends to accumulate inside—and keep the vent clean.) Also clean the vent with the vent pick.

Next Hershel takes his powder—a 45-gram charge—and pours one charge down the muzzle of the gun. He uses a piece of denim cloth for his

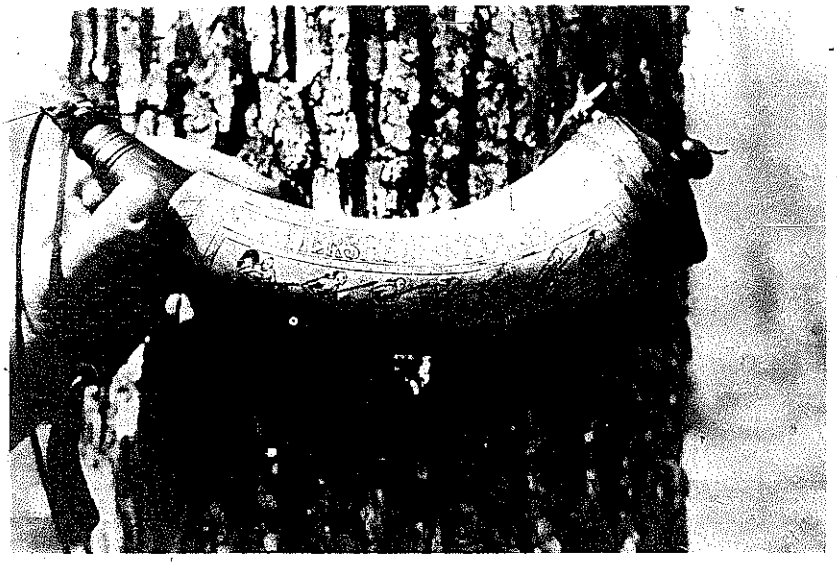


PLATE 318

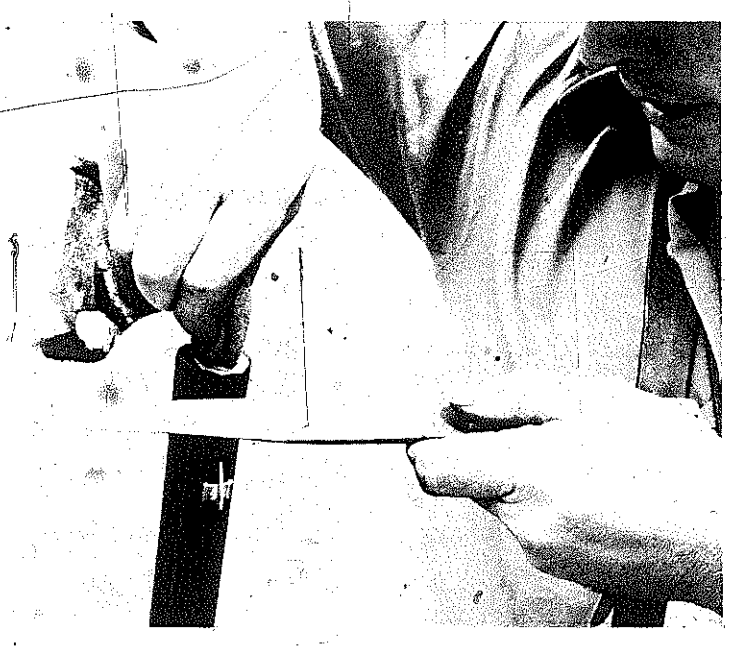


PLATE 319 Here Hershel cuts the excess material of the patch off.

patch. For target shooting, he uses a spit patch—he spits on the patch before putting the ball on it to help the ball slide down into the barrel and also to break up the carbon from the previous shot as the ball is shoved down. Spit patches would not be used in hunting as the charge is often left

in the gun for a long period of time before shooting, and the spit patch would tend to rust the inside of the barrel. For hunting, he uses a patch lubricated with tallow and beeswax, or sperm whale oil (which is the best lubricant of all, but almost unobtainable nowadays). After doing this, he takes his patch, places it over the opening of the barrel, places a ball on top of the patch, taps it down into the barrel the depth of the ball, and cuts the cloth patch off as shown in Plate 319.

Then, using the ramrod, he shoves the ball and patch down the barrel to the breech, and seats it well by tamping it.

He then pulls the hammer back to half-cock and primes the pan. He uses a finer powder for his primer than for the charge. To prime the pan, he just fills the pan full of fine powder. Then he closes the frizzen over the pan. Now the gun is ready to fire.

PLATE 320 After cutting off the excess patch, Hershel prepares to ram the ball down the barrel.

Loading The Flintlock Muzzle Loader

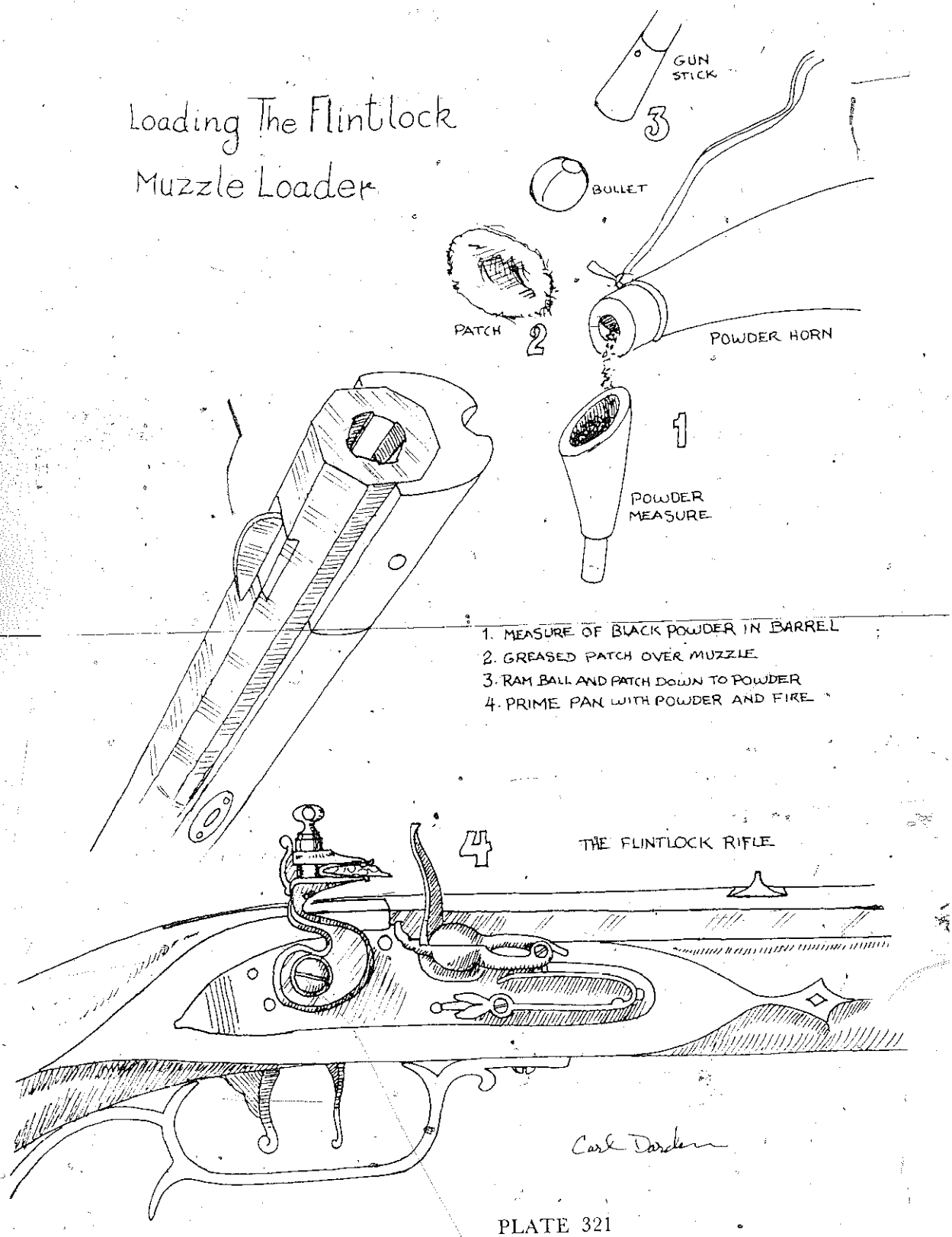


PLATE 321

PLATE 322. Wig fires the completed rifle.

After a few shots Hershel pulls the lock out to check whether or not powder or carbon is leaking out between the pan and the barrel down into the lock mortise. If it is, it can be stopped by either filing the bolster flat on the lock or setting the lock in a little deeper. Powder escaping into the lock mortise will eventually cause the lock to rust on the inside and cut the life span of the rifle.

To clean the gun, he runs a patch soaked in hot soapy water down the barrel. He does this a couple of times and then runs a dry patch down the barrel to dry it out and prevent rusting. He also swabs a little hot soapy water over the lock to help break up carbon. He said, "If you clean the barrel and lock and keep it clean, it will fire well. After cleaning the barrel, pay particular attention to the lock and oil both it and the barrel with a light coat of oil. For extra protection, you should also oil both the inside and the outside of the barrel with a light coat of light machine oil the day after cleaning."

PLATE 323 Joe's home where he lives with his mother is also home for numerous chickens and dogs.

PLATE 324 The front of Joe's shop.

Joe Farmer

Joe Farmer is one of several gunmakers in the Waynesville, North Carolina, area. When we first drove to his home, high on the side of one of the hills overlooking the Allen's Creek section and surrounded by apple orchards, we noticed right away the number of animals he had around the place. He laughed and said, "I like dogs, and I raise fighting chickens. I have seven dogs. Most of them are strays I picked up. I brought them all in except a beagle pup which I bought. The strays gotta live too."

Joe's shop, which is adjacent to his house, is about ten feet wide by thirty feet long, and has a rustic appearance about it. In the shop are his tools, some of the rifles he's built, and others he's in the process of building. The floor is wood with a strip of carpet covering the center. There's an old wood

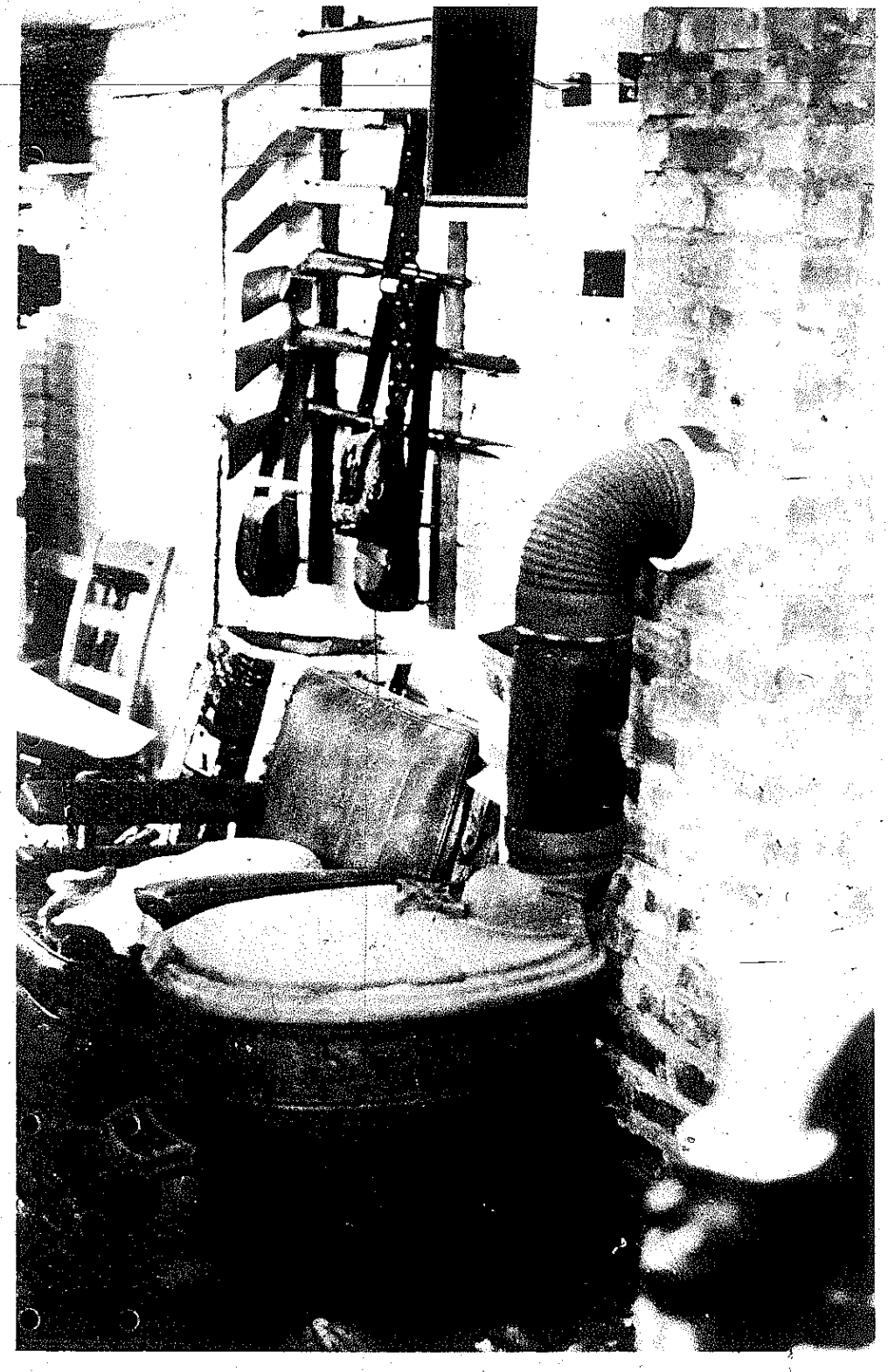


PLATE 325 Inside the shop, a wood heater dominates one wall. Hanging behind it are several guns in various stages of completion. Just beyond the heater, Missy lies asleep in her favorite chair.

stove for heating, and on the back wall is a stereo tucked away so he can listen to bluegrass while he works. One long workbench runs almost the length of the room, and the bench is filled with rifle parts, barrels, planes, rasps, screwdrivers, nails, and screws, and all the other things he needs for his work. Above the counter are shelves filled with more tools and parts. The one comfortable chair he has was long ago claimed by one of the dogs, who sits and watches as Joe puts his rifles together.

When we asked Joe to tell us how he got started in rifle making, he said, "I first started building rifles in 1959. That's when I found out I had multiple sclerosis. This makes up about half my living. I've got a caretaker's job that I work part-time on. I've always been interested in rifles and in shooting them, so I just decided to build one. I acquire my tools over the long run, collecting slowly as I go. I build the guns almost from scratch. Never have used a kit. They take me about three weeks apiece, and I guess I've built about two hundred by now. When I first started building them, I sold the fancy ones for $150. Now, if someone wants me to make one, I just have to sit down with them and work out the price according to what they want. I never advertise about selling rifles. I just go by word of mouth. And then I go to the shooting matches, and people see the guns I make and like them and ask me to build them one. But I don't go to many matches now. I'm not able."

Joe told us a little about the rifles he makes:

"I use G. R. Douglas barrels. I use .32, .40, .45, and a few .50 caliber. Most are .45 caliber. Those are on my match guns. I make a lot of match guns. I've made only two or three flintlocks since I've been building rifles. I like caplocks because I think they're more reliable. I can make flintlocks on request, though. The barrels I use are already rifled. I have a rifling machine, but I don't use it. I started rifling the barrel once but the bench it was set on got loose so I quit. You have to have time and a good back to rifle barrels."

For the Tennessee-style rifles he makes, which are his favorites, he often uses Siler locks intact, but sometimes he uses only the works from the locks and makes the hammer-and-lock sideplate himself to his own specifications. He also makes the double-set triggers, triggerguard, toe plate, buttplate, end cap, sideplate, and ramrod thimbles for each gun. Since most of the guns of this Tennessee-style were iron-mounted, he continues the tradition, making these parts of iron. He also makes the sights himself, fashioning the rear one of iron and the front one out of either silver or brass. He has made his own ramrods before, but usually buys them now. When he was making his own, he would cut a straight hickory tree three to four inches in diameter, season the portion of the trunk he was going to use, and then split it up into

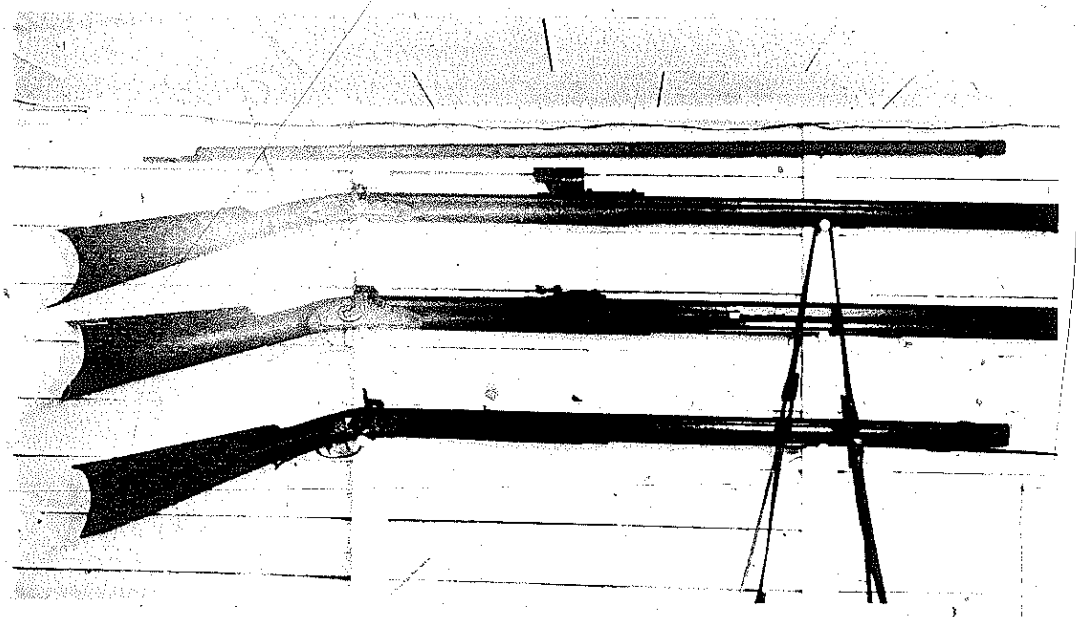


PLATE 326 Three finished guns on a wall of Joe's shop. Note the hooded rear sight on the match gun at top.

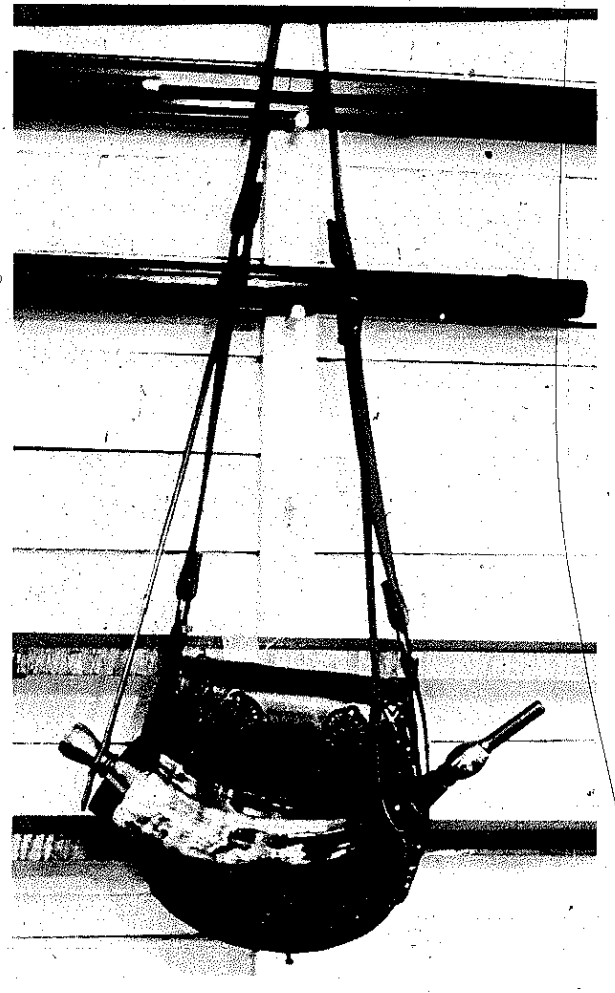


PLATE 327 A powder horn and pouch Joe made hang ready for use.

ramrod sizes. Then each ramrod would be scraped and sanded to round it, and then saturated with raw linseed oil to harden it.

Joe uses curly maple stocks almost exclusively and finishes them with chromic acid rubbed down with linseed oil. For the ramrod, he uses linseed oil alone. The barrel is drawfiled and then coated with browning solution made from a recipe he found in an old book. Not knowing what the old chemical names meant, he took the recipe to a chemist in Hazelwood who mixed it up for his use.

PLATE 328 Joe shows Stanley Masters and Mark Palpal-lotic one of the guns he made inspired by a Baxter Bean original.

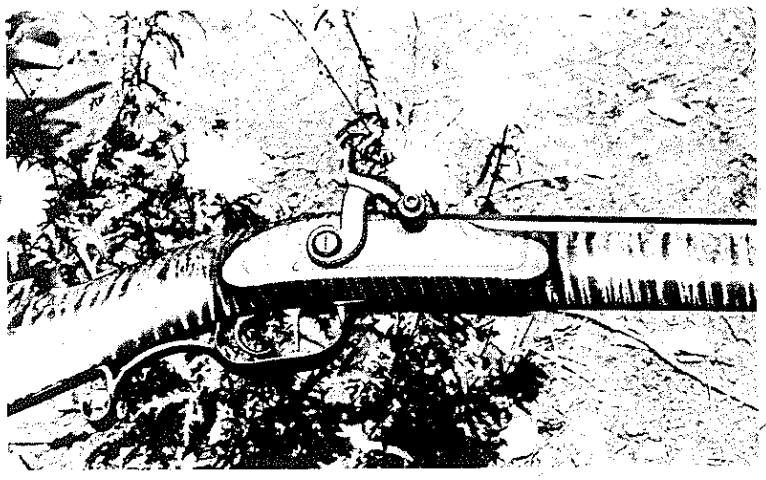


PLATE 329 The lock plate of the gun is one he made himself.

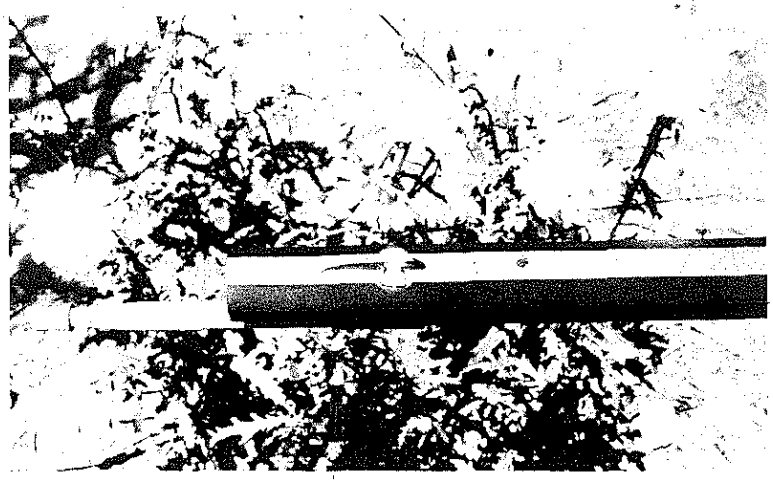


PLATE 330 Joe also made its silver front sights.

On the match guns he sometimes makes, he adds a shade over the sights, and he told us. "The design for the shade you see over the sights is my idea. It's for when you're at a shooting match and the sun's on your sight one time, and then the next time you shoot, a cloud is over the sun and your sight gets a different shade of light. With this metal shade, your light stays the same always.

"I do some repair work on guns, too, but it's not as big as it used to be. I used to repair a lot, but now it's mostly building rifles. The most popular rifle I sell is a Pennsylvania style I build. *My* favorite rifle, though, is the Tennessee. I got my patterns off an original Baxter Bean gun. Bean was a noted Tennessee man. He built rifles for a while, and every one of his sons followed him. I guess the reason I prefer the North Carolina and Tennessee types over the Kentucky and Pennsylvania is that I'm from here. My mother's a McCracken and she's Scottish. My grandfather has been along Camp Branch here for sixty years, and I was born just across the ridge here and then moved to Camp Branch when I was two years old and have been here ever since. I can just picture the man who made those Tennessee rifles. He didn't have the fancy shop or the fancy tools that northern makers had. Maybe just had a bench under a tree somewhere and made just very simple guns. But they were good guns. They're still my favorites."

Article and photographs by Jeff Lane, Stanley Masters, and Mark Pal-pal-lotic.

