

EVOLUTION OF THE PENNSYLVANIA RIFLE

By Crosby Milliman



CROSBY MILLIMAN

On June 14, 1775, the day before George Washington was made Commander-in-Chief, a resolution was passed by the Continental Congress which stated: "Resolved: That six companies of expert riflemen be immediately raised in Pennsylvania, two in Maryland, and two in Virginia . . . and march and join the Army near Boston." From experience gained during the French and Indian War, Washington had anticipated this need. He had greatly influenced the passing of the above resolution because he knew that they would be backwoodsmen of incredible capability armed with Pennsylvania rifles.

The fame and reputation of the riflemen soon spread northward; as indicated by the following graphic account of the passing of a Maryland company.

" . . . I have had the happiness of seeing Captain Michael Cresap marching at the head of a formidable company of upwards of 130 men from the mountains and backwoods, painted like Indians, armed with tomahawks and rifles, dressed in hunting shirts and moccasins, and though some of them had traveled near 800 miles, from the banks of the Ohio, they seemed to walk light and easy, and not with less spirit than at the first hour of their march. . .

"Yesterday the company were supplied with powder . . . and drawn out to show the gentlemen of the town their dexterity of shooting. A clapboard with a mark the size of a dollar was put up; they began to fire off-hand, and the bystanders were surprised, few shots

being made that were not close to or in the paper . . . some lay on their backs, some on their breast or side, others ran 20 or 30 steps, and firing, appeared to be equally certain of the mark. . . What would a regular army of considerable strength in the forests of America do with one thousand of these men, who want nothing to preserve their health and courage but water from the spring, with a little parched corn, with what they can easily procure in hunting; and who, wrapped in their blankets, in the damp of night, would choose the shade of a tree for their covering?"

The British, of course, soon got wind of such goings-on and their reaction was just as feverish. In August, 1775, the London Chronicle reprinted the following prophetic letter from a Philadelphia printer:

"This province has raised 1,000 riflemen, the worst of whom will put a ball into a man's head at the distance of 150 or 200 yards. Therefore, advise your officers, who shall hereafter come out to America, to settle their affairs in England before their departure."

These Allegheny hunters, Indian fighters, frontiersmen and backwoodsmen always shot the same gun, the rifle which originated in Lancaster County, Pennsylvania early in the 18th Century. What is this historic firearm which has so captured the imagination and excited so much interest, particularly of late, as to have several fine texts written about it, including one in the works and another about to be published by members of the Kentucky Rifle Association? Where and when did it originate? What influenced the design of this rifle and why was it developed? Who were the highly skilled craftsmen who produced this firearm of such distinctive design, variance in decoration, and yet showed no mercy in accuracy? Bear with me, for I will endeavor to answer these questions within but the brief moment allowed.

In one aspect, my yarn goes back to the advent of the bow and arrow, as I will indicate later. However, in the year 1681 there spread a strange rumor along the reaches of the Rhine. An Englishman by the name of William Penn had inherited from his father a claim of 16,000 pounds sterling against Charles II for money loaned and services rendered. In 1680 William had asked the payment of this claim in lands in America - greater lands than all Bavaria and Wurtemberg and Baden put together. Charles was quite willing to be so easily released from a troublesome debt and to satisfy an influential friend. Thus with this land, three degrees in latitude and five in longitude, bounded on the east by the Delaware River, on the west by Maryland, including the present state of Delaware, and to extend as far northward "as plantable," Penn saw an opportunity to found a Christian commonwealth devoted to liberty, peace and justice, and to secure a resting place for his persecuted co-religionists. There were a few Swedes and Dutchmen already on the banks of the Delaware and some English Quakers had drifted over from West Jersey. In addition, Penn was now inviting the peoples of

the Rhine - those peoples who for decades past had cowered miserably under the heel of a succession of invaders. To these now the rumors spreading far and wide seemed unbelievable. For William Penn - that tall young Quaker who four years before had visited the Rhineland, preaching views not very different from those held by some of their own sects - was offering them a haven in America.

Almost at once the invitation was accepted - by small groups at first, then gradually by ever-swelling numbers, until in 1776 nearly one-half of the residents of Pennsylvania hailed from German states. From the Palatinate, that fertile pocket of the Upper Rhine, came the majority of the immigrants, to land at Philadelphia then spread fan-wise through the valleys of the Susquehanna and the Schuylkill, up and down the Lehigh and the Perkiomen.

They brought with them, those hardy seekers after peace, a background and a culture that has played no meager part in shaping and enriching life as it is known today. Among them in outstanding numbers came the farmer folk; but with them, too, came artisans and scholars, potters, printers, lawyers, weavers, turners, ministers and gunsmiths - men from every walk of life, proficient in the occupation that they called their own.

They brought their Bibles with them and their deep religious feeling. But, paramount among the rest, they brought their love of color and of decoration - of hearts and birds and tulips painted in bright blues and earthy reds and brilliant greens; of animals, and suns and moons and stars and trees of life, and other naive symbolism dating back into the past. Here is a new and freer land, with different media and tools not always adequate, they set down once again the old familiar themes - on barns and birth certificates, on tombstones, chairs and pottery, on dower chests and butter molds, on stoveplates, clocks and almanacs, in lovely fractur painting on rare manuscripts and ancient songbooks, and into their firearms.