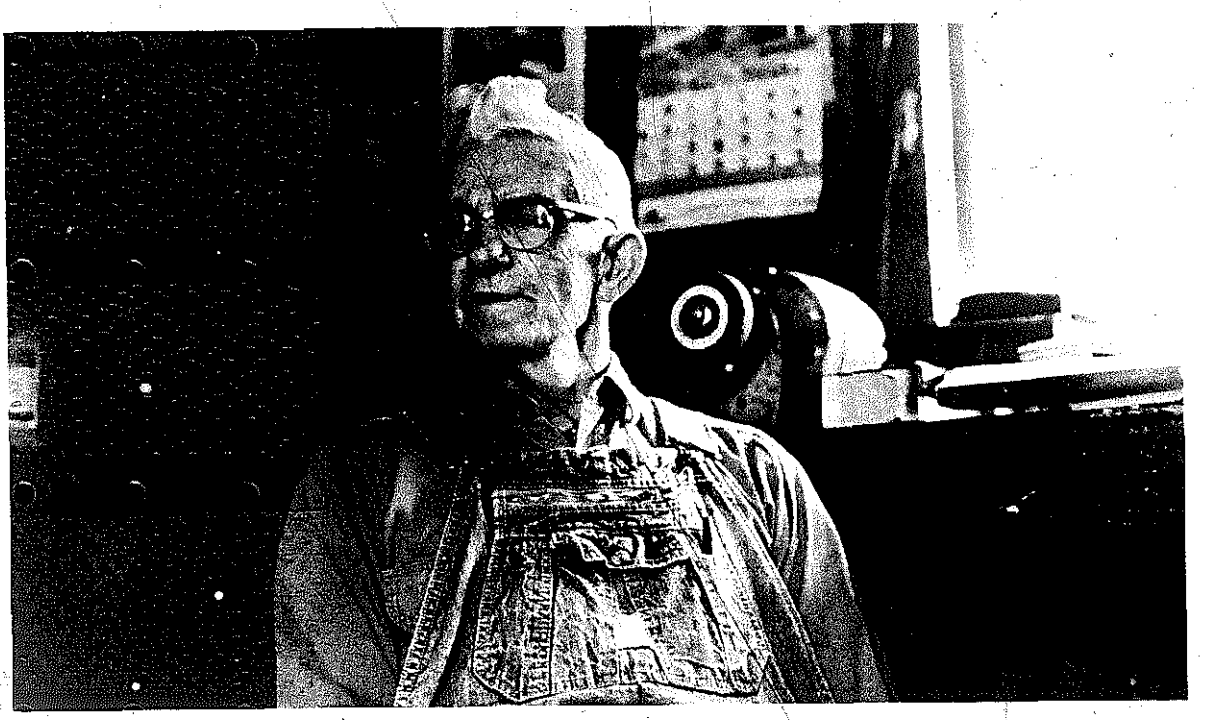


PLATE 331 W. A. Huscusson in his shop.

W. A. Huscusson

W. A. Huscusson was born in Macon County, North Carolina, in 1899. He lived there until 1920, when he moved to Lawrenceville, Georgia, to work in the sawmills there along with several other people from our area, including Lake Stiles (see the previous *Foxfire* books). He worked in sawmills there for forty years.

His first wife died in 1961, and a year later he moved back home to be near his mother, his stepfather, and his son Gene—one of three children. Five years after he returned to Macon County, he married again, and he and his wife live a relatively quiet, peaceful life outside Franklin, North Carolina. He spends part of his time doing odd jobs around their home and keeping the garden in good shape. On our second visit, he had just been to town to get some window curtains and had helped his wife hang them. When we arrived, he was looking over some of the coins he has collected over the years and lamenting the fact that he is becoming forgetful. Not long ago, for example, he lost eighty-one silver dollars and found them a month later behind the boot of his car. On the day we visited, he had just found two more in the glove compartment. He was getting ready to give them to his son.

Though he doesn't travel now, he once went to see a sister in Lyman, Washington, and wants to go out West again. He's afraid he's going to have to pass that trip up, however. Laughing, he told us that his wife even got

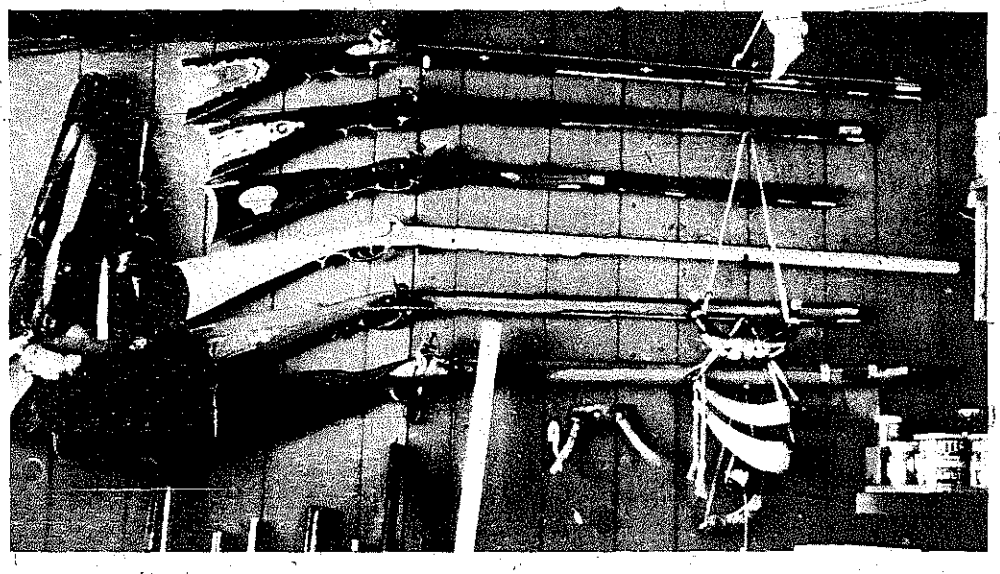


PLATE 332 One wall of his shop is filled with guns he has made, or is in the process of repairing.

nervous when he hiked up neighboring Mt. LeConte with Rufus Morgan (see *Foxfire 4*) and fourteen others in April of 1976. He was determined to go, though, and did.

Though he claims, "I don't get nothing done much no more," he does stay busy. For example, he still makes knives with deer antler handles, and hunting pouches from leather or groundhog skin. And he makes guns.

The little shop that he works in is behind his trailer. On our first visit, we had noticed with amusement a mother cat and five very young kittens in one corner of the shop near the pot belly stove. Several adventurous, pure white ones refused to stay in their box, and we had to constantly watch to keep from stepping on them. By the second visit, he had given up the stuggle to keep them put and had let them out in the yard for the first time. They were clustered happily around the door of the shop as we walked in.

We talked for a long time that day, especially about how he got interested in guns. He told us how, when he was little, he wasn't allowed to handle guns at all; but one day when he was about fifteen, he and his first cousin took one of his uncle's muzzle loaders into the woods. His cousin knew how to use it, and when they treed a squirrel in a big hickory, he shot at it nine times. Finally, the squirrel began to come down the tree, and it dropped off dead. One of the bullets had hit home, and W.A. has been crazy about muzzle loaders ever since.

The first gun he owned was a Stevens Crack Shot .22 that cost $3.50. At that time flintlocks were really going out of style—a phenomenon that W.A. never completely understood: "Some people thought that flint was all there ever was, and they didn't change. They *still* buy flintlocks. But lots of them changed right away, just like they do everything else. Just like an old car that runs good, doesn't use oil, and they'll trade it in right away anyhow."

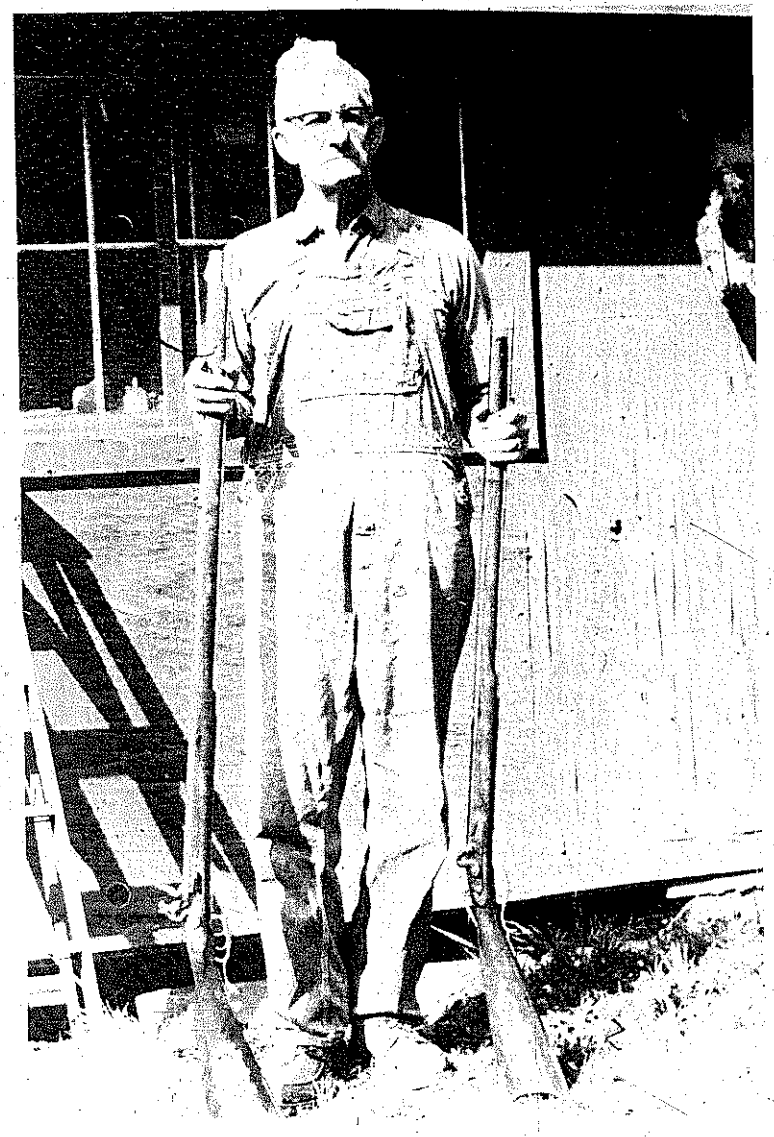


PLATE 333 Standing with two of his rifles: a flintlock and a percussion.

As he grew up, he continued to shoot flintlocks when he had the chance, and he kept the memory of them when he moved to Lawrenceville. He got the chance to make his first one when he found an old hand-forged barrel in Lawrenceville and bought it for fifty cents. He took the barrel to a man who re-rifled it and reworked the breechplug for him, and then, from the memory of guns he had seen, he made the rest of the gun and gave the finished piece to his daughter who still owns it. Later, he got a pattern from a gun he especially liked that was in a neighbor's gun collection in Lawrenceville. It was a half-stock, however, and since he prefers a Kentucky-style, full-stock flintlock over others, he rarely uses that first pattern.

He began his first serious gun work after he moved back to Macon County. Though most of his business comes from people who bring him guns they want repaired (or bring him a barrel and some pieces from one

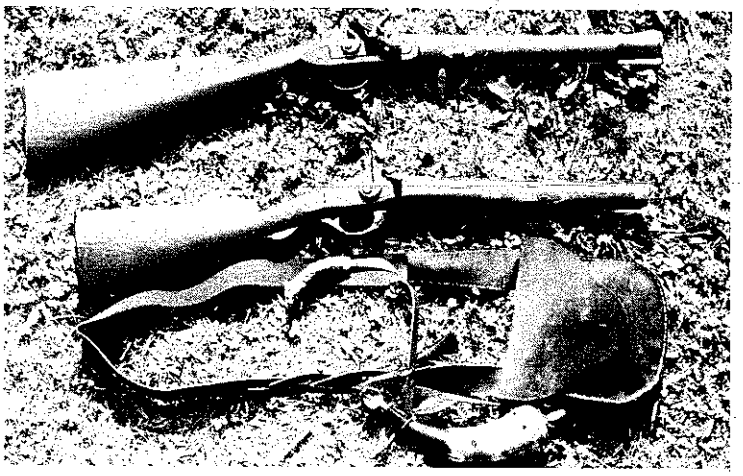


PLATE 334 Two guns he made from kits, along with a knife, pouch, and powder horn he also made. The gun at the top is a blunderbuss.

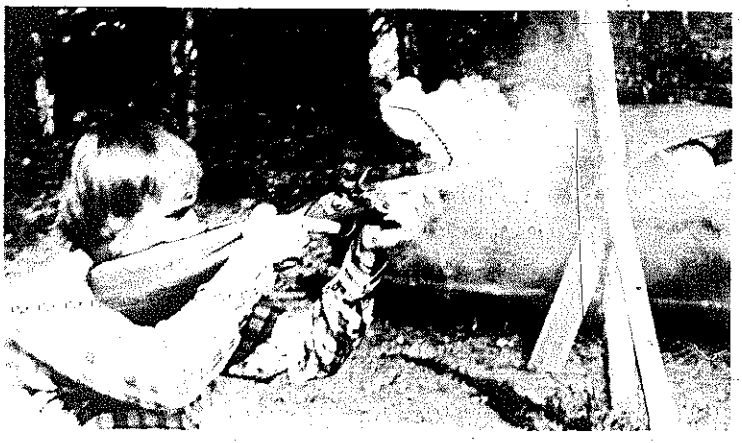


PLATE 335 Marty Henderson firing the blunderbuss.

they want rebuilt), he has managed to build forty rifles, six shotguns, eighteen pistols, three derringers, and one blunderbuss from a Dixie Gun Works kit.

A typical Huscusson gun would be made mostly from parts (buttplate, triggerguard, trigger, barrel, lock, brass-tipped ramrod, etc.) purchased from companies like Log Cabin Sports Shop and Dixie Gun Works. He uses Siler locks almost exclusively, saying, "They're well-known, they look good, and they work good. I like them." It would be a Kentucky-style, full-stock flintlock with a curly maple stock (though he has also used cherry and walnut). It would have a toe plate and a patch box, unlike the rifle Hershel made for us, and the cheekpiece would be quite pronounced—an idea he got from a picture he once saw. The one hundred twenty-five hours of assembly—including chiseling out the barrel groove and the ramrod groove and shaping all the wood—would be done by hand. He also makes his own sights. He makes the front one using brass for the base and German silver for the blade, and the rear one from angle iron. And he makes his own thimbles out of brass or steel. He sometimes makes the patch boxes, but he can buy them cheaper than he can make them.

PLATE 336 Mr. Huscusson also showed a hunting horn he made from a steer's horn.

He avoids engraving, saying that he started too late in life to learn how to do such fancy works, and customers seem to prefer the plainer, simpler flintlocks. If they want engraved metal decorations, however, he buys them and insets them by hand. Then the barrel is browned (if it's a more modern gun, he blues it). With an electric engraver, he engraves his name on the bottom side of the barrel.

The finished rifle sells for about $300. "I've sold some nice guns, but you can't make them if you don't sell them. My guns have gone to people from Florida, North Carolina, South Carolina, Ohio, New York, and Oregon."

He gets the word around about his guns and knives by taking them to shooting matches, county fairs, craft shows, and school classes. He enjoys the matches most, saying, "I can't shoot when I go. I can't see as good as I used to. But I go to see the guns. I like to watch them shoot, meet the people and see the guns. I really enjoy that."

Article and photographs by Jeff Lane, Stanley Masters, Marty Henderson, and Jeff Reeves.

Frank Cochran

A friend of ours named Winfred Cagle, who lives in Bryson City, North Carolina, told us about Frank Cochran. A blacksmith first and later a machinist, Frank was noted for the fact that he designed and machined his own percussion locks rather than relying on kits.

PLATE 337 Frank Cochran.

PLATE 338 Frank molds a lead ball for us and then . . .

PLATE 339 . . . watches, with his grandchildren, as Tinker McCoy tries her hand at it for the first time.

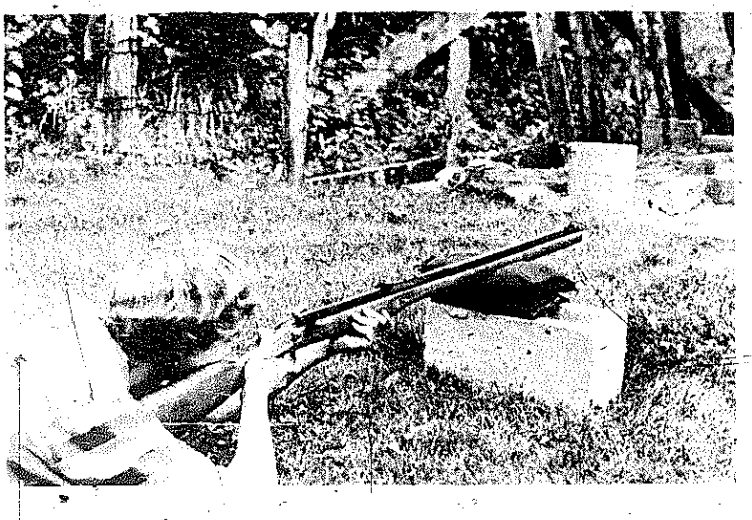


PLATE 340 Doug Cochran fires the gun Frank made for him at a target set up in the back yard of Frank's home.

Jeff Lane wrote to him asking permission to visit, received a gracious reply, and during the summer, as he requested, three of us visited him. When we arrived, we found to our surprise that he had gone to a tremendous amount of trouble to get ready for us. For example, he had spent days borrowing back a number of rifles he had made, so that we could see and photograph them. Two of his grandchildren had come over and helped him set up his bullet-molding equipment, and they had already made a number of lead balls by the time we arrived and were ready to teach us how. And his grandson, Doug Cochran, had set up a loading stand that Frank had designed and was ready to demonstrate target shooting with the gun Frank had made for him.

Except for the barrels, Frank fashioned nearly every piece for the thirty or so guns he has made. The trigger and lock assemblies, for example, were nearly all made from scratch in his machine shop, and it takes only slight familiarity with guns to be able to spot numerous innovations that he worked into their designs.

Two methods characterize the finishes he used on the stocks. For the gun he made for himself, he first fine-sanded the stock. Then he took undiluted nitric acid and dipped a ball of steel wool into it for a moment, lifted it out whereupon it rusted instantly, and then dipped it back into the acid for a moment to allow the rust to fall off and color the acid. Then he swabbed one coat of acid on the stock, left it on for a half hour, and then washed it off to keep it from turning the stock black.

On other stocks, he used three tablespoonfuls of Griffin liquid brown shoe dye mixed in one quart of linseed oil. Each stock received at least three coats of this mixture, rubbed after each coat with fine steel wool.

He browned all of his barrels except two, which he blued, using the same solution Joe Farmer uses. It is mixed for them by a local druggist. He

browned them in a warm, damp basement, used three or four coats on each barrel, and then oiled each one well.

We examined each of the guns he had assembled for us to look at and photographed several for this section, while learning how to mold lead balls and watching Doug shoot. It was a full, fine afternoon punctuated regularly by Kool-Aid breaks that Hattie Cochran, his wife, insisted we take. And as we left, they filled several bags with apples for us from the trees in their front yard.

Article and photographs by Linda Redford and Tinker McCoy

My parents came from Swain County, North Carolina, and I was born in the Macon County mountains on top of Winding Stair Mountain. My mother died when I was two months and twenty days old, and my father brought my mother back to the Alarka community in Swain County and buried her and gave me to his mother and father. Their names were Mr. and Mrs. Worth Cochran.

Times were hard in those days. We had a rough mountain farm and a good apple orchard and a good peach orchard, and we made a little money off our peaches and apples. And we kept a lot of bees and sold a lot of honey.

When I grew up, I became a trapper and a hunter. I hunted a lot, and I knew the mountains well in Swain County. I had a trap line in the winter time, and I'd camp out every other night at the end of my trap line (it was one day out and one day back) on the Fry knob. I caught lots of furs. It was cheap then, but a little money was worth a whole lot. I was trapping anything in the way of possums, polecats, coons, foxes—anything that was of any value on the market. And then I did a good deal of hunting. Especially when I was camping. I had squirrels, rabbits, and sometimes pheasants to eat. I'd choose my camping place in a laurel patch where there was no timber in case a storm blowed in on me. A laurel patch was good protection from snow. We had some big snows. Lots of times I'd build me a fire and melt the snow away and then move my fire and sleep where I had my first fire.

I had one partner that I wish hadn't been around a lot of times. He was a bad bobcat. He came around and did a great deal of hollering, but he never did come around where I could see him. I finally caught him in a double-spring wolf trap, but he broke my trap chain and got away. Some men that had been coon hunting treed him on Conley's Creek, and they dug in and killed him. They knew him by his foot being gone—his foot had rotted off and he had lost the trap.

We had quite a few bobcats in them mountains. I lived up in the moun-

tains where I was a good mile from anybody else, and lots of times in going home of a night, a bobcat would follow me home. When one hollers, you might as well depend on him going home with you. That was his intention. But he never would get out where you could see him. He'd stay off in the bushes out of your sight. They were pretty scarey. They scared lots of people.

Also we had lots of snakes on the mountain where I grew up. There wasn't too many rattlesnakes, but the copperheads was very plentiful. You had to watch out about snakes, especially in the daytime when it's hot. You didn't have to worry too much about them at night. [There were other things to worry about then.] If I was traveling at night in the dark timber and lost my trail, there's where I stayed until daylight. It won't never do to take a chance on traveling at night in the mountains because you might walk off over a rock cliff, and it would be a long time before you was found.

I one time had a dog that was good when I could have him with me. I couldn't take him with me on the traps because he'd get caught in a trap, but if I was just going somewhere at night, I'd take him because he would follow the trail and he wouldn't get away from you. He'd stay in the trail, and he'd stay the speed that you could keep up with him. I know one time I lost the trail coming home one night, and it was very dark. I thought, "Well, if my dog's anywhere around the house, he can hear me whistle." I was a pretty good ways from the house, but I thought he could hear me. I whistled good and loud a couple of times, and I heard him bark. In a short while, he was to me. I spoke to him, and started to move, and he went right to the trail and on to the house without any trouble.

He got bit three times by a copperhead snake when he was young. He didn't know how to kill snakes then, and he just went into a bunch of polk stalks and pulled this snake out. It bit him three times before he got it killed. He like to have died. But after that, no snake was able to bite him. He would run around one and bark till it struck at him and got out of its coil. Then he got it in the middle and busted it up over the ground right quick. Living in a place like that where we did live, a dog like that was worth a whole lot.

Another problem we had in the fall was with groundhogs eating our corn. They'd tear down and waste so much. If they'd just tore down what they wanted and hadn't wasted so much, it wouldn't have been so bad. But I learned to catch them in steel traps, and I thinned them down pretty soon till I wasn't bothered so bad by them.

Then I got the hankering to be a blacksmith when I was a boy, and money was pretty hard to get. There was a man that had a good small anvil. I asked him to buy it. He said, "I'll trade it to you for some honey."

I said, "How much?"

And he said, "Thirty-five pounds."

So I give him thirty-five pounds of good honey for the anvil.

Then there was an old man that somebody told me had a pair of bellows, and he had went blind. His name was Sam Cochran. He was my wife's grandfather. I asked him about selling me the bellows, and he said I could have them for six dollars. "Well," I said, "when I get six dollars, I'll come by."

He said, "Fine, I'll save them for you."

So I found out a blacksmith was moving from the Alarka Lumber Company to Smokemont, and he had a big cow he wanted drove up there, and he knew that I knew where Smokemont was. And he said, "I'll give you six dollars if you'll drive my cow to Smokemont."

Twenty-five miles I drove that cow, and took the six dollars and bought the pair of bellows.

Then I give a man fifty cents to make me my first pair of tongs. It wasn't long till I could make me as good a tong as anybody, and other good tools as well, so I soon had a good blacksmith shop.

I had to learn blacksmithing the hard way. I knew a blacksmith that taught me a good deal about how to temper. I learned how to temper steel starting with the information he give me. I had the bellows and built a rock furnace and it worked good. I would rather have it than any blower. In the blacksmith welding part, I learned it just by trying. Now the best thing to practice on blacksmithing with is something like a chain link that you've just got one piece to hold together. When you get it in shape to weld, you've only got one piece to hold. Now if you're welding two rods together, you've got to have somebody to help you. They lay one on the anvil and you lay the other on it and hammer it together. But when you get to where you know how to weld, it's not hard to do. Spring steel welds good when you learn the heat to use on it. If you get it too hot, though, it breaks. Just like an axe. It's easy hammered out if you won't get it too hot. But if you get a little place too hot, it'll break off. I've hammered out old axes and made them just like new.

I was up on Pigeon River one time at a blacksmith shop. It belonged to Tom Narr, and Preacher Allen was there, and there was some axes there, and I told Tom I wanted to upset [reshape and hammer out] some of them axes, and he said, "All right." And I hammered out both blades and put the handles on and retempered them. And him and Preacher Allen took one out to the woodyard and chopped a dead locust log up with it, and Preacher Allen came back and said, "Son, you're a good blacksmith." I was a young man then—probably twenty-two years old.

Then I left Swain County and come to Haywood County, North Carolina. I moved my blacksmith shop up on Dick's Creek, and shoed horses,

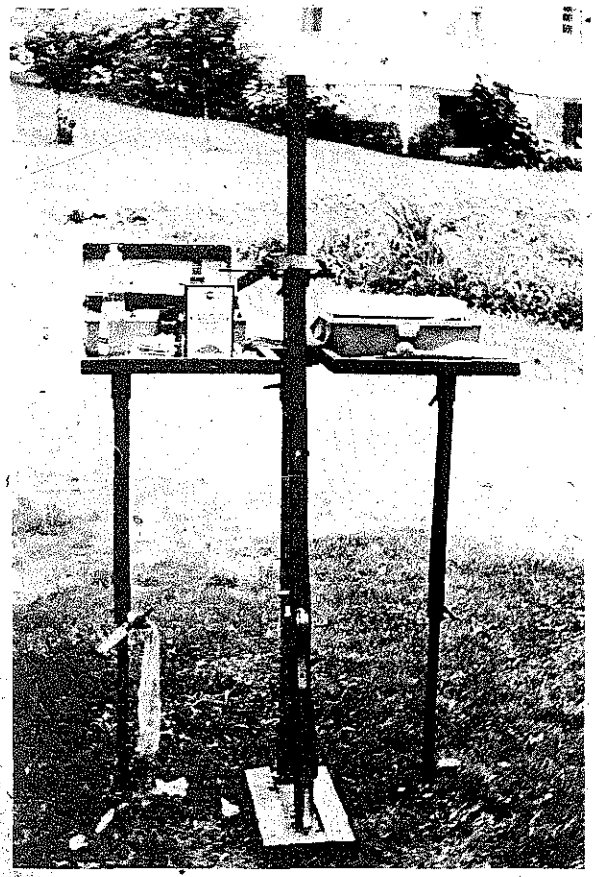


PLATE 341 The loading stand Frank invented. The stand won't turn over, can be raised or lowered according to the shooter's needs, and collapses into an easily portable package.

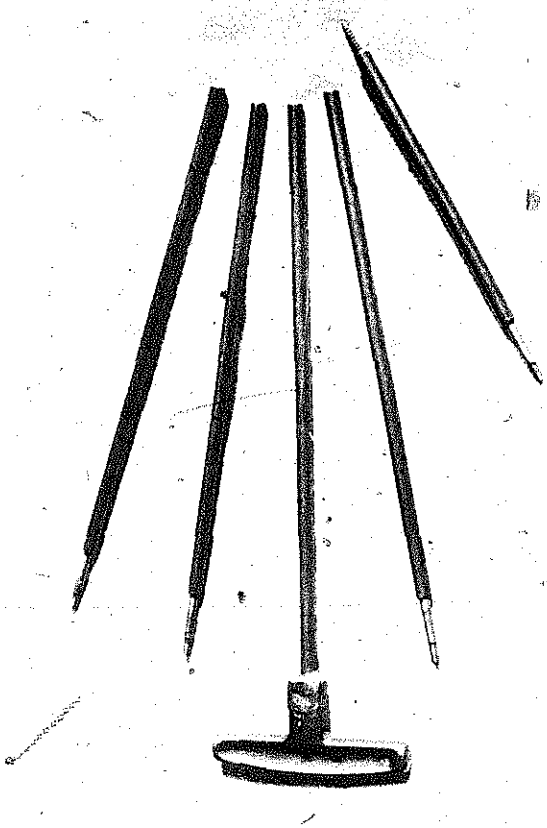


PLATE 342 A ball-pulling kit Frank machined. Each piece screws tightly into the other to make a long rod that fits down into the gun barrel for removal of a jammed bullet, or a bullet that was accidentally loaded without a charge.

made trail grabs, J-grabs, spreads, whatever people wanted done. Lived with my uncle, Dan Cochran. I stayed there as long as there was pretty much logging work and acid wood work. I was mostly servicing the loggers then.

Then I finally sold the shop and went back to Swain County and married. Me and my wife came straight to Haywood where I got a job in a machine shop. This machine shop had a good blacksmith's shop and no blacksmith, and so I got a job there in 1938 and worked in the blacksmith shop. The Blythe brothers was putting in a sewer line from Hazelwood, North Carolina, to Pigeon River, and I done a lot of work for them that winter. There was quite a bit of blacksmithing for a few years till tractors took the place of horses and trucks took the place of wagons. Then the blacksmithing business got bad.

I took up welding then, and machine work, and I worked with that man at that machine shop for twenty-six years. When he died, I leased a shop from Paul Bryson at Hazelwood called the Skyline Machine Shop, and I worked there near about nine years till I got sick and had to retire. And I think I've done as good a machine work as most any machinist has ever done.

Now about the gunmaking business, there was a forge in Tennessee where blacksmiths got their materials. There's a place in the Smoky Mountains Park called Cades Cove, and there's a creek there called Forge Creek where they had a forge that smelted iron. Those gunsmiths made their gun barrels from a flat bar of iron, and they hammered them around a rod and welded them and rifled them with a hand rifle machine. Then they made their locks and everything. Tennessee had several gunmakers, and North Carolina had quite a few of them. The old Gillespie gun was made over about Brevard, North Carolina. They had a forge up there. The last Gillespie man that had that shop and made guns had to go to the Civil War, and he was said to be the last. Philip Gillespie. He had a pot of gold that he had sold guns for, and a barrel of brandy. He took an ox and a sled and hauled his gold and brandy back up in the mountains somewhere and buried it and told his folks that nobody wouldn't get any of his gold and brandy, and that it would be there when he come back. He dug a vault and lined it with rock, put his gold and brandy in it, covered it up with rock, and covered that with dirt, and it's never been found. He never come back. He left and took one of his own guns that he had made and went to the Civil War and never returned. He was killed in action and that was the last of the Gillespie Iron Works.

Now I know a man that owned a Gillespie rifle, and he died seven or eight years ago, and his wife sold that Gillespie rifle for five hundred dollars. I guess it's won more prizes at the shooting matches than any gun in western North Carolina. It was a big, heavy gun.

But all that early gunsmithing had ended by the time I got started. I got interested in guns by the first shotgun I ever worked on. It was for a neighbor boy when I had my shop over in Swain County. He had an old single-barreled shotgun, and something got wrong with it, and he brought it and wanted me to fix it. His name was Caney Barker. And I said, "Caney, I don't guess I could fix a gun."

He said, "You're the only hopes for me."

So I laid around there a few days and fixed Caney's gun. I said, "Well, if I can do that one, I can do some more." From then on, I got to working on guns. And then got into making gunstocks. I got into repairing more than anything.

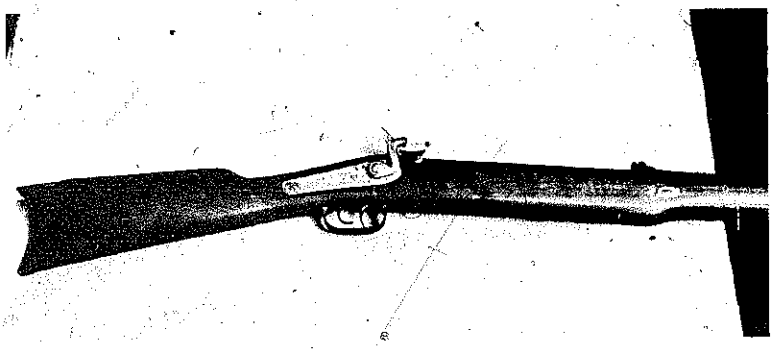


PLATE 343 Frank made this gun for Doug Cochran, his grandson. Doug's father made the maple stock for the gun, and Frank made the stainless-steel lock and hammer.

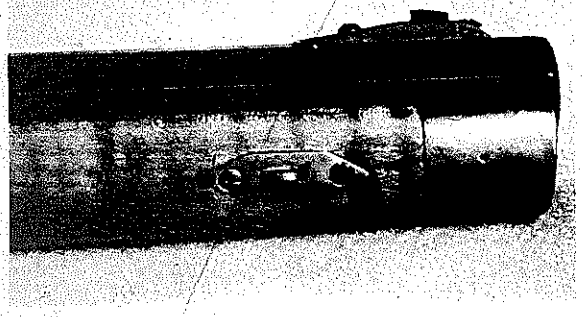


PLATE 344 One of the keys in the stock in Doug's gun. On all of Frank's full-stocked rifles, the owner has simply to push three keys out (one in the half-stocks) to remove the barrel.

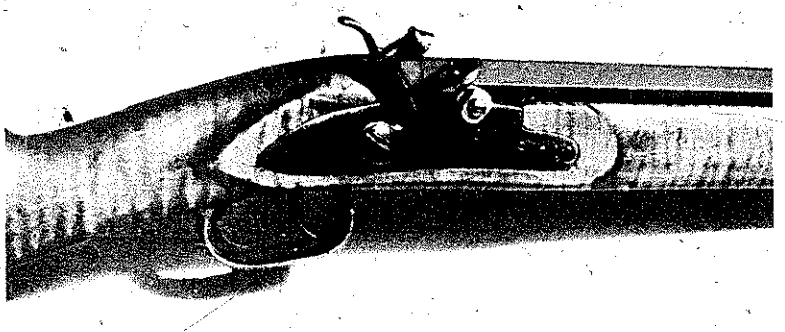


PLATE 345 Frank made this full-stocked (of curly maple) .44-caliber rifle for himself, and made every part of the gun except the 1⅛-inch barrel. The iron-mounted rifle intentionally has no grip rail, and the cup under the nipple was added to keep the stock from becoming scorched.

The first gun I made was a flintlock, and Earl Lanning helped me get started on it. I got an old barrel, and got Vee Jones to rerifle it for me. Then I made the flintlock by Earl giving me a few ideas on it. Well, it shot good. And later on I sold it to Earl for a hundred dollars and a .32-caliber barrel that's on my wife's gun. I would say that has probably been twenty-five years ago.

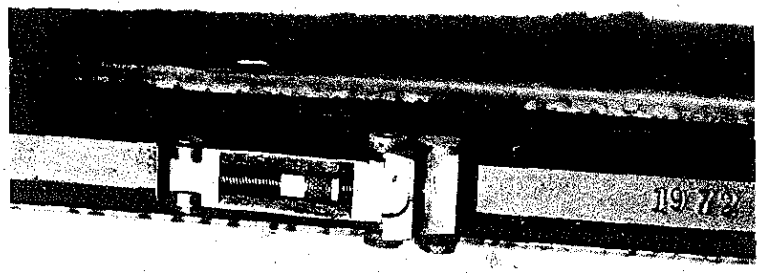


PLATE 346 The gun Frank made for himself is fitted with an old military sight which he salvaged and reworked.

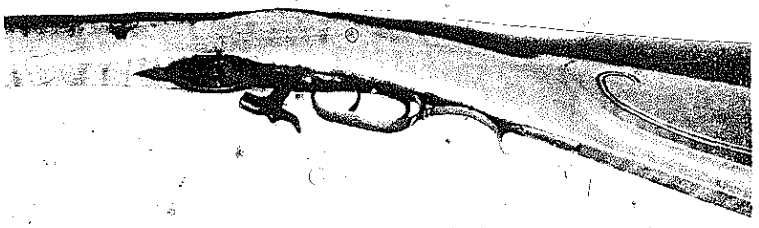


PLATE 347 Frank made this .45-caliber understriker for his nephew, Charles Cochran. The maple stock has a cheekpiece on both sides and is engraved very simply. Frank made everything for the gun except for the Douglas barrel and the sights. He got the understriking design from Mr. Ritter, a gunsmith in Virginia, but he made his own alterations in the design so that it would cock more easily. The advantage of the understriker is that the cap is not in the shooter's face.

Since then, I've been to the shooting match at Hiawassee, Georgia. That's a good place to shoot. I have won several times over there. I've found in the muzzle-loading rifle shoots that they're all good sports. I've not found anybody going and fussing and drinking. Everybody just goes for a good time. Nice, decent fun. They're all in a good humor and good fellowship. And then we have one here at Waynesville every July that's good fun.

But I don't make guns now. I'm not able to do it. I've got asthma and emphysema, and I've just got breath enough to do this stuff around the house. But the Lord's been awful good to me. And I give the Lord credit for everything I've ever done. Myself, I couldn't have done it without Him.

PLATE 348 Frank made this gun for Jay and Tommy Masters of Asheville, North Carolina. The half-stock is made of red maple, and the simple carving in the cheekpiece and the butt is of Frank's own design. He made every piece for this gun, including the steel hammer, the brass triggerguard, and the brass patch box, except for the one-inch .45-caliber barrel and the sights. The side screw can be removed to allow cleaning through the drum into the breechplug. The nipple can also be easily removed for cleaning.

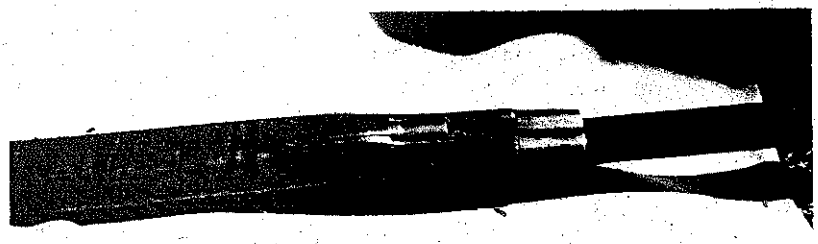


PLATE 349 Frank machined the ramrod entry pipe for the Masters' gun in his shop, and then set it off with two simple lines he carved into the stock.

My guns, I don't know where they all are now. I've made lots of them. But I never signed them. I never got in the habit of it. A man said to me one time, "Why in the world don't you sign your guns?"

"Well," I said, "I've never done it, and I ain't starting now because I've sold so many without that."

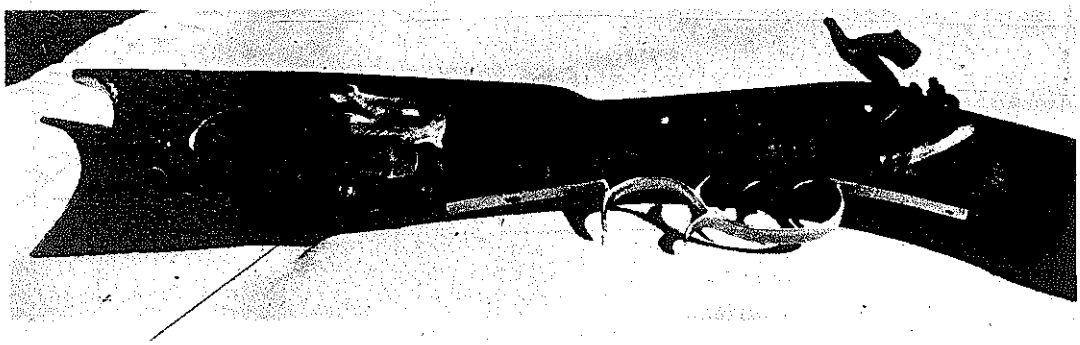


PLATE 350 Frank made this gun for Hattie, his wife. It fires through the breechplug unlike his other guns, which fire directly into the barrel. When the barrel is removed, the breechplug remains. Frank made the breechplug, the doubleset triggers, the triggerguard, the buttplate, and the stainless-steel patch box himself.

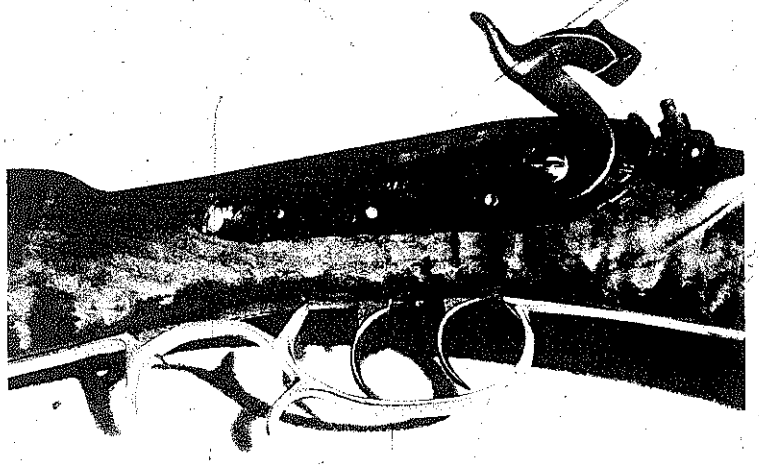


PLATE 351 Hattie Cochran's gun is fitted with a vintage 1830–40 Leman Lancaster lock.

But I've gotten lots of satisfaction out of it. One time I was at Hiawassee, and there was nine guns there that I made, and they was all shooting good. I was going in, and I met a man going out. He had already shot his round. He said, "Y'doing any good?"

I said, "No."

He said, "You should get you one of them Cochran guns. I hear they really do good."

I said, "I think I'll buy me one." I don't know if the man knew who he was talking to, but if he did, he could keep a secret good by not letting anybody know!

PLATE 352 Robert Watts with his wife, Sherrill, and his mother—all with guns that Robert made, which they use in shooting matches.

Robert Watts

Roberts Watts was born on October 30, 1936, in Marion County, Mississippi. He grew up on his grandfather's farm, and remembers long days spent hoeing corn, chopping cotton, plowing with the mule—as well as leisure time that included the swimming hole, fishing in the summer, and hunting game the balance of the year. Squirrels, rabbits, quail, and ducks were the primary small game; and raccoon, bobcat, turkey, geese, deer, and wild hogs made up the larger quarry. Marksmanship was stressed, and anyone who could adjust the sights of a new store-bought .22 so that it would shoot true had plenty of friends. On Sundays, when they weren't hunting, time was often spent shooting at Prince Albert tobacco cans and sharpening their skills.

PLATE 353 Robert Watts with his assistant, Tom Hayes.

Robert was a skilled shot early in his life, and says the local people considered him a champion squirrel hunter since he nearly always head shot his game unless he was hunting for his grandfather, who liked the heads. But the stories he heard about the old muzzle loaders whetted his appetite for something more than the .22s he and his friends were used to.

That interest blossomed to the point where he now runs a full-time business in Atlanta making muzzle-loading rifles, is an officer in the National Muzzle Loading Rifle Association, and is still a crack shot. In 1976, for example, at the spring shoot at Friendship, Indiana, he won the NMLRA's Bicentennial All-American Aggregate with a score of 252 out of a possible 275. We found out about him at the 1977 NMLRA spring shoot in

Friendship. George Shumway took us to his booth to meet him, but he was gone at the time. So we got his address from his assistant, Tom Hayes, and visited him later in Atlanta. When we asked him to re-create for us how he had become so deeply involved in muzzle loaders, he started with his childhood:

My father had his grandfather's old muzzle-loading shotgun, which he was proud to be the possessor of, but he never used it *per se*. He had acquired it from his grandfather when he was a young lad. There were several old shotguns in the family.

I have my great grandfather's old muzzle-loading rifle now. It's been busted up a couple of times. It's one he acquired just before the Civil War as a squirrel rifle, and he loaned it to a friend who elected to go join the Federal forces in New Orleans. His father had been a northern preacher who had taken a church down in that part of the country, so this fellow elected to join the Federal forces. He got a few miles away from home, and the local national guard—or buttermilk cavalry as they were called—heard of his intentions and overtook him. They couldn't get him to give up his intentions peacefully, so it ended up in a scrape and they shot him and left him for dead. The rifle got busted all to pieces. The man's horse came back, and my grandfather trailed him down and found him and put him up in an old cotton house and nursed him back to where he could travel. Eventually my great-grandfather's son married this fellow's daughter, but that was years later and a whole different story. Anyway, I grew up around that kind of story.

So my great-grandfather restocked the old rifle, and then a couple of years later when my great-grandmother was in town getting supplies for the farm, the Federal forces decided they had to requisition her horses, and the rifle happened to be on the buckboard there so they busted it up again. So he restocked it all over again, so now probably the only thing that's original is the barrel and the buttplate. Maybe the triggerguard, too, but it shows a lot of twisting and straightening. The trigger and the lock are neither one original, I'm sure.

Then when I was about twelve or thirteen years old, I found an old muzzle-loading barrel in an abandoned log cabin. I talked with the owner, and he gave it to me in exchange for some work. It was in reasonably good shape, and I visualized putting it back into firing order and condition. But starting with just a barrel and not much else in terms of knowledge or anything, it was a slow process. I did rough a stock out of pine, and I acquired an old Bluegrass lock from a local antiques person, but I decided that the lock was not quality enough to make a decent rifle out of.

I sort of gave up accumulating any parts after a while because I just didn't know enough about what I needed. Someone, for example, gave me a brass door handle and said I could make a buttplate out of that. I probably could *now*, but it would have been hard then since I didn't really visualize how a buttplate should look not having any pattern or good references. Nowadays it would be hard to imagine someone having as hard a time with it considering the wide range of mail-order houses available, and the number of people that have castings and locks and triggers—anything you would need along those lines—available. But at that time those things just weren't generally available.

So I never did finish the gun at that time. I think it was ten or twelve years later before I did. I had spent four years in the Marine Corps—the last year coaching on the rifle range at Camp LeJune and shooting with the Second Division Rifle Team. Then I enrolled in the pre-engineering curriculum at Mississippi Southern, got married to my chemistry teacher, Sherrill Glenn, and finally moved to Atlanta where Sherrill continued graduate work at Emory University and I was studying architecture at Georgia Tech. Shortly after arriving here, I related the story of the old muzzle-loading rifle barrel to a friend one night, and the next night the friend introduced me to Schley Howard, a lawyer in Decatur who had a shop in his attic and was one of the few people in the country that was engaged in the repair, rebuilding, and rerifling of old muzzle loaders. He was also a particularly good shot, and we soon became good friends. I would get over and work with him when time permitted. He liked to tell his friends, when he would introduce us, that he was filling me in on everything that they didn't teach at Georgia Tech! Eventually we had the old barrel in a brand new stock, and had it rerifled and fitted up with the proper furniture, and I won my first muzzle-loading shooting match with it—and quite a few thereafter.

I was real enthusiastic about it, and I started demonstrating it all to my folks; and they were enthusiastic about it too having the background that they did—being raised in the country where rifles and guns were a necessary part of life. When my dad died seven years ago, I was building my mother a muzzle loader, and would have built him one too, if he had lived. Then I built rifles for the other members of the family, and we all shoot now.

I didn't go right into gunmaking out of school, though. I worked for a while for an architect who worked for Union Oil designing gas stations and special projects. It had been Pure Oil, but it was taken over by Union, and it became apparent that my boss, who was a registered architect, was not going to be allowed to have the architectural freedom he had enjoyed in the past. That meant I would never be able to get registered working with him. Anyway, jobs were kind of scarce in architecture at that time, and I

took a job in construction; and then later I took on a job as trouble shooter for a metal manufacturing company. I worked for them for about three and a half years. During this period I had been making rifles and had a number of personal orders outstanding, but with that trouble-shooting job, I was on the road about 80 per cent of the time, and I hadn't made much headway on the guns. When we had a cutback in the company, I had enough business stacked up so I just stayed busy. I really didn't intend to go into business. I really just intended to get some of those orders off my back and then go back to work, but several other folks heard that I was making rifles, and they came along with orders, so I never have gone back to work. I "play" about eighty hours a week now, and I have an eighteen- to twenty-month backlog of orders.

I've had a shop here in my home ever since I've had the house—about ten years. And I have a production and machine shop out at Stone Mountain where I do a good bit with machinery turning out a powder measure we designed that helps a lot toward keeping the business going. The type of rifles we make are by and large strictly individualized and made for a specific person of a specific physical build. Each one has differences in drop and length of pull and barrel weight and caliber and stock length. These are all various aspects that suit a rifle to the individual so he can do his best with it. That's the beauty of custom-making rifles: You can take advantage of the chance to scale each one to the size of the person. Very few people really fit the universal standard rifle unless they're contortionists, or happen to be the right size physically just by luck. That's why virtually all of the matches are won by people shooting custom or homemade rifles.

Whether the rifle is plain, or has a brass patch box and raised carving and inlays and a swamped, flared barrel just depends on what the person wants. I've made a lot of rifles that are relatively plain because the people who order them seem to consider them more honest in some way than the heavily decorated ones. Other people feel that if you leave off the patch box and the carving and so forth, you're just building an incomplete rifle. I enjoy building highly decorated rifles, but the plainer look can be, I think, very appealing provided the architecture and the general shape and workmanship are well done. That would be true whether the item is a rifle or an automobile or a saddle for a horse. If the workmanship and design are good overall, then perhaps it doesn't need a lot of decoration. It can stand on its own as a fine piece of craftsmanship.

We do some restoration work, but often it's impossible [to tell what the original gun looked like because so many different gunsmiths have altered it over the years]. I've run across rifles where you could tell by the lugs on the bottom side that the barrel had been in at least three or four different

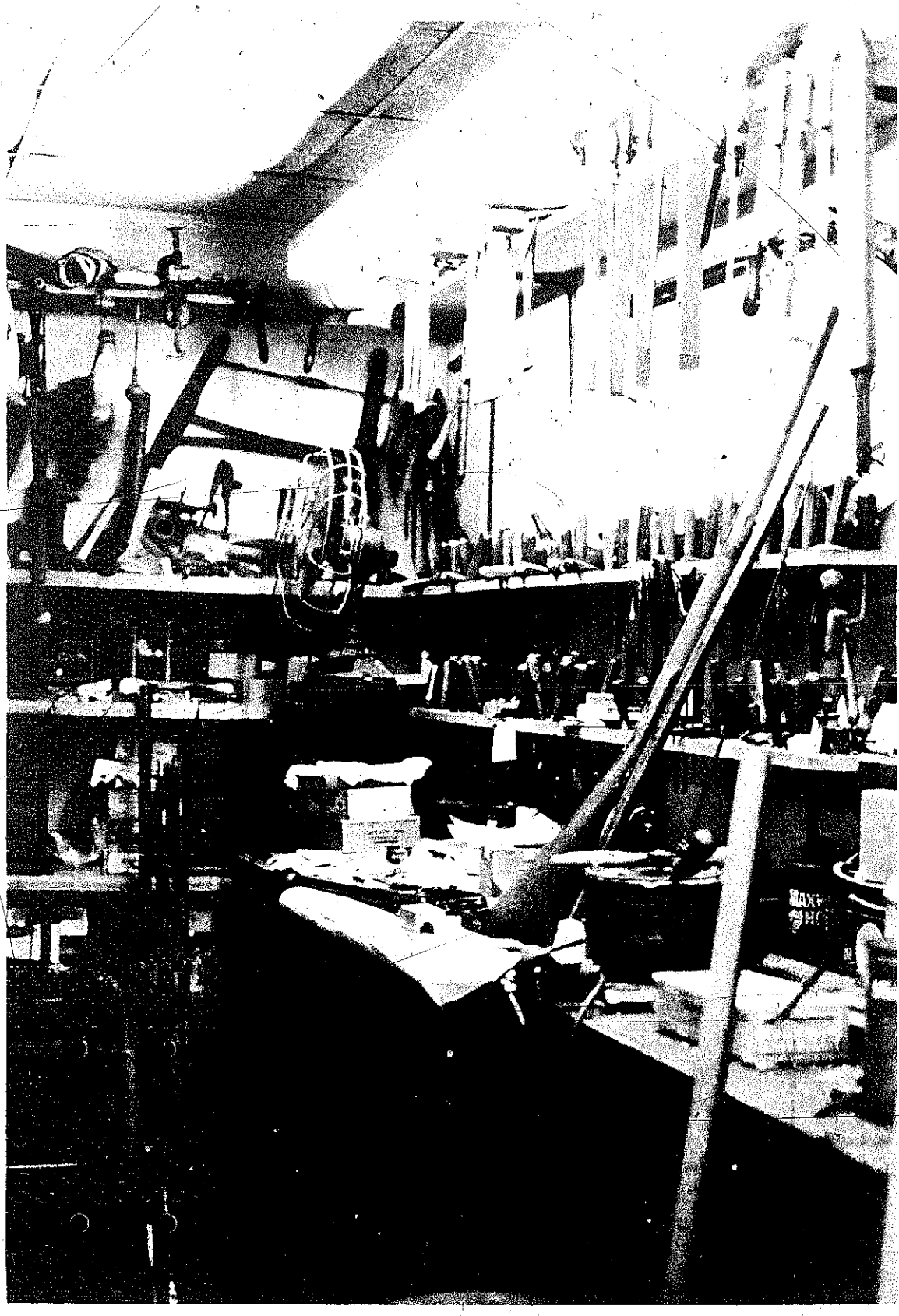


PLATE 354 One corner of Robert's shop.

stocks. The lugs might have been moved, and then it might have had a rib on it at some time to convert it to a half-stock, and then this might have been removed and the rifle reconverted into a full stock, and so forth. And you never know if the buttplate is original or not. You usually can't tell if it had a high, thin buttplate at first, which would have caused the buttstock to be high and thin; or whether it had a wide, broad buttplate, which would have given the stock an altogether heavier shape.