And just as all these Pennsylvanians of Germanic origin, including the English, Huegenots, Scotch, and Irish, were leaders in the days of peace, so also when the French and Indian War and the Revolution came they took their places in the foremost ranks of war. At Cambridge, when Washington sent out his call for riflemen, a company of Pennsylvanians from Berks County was the first to answer, followed just a little while later by a second company from York. The rifles that they carried were another contribution to America's expanding craftsmanship, for it was the immigrants from Germany who'd brought the art of rifling with them, and who made in Pennsylvania those far-reaching weapons that gained fame beneath the totally misleading title of "Kentucky rifles."

The Pennsylvania rifle evolved from two basic types: the long, light and graceful smoothbore fowling piece developed primarily by the English and French; and the short, large-calibre, rifled Jaeger developed by the huntsmen ("jaegers") of central Europe late in the 17th Century. The earliest guns were, of course, carried over here by their owners, the explorers and first settlers, as a means of protection in an unknown environment. Craftsmen would later bring their best examples in anticipation of continuing their chosen trade. After study of a wide range of these earliest "imports," I have come to the conclusion that the Europeans were naive enough to assume that their firearms would adjust to the environment of the New World. However, they soon realized that in this period of exploration, colonization, frontier warfare, and freebooting, the devil took the hindmost and the Indians were likely to be hard on the heels of the devil. Survival in this new country, which was largely a primeval wilderness, called for a new type firearm of greater accuracy, higher efficiency, low weight and greater economy.

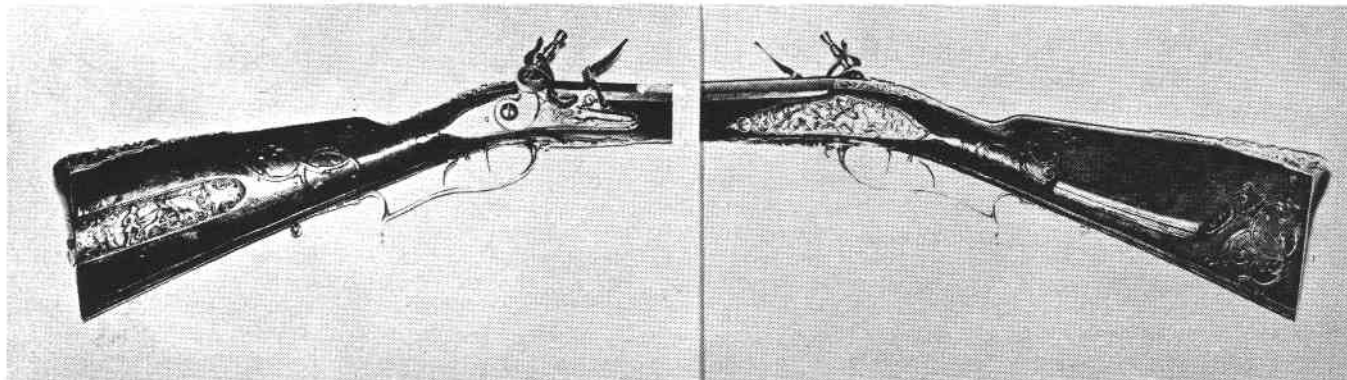
The English (and French) developed the long smoothbore fowler in Europe to hunt the smaller game like rabbits and birds; I suspect that Robin Hood had depleted all large game with his bows and arrows. The English had no particular use for rifles and their gunsmiths were not particularly well versed in the art of rifling barrels. The earliest pieces compare to the common musket, and the majority of these early fowlers ranged in calibre from .60 to .80 and were heavy consumers of scarce powder, shot and ball. The migration of skilled gunsmiths to America began to meet the demand for a better firearm. The later fowlers were longer in the barrel and yet weighed less because of the thinner, more graceful proportions of the stock.

Initially, fowlers began being imported mostly into New England from Britain, but some also came with the "bootleg" seacoast trade from many European countries. Thus you're quite apt to see not only English types but French, Dutch, German and those cobbled up by local gunsmiths from all kinds of parts. The barrels could be French with English locks, or vice versa. The stocks were usually of American woods such as walnut, cherry or maple.

Between 1730 and 1750 Yankee gunsmiths came up with an allpurpose design, a long gun suitable not only for hunting large and small game but quite adaptable for self-protection, a prime essential in those days. The New England "combination gun" had advantages over the musket and even the rifle. It was lighter, could handle either shot or ball, or in combination, because its barrel had a very heavy breech as well as an adequate wall clear to the muzzle. The problem of powder fowling was much less than in the rifle. The barrels were carefully bored and, with a good fitting ball, were surprisingly accurate up to 100 yards (about twice the range of a musket). Many of the later combination guns were fitted with front and rear sights, and performed as rifles. Patriots' fowlers predominated at Bunker Hill and the British said that the New Englanders "took aim when they shot." As an expedient the New England long fowler could also employ a plug bayonet.

Just when and where the first of these combination guns were made and by whom is still largely unknown. Their early history, like that of the rifles, is still quite vague. The probability is that they were made near

our island frontiers away from the scrutiny of the agents of the English crown who were living here to enforce the law that the colonies must buy from the mother country whose craftsmen wanted all such trade.



Early 18th century European "Yaeger" rifle of superb craftsmanship. "A. KNOT" inlaid on 30 inch double flared octagon barrel of .62 calibre.

Although rifles had been popular in central Europe since the early 16th Century, it wasn't until the end of the 17th Century that the jaeger achieved its fully developed form. The typical rifle had a 30-inch, thick-walled, octagonal barrel of .60 calibre, with a blade front sight and a wide, center-notched, U-shaped rear sight. Walnut was generally used in the full stock, which was nearly always raised carved around the lock, barrel tang, cheek-piece, and along the comb. The most distinctive feature of the jaeger was the sliding cover of either wood, metal or bone over a compartment in the right side of the buttstock. Although it was common practice for the American riflemen to store greased patches in this compartment (and thus the name "patch-box"), it is not certain what the European used it for. All jaegers that I have examined were completely void of any trace of grease or lubricant of any kind. It can only be surmised that the Europeans used the compartments for other purposes such as for accessories and extra flints.