We are called upon to make quite a variety of rifles. These range from period pieces to shooters. Typically, they are brass- or iron-mounted, curly maple, full-stocked rifles intended for combination duty on the range and in the woods. These are both squirrel rifle sizes—.29 to .40 caliber—and deer and target rifles sizes—.40 to .50 caliber. Fifty caliber and above can be used very effectively on the range, but we don't recommend them for anyone but a veteran target shooter. We use Siler locks, and we use a good number of G. R. Douglas barrel blanks, which we have found to be of a consistently high quality. For special calibers and contours—tapered and flared, for example—we use handcrafted barrels as made by some of the custom barrelmakers. They'll plane them most any way you want them, which allows you complete control of the weight and balance of the rifle. For a heavy hunting rifle, for example, you'd want it plenty strong for heavy loads with enough weight that you don't get the tar kicked out of you every time you drop the hammer. So you might order a barrel that would be one and one eighth inches at the breech tapering down to seven eighths of an inch and back up to one inch at the muzzle. And you could get it.

I make virtually everything except the barrel and the lock. It's more economical to buy them. I make all the inlays, saw out all my own patchboxes. On the iron-mounted guns, I start with sheet iron to make the buttplate, the triggerguards, and other furniture. I think I could make the barrels, too, but I don't know that I would want a job making a three-thousand-dollar rifle where I had to weld up the barrel and forge out the lock and all that. The first reason is that I don't know how economical it would be. The other reason is that I just couldn't spare the time from my other commitments. I have orders on hand now for people that are friends and so forth, people that I like and care about, and I'm overextended already. I have done a little forge welding, but I have not forge welded a barrel. I think I could, though, if it came to that. I have made a barrel out of solid stock, and out of tubing. I have a rifling machine, and I rifle and bore out old barrels on guns that I restock or refinish for other people. There's not too much demand for that kind of work anymore, but I do a little of it occasionally. In fact, there are about three or four barrels out there now that I need to do.

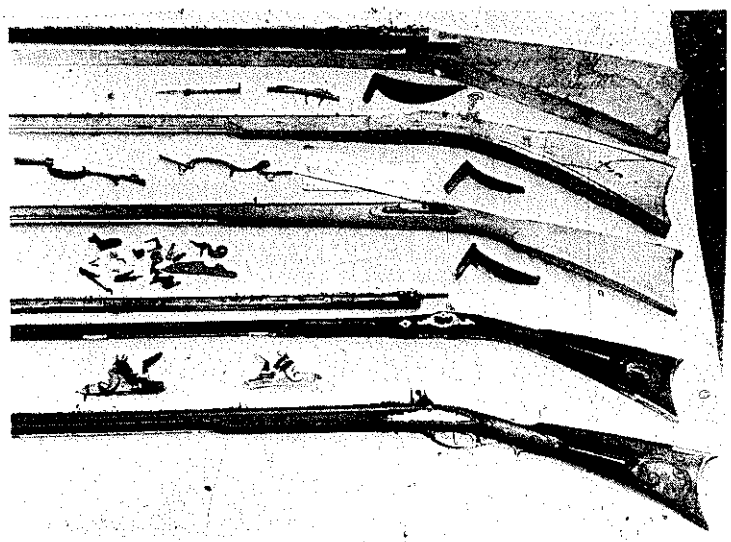


PLATE 355 Watts rifles in various stages of completion.

I haven't made a great number of real nice rifles—maybe twenty-five or something like that. We also sell a semi-finished rifle, made to fit the customer, but lacking the finish—no sanding, no browning, no staining, no linseed oil. It's got the sights on it, the triggers are working, and the locks functioning properly. You can take it and shoot it just like it is. In fact, I have used semi-finished rifles frequently at local matches. I'd get one at a semi-finished stage and for promotional advertisement and so on, take it out and maybe win the match with it. That sorta helps sell them. Of course, usually the rifle would already be sold. I'd just ask the person that bought it if I could shoot it at the match. He'd usually be delighted, just to see how it would do. Almost invariably on those days, I'd get lucky and shoot better than I would do shooting mine.

I enjoy variety, and I enjoy doing interpretive things. I've made many different types of rifles from the mountain type to the Hawken, and I guess my work is characterized by more variety than almost anybody else I know. The typical rifle maker today more or less sticks with one style and interprets within that style. A lot of makers make nothing but Hawkens, and a lot make nothing but Bedford County, Pennsylvania-style rifles, and a lot of them make nothing but their own style of rifles.

I guess, though, that if there's any one rifle that a number of people would associate with me, it's the mountain rifle that I build, which is not a copy of any original. There's some similarity to the typical mountain rifle, but the architecture is slightly exaggerated in the direction of an earlier period which a lot of people kind of revolve back to. They appear to be very

simple, but the effect comes from any carving or decoration being very sophisticated and subtle. Most of them are iron mounted with a combination of hand forging and riveting.

The price varies due to the extreme variation in the amount of work and time required. I have more or less a bottom line starting price to give the customer an idea of what he's looking at. But a customer can easily double this by specifying time-consuming work such as carving, inlays, and engraving. The parts have gone up, and the quality of workmanship in this country has increased, too. I guess some of the nicest rifles that ever have been built in the United States are being built right now. There are a lot of people capable of doing really good work. Many of them are people who only make one or two rifles a year—maybe for themselves or their wives or their best friends. Of course, this requires more and more of the builder who fancies himself staying on the top of the pile—abreast of the quality that's being turned out. I won't say that I've ever made a rifle that I'm ashamed of because I haven't—but the evolution of the continuation in style of the longrifle, as opposed to "reproduction," which none of us like very much—as far as the interpretation and authenticity of my design has come along considerably in the last ten years. This is partly due to the wide range of books that has become available in recent years. Also people are now interested in getting a rifle of a particular period, people who wouldn't have known what you were talking about ten or fifteen years ago because there were so few references. And it's now possible to buy swamped barrels and parts of that sort which make possible a variety that wasn't feasible earlier. And that all makes a difference in price, too.

But our business stays steady. More and more people have become interested in the longrifle from the historical aspects as books have become more available. Muzzle loading has a lot of appeal from the standpoint of, I guess, common nostalgia.

But it also has an appeal from the relationship it has with our nation's history. From the American Revolution on up through the Civil War, these guns played an integral part in our history and our way of life. There was that whole thing with the fight for freedom, and the pioneer spirit—that's part of the attraction. There are a lot of people who are seeking some connection with this spirit now, and if they can capture a little of it on one weekend a month, they're willing to go to the sacrifice monetarily to do it. And from a historic standpoint, there's now such a wide range of areas that a person can get into and branch off from that a lot more people are being attracted to the field. They can go from the guns on into things like birchbark canoes and log cabins of the period they're interested in—into a lot of the things that you hit on with the *Foxfire* books. The reason there's this new

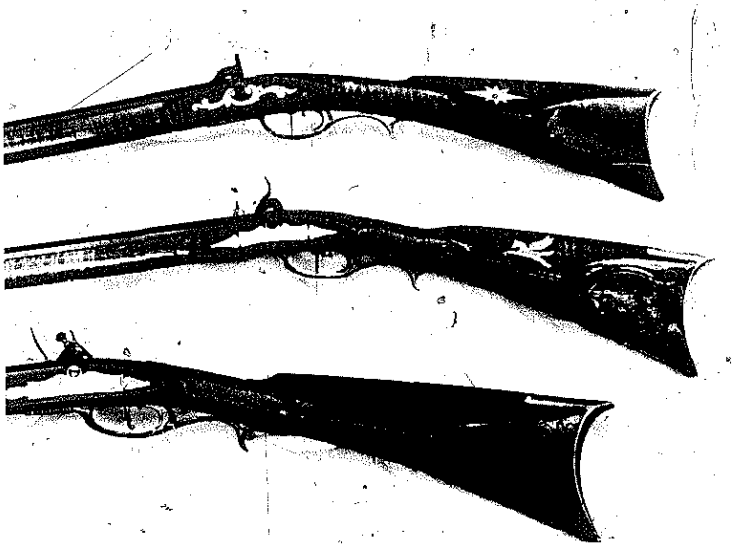


PLATE 356 Three finished Watts rifles.

interest in muzzle loaders, I guess, is part of the same reason why the books have been successful. I expect a lot of those books sold at Friendship, for example, and in the muzzle-loading community. There's more and more emphasis among many shooters on authenticity of dress and to some extent, even mannerisms. In the primitive group, for example, you are expected to be very aware of tepee etiquette on the primitive range at Friendship. They probably wouldn't want to embarrass you by correcting you, but they'd know you were a "flatlander" or so-called "pork eater." But you don't enter a tepee without invitation, for example. And you don't walk between someone and the fire. Every well-equipped tepee has a willow frame seat—kind of an A-frame affair—that sits on the ground and you can lean back against it and stretch your legs out while everyone else has to sit cross-legged. This is, of course, the owner's seat and his wife's. However, if he insists that you sit against it, that implies that you are the guest of honor at that time, which is not important except when there's a group of a dozen people there, and any other guest is not supposed to insult the guest of honor in any way. And so on. There's a lot in there I don't know, but I think one of the other sort of traditional things is that if you invite someone to come into your tepee, then the proper etiquette is to share whatever you have.

Of course, with all these different interest groups, you've got some infighting, which I think is sad. I've always kind of tried to push the idea of the whole entity. I figure we all kind of need each other, so to speak. Everybody likes to be a member of some sub-group, which I feel adds interest and variety to the overall group. I think a lot of the charm of any group is lost when you start trying to make everybody come out of the same-shaped mold. A lot of the charm in the mountains of North Carolina and north

Georgia has been lost in the last twenty years because people seem ashamed to wholeheartedly exhibit their ethnicity. However, I think that there's a real need in mankind to be a part of an exclusive sub-group that has some characteristics that they can be proud of. Whether it's the group of top shooters, or a group of the top tepee pitchers, or the group that rides their horses to the matches, or runs the furtherest downhill, or whatever—they need a special club to belong to. That's not to say, however, that they should be only interested in the welfare of that particular group. Just because there are shooters who aren't interested in wearing buckskins, for example, doesn't mean that they should be looked down on, or excluded. Some people are in muzzle loading purely because they like the idea of competitive shooting. They like the idea of competing against their fellow man in a sport that is not going to make or break them if they win or lose. They get some enjoyment out of coming out on top occasionally, but they're not necessarily interested in wearing moccasins to shoot in or buckskins to sweat in. There should be room for all of them in the larger fraternity of shooters without condemnation. Some people are interested in muzzle-loading rifles purely from the artistic standpoint. To me, building muzzle-loading rifles is one of the earliest and most encompassing forms of folk art. One has to be a good wood craftsman, a good metalsmith, a mechanical expert as far as the lock and trigger mechanism is concerned, and have talent in design and the ability to put things on paper. Some gunmakers don't even shoot. They're in it purely as a sort of artistic craft and personal expression. There's room for them too.

One of the best things about the whole revival of interest in muzzle loaders is the number of friends of common interest you make. I know people in virtually every state through muzzle loading. In fact, when I had the trouble-shooting job I was talking about earlier, no matter where I was I knew somebody local that was interested in muzzle loading, and I found myself going to funerals and weddings and everything else just on the spur of the moment. I'd be in town and call some person that I knew or had met at a match, and their daughter would be getting married and I'd be included. That gave me the opportunity to visit around a lot of what were mostly small, attic non-profit shops and get a few ideas and see how other people did things. It was a great opportunity, and almost without exception I was warmly received and usually had dinner with those people and so forth. A lot of times I would have been entertained for two or three more days if I could have afforded to stay around. And we've had the opportunity to return the hospitality a lot of times, too. A lot of people come through Atlanta. I've had people through here from California, Arkansas, Mississippi, Pennsylvania, Ohio, Indiana, Illinois, Texas, Florida, North

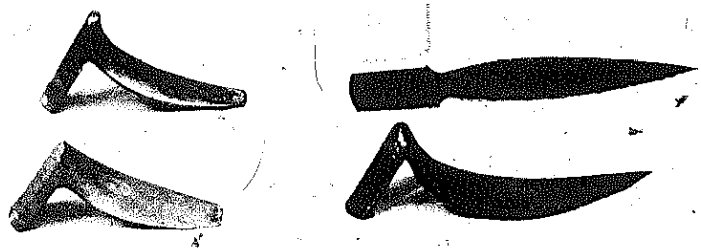


PLATE 357 Two types of buttplates Robert makes. The ones on the left are sand-cast brass; the ones on the right show two stages of iron buttplates for iron-mounted rifles.

Carolina, Virginia—and all this year. I think muzzle loading is a great game in that respect, and it's a good family sport, too. Most of the newcomers tend to be thirty to thirty-five years old, so there are plenty of new ones coming along that will be in it all their lives. And my mother is a good indication of the fact that there's plenty of room for older people too. She's won or placed in state championships in Arkansas, Mississippi, Louisiana, Georgia, Tennessee—and she didn't even get into it until she was fifty-five years old.

There are a lot of teens making rifles, too, but between the ages of eighteen and twenty-eight they tend to be pretty badly distracted and not able to give it the attention they can later.

But it's amazing to see how it has grown. When I finally got the old gun that I mentioned restocked, I started going to matches. But at that time, the opportunity to go to matches was pretty limited. The local club would have maybe one or two a year, and the next closest place was in Franklin, Tennessee. Then the only other place in this region was in Pensacola. Now there are eight or ten clubs in Florida—maybe twelve. You could go to a match virtually every weekend in this region if you could spare the time.

I'm first vice-president of the National Muzzle Loading Rifle Association. It's been growing steadily ever since I joined it in 1963. At that time, there were something in the neighborhood of five or six thousand members. There were about twenty-five members in Georgia. Now we have in excess of twenty-two thousand members in the NMLRA—up from about fourteen thousand three years ago—and about two hundred and fifty living in Georgia. So it's growing, and growing exponentially.

Our official position as a group is that a citizen's right to keep and bear arms shall not be infringed upon—the Second Amendment. We haven't had an active lobbying organization because our size couldn't support it. However, we are fortunate in having Colonel Vaughn Goodwin in the Washing-

ton, D.C. area, and he has been able to stay abreast of developments in Congress and maintain a close liaison with the National Rifle Association. We're not part of the NRA. We probably would be closer except for a couple of incidents. At one time, it was presumed that one of the officers of the NMLRA wanted to consolidate with the NRA. I don't know exactly what the details were, but there was a lot of opposition. Of course, at that time the NMLRA was pretty much a provincial Ohio-Indiana club, and I guess the officers were afraid that it would have just been absorbed by the NRA, which was and is a huge organization. So there's no formal affiliation whatsoever, even though the NRA has made some steps toward establishing closer relationships in the last three years. Maxine Moss and Doc Johnston —both prominent NMLRA members and officers—are on the muzzle-loading committee of the NRA. And Doc Johnston is also a director of the NRA. Al Hill, who is president of the NMLRA, is also on the board of directors of the NRA. At the NRA shooting preserve out in New Mexico, the primary use that the area has been put to so far has been muzzle-loading activities—rendezvous, that sort of thing. I think better relationships are desirable myself. I'm a life member of both groups, and a good many other people are. There must be a lot of mutual memberships. I'm concerned about both groups, but it's a lot easier to be concerned about the welfare of the smaller, more human-sized organization which you might have a little input into the destiny of than the sort of corporate organization that the NRA represents. Of course, their size, financial backing, and all is necessary in order for them to have any muscle with Congress. Both groups have their own work to do—their own styles. It's important, though, that we all remember that we're both in the same business. We're both concerned about the Second Amendment.

Jim Chambers

Earl Lanning urged us to see Jim Chambers, so we drove up to Canton, North Carolina, to see if we could find him. At first we couldn't find his house, but one of the local policemen offered to lead us there, and we followed him right to Jim's door.

After we had explained who we were and what we were looking for, Jim took us inside and downstairs to his basement shop. The low-ceilinged room was tiny—it was barely possible for all of us to squeeze in—but out of that room come some of the finest guns we saw during the course of researching this chapter.

Article by Jeff Lane, Stanley Masters, Mark Palpal-lotic. Photographs by Linda Ledford and Tinker McCoy.

I made my first rifle when I was fifteen. I'm thirty-one now. I'd been shooting in some of the shooting matches around here. They used to have one at the Cataloochee Ranch every summer, and at the age of thirteen, I started shooting in that. I borrowed a fellow's rifle, shot, and won third place in that first match. They really got me hooked. So I bought an old gun—a Hawken-type rifle—and shot it the next year. The barrel was pretty well worn—a lot of pits, rust, and so forth—so I didn't do quite so well. I won third place again. I was never satisfied to be third, or second; I have to be number one in everything I do. So the only thing to do was to make a new rifle. I started searching for parts, looking through catalogues and buying the parts I thought I needed. Then I happened to run across Earl Lanning. Earl lived not far from my home and was [and still is] one of the most knowledgeable men in the country on the subject of Kentucky rifles, and he was considered by many to be one of the finest makers of Kentucky rifles around anywhere. He kind of took me under his wing when he saw I was really interested in the old guns, and showed me what to do and what not to do. I was more or less an apprentice to Earl. This gun [see Plates 358–367] is one that he designed and I made. It resembles very much the York County guns with a little bit of Lancaster County in it also. This was more or less Earl's adaptation of a 1770–80 Revolutionary period gun.

I was really making this gun for Earl. He had started the gun but didn't have time to finish it, so really the architecture and design was already set by him, and I just went ahead and did all the actual work. I ended up keeping the gun as my own personal rifle. It's a good one to keep around as kind of a pattern. It has almost perfect architecture for a Revolutionary period gun. If you have something you can look at, touch, and feel, it's a lot easier to make other guns from it.

Earl helped me complete that first rifle. He did about as much work on it as I did. I shot for several years in the matches and did rather well with it.

In 1965, I started college at Western Carolina University [in Cullowhee]. I went a year and a half and then dropped out and went into the Army. I spent a year in Vietnam; came back and went back to school and got a BS degree in biology from WCU. I had intended to work for the National Park Service, but they said their first assignment for me would be in an office in either New York City, Philadelphia, or Washington, D.C., and my third or fourth assignment might be in one of the parks. I just couldn't go that route; never did care for city life. After checking around and trying to get jobs with wildlife people and so forth, I ran across an announcement that said there was a great shortage of medical technologists. I went back to WCU in that program, graduated in 1974, and have been working ever since as a medical technologist with the Veterans Administration.

While I was going to college, I became more interested in making these

guns than in shooting them. At that time, Earl was doing a lot of restoration work, so I got involved in some of that, too. In 1970, I guess it was, I was at Earl's shop one night. We were restoring a real fine relief-carved gun—one that had been made by J. P. Beck. I was restoring the fore end of it. I'd made a couple of Beck-style rifles and knew his work very well. I completed the fore end of the gun—added some wood using his style and his technique. Earl asked me, "How would you like to work at Old Salem in Winston-Salem, North Carolina? I heard John Bivens is looking for someone to work in the gun shop." I said, "Yeah, I'd love to." [Old Salem is the historic restoration of the town of Salem which was founded by Moravian people from Pennsylvania in the mid 1700s. Salem was a highly respected craft center of the eighteenth century. Today many of the original businesses and homes have been restored and are open to the public.]

We called John, and I went down and had an interview with him. I got the job and started work there in 1970 during the summers when I wasn't going to school. It was really quite an experience. I worked there in the gun shop just like the old-timers had worked in their shops—carried on business just like they would. I made the guns and sold them to customers who came in. The only difference was that I had many more people coming through the shop than old gunsmiths would have and had to do a lot of talking, answer a lot of questions. But that was good because when you have people asking questions, then invariably they're going to ask questions that you don't know the answers to. I took it as a personal challenge not to let any question go unanswered. If I didn't know the answer, I kept a bunch of books behind my forge there in the shop and I'd tell the people I simply didn't know the answer but that I would find it and tell them the answer before they left the restoration. So I would go through my books until I found it. By looking up all those answers, I gained a lot of knowledge. I can say with a great deal of pride that the questions there *were* answers for did not go unanswered. In the process I learned a lot about gunsmithing in general.

To an eighteenth-century man a rifle was just as important and just as big an investment as an automobile is to us today. Gunsmiths back then made various items other than guns. They made tomahawks, knives, traps, and so forth. Most of the women in town would bring their knives in to get the gunsmith to sharpen them. They really had to have a mastery of many different kinds of materials. The gunsmith did work as fine as any cabinetmaker, and did as fine work in metal as any blacksmith; he even had to be a little bit of a silversmith and engraver. Many were prominent citizens in their communities, too. Some of them even went into politics. Most of them

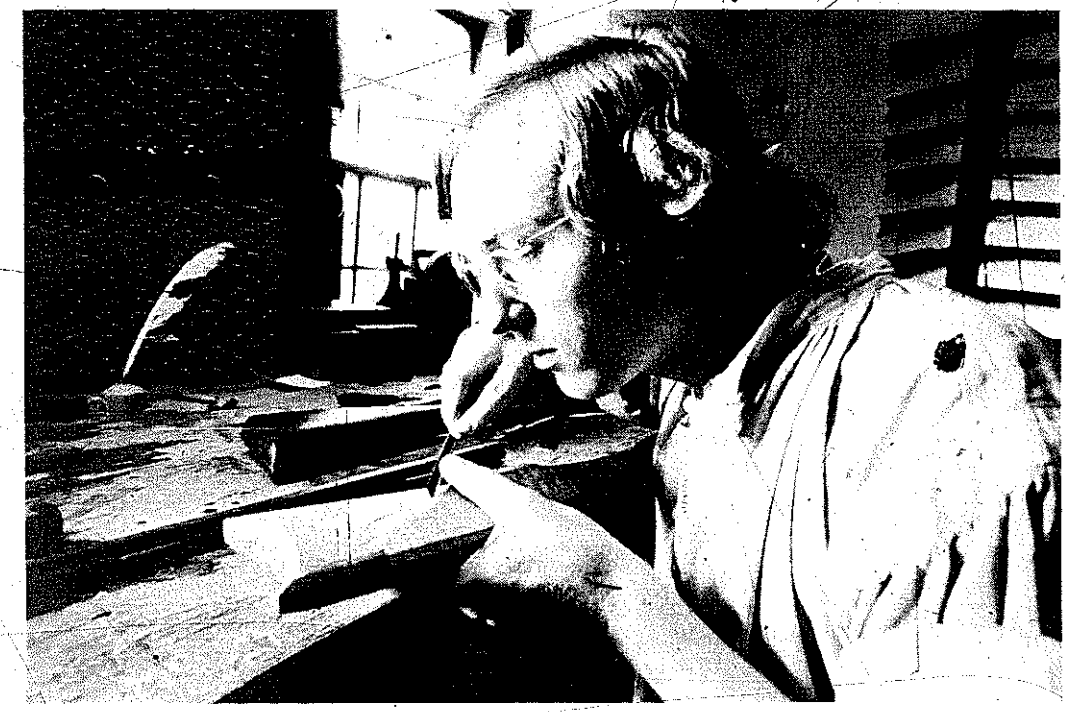


PLATE 358 Jim Chambers as an apprentice to John Bivins in the gun shop at Old Salem in Winston-Salem, North Carolina. (Photo by David Herbert Hauser.)

were rather cantankerous fellows; they didn't put up with a whole lot. Gunsmithing was a very involved craft, and they were rightly proud of it.

Many of the characteristics the gunsmiths used were the same from one rifle to the other. There was one eighteenth-century gunmaker by the name of Leonard Reedy. He came up with a carved design that he apparently liked very well because he repeated it over and over again. All of his guns have the same design. Most frequently, however, the designs were changed from one gun to the next—changed just a little bit. But there were still certain distinctive things about the work that would tell you that, even though the design itself was different, it was done by the same gunsmith. You can tell each maker's work whether the gun is signed or not. You can look at the details on the signed gun, compare it to the details on an unsigned gun, and if the similarity is there, you can say with certainty that J. P. Beck, or whoever, made it. So really a gun doesn't have to be signed to be attributed to a particular maker.

Some gunsmiths would sign their name on the top flat of the barrel, and this adds a bit of value to the guns now. But many of the early guns were not signed—those made before the Revolution especially. Joe Kindig stated in his book, *Thoughts on the Kentucky Rifle,* that he feels that the reason

many of the early guns were not signed was that people were very religious back then; and the gunsmith felt that if he signed the gun, it would have been boastful and bragging. They felt that this was their God-given talent, and to put their name on it was taking away from His work. I kind of agree with Kindig there. I'm not certain that this was the reason for them not signing, but it is for me. I feel that God has given me this talent, and I should give Him the credit. I do not put my name on the top of the barrel, but I *do* put it underneath the sideplate. I carve it down in there, along with the date, and the number of the rifle. I number the rifles in sequence and sign and date them to keep someone from passing them off as originals. If someone buys one from a dealer and pays the price of an original for it, and then happens to take the sideplate off and sees the date that it actually was made, then, hopefully, he can go to that dealer and get his money back or else beat the crook severely!

As far as parts for my guns go, I get my barrels from one of two places. Some I get from Bill Large in Ironton, Ohio. He makes very good barrels; many people say he's the best barrelmaker in the world. Then there's another fellow in Gettysburg, Pennsylvania, named Robert Parris. He makes very fine barrels also. The rifling is already cut in the barrels. Someday I hope to do my own rifling. I have a rifling machine that was made by a fine gentleman and gunsmith named Frank Cochran [see page 354], in Waynesville, North Carolina, but I don't have enough room in my shop to set it up.

The sights I make myself. The gunsmiths had their own little design that they used on their sights, and I've developed my own. I use that same design over and over. The sights are dovetailed on and adjusted. You don't have any trouble hitting what you're aiming at—at least up to a hundred yards.

The triggerguard and the buttplate are sand castings. They come out very rough. I have to file those—smooth them down and polish them. So, the barrel, triggerguard, and buttplate are the only parts other than the locks that I buy. The locks are made by my good friend Bud Siler. I usually get the kits and put those together. Bud's locks are the finest locks around.

Everything else on the gun is handmade. The sideplate is cut out of a flat sheet, filed, polished, engraved, and so forth, as are all the other inlays. The ramrod thimbles or pipes are made from a flat sheet of brass. I just cut out a small strip of brass the width that I want the pipes to be. Then I anneal the brass—heat it and dunk it in water to soften it—until it can almost be bent with your fingers. I get a good start on it with my fingers bending it around a mandril and then clamp it in the vise and tighten the vise. That bends the brass tightly around the mandril. I remove the mandril and add a little

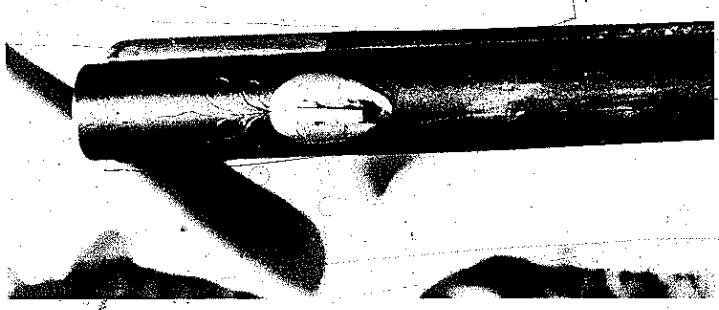


PLATE 359. One of the rifles Jim made. Its front sight, a man's face, also incorporates carving in the barrel.

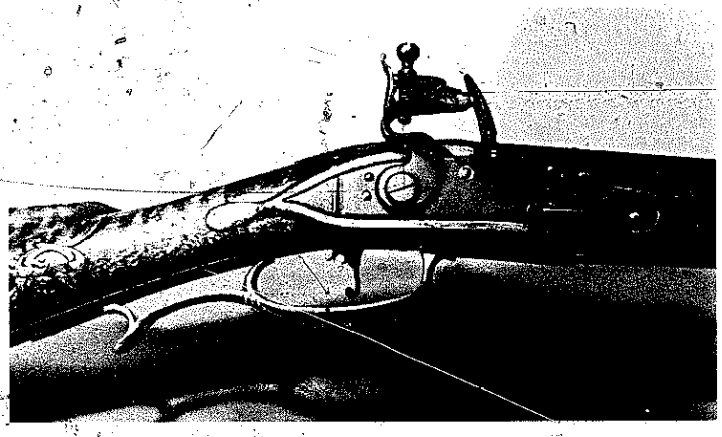


PLATE 360. Jim uses Siler locks and sand-cast brass triggerguards. He makes his own triggers.

bit of solder to the seam to make sure the pipe stays closed. Then I file whatever design I want on it. Most of them are octagonal. Some, however, are diamond faceted. This is a detail that was used quite often by John Phillip Beck who was a Lebanon County, Pennsylvania, gunsmith. He worked back around the Revolutionary period and a little after that. He used the diamond-faceted ramrod pipes on some of his finer pieces, and I imagine he'd charge a little bit more for those. But normally just the regular octagon-shaped pipes are used. I start with a perfectly round pipe and then file whatever design I want on it.

The rear ramrod pipe can be made in different ways. Some of them are made out of two pieces, but I generally make them out of one piece. It's easier for me to go ahead and make one piece and be done with it rather than making it out of two pieces and trying to solder them together and taking the risk of it maybe coming apart later. It's made from a flat piece of brass, part of which is cut, rolled, and filed, and part of which is left almost flat and inletted into the stock.

The ramrods can be split out of a hickory log. They have to be split out lengthwise with the grain running straight from one end to the other to

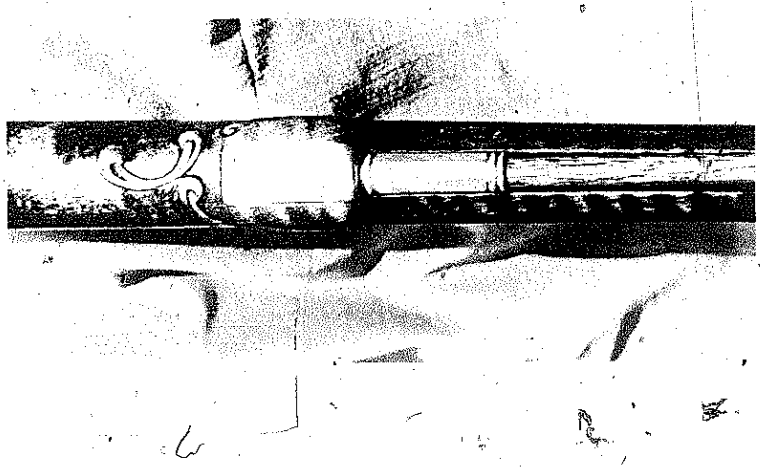


PLATE 361 Jim makes the rear ramrod pipes out of single pieces of sheet brass.

make it limber. They're also slightly tapered so they will fit easily under the barrel in the wrist portion of the rifle. The ramrods can be purchased as straight rods from several sources. I still taper them myself.

I make most of my screws. I start out with a chunk of steel, heat it a little bit, and hammer one end flat for the head of the screw. Then using a hand drill, I can turn the screws and hold the file up to one edge and shape them to whatever shape I want. I put the threads on with a tap-and-die set. Back then they had what they called a screw plate, which accomplished the same thing.

For the stock, I usually purchase a board, although I have been known to go out and cut down the tree and saw it into boards. I like the boards to air dry for several years before I use them for a stock. I don't like to use anything less than 2½" wide for the early guns. They were wider, and the architecture was different from the later period ones that were made from, say from 1820 on. So the board has to be at least 2½" to get the width you need out of it and to get the cheekpiece standing out.

I make my own triggers—cut those out of a solid piece of metal with a hacksaw and files.

The fore end or nose cap I make out of sheet brass. There are two different ways you can go at it. Earl makes a cap, puts this piece on first while the gun is still in block form, and then shapes the gun to the shape of the fore end cap. I go ahead and finish the forestock the way I want it shaped and then make the cap to fit the wood. Both ways work equally well. Again, I anneal the brass and bend it around the fore end. It's made in two pieces—the end is soldered onto the other piece. Some of them were made out of one piece.

There are two different types of patch boxes. One is a sliding wood patch box and the other a hinged brass box. The sliding wood type is a carryover from the European guns—the Jaegers—which were made in Germany. They were brought to the Colonies by settlers, and most of them had sliding

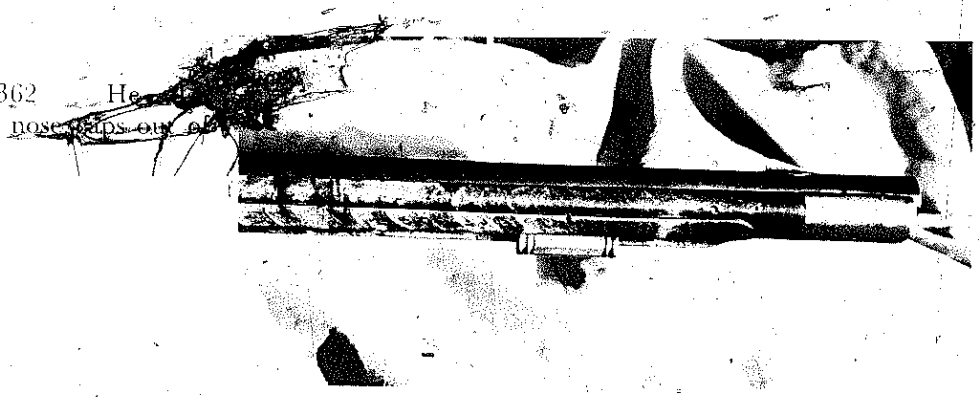


PLATE 362 He [illegible] makes the nose caps out of brass.

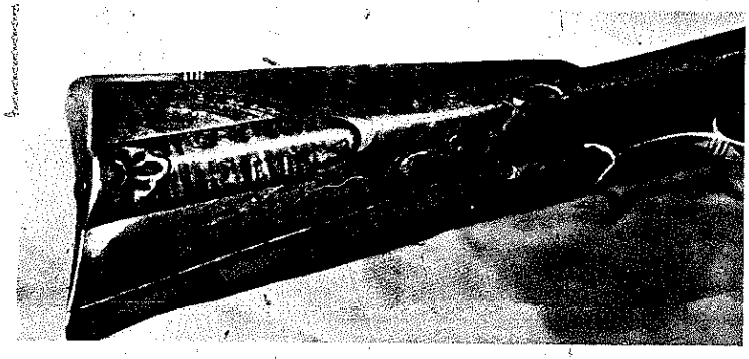


PLATE 363 The catch at the butt releases the sliding wood lid of the patch box—all handmade.

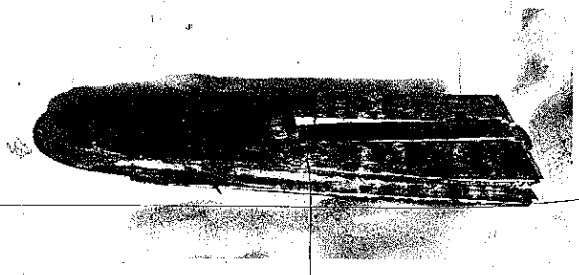


PLATE 364 The patch-box lid removed and turned upside down to show the catch.

PLATE 365 The cleaning jag and cloth found in each patch box.

wood patch boxes. Everyone pretty well agrees, the hinged brass patch box is totally an American innovation. It originated right here with the American gunsmiths. They started off rather simple. Most of the early patch boxes were just a hinge, the head portion, and a lid. Later on, they added side pieces to it and cut out areas in the brass and left wood showing up through the brass, and so forth. They really got fancy with them and did some engraving as fine as anything you find on the old silverware.

The lids of my sliding wood patch boxes are dovetailed into the stock. I cut out the hole in the stock, dovetail the edges of it. Then I cut out the lid and dovetail the lid to fit. I put a little spring-type catch on the lid to keep it closed.

The early gunsmiths usually made a worm to go with the guns. It's really a cleaning jag [see Plate 365] that screws onto the end of the ramrod. It was used for cleaning the gun and occasionally pulling a ball out. If you happened to put the ball down the barrel before you put the powder down, you were in trouble. Sometimes you can catch the ball with the worm and pull it back out. But primarily it was used for cleaning. They used toe for cleaning—the leftover stuff that is thrown away when you make flax into linen. It was kind of rough and abrasive, and fit well around the cleaning jag or worm. They carried those things in the patch box, as well as some extra flints.

To assemble the gun I start with the stock—lay the pattern on the board and trace around it and cut out the rough stock blank. I usually use curly maple. That's what the early gunsmiths used. They also used some walnut, and some of the fruit woods—apple and so forth—occasionally. Cherry is an excellent wood for gunstocks, but primarily they used curly maple.

Now on the early guns, the wood is not nearly as curly as on the later guns. Before the Revolution just a few gunsmiths were making guns. During the Revolution many people turned to making guns for the war. So after the Revolution you had this tremendous number of gunsmiths. There wasn't a need for that many, so the competition increased. Better gunsmiths made better guns—more decorative and so forth. The ones that couldn't measure up went back to being blacksmiths or whatever they were doing before. But these gunsmiths, primarily because of the competition, started using much better wood so that the grain and the stripes in the wood used was much more pronounced after the Revolution.

The next thing I do is inlet the barrel, get that set down in the block of wood, and try to fit it up just as tight as I can. The tighter the fit, the better it looks when it is finished.

After that I put the buttplate on. The buttplate determines the whole shape of the buttstock. You have to have that on before you can do any shaping of the stock. So I put the buttplate on the block of wood, and then using the rasps, files, and chisels, I can go ahead and shape the stock. If I'm making a gun of a particular style where the triggerguard and buttplate are not commercially available, I make them myself. Just take a flat piece of brass and hammer them out into whatever shapes are necessary, and then braze them together. In the near future I plan to sand-cast these parts just as the eighteenth-century gunsmiths did.

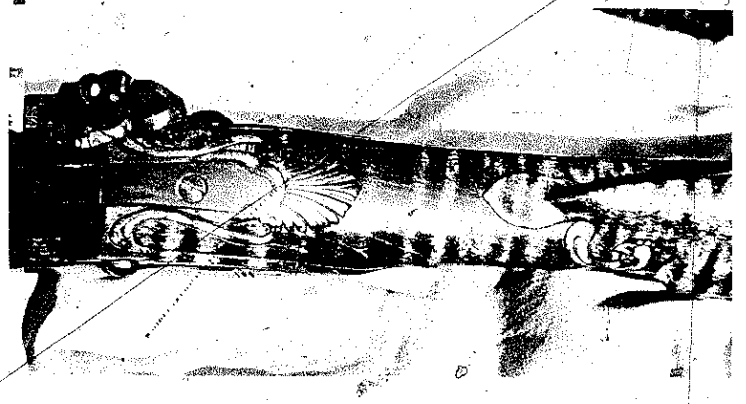


PLATE 366 The wrist portion of Jim's gun is beautifully tapered and finished.

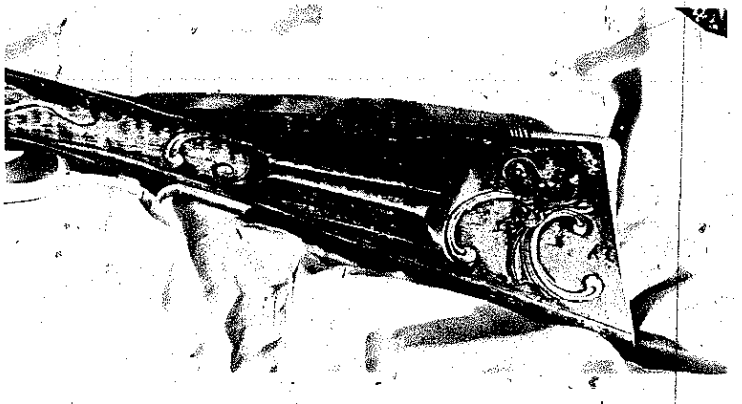


PLATE 367 The relief carving, wire inlay, and cheekpiece are all smoothly, gracefully integrated.

After the butt portion is shaped and the wrist partially shaped I inlet the lock. The lock plate is first inlet in the correct place and then each individual internal part of the lock is inlet. The trigger can be positioned and inlet any time after the wrist and the area around the lock has been shaped. I install the triggerguard after the stock has been completed. The sights, any inlays, ramrod pipes, relief or incised carving, and patch box are added after the stock has been fully shaped.

The hardest part of the gun, I've found—and Earl and most other people agree—is the wrist portion. That's especially true on the early guns where the architecture is so important. On the early guns, the architecture is really beautiful. You don't see that so much on the later guns. When you get into the percussion era, they went in more for inlays than they did the fine detailed carving and fine architecture. The later guns were narrower and flatter all over, and they just weren't nearly as appealing to the eye, in my opinion, as the early rifles were. On the early ones every line has to flow smoothly into every other line. Everything flows. There is really no straight line anywhere in the gun. Some were flat on top of the comb, but they are really more appealing if you have just a very slight curvature to that area. The same goes for the bottom of the buttstock. When you get up into the part of the stock that holds the barrel, the stock follows the barrel, which is

tapered and flared. The stock has to taper to go along with the barrel. All the lines have to flow into all the other lines so there is nothing to snag the eye. That's really important in the early guns.

I have to plan for the relief carving and leave a little excess wood where I want the carving to be. The carving doesn't have to be very high, a sixteenth to an eighth of an inch is fine. It should be fairly low but still high enough so that you can tell it is raised. I draw the design on the stock and remove wood from it using mostly a pocketknife and one or two small wood chisels.

The design of the carving can be as simple or as elaborate as the customer wants. I try to add a little carving to every rifle I make. On the more expensive guns I add elaborate designs behind the cheekpiece, in front of the cheekpiece, in front of the patch box, around the barrel tang, and around the rear ramrod pipe tang. The designs I use follow the traditional eighteenth-century rococo style with C-scrolls, S-scrolls, etc. I usually incorporate silver-wire inlay into the design which, together with the carving and engraving, really makes the gun an art piece rather than just a sporting arm.

I've got some engraving tools I use, some small chisels, for engraving designs in the metal. I use a small hammer and peck along the lines I've drawn. The chisels are called die-sinker's chisels.

I inlet the sterling-silver wire into the stock with a pocketknife. I just draw whatever design I want on the stock, then take a pocketknife and carve a groove in the wood. Then I take a small hammer, hammer the silver wire into the grooves, then smooth it off with a file, and sand it.

For finishing the wood, there are different finishes that can be used. Some gunsmiths use chromic acid or nitric acid. I used that for a while and found that the wood looks good when you first put it on, but after the gun is a year or two old, it will get a greenish tint in it which is not found in the old guns. They have reddish tints and yellowish tints and browns in them, but you don't see much green in the old guns. I like mine to look like the old guns—that is, to be as authentic as possible—so I quit using the acids on them.

Instead, I mix up my own stain. I get a stain from one of the gunsmith suppliers which is too red for my taste, but it is the proper base to start with. Then I get some brown and black shoe dye and mix in various portions of all three of these and try it on different pieces of wood until I come up with the color I like—kind of a reddish stain with a little bit of yellow, red, brown, and so forth. It looks very much like the finish on the old guns.

That's just the beginning. I put that on until the stock is really dark.

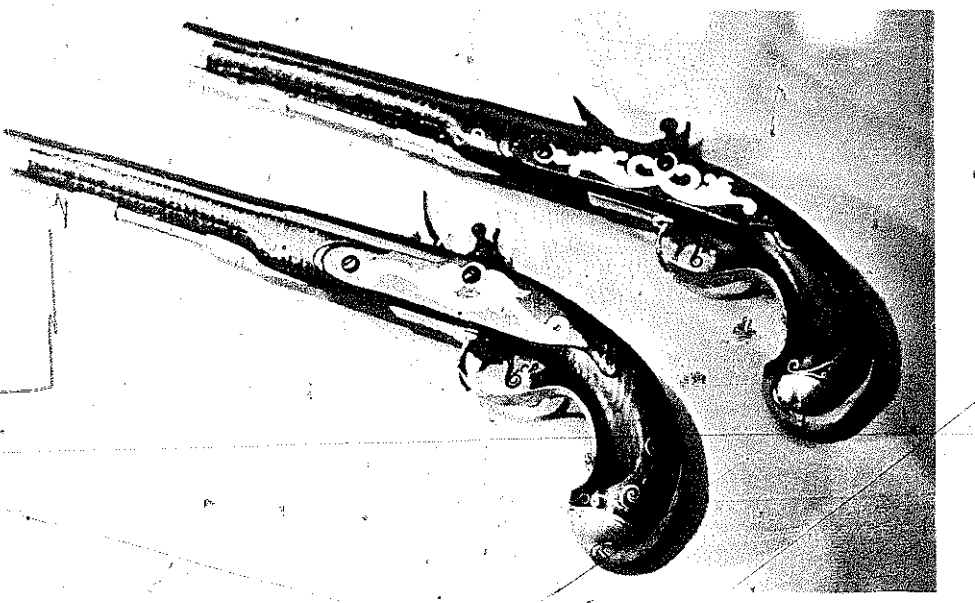


PLATE 368 Jim also makes pistols for special customers. Of his pistols he says, "They were made primarily for the more well-to-do citizens in Colonial America. Your average Joe couldn't afford one. So, as a general rule, they were decorated a little bit more than the rifles, but they are made about the same. You basically have the same jobs to do in terms of construction."

Then I use very fine steel wool—the finest I can get—and take the color down to the darkness I want. Then I start rubbing the stock with linseed oil. I put on linseed oil until the stock won't soak up any more of it. When I get all of that on, then I start with what is called the hand-rubbed finish. Just take your hands and rub them back and forth over the stock. This will give it a real glossy finish. It takes several weeks to do that. Or if the customer is impatient for the gun, I sometimes take some linseed oil and mix a little bit of varnish with it and apply that. The combination of the linseed oil, the varnish, and some rubbing will give a pretty shiny finish.

Today the modern gun barrels are blued. Way back, the barrels were browned. What is involved is really a rusting process. I mix up a bunch of chemicals according to an old recipe—various acids, and so forth. Then I clean the barrel thoroughly to make sure all the grease is off. I scrub it good with soap and water and then use acetone, or something like that, to remove all the grease from it. Lighter fluid works just about as well. Then I put the browning solution on the barrel, let it sit, and it gradually rusts the

surface of the barrel. You really have just plain old rust on it. I put more of the solution on every day until I get a good even brown finish on it—usually anywhere from four days to a week. The rust will get built up pretty heavy on the barrel, so I keep it smoothed off with steel wool. Then, when I feel like I've got a real smooth, even finish on it, I wash it good, dry it down, and rub linseed oil or some other heavy oil all over it to stop the rusting process.

There were many different formulas for the browning solution that ranged all the way from those I make up with acids to just simply urinating on the barrel and setting it outside. That will work. If you don't do anything to the barrel, it will gradually turn brown by itself, but there will be areas that are browner than others. By using the solution, I can get a quick, even, and smooth brown finish on it.

My guns start at about $600. I usually work in the evenings, three to five hours an evening, five or six days a week. It takes two to three months to make a rifle or pistol. When you consider the number of hours that I put into one, I'm not making very much. I estimate somewhere around two to two-and-a-half dollars an hour, maybe. The parts are getting quite expensive. I got in some barrels the other day, and one barrel was $93—just for one barrel, and they go up every year. The lock kits cost about $36, and if you buy them assembled, that runs it up to about $60. Wood has gone out of sight, $50 to $100 per stock. So you can get an idea from that how much is involved just in parts alone.

I try to price my work in such a way that anyone who really wants one of my guns can afford one. I often take items as a trade for part of the price, and I will sometimes allow the customer to pay for the gun in several small payments as well.

I love to correspond with or talk to anyone interested in my work, whether they're wanting to purchase a gun or just wanting a little free advice. If anyone has any questions, just drop me a line at Box 32, Clyde, N.C. 28721.

THE NEW AGE

There are many clues to the size of the muzzle-loading movement. One is the number of thriving manufacturers turning out both finished rifles and the parts with which to make them. Another is the number of successful trade publications, like *Muzzle Blasts, The Buckskin Report,* and *Black Powder Times.* Another is the size of the membership rolls in organizations like the National Muzzle Loading Rifle Association (NMLRA) that serve the movement. At last count this organization, founded on the almost preposterous belief that an antique weapon could acquire a vocal and devoted

following, had over 23,000 members. But nothing brings it all home in quite the way that a visit to one of the annual NMLRA shooting matches does. It is, to put it simply, unbelievable. Three of us went to the annual spring shoot in 1977 to see for ourselves, and from a hill overlooking the narrow valley outside Friendship, Indiana, where it is held each year, we became convinced from the almost unbroken roar of guns that one of the larger battles of the Civil War must have sounded almost exactly the same.

Shooting matches are a tradition that goes back into time as far as the guns themselves. Their variety would fill a book nearly this size. Thousands of them are held each year around this country, and so it is appropriate that in the new age of muzzle loading, we devote this section to these tests of skill.

A Local Turkey Shoot

Bonnie Mize and Donna Griggs attended a shoot sponsored by *Foxfire* and Lawton Brooks, and they put together the following as a result. Though muzzle loaders are not used today in this particular shoot, they were once, and the match itself still survives.

One important pastime for mountain people was shooting matches, and one of the most popular types was the turkey shoot. It was popular not only as entertainment, but also as a way for the sponsor to make a little money.

In the earliest shoots, the participants would actually shoot with flintlock or caplock rifles, in turn, at a live turkey, and the one that killed it first won the match and the turkey. Later, people began shooting at targets with shotguns and the prizes were live turkeys. More recently, with fewer and fewer turkeys being raised and the almost universal shift to shotguns instead of rifles, turkey shoots have been used more as fund-raising events with the prizes ranging from hams to bags of groceries to cases of beer and soft drinks. If any turkeys are involved, they are usually frozen, the winner often receiving a coupon which he can redeem for the prize at a local participating grocery store. The targets the contestants shoot at are usually three-by-five index cards (one card per man per shot), and the winner is determined either by counting the number of shot each gun put through its card, or by measuring to see which man's gun put a shot closest to an X drawn from corner to corner on the card. Matches can go all day. The sponsor announces at the beginning of each match what the prize is going to be ("We're going to shoot off a ham now.") and how much it will cost to enter (usually one to two dollars per chance). The men who want to shoot pay the entry fee, and when enough have entered to pay for the cost of the prize and earn the sponsor a few dollars profit, the contestants step up to a rail and shoot—in turn—at the numbered card they have been assigned,

each man getting one shot. Then a runner goes and collects the cards and brings them in for the judging and the awarding of the prize.

When *Foxfire* decided to sponsor a turkey shoot to raise money for a scholarship fund, we decided to have Lawton Brooks run it for us, and the experience was so interesting that we asked him to come to our class and talk to us about it. He remembered not only the earlier shoots (where each man would pay fifty cents for a chance at a live turkey, and the men would takes turns shooting until someone killed it) up to the present to shoots he still participates in regularly. He explained part of the motivation behind the shoots this way: "You can make some money if you run one right. You put up a ten-pound bag of sugar and everybody'll take a chance on it at a dollar a shot. They don't look at how many's shooting. All they think is, 'If I can win that for a dollar, it will be better than going to the store and buying it.'

"And then they have side pots going on now at the same time, too. That's just gambling. And sometimes people get into arguments over that, but I never heard of anyone actually getting hurt at a shoot. Some drunk or someone might come around and get into an argument. He'd think he ought to win when he knowed he couldn't see the target, let alone try to win anything. Somebody'd tell him to take his old gun and go home, and he'd leave."