In the 17th Century the rifled bore of the comparatively light wheellock rifles in northern Germany was much smaller (about .32 or .36 calibre) than the later American 18th Century flintlock rifle. In mountainous western and southwestern Germany (and in Switzerland), where the tough boars were very exciting game for the aristocratic hunters, (note the hunting scene in the patch box cover of first rifle pictured) rifles with large bores were a must. Wounded boars were notorious (and still are!) for charging at high speed, sharp tusks gleaming, rather than running away like most other game. This kind of action could get very interesting particularly in narrow mountain passages where the hunter and hunted alike were at close quarters. A heavy bullet with a positive knockout punch was the order for the day. In contrast, the north Germans encountered rabbits at best, and so carried rifles bored to about half the calibre of their western contemporaries.

The principle behind rifling, interestingly enough, predates even gunpowder by many years. The feathers on arrows had been angled for centuries to make the arrow spin in flight, go straighter and strike harder. The same design was employed later in bolts for crossbows. It wasn't until the latter half of the 15th Century that a successful method for machining spiral grooves in the sides of the bore of a firearm was developed in Germany or Austria.

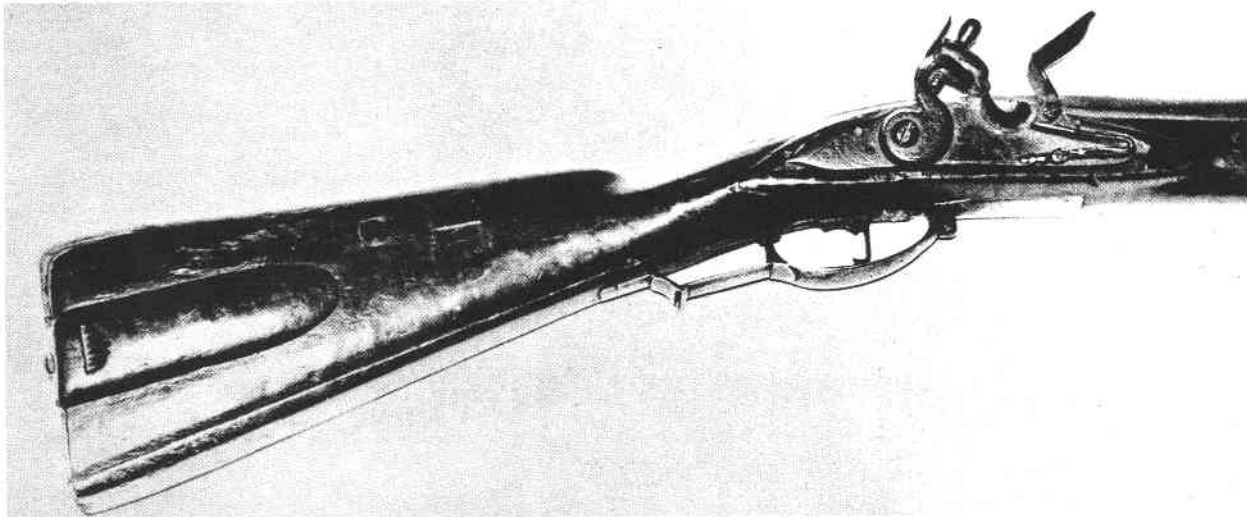
The first jaegers to arrive in America caused quite a stir. With such a firearm, an experienced rifleman could consistently put a hole in a playing card at 100 yards, or kill a deer or an Indian at six times the effective range of existing muskets. However, jaegers weighed as much as twenty pounds and required about ten minutes to load using special tools. An Indian, in this interim between shots, could turn the event into quite a hair-raising experience. The American gunsmith soon realized that if the jaeger was to be a success in the new environment it had to be redesigned to accommodate the settlers and frontiersmen.

It is not at all surprising that the first American-made rifles bore a striking resemblance to their European ancestors. Although wood was plentiful, imported tools were at a premium and the means for producing iron, barrels and locks were rather primitive. Thus development around the turn of the century was very slow. There was little or no specialization in this initial stage, and circumstances forced the early gunsmith to work in many mediums and exercise many skills. As remarkable as this adjustment was, the extraordinary genius of these craftsmen really began to bear fruit in the 1720's and 1730's.

For a hundred years or more European gunsmiths had been trying without success to combine the rapid fire characteristics of the smoothbore with the accuracy and range of the rifle. The problem was tackled in hundreds of American frontier forges, and the demand for a more perfect firearm stimulated quite a rivalry among the gunsmiths, a rivalry which was to spread out into other facets of the craft and endure for over a hundred years. The man who solved the problem, about 1725, was a first order genius who probably resided in or around Lancaster, Pennsylvania. Sparse records indicate that several gunsmiths settled in this area and were actively engaged in their trade by 1730. The major transition from the European to the new Ameri-

can style took maybe as much as another fifteen years to complete. Adaptation and experimentation was a painfully slow process until techniques and facilities were improved upon.

Accuracy was improved and the loading time reduced considerably by casting a lead ball slightly smaller than the bore of the rifle. The ball was then wrapped in a greased patch of linen or buckskin of a certain thickness so as to slide more easily down the barrel. The grease not only acted as a lubricant for the current shot but also tended to soften the powder-fouling of previous discharges. A few starting taps and a final ram or two by the ramrod brought the patch and ball together in a gastight wad against the main powder charge. When the rifle was discharged the ball emerged spinning; the patch usually burned up or fragments would drop to the ground beyond the muzzle, as the ball sped to the target with fantastic accuracy.