The stories Lawton told were really interesting, and I hope you enjoy them as much as we did.

BONNIE MIZE AND DONNA GRIGGS

I can remember going [to turkey shoots] with my daddy when I couldn't hold up a rifle. Them old hog rifles is heavy. They ain't like our guns nowadays. They weigh as much as two of our guns weigh.

And I can remember going with him, and he'd take that old rifle and he'd just whack [the turkey's] head off nearly everytime. But I couldn't shoot it.

He finally bought me one of them guns—the first one I ever owned. It wasn't so awful heavy. Awful long barrel, but it wasn't so heavy. And it shot good, but I wouldn't put too much powder in it at a time, so it wouldn't kick me so bad. But I'd shoot me a little old bird sitting around the cornfield, and one thing or another. Get out there and shoot him.

[It was hard to get used to shooting with a gun like that, though, because] sometimes it would make what they called a long fire. The cap will bust and then it's just a second before the powder gets caught, you know, and then it goes off. Them old son-of-a-guns will do that sometimes. I'd done be fixing to move when it'd go off! Just takes them a second to get connected up, I reckon, to where the powder burns.

They didn't use targets in the beginning. They used real turkeys. Nearly everybody raised turkeys back in them days. Everybody had farms, you know, and they had stuff sowed for the turkeys to eat, and they raised them. We always had a bunch of turkeys at home running around all the time. They were easier raised back in them days than now. Now you can't hardly raise them out loose. Something will happen to them, and they'll just go to dying out on you. I tried it when I lived up here at Dillard. I raised around a hundred up there one time, but it was rough. Used to be we always had rye and wheat and everything sowed around the house for them to eat on, and the old turkey hen would take a bunch of little ones out in the rye field and you wouldn't see them for two or three days. 'Course they'd come back to the house, and by the time they came back, they'd be great big turkeys growing right on up. You'd just catch 'em up and go right on to the shooting match. They'd put one in a box and put his head up out of the box and everybody shot at that. Shoot right for his head—that old red head up there. Shoot right for his eyeballs. The man who shot the turkey and killed him, that was it. It was all over with. The other man didn't get to shoot. Had to put up another turkey and start again.

But that turkey'd stand there with his old head up and just turn his old head around. Never would hardly keep it still. But about every time you shot his head, it would fly off or flop down on top of the box. They'd really knock him in the head. They didn't hardly ever miss with them old hog rifles. They're just as true as they can be. They don't wobble off or nothing. That old bullet goes exactly where you aim it, and them old fellers were trying to aim right because that's the only chance they had. Like when they was hunting—see, that's what they hunted with all the time. If they found them a deer or wild hog or something they wanted to kill, they shot at it, and if they missed it—good God. By the time you got reloaded he'd a'been from here to Franklin. They waited till they knew what they was a'doing before they pulled the trigger.

But at these shoots, they'd be about fifty yards away—that turkey in a box just big enough for him to stand in. He'd keep his head up. I've also knowed of them hunting up a big log to put the turkey behind. I heard my daddy talk about that. They'd put him where his head would come up just above the log [when he raised up]. That was harder 'cause the turkey could get down behind that. Sometimes a turkey would go through two or three shoots. Every man shoot one and miss, and have to go again with the same turkey.

But about ten years ago [they stopped shooting *at* the turkeys and started shooting *for* live turkeys by shooting at targets]. People would bring them to wherever they had their old shooting match. They'd have their old turkeys tied up to bushes and everything around there, you know. Everybody

would have a turkey they wanted to shoot off. They'd bring him and tie him up. And the man that brought the turkey would get the money. See how many he could get [shooting] on it. If he could get enough [shooting] on it to pay for his turkey, he'd let them shoot it off.

The last live turkey shoot I went to was down at what they call Joe's Creek on Cartoogachaye up there at a church. They had'em alive, just tied up around there. And there was one of the biggest gobblers there—oh, man he was a whopper. Weighed thirty-five pounds, and I wanted him. So I had some awful fine shot, but I thought they might have a rule, you know, about what to shoot and what not to. I wanted to be fair about it, and I didn't know none of them there—I had just heard of the shoot being there, and I thought I'd go down there. So I waited and watched them shoot a time or two. Then I asked a man, "Now what are you shooting here? Are you furnishing the shells?"

"No," says he. "A fellow has to furnish his own shells."

I said, "Well, what do we shoot? Do we have a certain number size shot that we have to shoot?"

"Na. Just anthing. Just as long as you don't shoot buckshot."

I just thought to myself, "Good. When that big turkey comes up, I'm gonna take a chance," 'cause I had some number twelves. They didn't have nothing finer than an eight.

So they had their signs out on a big poplar tree. They went and got that ticket [target] every time you'd shoot. They'd go get the ticket and put up another one. Just had a tree there to put them on. So that turkey come up, and I give'em a dollar and cut down on that thing, and it just filled it full. They kept a looking at that ticket and looking at that ticket and counting and looking and looking. So when they all got done shooting, the boy come up and said, "Well, boys, I'll tell ya, they ain't a bit of need nobody else counting. We've already counted over two hundred and we ain't got nothing like all of'em counted." It had it just filled. Looked just like a sifter. So they said there wasn't no argument about that. Said I was the man that won the big turkey.

So they begin to move around there and I decided then that I didn't want that old turkey; I'd shoot him off. But I couldn't get but eight men to shoot, and they had got ten on him the first time around. So I said, "Boys, I'll be a'losing two dollars if I shoot him off at eight."

"Well," some of the boys said, "just take a chance yourself." Said, "You take a chance."

Well, I knowed if I did, I'd win him again, but they wanted me to do that. Said it was all right with them for me to take a chance. Said, "You can't do that every time."

"Well," I said, "all right. Put him up." So when I come up, I done it again. Then they begin to scatter off then. So I brought the old turkey on and I sold him to an old conductor on this Tallulah Falls train right here. He give me eleven dollars the next day for that old turkey. He said he had two grandsons, and he said that they was always aggravating something and he wanted that old turkey. Said he bet that old turkey would fight, and boys, he would fight. He said he wanted it to learn them grandsons something. So I sold it to that old conductor that worked on that train, and I made that old turkey pay off.

I've won a lot of stuff. I went up to the Rabun Gap School one time, me and this other boy. Me and him went up there one time when Mr. Burden [the vocational agriculture teacher at that time—now the Superintendent of Schools for Rabun County] was having one shooting off live turkeys. And they had eight down there, and me and him won all eight of them, and I bought his four from him. We was using that old single-barrel gun of mine, and it was just filling them cards full. Every time they'd count, we'd win. So we got the eight turkeys, and I bought his four and took them over on Jones Creek to my wife's first cousin and put them up and had me a shooting match with them. I made some good money off of my turkeys. I'd get about ten or eleven shots on a turkey.

[You have to watch when you're running a match. Some people will cheat.]

One way you can cheat is if you're supposed to shoot with an eight and you shoot a nine [instead]. You'll have a better shot.

And then you can reload a shell. You don't put too much powder and you leave out some of the waddings and put in a good many more shot. See, the more high-powered a shell is, the more it will scatter [the shot]. They got so much force when they come out of there they go to scattering. They got too much powder. If you just got enough powder to kinda throw the shot out there, they'll just slap out there in one place and don't scatter and maybe come up in a wad. Now that's the difference in that. That's where your reload comes in. And you needn't to shoot much against a reload 'cause they got an advantage over you if you ain't shooting reloads too.

I can tell when he shoots if he's using reloads. I can tell by the noise. When he shoots a reload, they don't sound like any other shells. And if you'll look at it good, you can tell a difference. You look at the shell that's supposed to be like it [and compare] and look at the difference in the primer. There will be a difference in the color of the primer most of the time. Most of them have got a lighter color than the others.

But you can hear one. I can be at a shooting match and I can tell when one goes off just like that. A lot of people are doing that nowadays, and

they'll slip them in on you. Any way to win. They want to win, and they'll do anything to win. That's the reason. I say a man [that's running a shooting match] just has to give them the shells [he wants them to shoot] and see that every man shoots the same thing, and then if he wins, you can't grunt at that man, 'cause he's got a better gun or is a better shot than you. You have to watch them, though [if you're running a match]. It's easy to have where they come up and get their shell from you and then switch anyway. That'd be easy done for me to have me some shells in my pocket and then I come up and there and get one off of you, and while the other fellers is shooting, I drop that one in my pocket and use one of mine. I've got a good chance of winning then. Where you shoot with so many at a time, you can't hardly keep them from slipping in on you. Somebody's going to do something wrong. They've got different ways that they can really beat you.

Them number nines are supposed to be a regular target-loaded shell. That's what everybody generally shoots is number nine. And so if that's the way it is, that's what people should shoot. They ought to shoot number nine, and then there wouldn't be no growling about it. I think we ought to have someone stand right there and hand them their shell and see that their gun isn't loaded, and watch them [put the shell you gave them] in their gun. Then nobody could have no complaints. Nowadays people don't like two or three to carry off everything there is [in prizes] and them have just as much money in it and never win nothing and go back home empty-handed and their pocketbooks flat. That's the way I always done it. I'd always shoot till I got out of money! [They do too.]

Now there's some variation in the factory-loaded shells too. I've tried it. I've got out there and shot a big old pasteboard and counted the shot, and some had a lot and some didn't hardly have any. [Even the factories] don't get them loaded *exactly* the same. [But at least you don't have reloads, and everyone takes the same chance with the same kind of shell. They're all working under exactly the same kind of handicap.] But it's fun. I don't mind losin' as long as I'm losin' fair. I could lose all day. I'm just as satisfied, just so it's fair. I've always been crazy about going turkey shooting. I don't win all the time. I've lost money. I've lost a lot of money shooting, and then I've won some. A man ain't gonna win all the time. He's just gonna have to trust his luck. But it is luck shooting at these crosses [on a card] sure enough. It's all in luck because half the time a man will take an old scatter gun and he won't hit [the target] with but four or five shot, but one of them might be right in there right next to that cross. And maybe you'll put fifty or sixty shot in there and you won't have nary one within a quarter of an inch of the cross. That's luck now.

Really the best way, and the fairest to everybody, would be to count the shot, and that would be shooting for the skill of a man's gun. He'd know then if his gun would stand up or not.

The Cataloochee Shoot

Another type of shooting match was called an "across the log, 'X' center" match. Earl Lanning, who lives in Waynesville, North Carolina, teaches a college class in muzzle-loading rifle building, and he got involved in the field through one of the Cataloochee shoots. Held each year near Waynesville in the Cataloochee section of the mountains, the shoots were patterned after some of the oldest traditional types where participants won quarters of beef.

Here, Earl tells about his experiences and about the shoot itself.

I got into [muzzle loading] about '53 or '54 when I went to a match at Cataloochee. That was the first time I ever had one of those guns in my hand. Back then you could buy a pretty decent old gun for about fifty or sixty dollars, and I went through several of those and tried to get them to where they'd shoot, and that was kind of tough. In the meantime, I heard about men like Lester Smith that were building rifles, and so I had Lester Smith build a rifle for me using an old barrel; and then I had Hacker Martin build me one. That was after Hacker moved to Virginia. And by that time I had been around it enough to learn a little. Went up to the shoots at Friendship several years, for example. Vee Jones was building some guns at the time; and there used to be an old fellow named Ed Browning that lived above Joe Farmer—he's related to Joe—and I used to go up there and watch him sometimes. Then I got to studying the old guns a lot, and I could see that some of these guns these old fellows were making weren't up hardly with the old ones, so I said, "What the heck. I'll try it myself." So I got into it—I built fifteen rifles. Then I heard about still other folks around the country, and back at this time, you didn't have all these books, and there weren't many parts available. You just had to bow up on a work bench and file the parts out working with photographs. Bud Siler and I became friends, and we were trying to learn together.

Well, we got along, but it was slow. And I've always been willing to drive halfway across the country to see something. I never was one to just sit around home. I heard of Carl Pippert, and just drove up there. When I went up to Carl's the first time, he did more for me in the first hour than all the years before had taught me. He completely enlightened me on a multi-

tude of things I had done wrong. So for years I'd build guns and take them up there, and Carl would go over them and correct them and show me.

Then along about that time I met Joe Kindig, Jr. (author of *Thoughts on the Kentucy Rifle in Its Golden Age*) with that tremendous collection of fine-carved rifles he had, and Joe was a real nice collector and perfectly willing for me to go in there and look at anything I wanted to. I learned a whole lot of things there.

So I progressed right along and I got up to a point where I thought I could build a gun just about as good as anyone else's. My favorite period was the Lancaster County, Pennsylvania rifle of the 1770s. So that was the niche I put myself into, and everything I made was pretty much as though I had lived right in that area. It was all pretty much in character with that time. But eventually I got worn out with it, and I started showing other people instead, and that's what I've been doing ever since. In my class at Haywood Tech, I've had as many as thirty-nine students in one quarter, so I guess we're going to keep the class a while. There's been some fine gunsmiths come out of it. I've had a few guys that were just as good as I was, and that's all you could ask for [as a teacher].

Tom Alexander started the Cataloochee match back in the early 1940s and one of the distinctive things about it was the location—it was isolated way up there on top of that mountain. Even though it was in August, it was always pretty cool—nice atmosphere. And another thing that was distinctive about it—and one of the reasons it caused a lot of interest—was that it was like the matches were back in the old days. It was started by old-time local match shooters, and they conducted it pretty much like it had always been done. They weren't the gun-collector types or anything like that running it. It was strictly old-time. Each shooter used any kind of target he wanted to—any shape. He could shoot at a *Life* magazine if he wanted to. The only stipulation was that he had to put his own X on the target; then he'd fire three shots and come as close as he could to that X.

In the very earliest shoots I can remember, they would have a stack of oak boards up there and a fire built, and they'd throw those boards over there in the fire and scorch them black. Then the shooters would cut out all kinds of little cardboard targets for themselves [illegible] on each oak board. One of the most popular was a square with a V [illegible] in the top of it, and they'd aim right at that V—right at the [illegible]. But they could choose their own type of target, which was important because during the first matches, they used all old guns—I didn't see any new guns at all the first year—and with those old-time hunting sights, maybe one type of target didn't work so well. You had to have a target that would relate to those sights, and everybody had his own version of what he could see and shoot

PLATE 369 Left to right, Harvey "Cap" Price, Bill Large, Earl Lanning, and Vee Jones at the 1959 Cataloochee shoot. Vee Jones holds the record for the best target ever shot at a Cataloochee match. He put three .45-caliber bullets into one hole in the dead center of the "X." He had one of Bill Large's barrels on his rifle. (Photo courtesy Earl Lanning.)

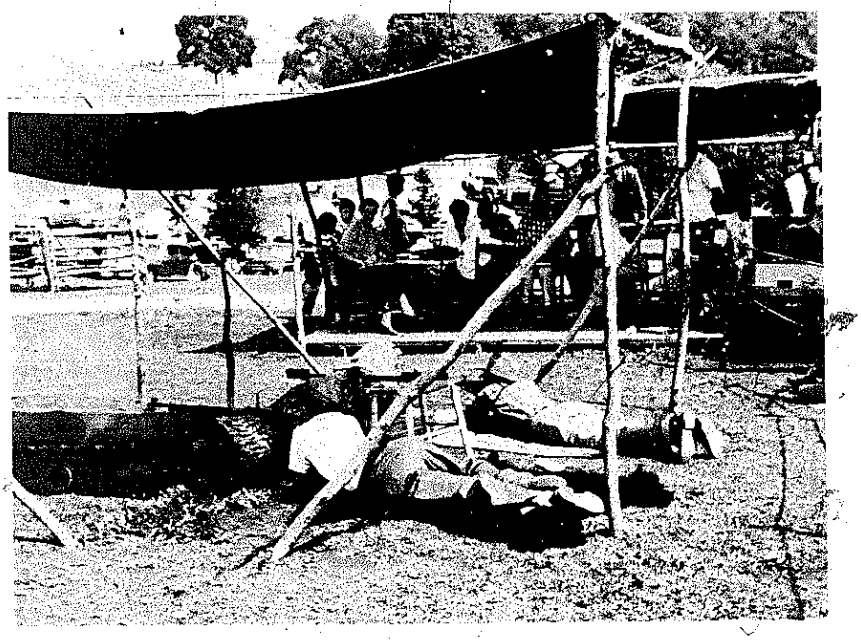


PLATE 370 Shooting in the 1955 Cataloochee match. The man on the far left is the famous photographer and gun enthusiast, J. T. Holley. He is shooting a gun, dated 1804 on the breech, that was used in the Battle of New Orleans. He called the gun "Old Kellem." (Photo courtesy Earl Lanning.)

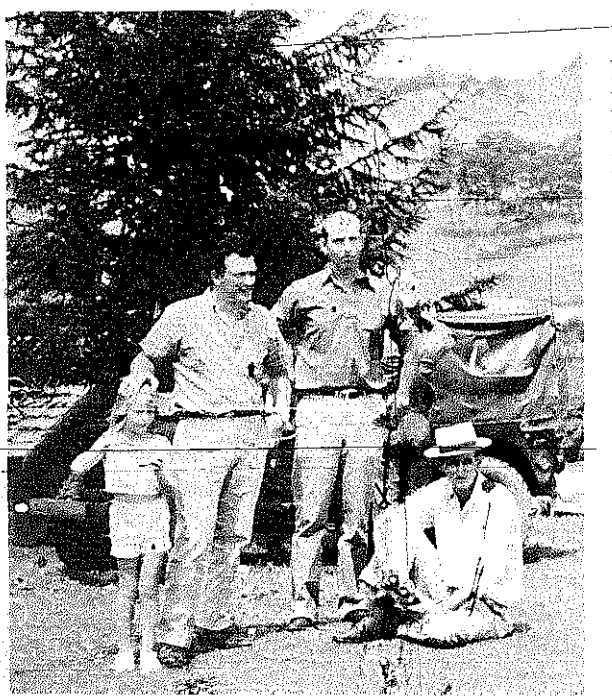


PLATE 371 Left to right, Judy Lanning, Earl Lanning, Bud Siler, and Joe Farmer at the 1963 shoot. (Photo courtesy of Earl Lanning.)

the best. But they didn't have these modern sights like they've got now. Those old Kentuckies had the old-time hunting sights on them: sort of a semi-buckhorn-type affair on the back, and then they had a little silver or barleycorn sight in front, and they were tough to see out in the sunshine. That's the reason some of these guys used copper hoods to shade them.

Anyway, they'd choose their own targets, and put their own X on them, and shoot at those. Three shots. And they shot across a log. It was a laying down deal, and it was at sixty yards, which is pretty far. It's a little too far, actually. Most matches around the country have been fifty yards for a long time. Then another thing that made the match tough was the fact that you had to stand in line to shoot. You would shoot one shot, and then they would take your target down and put up the next man's, and you'd go to the back of the line. Then when your turn came again, they would set your target back up, and it might not be set up exactly the same way. It was a crazy, hard way to shoot, but it was an old-time match, and you just had to put up with that. Of course, everybody kind of liked it that way, and it kept up the interest.

When they got ready to score, they'd have a lead bullet that they had cut in half through the middle, and there'd be an X marked on the inside of it. They'd set that bullet down in each of the three holes in the target, and take a set of dividers and measure from the center of the X on the bullet to the center of the X on the target. Say maybe one was a quarter inch from cen-

ter to center, and the second shot was a half inch, and the third shot was a quarter inch. Well, that man's score would be the total of those measurements, or one inch.

Another good thing about Cataloochee was that they always had a live steer, and at the end of the match, the two hindquarters and the two front quarters were given away to the four highest scorers. The shooters were divided into age groups: up to twenty, then twenty to forty, then forty to sixty, and then sixty and over. But they didn't go by age groups for the winners. The four best boards of the day got the beef, no matter what age group they came out of. The very best boards always got the hindquarters, and the next two best got the front.

There were a lot of things about the match that were hard—and made it maybe not quite as democratic as some of the more modern shoots today—but I don't know. You lose something when you gain something. Some of the old-time heritage goes when you modernize the darn thing, and you lose when you try to make it better. The old shoot is phased out now, and there's a new shoot over here at Waynesville [to take its place]. They don't have a live steer. They just buy beef and give the beef away. Then there's a nice big trophy that goes with it, too. It's a good match, but it's not quite the same as the old one.

A Shooting Club: The Blue Ridge Mountain Men

All across the country, local clubs are being formed, most of which sponsor local shoots for trophies and cash prizes. We found, to our surprise, that our own area has one, and Mike Drake and Bobby Rholetter visited one of their shooting matches and talked to their president, John Harkins.

Most of the members in our club are deer hunters, and they like to shoot muzzle loaders. It's just something different than shooting a cartridge gun. It's educational, and you might say it's a challenge to see if you are as good as your forefathers were. In those days they shot to live and to protect themselves, and it's fun to test your skill against theirs. Today there are probably more people in it than there were in those days. Today mostly it's just target shooting, but generally in the hunting season a lot of them go hunting deer with muzzle loaders.

These guns are surprisingly accurate. I saw in one of our *Black Powder Times* that they put up a bunch of police department people shooting cartridge pistols against a muzzle-loading club, and the muzzle loaders came out far ahead over the pistol shooters. They're just that much more accurate.

PLATE 372 Left to right, John Harkins talking to Mike Drake and Bobby Rholetter at a recent shooting match sponsored by the Blue Ridge Mountain Men.

We've been a chartered NMLRA club since we formed four years ago. It wasn't too hard to get up because for some reason or another, there were a lot of men who were getting interested in it. And one good thing is that the NMLRA doesn't tell us what to do. If we need to know anything, we can write them in regard to the national rules or something we don't understand, and they'll help us. But members don't even have to have a gun. They can just be a member, and that's it if they want. Our treasurer doesn't shoot targets with a muzzle loader, but he has shot deer before. He doesn't participate in these matches, though.

We try to have meetings once a month. Sometimes we give the club members notice on a short order because something has turned up that we wish them to know about. Generally we try to have a meeting a week before we're going to have a shooting match so that members who have been assigned to a detail can get together and understand what they've got to do, or they can pass on their duty to someone else if they aren't going to be able to make it.

The dues that come into the club go for operating expenses, and generally most of the money goes to pay for the trophies. What money is left goes to buying targets, stuff for a little food concession set up at each match, and general operating expenses. The club's not a profit-making deal. We try to make just enough money so we can stay solvent and not lose.

Most of the members of the club are from right around here. Right now we don't have any women shooters in the club as members, but we have women shooters come to the matches, and they tote those trophies off!

There are lots of different kinds of targets used at these matches. Each shooter picks up the kind he wants to shoot at, and then the highest score on

PLATE 373

PLATE 374 Even youngsters participate in shooting matches.

PLATE 375 Scoring targets.

that particular target for the day wins a trophy. We change targets that we buy from match to match, so there's plenty of variety for people to pick from.

It's not a big, nationally important shoot or anything. We just get out and try to have a good time with these muzzle loaders, and some of the best people in the world are in muzzle loading. And more are coming in each day. Like today, someone came to this shoot that's not a member of the club. He'd never been to a shoot before, and he walked off with a first-place target score—won a trophy. So muzzle loading is a coming thing, and I expect it will be here a lot longer. More and more people realize it's an easy thing to get into. It can be expensive, but you can make your own lead balls at a much cheaper price, and your own percussion caps and your own patches and knives and ramrods and cleaning jags and things of this sort. Some members even make their own guns. In the near future I want to build a Bedford County percussion rifle with brass furniture. I already have some of the parts to build it with, but I haven't got the wood yet, which is very costly.

It's a most relaxing, enjoyable thing to shoot a muzzle loader after you understand the principal workings of these guns.

The NMLRA Shoots

The biggest shoots of all are those sponsored in the spring and fall by the National Muzzle Loading Rifle Association in Friendship. Though growing pains are obvious, the shoots are still spectacular occasions. Divided in half by a small river, the site breaks perfectly into two separate shooting areas. One is devoted to those individuals who wish to compete by shooting at targets from a formal range. There, there are matches especially for those who shoot flint, percussion, pistol, trap, skeet, bench, or slug guns. Participants camp in tents, vans, trailers, their cars, or rent rooms in local motels.

The second area is devoted to the primitive range where participants dress in buckskin clothing, camp in tepees or lean-tos, and engage in matches that can bewilder the novice observer.

Jeff Reeves and Kirk Patterson spent an afternoon with two men on the primitive range and talked with several people.

Dale Black is a warehouseman at Scott Air Force Base and has also worked in grain mills, aircraft factories, and automobile assembly plants. He has been involved in the primitive side of muzzle loading for twenty-five years.

Hawk Boughton received basic infantry training in World War II at Camp Forrest, Tennessee, and subsequently served in the U. S. Army in the South Pacific. At various times he has worked for the U. S. Forest Service, has done technical writing in the missile business and for the Allis-Chalmers Company, and has spent two years as a cook on river boats. More recently, in an attempt to find employment closer to his home and to a mother who was getting up in years, he took a job as a parts inspector at an Emerson Electric Company plant in Paris, Tennessee. Aside from the spare time he spends going to muzzle-loading events, he also co-operates with the TVA, running "Wilderness Weekends" where he teaches participants such survival skills as how to make a fire without matches, find and prepare wild goods, cook without utensils, snare small game and use fish traps, sleep in cold weather, build shelters, use a canoe, and find directions without a compass.

Hawk is the only man who has won the Mountain Man Aggregate match at the NMLRA three times, and Dale has won it twice. This match requires that participants wear period clothing of the type that was common from 1750–1840, and that they use a flintlock rifle equipped with open, non-adjustable sights. Each participant must build a fire with flint and steel

PLATE 376 Hawk Boughton throwing the knife in the Mountain Man Aggregate match.

within a specified time period, make three difficult shots with a flintlock rifle, throw a knife three times, and throw a tomahawk three times. The targets and their locations are changed from year to year to keep it competitive. This year, for the three rifle events, a participant had to shoot at the edge of a playing card and split it completely in half, shoot at a barely visible target in the woods, and shoot at an axe blade mounted in a stump. The latter shot, if done properly, would cause the lead ball to split in half on the blade and break two clay pigeons simultaneously—one mounted on either side of the blade. Hawk did it while we watched. Dale split the playing card, but Hawk missed.