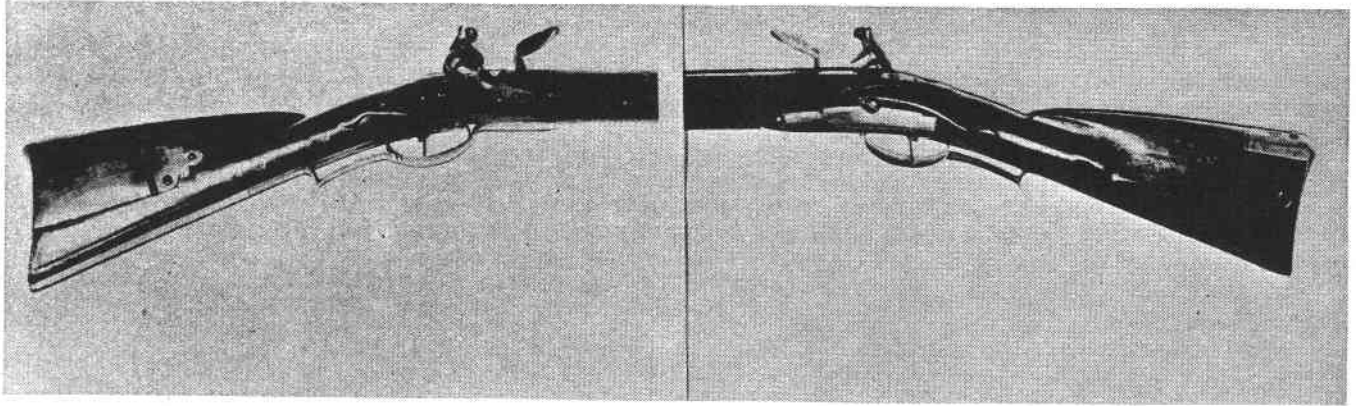
Unsigned American "Yaeger" made in or around Lancaster, Pa. C.1740, 33 inch double flared octagon barrel of .64 caliber.

The first rifle from my collection which I would like to describe at this time has so many very early American characteristics about it that I am certain that it was made in or around Lancaster, Pennsylvania about 1740. Typically, this example of the earliest Pennsylvania rifles is not signed by its maker as they tend to be later. Although American, and somewhat crudely worked in this first stage of development, this rifle does show many characteristics of its cousin the jaeger. Note that the heavy stock is two inches across at the square or straight butt, that the muzzle or forend cap is quite short, and that the rifled (.64 calibre) octagonal barrel is only 33 inches long and is flared at both ends. Note too the one remaining small iron loop under the cheekpiece moulding which held the priming wire or vent hole pick.

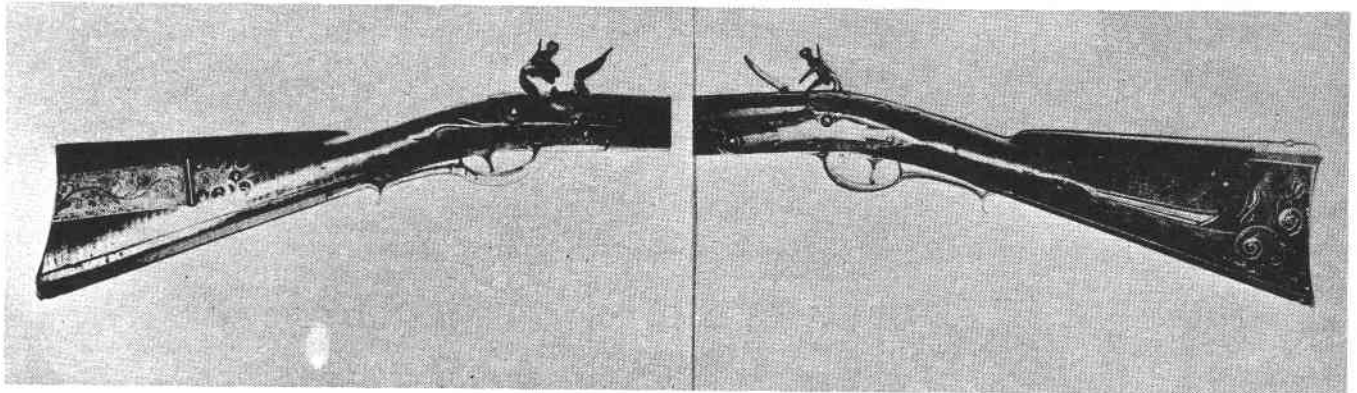
It wasn't until the middle of the 18th Century that the Pennsylvania rifle actually began to take on certain distinct characteristics. The rifle was beginning to assume a long but graceful appearance. Although it was retaining the thick jaeger butt, the English and French long fowler design was definitely influencing the long, slim lines of the rifle's silhouette, particularly in the full stock.

At this time the sliding patchbox cover (generally of matching wood) was being replaced by a 2-piece brass cover which was hinged to the buttstock at one end and employed a novel, spring-loaded catch at the buttplate. This alteration was to grow not only in size and design but become the show spot of the more imaginative metal workers and engravers. Everything about the Pennsylvania rifle reflected European influence; but the patchbox (although not appearing on all Pennsylvania rifles) was about as much an American innovation as any aspect of the rifle could be.

The second rifle came from Reading, Berks County, and was made about 1760. Typical of this area, this early maker did not sign this piece; however, the cheekpiece moulding, carved on the left side of the buttstock, and shape of the brass sideplate are characteristic of the Reading area makers. Although maple was more widely used, it is not too uncommon to come across cherry wood as employed here in the stock. Common to all of these very early rifles is the thick 2-1/8 inch butt, relatively short forend cap, 41-1/2 inch octagonal barrel of .52 calibre flared at both ends. Particular note should be made of the simple 2-piece brass patch box as introduced at this time. That this can be truly called a transition piece is evidenced by the cut-out grooves, which are still very apparent, for the original wood sliding cover. Note too the crescent shape in the brass butt plate becoming evident at this stage of development. The Pennsylvania rifle changed so radically during the French and Indian War period, and before the Revolution, that it is difficult to recognize the style of any particular maker or school of influence at this stage.



Unsigned cherry stocked rifle made in or around Reading, Berks County, Pa. C.1760, 41-1/2" double flared octagon barrel of .52 caliber.

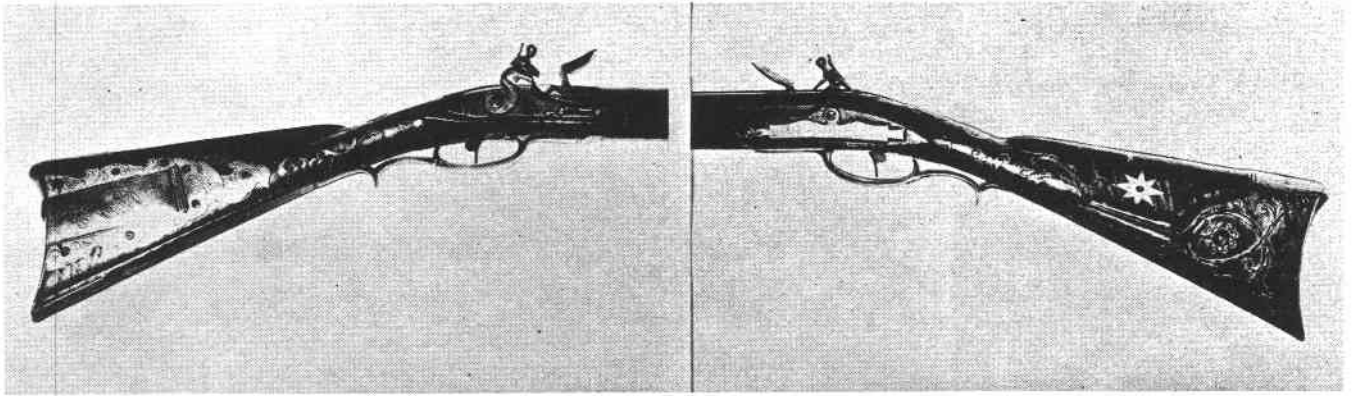


Signed J. Shriver, of Hanover, York County, Pa. C.1780, 43-1/4" double flared octagon barrel of .57 caliber.

The next example was made about 1780 in Hanover, York County, by Jacob Shriver. J*SHRIVER is engraved in Roman letters on the top facet of the 43-1/4-inch octagon barrel which is flared at both ends. The bore has been shot smooth and is now of .57 calibre. Other early features include a 2-inch broad butt, very short 3-pinned forend cap, and 2-piece brass patchbox cover engraved with the Pennsylvania German daisy and vine of fuschia. It is becoming evident here that gunsmithing of this order attracted the artistically inclined and that many such craftsmen were direct descendants of the European "high art" gunsmiths. In addition to the simple scroll carving at both ends of the cheekpiece moulding (including wire loops for the vent pick) and raised fan carving about the square barrel tang, note the early American handmade lock featuring an angular pan and serrated frizzen. This rifle is unique in that it is a companion to the John Shriver rifle below, the makers being father and son, respectively.

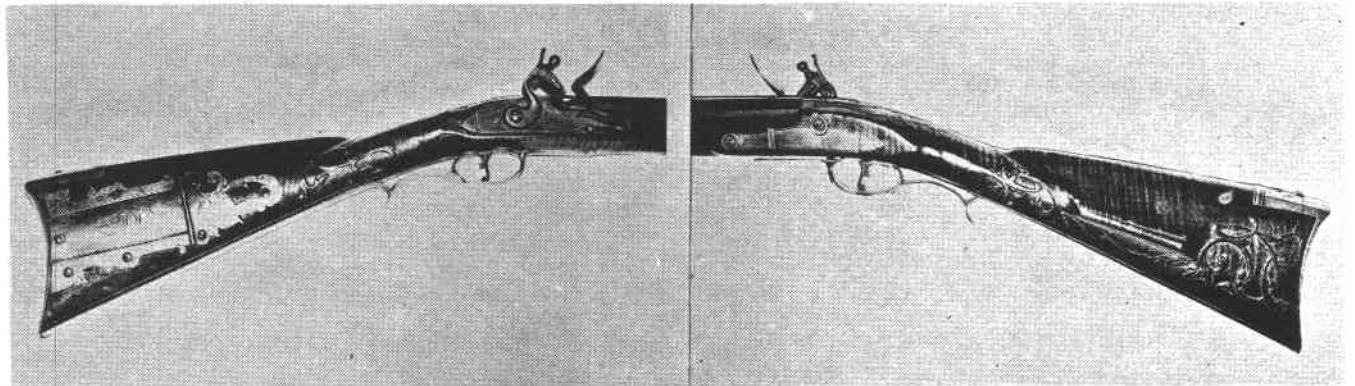
The demands of the Revolution increased, among other things, the number of gunsmiths. So when the war was over the field was covered with silenced guns and the market fell off drastically. The gunsmiths had to turn from stepped-up war work and face the fact that they must come up with a new market for their rifles in a highly competitive field. More time was available now but all of it had to be devoted to the selection and working of the finest curly maple obtainable, an eye-appealing wood which had the strength to compliment the allure of slender stocks, thinner butts, delicate wrists, raised and incised carvings of rococo and C-scrolls of exceptional workmanship. And though all this might suggest that the original utilitarian purpose had taken a slide in favor of high art, nothing could be further from the facts. The war had helped step up technology and the development of better techniques. The smiths became more aware of each other's special talents: the better barrel makers; the clever and more patient lock makers; and, those with the larger and more efficient mills. Nevertheless, the very beautiful and highly imaginative engraved patchboxes, inlays and mountings, and exquisitely carved stocks would remain the gunsmith's "signature," identifying him within a certain "school" of influence, a family, a town or a county.