When they had finished shooting for the day, we talked to them:

DALE: I've been interested in early history all my life, ever since I was in grade school. When they'd give me a history book, I'd read it the first day. That was all I'd do. I mean, I liked it. Hawk and I, I guess, go back about ten years. We kind of started in muzzle loading, and then we went off on a little different path. We wanted to follow the historic way of doing things,

PLATE 377 Hawk splitting a lead ball on an axe blade and breaking two clay pigeons.

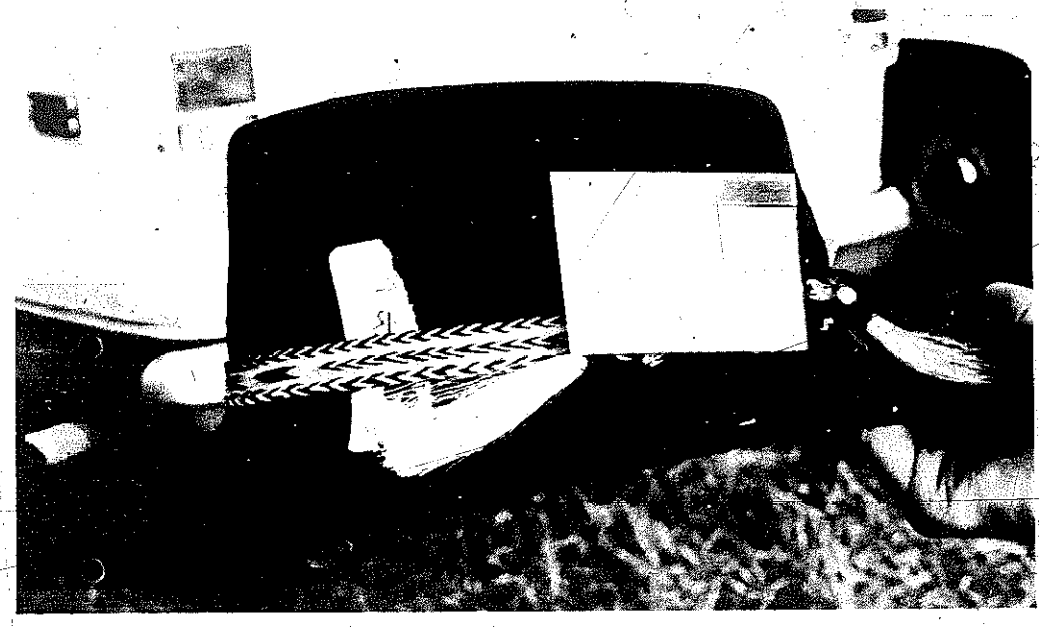


PLATE 378 Dale Black split a playing card in the Mountain Man Aggregate and tucked half of it in the horsehair band of his hat.

and dress like it, instead of just saying, "Well, I'm going to shoot a muzzle loader." There's really more to it than just having a rifle and a pouch and shooting a few targets. You get to reading history and you get interested in it, and the more you get into it, the more history you assimilate. Right now I've joined a Civil War outfit, and that's an entirely different part of muzzle loading. We re-enact certain battles, for example. It just all depends on how far the individual wants to go. Maybe at some point in time a man reaches a plateau where he's satisfied with himself and what he's doing. But we're usually working on a part of our gear, like authentic type moccasions or authentic type belts or some ironware for our cooking. It's a continual thing for us. We're all the time trying to better our gear and be more authentic with it. I might say, "My cooking utensils are not quite right," and I'd spend a lot of time going to museums until I found a part I was really interested in that suited me. Or I might spot a knife and say, "Well, gee, there's just the knife I want. That man carried that knife to skin beaver and stuff." And I'd go down there and try and make a sketch of it. And if you're lucky, the people might let you draw a line around it and get a pattern, and then you go home and do your best to re-create it.

HAWK: Dale here's a blacksmith, and he's hand-forged a lot of his stuff.

DALE: We're not trying to go and fake it in any way. We don't try to fake anything. The idea is, if we make something, we want to make it of a type that was used during the time we're interested in, the time we're depicting. It's just like a hobby. You're constantly bettering yourself.

Some people think we're stupid, I guess, and they have different viewpoints and one thing or another; but I believe if I want to have a tepee or live in a lean-to or dress in buckskins, I shouldn't be frowned upon. There are a few people who don't think too highly of it, but I feel they're welcome to their viewpoint just like I'm welcome to mine.

In fact, I think the fastest growing part of muzzle loading is the primitive part of it, and if our National Association [NMLRA] decides not to go along with it, then they'll be making a big mistake. It'll break off as a splinter group and go its own way. The National Rifle Association many years ago pooh-poohed muzzle loading. Said, "If you want to go out and shoot stinky black powder and get your hands dirty, then it's your business, but we don't have to be interested in it." So it broke away, and now you have the NMLRA. The NRA could have had all of it, but they didn't want it.

But there are all different levels of interest. If you'll notice around here at Friendship, there's some people that wear a hat with a feather in it, and they could have on a blue serge suit, but they feel content. They say, "Well, boy, I'm game. I'm authentic." And then you meet another man and he's in full skins that he's tanned and sewed himself, and he says, "I'm portraying what I want to be." So it's just how far the individual wants to go. But

PLATE 379 Dale Black.

PLATE 380 Hawk Boughton.

you never seem to reach the end of the rainbow if you're really into it. It's like the process of learning in school. When you're at the end of the freshman year, you think you know everything there is to know in the world. And at the end of the sophomore year, you find out how dumb you were in the freshman year. That's the way life is.

HAWK: I think one thing we all have in common is that we enjoy reading the old books—the original manuscripts if possible—written by people who helped settle this country and went through the blood, sweat, and tears of the frontier period. I get a big kick out of finding something in one of those books that tells me how they did some small thing. To them it may have been a simple and everyday way of doing something, but it's often been lost and is unknown to the modern generation. To me and to many others like me, it becomes very important. One book I was reading, for example, was *Seed Time on the Cumberland* by Harriette Simpson Arnow. She tells about a frontiersman who was coming back from a deer hunt, and he had stopped to cook his supper. He wanted to make some bread, but because he traveled light, he didn't have any pots or pans. So he dug a hole in the ground, scooped it out bowl-shaped, took the fresh hide of the deer he had killed, laid that hide down in the hole flesh side up, and he had a perfect bowl in which to mix flour.

And in another book I saw the other day, a man said, "You know how the old-timers made a hat sometimes?"

This other man said, "No, I have no idea."

He said, "they took a piece of rawhide, wet it, made a bowl-shaped hole in the ground, cut the hide round like a brim, and pressed it down into the hole and put something flat on it and let it dry. When it dried, he took it out and he had a hat made out of rawhide. And then he smoked it over the fire to make it waterproof."

Another old book I have was written by a minister who lived as a boy on the frontier of what is now West Virginia, and he tells how most boys learned to throw the tomahawk. He said they'd be going out in the woods, maybe to get the cows, and as they were walking along, they'd throw at a limb or a dead tree. That way they'd learn that a 'hawk had to turn one turn for a certain distance, and a turn and a half for another distance, and two turns for a longer distance. They learned that way, and they kept that knowledge with them. The tomahawk, like the knife and longrifle, could be an instrument of entertainment because they didn't have TV. A tomahawk, knife, and gun were three items that they had with them at weddings, funerals, and cabin raisings. When they'd get together, since they had no other real way of entertainment, it was just natural for the men to shoot or throw knives and 'hawks; and it was also a useful skill for them, of course, for these were skills on which they relied in their scrapes with Indians.

PLATE 381 Jeff Reeves and Kirk Patterson tape recording Hawk and Dale. When asked about their buckskins, Hawk said, "The story is that it helped water drain off in a downpour instead of soaking into the cloth, but I don't go along with that. I think it's just style—it was the style in those days. You even see people with a little fringe over their pockets where it would do no earthly good in a downpour. But I believe that one thing that it *did* do, whether they realize it or not: It helped break up their silhouette when they were in the woods. I mean, if you were dripping with fringes and things, you would blend in with the woods easier than if you were just a hard silhouette.

PLATE 382 Hawk, due to his nickname, was given a hawk's claw which he wears around his neck. Beside it is a hinged cow horn he uses as a powder measure.

DALE: They've got bales of volumes on the mountain men and trappers in historical societies in St. Louis because St. Louis was a jumping-off place. They just haven't gotten around to publishing the manuscripts yet, but when the interest of the public is great enough, I guess they'll be bringing them up. Something like this is fabulous because so much of this has been lost and few people really care about it.

PLATE 383 Hawk's fire-starting kit, worn on his belt.

And we have our get-togethers at historic sites lots of times. There's an annual shoot at Fort Chartres, Illinois, for example. Only part of the walls are left there, but in the eighteenth century it was the most impressive fortress in what is now the United States. It was the seat of the French empire here—the hub. French officers from Detroit would come down for four or five days and meet with the people down at Fort Chartres to decide how to get rid of the English.

HAWK: And canoe brigades made regular trips from Montreal clear down to New Orleans taking goods down and getting supplies to bring up to the fort.

DALE: There have been at least three forts on that same ground. Part of the walls of the powder magazine is all that's left now. The walls were six foot thick in the main fort, and they were used to build a bridge across the river at St. Louis because the rock was there available and already quarried. They just hauled it on flat boats down to St. Louis and built their bridge out of it. It's an impressive thing, but many people don't understand the significance of it: that that fort was there before George Washington was born, and that they brought in a thousand stoneworkers from France and built it on the banks of the Mississippi as their capitol. Quarried the rock by hand and hauled it down there in wagons and built it.

HAWK: That's the same kind of thing that got me interested in all this, too. In 1968, I organized a group of buckskinners to duplicate the march that George Rogers Clark made across the Illinois Territory to Fort Kaskaskia. It was a hundred-and-twenty-five-mile walk. Clark and his men did it in five days, and we had to do it on the same days he did it. And it worked out fine.

PLATE 384 Dale with a white oak split basket and a meat-cooking fork he made.

We think that by learning to be self-reliant and passing skills on and reminding people of their tradition and heritage, we're doing some good in the world. It's not all for our own enjoyment. We do think that sometime it might help because you can't guarantee we're not going to have another war. Our country might even be invaded. And if this should happen, the people who know how to survive on the land as far as finding food and shelter, snaring animals, fish trapping, making fires without matches, cooking without utensils, and getting along without all the modern things—they may help save our civilization.

DALE: I don't think these things should be forgot. There should be as much as possible put down with the written word. 'Course, the written word leaves a lot to be desired.

HAWK: That's right. You can talk all day about wild foods you can find, but if you don't actually find some and go to the trouble of cooking it and trying it, chances are the knowledge won't stay with you. It's a college from which you never graduate.

DALE: It's the same with the muzzle loading. Once you get hung with the muzzle-loading bug, you never graduate from it. If a man says he knows everything there is to know, he's an idiot because you never get to know it all.

More and more people have gotten interested in it. It's really something to watch. When I first came to Friendship twelve years ago, there was just a small area being used, and there was plenty of space to spare for camp grounds. Nobody had any tepees or anything like that.

HAWK: I have friends who say they'll no longer come here to Friendship because they don't like so many people, but I still find that here's the place to come to see your friends from all over the country, to shoot and talk and have a good palaver, and that's the main reason I still like it here.

DALE: And also there's a lot of people that come down here and they're interested: "How do I get into this; how would I get a tepee; where would I get a lean-to; how do I get my buckskins together; where would I buy an authentic-looking rifle?" and all of this and that. And if some of us older people sit around and ignore them and don't pay any attention to them, we're defeating our own purpose. If a man's interested, I'll go the other halfway and tell him what I think he should know and what might be the pitfalls that I have fallen into over the years. Then if he ain't got sense enough to at least listen to what I've got to say, that's tough. That's all you can do for him.

HAWK: You might be able to keep him from blowing his head off with one of those cheap imported guns and get him started right so he doesn't get disgusted and drop the whole thing.

DALE: The biggest thing that's come up now is a lot of Japanese-made and foreign-made rifles. They may be safe with light loads, but whoever's getting into this should at least do enough research to find someone that's already preceeded him and learn what might be the best kind to have, rather than just going and buying something that's off the shelf where all the salesman is interested in is the 20 per cent commission he can make.

Also we come in here to Friendship to outfit ourselves for the following summer until we can get back again.

HAWK: It's a big rendezvous in one way of speaking.

And over the last eight years, the "primitives" have become more numerous. They like to practice as near as they can, in the spare time that they have, living the ways of their forefathers. Their number has grown tremendously, and they have a good primitive program here for those people who want to live in lean-to's and tepees, make their fire with flint and steel, and eat just the foods of the old days—not the canned stuff.

Now the American Mountain Men is a separate organization that has taken the cream of the crop of the primitives. It started about six years ago. It's formed along the lines of the old fur-trapping parties. Although we know that the common idea of the mountain man is the beaver trapper of the West, we had our own mountain men here too. In fact, many of the ones who went West came from here originally—all of them practically.

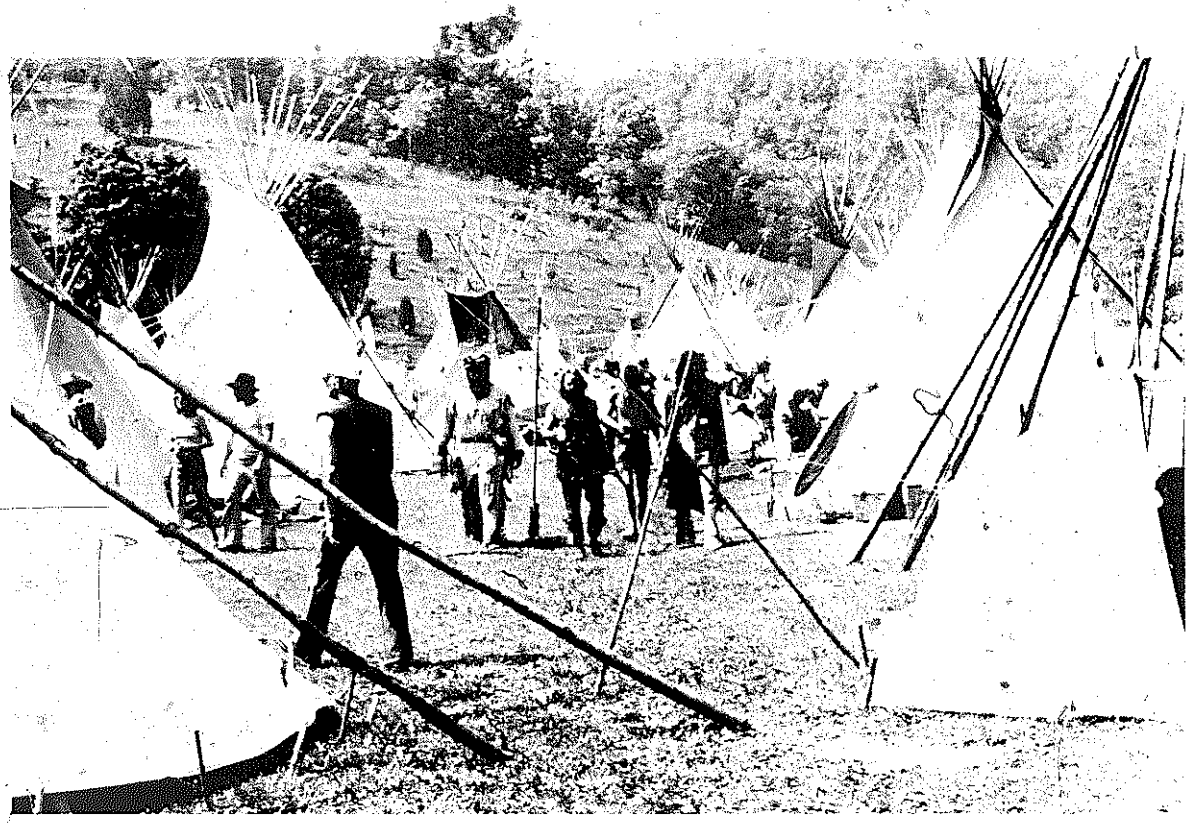


PLATE 385. The primitive camping area at the 1977 Friendship spring shoot.

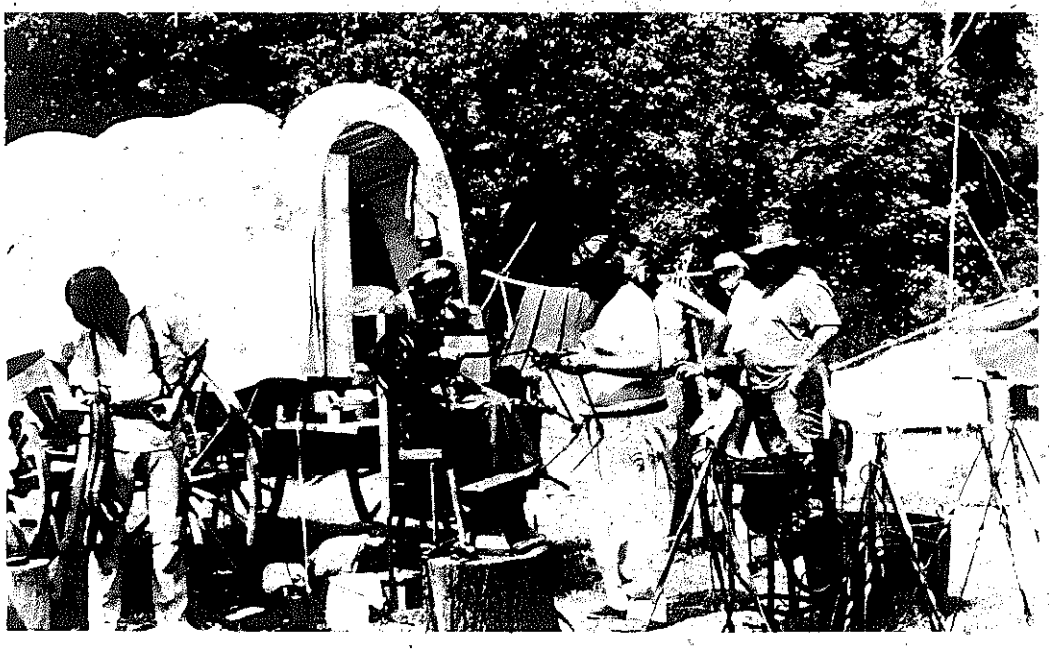


PLATE 386. The primitive area features numerous areas where handmade goods can be purchased or traded for in the old tradition. The area also has booths like this blacksmith shop in full operation.

Jim Bridger, Kit Carson, Joe Meek, and Jedediah Smith are good examples. So we kind of lean toward our eastern forefathers.

The American Mountain Men is a national, non-profit association. We have about five hundred members now, and we're growing. The headquarters is in California, and Walt "Grizz" Hayward is the director, or *Capitaine*. When we have a rendezvous, nothing is allowed in the camp area that wouldn't have been found there from 1760 to 1845 or 1850. These are patterned after the original rendezvous on Henry's Fork of the Green River in Wyoming.

That original rendezvous began a system that the fur traders set up to outfit their trapping brigades—to make it possible for the trappers in the West to get all of the things that they needed to sustain themselves for the next year out there in Indian territory. These included powder and lead, cloth shirts, fish hooks, knives, beads, salt, pepper, right down the line. And they could trade their hides that they'd got for the year and get their necessities for the following year. That saved them from going clear to St. Louis or Independence, Missouri, to pack this stuff in.

So we've formed along those lines. Today, the men bring their handmade items—their skins, knives, horns, tomahawks, and things like this—and take them to rendezvous to swap and sell. It's a gathering where the accent is not on shooting. It's an affair—a frolic—where they can talk, swap, lie, exchange items, goods, and stuff for things they need; and if somebody bets another man that he can hit something at a distance, the two of them might get up and shoot. Or they might throw the tomahawk in a contest. But it's not a gathering for shooting *per se* like you have at the other shoots.

We've got men from all occupations in the group. In fact, last night I met Leighton Baker, a former state senator from Florida, and he's the "booshway" of our Florida brigade. "Booshway" is from a French word, *bourgeois*, meaning "middle class," and in the fur trade, he was the leader of a fur party. Leighton is a descendent of Jim Baker, one of the old trappers.

I'm what they call a "Segundo" in the organization. It's Spanish for "Second." I'm over the Eastern Territory. We have a Western Segundo also. But we don't have membership drives. Men have to ask to get in. I have to sign every application from the East, and if I sign it, he's in under certain provisions. There are a number of requirements he has to fulfill before he can become a member, and they're the kinds of requirements that the average man who puts on a pair of blue jeans and carries a Spanish-made rifle wouldn't care anything about fulfilling. It's just not his sort of thing. He doesn't want us, and we don't want him.

A new man is called a "Pilgrim" and he has that first year to get all his gear together. We prefer that he handmakes it, all except his rifle. We don't

require that. But he should try to make as many of the other things as he can. He can get his clothing and everything together, and then he should take time to attend a couple of shoots or rendezvous and see how he likes us—and give us a chance to see how we like him. And if either side is not satisfied, he can join another club that's more suited to what he wants.

So he has a grace period of a year. And if he's still acceptable after a year, he is promoted to what they call a "Bossloper," and after one more year, he may qualify for the third and highest degree of "Hiverano"—which means, roughly, "a person who lives or has lived in the area." A Hiverano to the mountain man was someone who had been in the mountains at least a year and wintered in the wilds either with the Indians, or at least at one of the fur posts. That man was experienced; he could take care of himself in a hostile land. He could survive. Any of our members who holds the Hiverano degree can do the same.

DALE: The average life was only two years in the mountains. Often less than two years. Something would usually happen to them. They'd be killed, or die of natural causes, or—

HAWK: Give it up and get out.

DALE: A broken leg or anything could just put you away. So the average life span was about two years.

HAWK: The primitive life, even for a few days at a time, is definitely not for everyone. But lots of people, once they try it, find it answers a deeply felt need. I don't know. I may be all wet. But we're all descended from primitive people. The campfire and the lure of the wilderness is in us all. Now I feel some of us have these feelings stronger than others. They may be handed down in the genes of people, I-don't know.

DALE: Some of the things you do it seems like you've done before in another life or something. I want to tell you, I don't believe particularly in reincarnation and stuff like that, but you'll find a man that's never seen a flintlock before, and in five minutes he'll be shooting like a pro. Then another man, poor devil, he can work at it for years and never shoot one right. The same with a boy. I've seen boys in high school that never had a saw in their hand, and they'll be doing great carpenter work quickly because they seem to know naturally how to do it. I've seen it happen too many times—there's just something there. It's just one of those things.

But the thing that bothers me, like I said before, is how much of this old information is getting lost. I was at a sale one day where they sold out a blacksmith shop that had been in business since 1855, and I bought a box of junk because I wanted some buckles in there, and there was a little notebook in there written in old ink that gives all the measurements for making a single buggy harness, double buggy harness, work horse harness, and a soda harness. I never heard of that—he could have meant something else—but

he had it s-o-d-a. I'd like to know what that was. But I was fortunate to get that book, and I'll save it as long as I'm around and pass it on to somebody. But a lot of people are just throwing information like that in the trash can. They'll carry it home, and they won't give it to nobody—it'll just go "whop" in the can, and it's gone forever.

You all at *Foxfire* are doing a lot of people a lot of favors by saving some of that, because it's preserving a part of history that should be preserved. The younger generation like these boys here [Jeff and Kirk], I'm so glad they could be here and soak up any information they can get because these people want to put it out; and when you put an old person away in the ground, just think, all that information went to thunder right then. And so many of them will just do their darndest to help you if you ask. When I was about nine years old, my old uncle who had been a railroad blacksmith in the yards, had a bad stroke. But if I was interested, he'd totter out there, and as I remember it now, it probably was a supreme effort for him to get out to the shop 'cause he'd sit on a chair for a half an hour after he got there. But he tried his best to show me how to blacksmith, weld, and stuff with his cane, "You do this," and I was small, but boy, I tell you, when I started really getting into it a few years ago, it all came back to me just like he was there. At the time, I didn't comprehend everything he said, but somewhere back in there it was stored. When it's in your head, it comes out, if you give it time, when you need it.

Those old people really want to teach you, but the school system is so messed up nowadays that they won't let them do it unless they've got ten years of college, and that to me is nothing. If somebody has made shingles for fifty years, he probably knows more about certain skills than a college professor ever got by reading books.

We talked to both Earl Lanning and Garnett Powell about the Friendship shoot and its evolution. Earl Lanning said:

I went to Friendship in 1955 the first time, and the whole shoot was contained in just a little compound. Then they bought the area across the river. I can remember when there wasn't but one tepee, and it belonged to John Barsotti, the famous artist, who's one heck of a nice guy. He had this tremendous big tepee, and any time of the night you pulled in, nobody worried about a place to sleep. You just went and crawled in John's tepee. Of course, you might be sleeping with eighteen or twenty people. You'd have to move the paintings and guns and all that stuff out of your way and make a bed and go to sleep. But it was a great period right in there. I'd just as soon not go back, now. I remember the way it used to be [before it got so popular and so large], and I'd rather keep it that way. Everybody knew me back

in those days, you know. I guess they've all forgotten by now. Back then, they'd find out where I was camping and shoot a cannon over my tent wherever I was at—three or four o'clock in the morning they'd drive a cannon up and shoot it over the top of you—blow you out of bed. There wasn't anybody supposed to rest up there. You didn't go there to rest. You stayed up for days at a time. It was a crazy place. Used to be a guy up there who would haul all the gunpowder in an old Chevrolet van, and he smoked a big black cigar. He had the gunpowder in big twenty-five-pound kegs, and it was plumb to the ceiling in that van. And he'd come in there smoking that cigar, and we'd buy those kegs of powder for fifteen dollars.

And back in those days, there weren't any sale sheds. It was a bunch of cars, like a flea market. I remember when Dixie Gun Works was in the back of a station wagon. They'd build up these little old tents and lean-tos, and they'd have their whole deal in those. Now they've got the commercial row and the sheep shed and all those booths.

Back then there wasn't hardly any water, and there weren't many bathroom facilities. Pretty primitive, but everybody just went along with it. We didn't care. Everybody just had a good time.