In the next example you see the more ripened fruits of the apprentice system employed by the master gunsmiths. In becoming such a master, the aspirant started at age 10 or 12 and learned his trade for as long as 8 years. If and when finally ready, the apprentice had to submit his workmanship before the extremely proud and critical eyes of the masters, sitting in the Guild Hall, who insured quality craftsmanship.



Signed N. Beyer, of Annville Township, Lebanon County, Pa., C.1785, 45-inch octagon-to-round smoothbore barrel of .49 caliber.

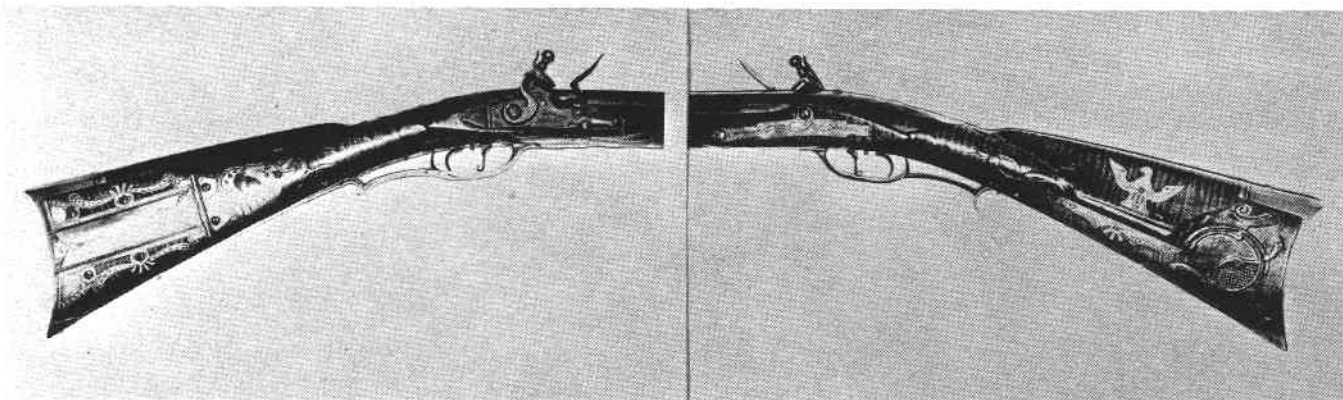
This rifle is signed N*BEYER in script on the top facet of the 45-inch octagon-to-round smoothbore barrel of .49 calibre. Nicholas Beyer apprenticed under John Phillip Beck, and this rifle with its finer proportions (1-3/4-inch butt vs. tiny wrist) is about equal to Beck's finest. Note that much of the grace and lightness (proportions) of this rifle can be attributed further to Beyer's genius for rounding the barrel to shed excess weight without loss of strength. Note too the addition of the upper and lower plates to the patchbox, thus the transition from the 2-piece to 4-piece patchbox. That this is one of Beyer's earlier rifles (c. 1785) is established by the well-defined high comb and beautifully molded edge on the cheekpiece. There is incised carving in front of the trigger guard, an area seldom carved on Pennsylvania rifles. An 8-pointed, silver engraved star of Bethlehem is inlaid in the cheekpiece, and there is a silver thumbplate inscribed T.B., the owner's initials.



Signed H. Pickel of York, Pa. C. 1790, 43 inch octagon barrel of .58 calibre.

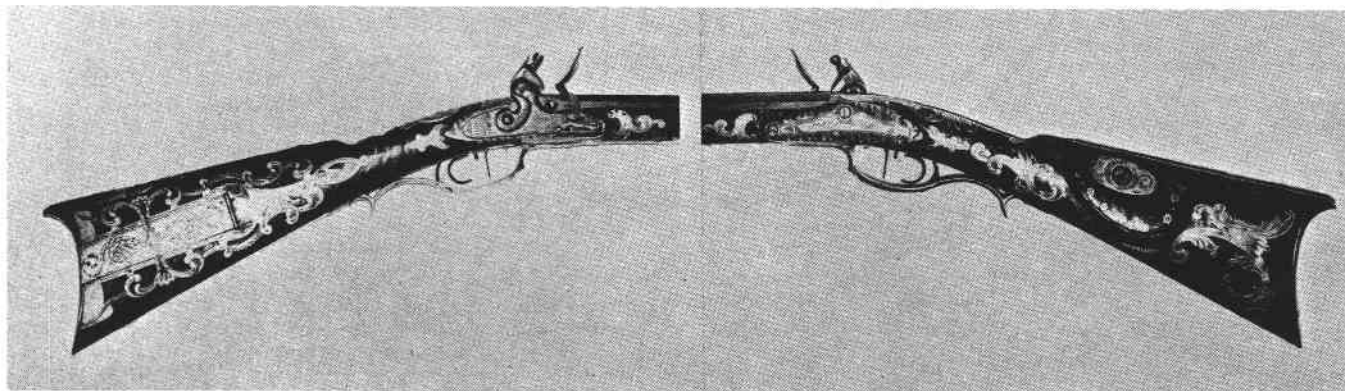
The next rifle is unique in that such superb craftsmanship is matched by great rarity, it being the only known rifle of this type made about 1790 by Henry Pickel of York County, a well known contract pistol and rifle maker for the U. S. Ordnance Department. H. PICKEL is engraved in script on the top facet of the 43-inch octagon barrel which is slightly flared at the muzzle. Only a vestige of the original rifling remains, the present bore being of .58 calibre. Pickel was "up" to all the arts. His selection of very tight-curl maple and the delicate carving thereon are exquisite. The handmade lock, also engraved PICKEL, with its round instead of angular pan is a study in engineering and patience; the swing of the hammer and consistent ability to strike a spark on the perfectly tempered frizzen didn't come about overnight! The barrel forging had to be straight and true, with the rifling flawless as well. Take a close look at the delicate patchbox and graceful engraving, noting the transition to piercings.

Along with the PICKEL, the next example represents the Pennsylvania rifle in its finest hour. JNO* SHRIVER and ADAMS COUNTY, PENNSYLVANIA are engraved in script in two brass inlays on the top facet of the 42-inch octagonal barrel of .54 calibre. The truly magnificent raised and incised carving, concave lower forestock molding, silver wire serpentine inlays, outstanding horsehead-alligator hide patchbox and beautifully engraved details about the cheekpiece (including MAY 15, 1801 and an early use of the Federal eagle) show the imagination of a very talented artist, son of an earlier well-known rifle maker. The ramrod is tipped at one end with an engraved brass sleeve and at the other end with a combination worm (for patch extraction) and cleaning tip. Note the double-set triggers for fine adjustment and light (hair!) trigger pull.



Signed Jno. Shriver, Adams County, Pennsylvania, and dated May 15, 1801, 42-inch octagon barrel of .54 caliber.

The deeply engraved patchbox on the Shriver rifle alludes to the reputation earned by the fleet and tough hunters and riflemen all along the wilderness frontier. This reputation was romanticized shortly after the War of 1812 in a ballad, "The Hunters of Kentucky or the Battle of New Orleans," wherein it calls every rifleman "half a horse, and half an alligator." This same ballad, together with the fame of Daniel Boone, popularized the name "Kentucky" rifle in spite of the fact that a substantial majority of these famous long rifles were made in Pennsylvania.



Signed P. M. WEDDELL, and dated Zanesville, 1823, 44-1/2 inch octagon barrel of .41 caliber.

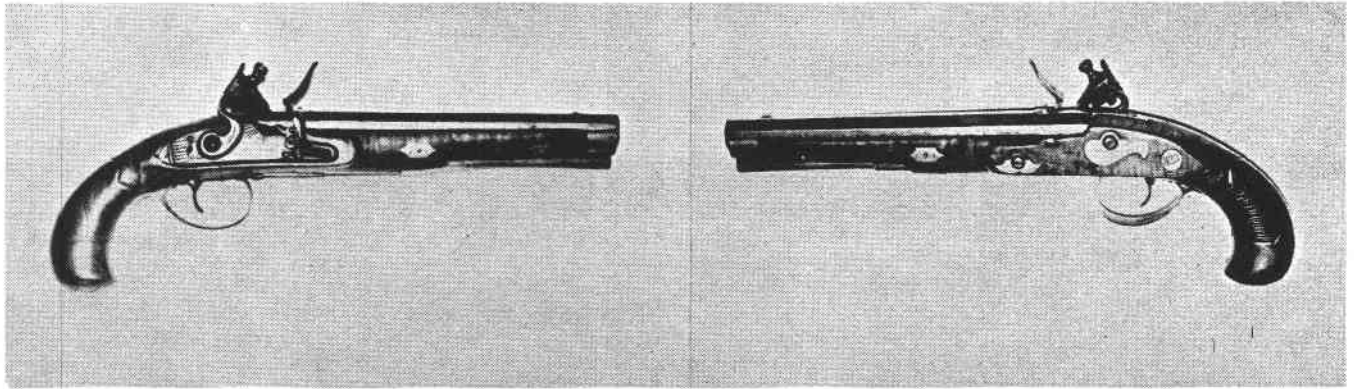
The last rifle in this group is signed P.M. WEDDELL in script in a silver inlay on the top facet of the 44-1/2 inch octagon barrel of .41 calibre. ZANESVILLE*1823* is engraved in a silver riband below the beautifully carved cheekpiece molding. Inlaid in the more rounded cheekpiece, and surmounted by an engraved silver oval, is an original and still accurate magnetic compass. The superb engraving is extensive. Besides 13 piercings in the patchbox alone, there are 31 silver and 3 brass mountings, ROGERS & BROTHERS, PHILADELPHIA, WARRANTED is engraved on the lock which features a waterproof pan. Like the lock on the SHRIVER above, which also was not made by the rifle maker, it features the later roller frizzen.