Garnett Powell, who is active in a number of gun-related organizations and is highly respected in the field, talked to us for several hours about Friendship—its roots and its evolution:

I started going in 1950. They had around 470 registered shooters that year and several hundred spectators, who were mostly area people. The shooters, of course, would come from all over the country since these were national matches. And for muzzle loading, at that time, these were the *only* national matches. There were muzzle-loading clubs still holding regional and local shoots all over the country, but the National Championship was always at Friendship, Indiana. In those days, the big one was the fall shoot, five days through Labor Day. Over the years they kept extending it until now it's nine days. Then in addition there was the spring shoot and a turkey shoot, which was in November, a beef shoot, which was held between Christmas and New Year's. The first beef shoot I ever attended was held at WLW "Everybody's Farm"—then the world's most powerful radio station —in Mason, Ohio. This was a farm owned by the Crosley family, and we shot there. I went in December between Christmas and the first of January, and there was snow on the ground about a foot deep. They had several big oil drum barrels all fired up for heat. The temperature was probably fifteen or twenty degrees, and there was a group of fifty or sixty people out there with their rifles. I remember "Bull" Ramsey let me shoot his famous big rifle "Ole Seiberts." It was so typical of early day matches held two hundred years ago.

PLATE 387 Walter Cline during the 1930s when he was an early president of the NMLRA. (Photo courtesy of C. Frederick Beck and Garnett Powell.)

The most heavily-attended shoot, of course, was the National Shoot over Labor Day. In the early days, Bill Large and John Barsotti would have been there, along with Merril Deer, Carl Fuller, "Boss" Johnson, John Amber, Charlie Ruark, Neil Wesley, Walt Muething, Bull Ramsey, Judge Resley, and Dr. Duncan from Texas. I remember also a Mr. Cline; he was a jeweler who made some gorgeous silver mounted and engraved rifles. And A. O. Neidner, the great gunsmith from Michigan, who was in his eighties; and, oh, numerous other gunsmiths from all over the country. Walter Grote from Canton, Ohio, was a famous slug-gun man who was still shooting records in 1976. He was always there for the matches. In other words, if you go back through *Muzzle Blasts*, the who's who of muzzle-loading rifles, at one time or another most of these people were in attendance at the early shoots. Every night there was a campfire and everybody gathered around in a huge circle, and the talk would range all the way from the battles of the Civil War to the Western Wars and Custer's defeat. In fact, I probably learned more about history around those campfires than I could ever learn out of a library of books.

PLATE 388. Walter Grote (left) and Pete Menefee (right), both early NMLRA members. (Photo courtesy of C. Frederick Beck and Garnett Powell.)

Many of those people had lived great personal experiences, and tales of fighting Apaches and Little Annie Oakley's shooting feats, great forest fires in Idaho, logging days and buffalo hunting on the Great Plains would be related in much detail. We had a gentleman named Hampton Swain from Canada who was in the employ of the Hudson's Bay Company and worked with many of the trading posts up there. I talked with him one day because I had always been interested in fire steels. He told me there were Indians up in Canada who were still using flint and steel for making fires, and he drew some sketches which I still have in my files of some of the fire steels that were traded to the Indians by the Hudson's Bay Company. And then, of course, we talked about the trade guns, the Fusil Indian muskets, they traded to the Indians. A very rare and colorful person. He knew all about tomahawks and axes and sleds and ivory of the Eskimos—just a tremendous knowledge of the Great Northland.

The NMLRA started in Portsmouth, Ohio, February 22, 1931. Many of those people who started the whole thing are gone now. Red Farris was one of the founders—first secretary—and, I think Oscar Seth was the first president. Red Farris and Bill Large are the two remaining people that signed up and paid their fifty cents at the first shoot that was held by the railroad YMCA in 1931. There was another group near the same time that

PLATE 389 Oscar Seth, one of the founders of the NMLRA. (Photo courtesy of C. Frederick Beck and Garnett Powell.)

PLATE 390 Boss Johnson, without whom no shoot was complete. (Photo courtesy of C. Frederick Beck and Garnett Powell.)

had been doing some shooting out near Rising Sun, Indiana. This was the WLW muzzle club under the direction of Boss Johnson who worked for the Cincinatti radio station. And Bull Ramsey went out to one of the shoots they were holding out near Rising Sun, Indiana in 1934. Bull visited with Boss Johnson and they talked and they merged the two groups into a single group that met in Rising Sun, Indiana, which is not too far from Friendship, and held probably the first combined national NMLRA shoot in 1935. That was the beginning of it. How different it is now. Elizabeth and I, right after we married, went to the spring shoot in 1956. We got in on a Friday night. Turner Kirkland was there camping in a tent, and we didn't even pitch one. We slept in the club house. And the two of us and Turner were the only three people on that entire range the night before the shoot. That's just how different it was. Today you can't even get a spot to camp there. We used to go in there and pitch our tent just about anywhere we wanted to. We all had regular places to camp and we kind of staked them out, but nothing permanent. Today you have to reserve camping a year ahead to get within miles of the range, I understand. But in the early 1950s it was just like a big family reunion.

I have a letter in my files from Merril Deer who has been president two or three times. He's still on the board of directors. And [what he said] is a

PLATE 391 An NMLRA award ceremony in Dillsboro in 1938. Here, Boss Johnson in ceremonial Indian costume presents the Crosley Trophy to Andy Whitehurst (who had scored 48 out of a possible 50 at sixty yards with a hundred-year-old muzzle loader) as Walter Cline looks on. (Photo courtesy of C. Frederick Beck and Garnett Powell.)

PLATE 392 Gilbert Angel, the champion of Tennessee, at an early shoot. (Photo courtesy of C. Frederick Beck and Garnett Powell.)

PLATE 393 Henry Pancake, a regular at the early shoots. (Photo courtesy of C. Frederick Beck and Garnett Powell.)

good illustration of the closeness of the thing. He wrote me after one of the shoots and said that he suddenly looked around and I was gone and two or three other people were gone, and the thought hit him, "It's all over for another year and I didn't even get to say good-bye. I just felt like sitting down and crying." It was an emotional thing. We were all so close and all so keyed up for four or five days, and this went on day and night: gun talk, history talk, shooting, visiting, and taking notes and photographs of rare guns and people, and it was an incredible environment to be a part of. Then, suddenly, in a matter of minutes to an hour—zam—everybody was gone in every conceivable direction to California, Texas, Virginia, West Virginia, Canada, New York, Ohio—all these places. And you look around

the range and here, suddenly, all this came to an end and everybody's gone home. And I don't think the old days could ever be recaptured. I talk with [John] Barsotti occasionally about it, and he doesn't enjoy it like he used to. I think he went last year, and he said it was just too big. The old spirit is gone and it's just not the same. We talk about the old times and the old acquaintances—like Bull, whom both of us knew—and find that most of the old-timers we knew have passed on. John was fortunate in getting there in the early 1940s. He was on the board of directors in the early days and was technical advisor of pistols and revolvers in 1941.

It has just grown too big—crowds in the thousands—too many people. But even if the present directors wanted to scale it down, I don't think they could now. I'm watching the same thing happen to the Ohio Gun Collec-

PLATE 394 Bill Large in buckskins at an NMLRA shoot. (Photo courtesy of C. Frederick Beck and Garnett Powell.)

tors. Here's an organization that every time we have a meeting—which is about six times a year—there's probably a couple hundred new applicants joining. It's outgrown every facility around the state to where they have to have it in Columbus almost totally now because of the size of it. The first time I went, there were probably a hundred tables in a hotel in Cincinatti; and now you have over a thousand tables full of guns at one of these meetings, and probably five to ten thousand people converging in the basement of the exhibition center. It's a mad scramble to where you have to fight your way through crowds to even get to a table to look at something. It's almost getting to a point where I hate going—as much as I love going. And each year they're adding, probably, another five hundred or a thousand people to the membership. And where is it all going to end?

I know Bill Large is concerned about what's happening to Friendship because I noticed in a recent ad of his, he pointed out that he had a range up there on his farm where he makes his barrels, and he said something to the effect of, "We need another place since Friendship is such a mess that it can no longer serve our needs." Now he's one of the founders, and I am sure he never thought that it would someday come to this. It's bad, you know—one of our two remaining founders to have taken this attitude.

But I believe the success of the whole muzzle-loading thing is beyond the wildest dreams that Farris could ever have. I was quite close friends with Red. We corresponded for years and watched the NMLRA grow. I was at the twenty-fifth anniversary shoot, for example, in August 1957. And even then, he was still forecasting for the future. He had no idea where this was all going to lead, but he was always the optimist. Always forecasting a bigger, better range, more members, and better things. Suddenly in a period of about fifteen years, all of this really happened. It just suddenly burst upon the scene, and I don't think anyone, even including the people who administer it, know what to do about it. They must have problems galore. I remember when we were going back in the '50s, we had one john there and we had sewer and water problems then. How in the world do you cope with ten thousand people? You know, this is like another Woodstock. Serving food to this many people, keeping law and order, the traffic problems. How many automobiles can you crowd into that little narrow valley there? I can't imagine ten thousand people. I remember when our little hoard of a few hundred went into the village of Friendship, it was like State Fair day. I just can't imagine it all now.

My start in the muzzle-gun shooting is an interesting little story. I was teaching school at the time at a vocational high school in West Virginia, and I had gotten acquainted with a teacher on our faculty from Charleston

who was a good friend of G. R. Douglas, the barrelmaker. Douglas had bought a barrel machine out of the old ordnance works in Charleston, and he was rifling barrels. The teacher friend had some of Doug's barrels made up in custom calibers and he was the machine shop teacher. So we had a sort of common interest in guns as I had taken over the Junior Rifle Club. I was the faculty instructor for our NRA club. This teacher got me interested in bench-rest shooting, and I acquired one of the Douglas barrels. I had a gunsmith in Charleston make me up a fine .22–.250 varmiter-bench gun. I was hand-loading my ammunition, and I was learning all the technical side of bench-rest shooting. So I decided at this point that since I was also doing small-bore target shooting, I would go to the NRA matches at Camp Perry, Ohio, and shoot in the .22-caliber championship matches. I made a trip up there, and I ran into the most snobbish bunch of shooters I have ever met. A rather distant, inhospitable group of people. You'd go up and try to talk or make friends, and nobody would talk to you. It was void of everything. So you sat around by yourself on the line and waited for your target to be scored; you shot and you went your own way. It was a terribly impersonal thing.

Well, my grandparents were living in Ohio at the time, and as I traveled by to visit them I was looking for primers and powder for my varmit rifle. On my way home, going through Portsmouth, Ohio, I saw this little store on the street called "Farris Muzzle Guns." I stopped the car and went in to see if I could find some powder and primers, and as I walked in this store building I noticed glass show cases along the side. And down the middle of the store was a rack, and there must have been fifty to seventy-five long mountain rifles stacked in the rack. I went over and looked in the glass show case, and here were all these Colt 1860s Army revolvers and Navy revolvers and cap-and-ball pistols on display. I engaged the little proprietor—who was almost bald except for a fringe of red hair, and had a big nose and glasses—in conversation. And I said, "Do you sell this stuff? Who would buy this old junk?" Here I was going after these beautiful custom rifles with the fancy checkering and polished blued barrels. His guns were like something he would have to pay me to haul off.

And he said, "Oh, yes. We've got quite an enthusiastic group who collect. In fact," he said, "we have a shoot where we shoot these."

I said, "You *shoot* guns like these?"

"Oh, yes. We've got national matches, and," he said, "we've got just a ball of enthusiasm." He seemed to jump up and down as he was so enthused. You couldn't believe Red's great drive unless you knew him. He was really something. And I related my experiences at Camp Perry and I

kind of started out shaking my head. So he gave me a couple of copies of *Muzzle Blasts* that he had on the counter. "Now, I'll tell you what," he said. "Where are you going to be during the last week of August?"

I said, "Well, I finish up summer school in August and I'm going down to Virginia to my home."

He said, "Well, you're not going to be back in school." He said, "Why don't you take a day or two and come out to Friendship, Indiana? I promise you an unforgettable time."

I'd never heard of the place. I said, "Well, I'll think about it, and if it's convenient, I might do that."

He said, "I'll guarantee you that if you do, you won't believe what you see. It's the greatest bunch of people that you've ever met."

Well, I came home and sat around three or four days and got bored with everything and I decided, "Well, I'd like to go somewhere before school starts." So I got the car and I went back to West Virginia, and I ran into one of the students from the school rifle club and we got to talking and I said, "Why don't we go somewhere before school starts?" So, to make a long story short, we loaded up the car and took off to Friendship, Indiana. Had no idea, in fact, exactly where it was located. We slept in the car. We hadn't taken anything to camp with or cook out. I didn't know what to expect. So, anyway, we got there and here was this atmosphere that was just amazing. The evening we arrived some guy under a great big umbrella he put on a tractor had a shooting bench set up on the range. It was almost dusk and he had this big monstrous bench gun he had built with a barrel he had won the year before. His name was Ralph Dunn. He was a farmer from Indiana. I had never seen a gun like that before. This gun must have weighed fifty pounds. He had been sighting it in, so we were watching him shoot and he began to talk to us and we began to ask questions. And he said, "Sit down and shoot her."

"Oh, no," I said, "I wouldn't dare touch your gun."

"Oh," he said, "you can't hurt the damn thing. Sit down and shoot it." That's just the way the people were, you know. At Camp Perry you couldn't get within six feet of some of these guys and their guns. He said, "Here, let me show you how to load it." So we put a target up and that was the first bench gun I ever shot. He said, "Keep shooting it."

Well, I got so excited and so involved in asking questions and talking and trying to load and shoot that I rammed a bullet down without the powder. So we had to tear the whole blessed thing down, unscrew the breech plug and run that ball out. Embarrassed the life out of me. Well, it was a big joke to him. "Now," he laughed, "you've graduated. You're one of us." I was fond of Ralph because he was such a genuine person. He passed away five or six years ago, I guess. I read of his death in *Muzzle Blasts*.

PLATE 395 One of the booths in commercial row at the Friendship shoot.

Then the next day they had what they called "commercial row" which was then just a bunch of cars backed up with the trunks opened. And here was all sorts of gun parts, guns, and scopes; there was bullets, there was lead, there was antiques, pictures, cow horns—a gunbugs' fleamarket. I looked around, and we began to examine old and new guns and went up and down the firing line. Spent the day. There was a little restaurant built onto the range house and the ladies from the Lutheran Church were doing the cooking. The food was superb—great home-cooked country food. Everyone ate there. And everybody was friendly. Just the nicest kind of people. They'd come up and introduce themselves: "Where are you from? I'm so-and-so."

Well, a fellow came up the second day I was there in a A-Model car. Real old fellow with two or three boys. Looked like a farmer. And he had this real nice half-stock rifle that had a .59-caliber bore that he had made. He had put it all together from old parts. His name was Schoonover. I'll never forget it, because he was carrying this rifle around trying to sell it. It was kind of a heavy stock. So finally he came up to me and showed me. I said, "How much do you want for it?"

He said, "I want twenty-five dollars for it." Had a maple stock on it, buttplate, set trigger—not the finest workmanship, but a pretty good shooter. Such a big bore, though. Well, to make a long story short, I bought it. It was my first muzzle loader.

I took it back down to the school and we took it to our club range, and I had written to Farris and he had sent me a mold for this big .59-caliber ball and we had molded some bullets in the plumbing shop. Farris had sent me a pound of black powder. Anyway, we got to shooting it, and the rifle club had more fun than you could shake a stick at. Found out it didn't explode, it didn't tear my shoulder off. In fact, it was called a "stinking" time by one of the kids as he smelled the aroma of black powder for the first time.

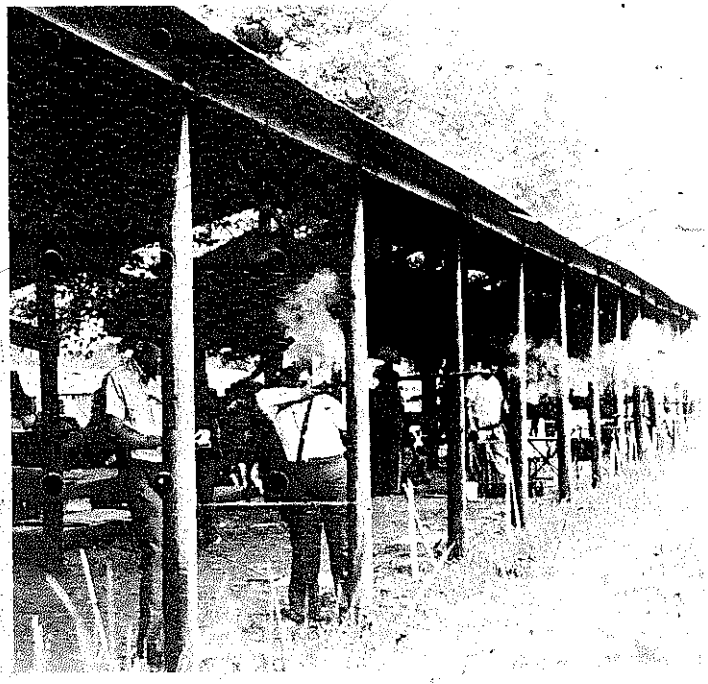


PLATE 396 A small portion of the firing line at the 1977 Spring Friendship shoot.

PLATE 397 Shooters at Friendship retrieving their targets . . .

PLATE 398 . . . and stapling up new ones for the next round.

Well, the next spring I took a couple more of the kids and we went back up to the Friendship range to the spring shoot, and I met a few more people that shoot. By that time a couple or three of the kids had gotten real enthused about the muzzle shooting and were trying to buy a rifle. Then, that fall, I went to the fall shoot again. And I registered for the shoot that time, and I took my rifle to shoot. Of course, I didn't do any good. I never was a good shot. But I had a lot of fun. A friend, Jack Kalasky, and I got in there for that shoot about two days before it started. Took the tent and everything to camp. So Jack and I pitched our tent, and right over from us was this great big old canvas fly and tent, and here was this great big old fellow over there. We were the only people on the range, and he was really surprised to know that somebody else had seen fit to come that early. So we were pegging down the tent and he came wallering across there and said, "I'm Bull Ramsey. Who the hell are you?" I introduced myself and Jack and he said, "Come on over." He said, "Have you all had anything to eat?" And we said no. And he said, "Well, we got an iron pot of beans over here, cooking out over a fire." His wife, Pearl, had cooked up a big pot of beans, fat back, and corn bread, so we spent the evening with Bull. And that was the beginning of a friendship that lasted until he died. Well, from that moment on, as everybody arrived, Bull was there to greet them, and I got to meet everybody. I think Bull knew everybody in the shooting fraternity. The second day, John Barsotti came. Well, I had heard of Barsotti. I had been reading some of his things in *American Rifleman* magazine. He was quite a celebrity himself. This past year we celebrated twenty-five years of friendship. I didn't realize we had been friends that long. But that was also the beginning of my friendship with John.

After that shoot, I went back and traded off all the modern stuff I had and began to get totally into the old guns, and I cared nothing about modern guns from then on.

At that very first shoot I went to, Red Farris had a little gun supply stand set up and I went over to see him. He was quite pleased, you know, that I had showed up. In the past twenty-seven years I've often thought about what I could have missed if I had decided not to stop in the little shop in Portsmouth, Ohio, that day. I still might be a frustrated small-bore rifle shooter. Perish the thought.

I think it's an interesting time in the muzzle-loading game because each succeeding generation that comes up seems to come up with a little bit more of a degree of enthusiasm toward these old guns. It's a growing thing. This has been helped along, again, by the Civil War Centennial and the Bicentennial. These two things, I think, have spurred the growth of this more than any other factor.

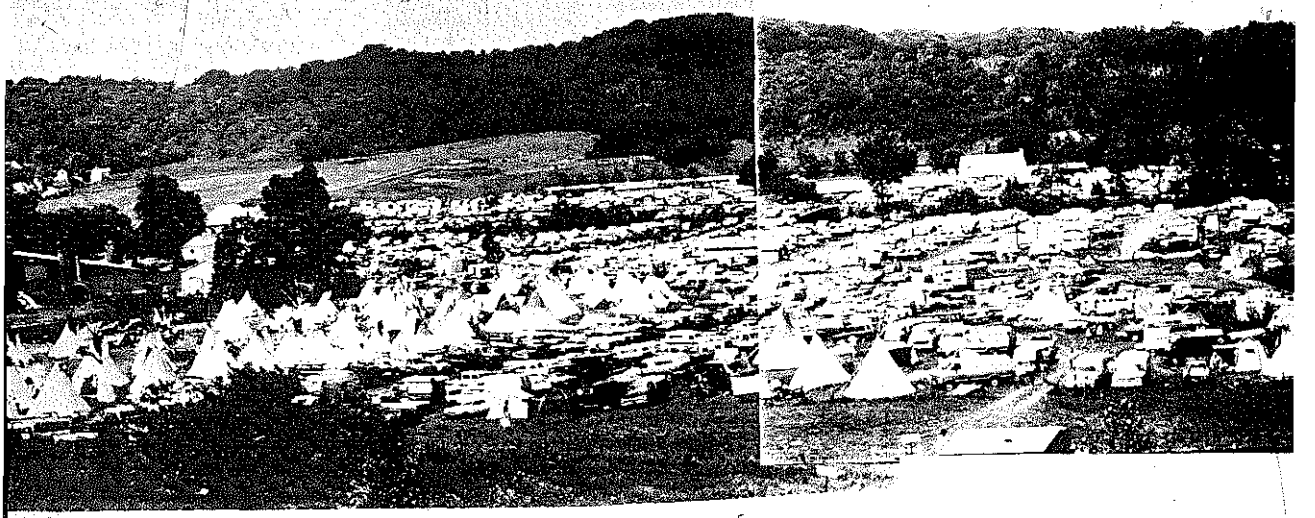


PLATE 399 Overlooking part of the Friendship scene today, including the primitive camping area.

[When we expressed some doubt that even those two events could be solely responsible for the tremendous surge of interest, he elaborated]: I've got [another] theory on it for what it's worth. Most of the Americans, I think, have a void in their lives [caused by the fact that] they can't attach themselves directly to the long lines of family that Europeans, for example, can. I think that they want to identify themselves in some way with yesterday—with their past. The movies, and I guess history in general, has dealt with the romantic side of America's past. But there's a violent sort of spirit that makes up the American culture. Firearms were an important part of the founding of the nation. Had it not been for the ability of the Colonies to arm themselves, we'd still be under the English crown. This sort of identification with our freedom—if you go the roots of the thing—is part of it. I think every American, by in large, is looking for a certain identification with the past. And I think within the last twenty years that the social conditions in America have wrought upon this nation an evil situation to where, with the politics and the other things that have gone on, people have just sort of been disillusioned with the present, and a little bit disillusioned with the future. There's uncertainty. So people are beginning to go back. And this is not only true with guns. It's true in everything old. It's true in primitive furniture. It's true in antiques. It's true in literature. There's a tremendous revival in classical music. And I think it's the fact that people are turning away from the future and today to try to identify and grab something which they feel is secure and something they can hold onto.

Well, the firearm is a part of this past. There's the romantic side of the firearm, plus the fact that with a firearm in your possession, you have a feeling of security. As the psychologists say, it's the womb concept. You want to crawl back in and wrap it around you in order to protect you. So the firearm is part of the psychological hangup that Americans have. The younger generation—I see more and more young people today that are gun crazy. The first possession they want, outside of a car, is a gun. And not really because they *need* it for protection, but for the assurance. "If I need it, I've got it." I think we're all a little paranoid that way.

And then, again, you know, we go back to that Second Amendment. You really can't forget that, because if they ever abolish this, God help us. Because it's not the principal that we could take up arms and go overthrow the Government. This isn't possible. But it's the simple fact that we have the right to defend ourselves and our property. It goes back to this spirit we were talking about that's in the mountains—this independent thing that makes up America. It's the one ingredient that makes us different from the rest of the world. And it's associated so closely to our freedom that whenever these anti-gun people begin to try to nibble away at the Second Amendment, they just stir up this group of gun collectors and Second Amendment believers, and so far they have successfully fought the worst of it down.

I abhor violence, and I try to look at both sides. And I'm frightened with these "Saturday night specials" and the fact that every would-be assassin

has got an arsenal that he could fight a good army with. This scares me because I know that sometimes these things can be turned against our civilization. And yet, you can't really cut it off. You can't say, "You can have muzzle loaders but you can't have the other guns." If they are going to confiscate guns, they're going to have to take them all. I mean, where are you going to draw the line? You can't discriminate against one group. There are people, for example, who collect pistols and love them and cherish them as much as people like ourselves who collect and shoot the old longrifles. And their rights are just as important, and I can't say you should confiscate hand guns and leave the rifles alone because that isn't right. It's a paradox. And I don't really think we'll ever see the solution to it. Even if they pass legislation in this country that would confiscate guns, they would never get them all. First of all, the criminal element is not going to come in and turn his guns in. So confiscation, to my way of thinking, is a fallacy because it won't work. All you'd do is disarm the honest citizen and leave the criminal element with his gun because there's no way you can get those guns away. They'll manufacture them if they can't get anything else. You can make a gun out of a piece of pipe, and you can shoot nails, and you can make explosives out of fertilizer, so where are you going to draw the line?

But it's something America has to deal with. Somewhere along the line, this thing will come to a vicious solution thrust on the people. When that happens, for whatever it's worth, at that point, I feel America will die. I don't think it can survive because that freedom is so much a part of us that in that spirit of it, I think you would destroy what little bit of human rights a person has left.

PLATE 400

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BLACK POWDER TIMES $6.00/year
P.O. Box 842
Mount Vernon, Washington, 98273

THE BUCKSKIN REPORT $12.00/year
220 McLeod Street
Big Timber, Montana 59011

MUZZLE BLASTS $8.00/year
P.O. Box 67
Friendship, Indiana 47021 (The publication of the NMLRA.)

Organizations Mentioned

American Mountain Men
P.O. Box 259
Lakeside, California 92040

National Muzzle Loading Rifle Association
P.O. Box 67
Friendship, Indiana 47021