Shortly after the Revolution gunsmiths began to acquire their locks, a few domestically like Weddell but many from the overpopulated centers of Europe, particularly Birmingham, England, where labor was cheap. Thus many hours formerly spent on involved locks could be devoted to engraving and stocking. Barrels were handled domestically in a similar manner. Boring mills had been producing octagonal smoothbore blanks since before the Revolution, leaving the breech plug, rifling, sights, and engraving and finishing to the gunsmith. This was to be "farmed out" in time, a practice which could lead to decadency -- and it did! Pickell, Shriver and Weddell were among the last of the early great artisans. Note how the stocks, particularly the butts, have gotten thinner, the greater curvature in the crescent butt plates, and the longer muzzle caps.

The American flintlock pistol was developed simultaneously with the Pennsylvania rifle, generally from 1750 to 1825. It had an effective range of not more than 50 feet and was fairly restricted to personal combat, when and where the long rifle was impractical. Few Pennsylvania pistols are as easily identified as this "classic." They are considered quite rare and, inasmuch as so relatively few were made originally, the survival rate today has been estimated at one flintlock pistol for every 250 flintlock rifles.

In this example P*KUNZ is engraved in a 3-section brass inlay on the top facet of the 9-inch octagon, smoothbore barrel of .44 calibre. Engraved on the bottom facet is I.SCHOLB one of the finest barrel makers

of the 1780-1815 period. Peter Kunz was related to a long line of gun makers, made firearms during the Revolution, and later made fine pieces such as this pistol for the gentry in Philadelphia.



Signed P. Kunz of North Whitehall Township, Lehigh County, C.1810, 9 inch octagon smoothbore barrel of .44 caliber.

Interestingly enough, George Washington's friend Daniel Morgan keeps popping up in our early history. Morgan was with Washington's Virginia riflemen and the English expedition, under General Braddock, against Fort Duquesne in 1755 when they were defeated by a rabble of French and Indians. If nothing else, the whole world became convinced that European tactics were no good in America. Typically, it took the English a little longer to be completely convinced, at the hands of George Washington who apparently learned the most from the Braddock disaster.

Upon becoming Commander-in-Chief of the Continental Army, one of Washington's first acts was to get in touch with his old friend Daniel Morgan, make him a captain, and instruct him to raise a company of riflemen to act as rangers and scouts. Washington's choice was a good one and Morgan eventually rose to be commanding general of all of Washington's riflemen.

Possibly the most significant shot of the Revolution was fired around noon of October 7, 1777, the day before the British lost the battle at Saratoga. One of Morgan's riflemen, Timothy Murphy, was perched in a tree on Freeman's farm up on the Hudson and shot General Simon Fraser, the ablest tactician in the British Army - at 400 yards! Without Fraser's leadership, the British were put to flight and General Burgoyne subsequently got himself surrounded at Saratoga. The French, standing in the wings, were so impressed by the Colonists' ability and spirit, and this turn of events, that they joined the Americans with sorely needed men and material.

Three years later, on October 7, 1780, Major Patrick Ferguson met a similar fate. He was much hated by the Colonists anyway; nevertheless, he notified the people of the western fringes of North and South Carolina that unless they took an oath to the King and abided by it, he would ride over them with his British troops. Five or six leaders organized the local men, some already trained by Morgan and nearly all possessing rifles. They rose up against Ferguson, meeting him at King's Mountain, a long, wooded hill which lay in both Carolinas. Although Ferguson held the high ground, he was killed and over 80 percent of his troops virtually wiped out.

At Cowpens, South Carolina, Nathaniel Greene and Daniel Morgan posted their young "green" militiamen, at the beginning of the battle, well in front armed with rifles. "When at sure range, fire, and fall back to fixed positions." This instruction to fall back among seasoned troops did wonders for the now-baptized militia who did not realize at the moment that they were beyond effective range of the English muskets.

On January 8, 1815 General Andrew Jackson's motley array of 5,000 men including 2,000 Kentucky and Tennessee riflemen repulsed the attack 5 miles below New Orleans by 10,000 English troops under the command of 36-year old Maj. General Sir Edward M. Pakenham. When the smoke finally blew away the British had lost 2,036 and the Americans lost 71. The British realized too late that their veterans of the recent Spanish campaign with Wellington against Napoleon had marched continental style right into the withering, precise fire of riflemen who had put out range markers the day before. Jackson had also given orders to pick off the officers first, particularly the decorated ones. All this certainly demoralized the British troops, as did the general awakening to the fact that their own white chest belts on the red tunics made the exact same targets as the riflemen were accustomed to shooting at on a Sunday's match at home.

Whether used as a weapon, target, or hunting gun, the Pennsylvania rifle was 100 years ahead of its time. It could be loaded and fired two or three times a minute. Its highly efficient lock reduced misfires to a minimum, and it had the remarkable range and deadly accuracy of the jaeger. However, military men preferred the musket because an unskilled recruit could be easily trained to get off as many as four volleys a minute. Not only was the rifle much harder to load than the musket, there was no provision for a bayonet. The Pennsylvania rifle was not an ideal martial weapon, and the first U.S. contract was let as late as 1792 for only

300 rifles of this style. It never really "caught on" here and in Europe until possibly the mid-19th Century. Nevertheless, in the hands of frontiersmen deployed mainly as skirmishers and as snipers, the Pennsylvania rifle had an extremely demoralizing effect on the French and Indians and then on the British. As the late J. N. George put it, ". . . the lesson of the war (Revolution), as applied to small arms, was not that either the rifle or the musket was the better arm in every case, but that each had its clearly defined uses."



HARRY KNODE, RED & ELSIE JACKSON, PHIL PHILLIPS AND JACK MALLOY
GATHER AROUND PHIL'S 21 PATERSONS AND DROOL. AT LAS VEGAS OF COURSE.