

Figure 1. The Commonwealth of Pennsylvania.

# Early Pennsylvania Gunsmithing Schools

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## PENNSYLVANIA IN THE BEGINNING: EXPLORATION AND INDIAN TRADE

The Pennsylvania gunsmithing story begins at the start of the seventeenth century, when Europe was a seething furnace of hatred, oppression, discontent, and suffering. Dark as the situation in Europe was, it was that very situation that encouraged the settlement and rapid development of America.

A brief background in Pennsylvania history along with an acquaintance with the factors influencing the state's population growth are necessary for understanding the evolution of the Pennsylvania rifle, where the early gunsmiths settled, and how schools of gunsmithing evolved.

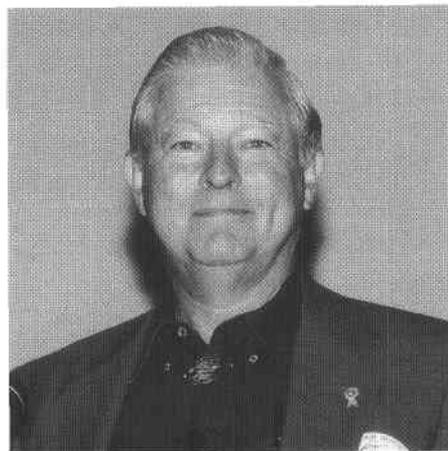
The age of written history dawned upon the soil of the region called Pennsylvania around 1608 when Captain John Smith made his *Voyage of Discovery* up the Susquehanna River (Figure 1). At that time the territory included in the boundaries of the Commonwealth of Pennsylvania was occupied by the tribes of only two of the fifty-six linguistic groups of American Indians, the Algonquin tribes along the Delaware River and the Iroquois tribes along the Susquehanna River.

The Iroquois Indians with whom the first European traders on the Susquehanna River came in contact almost solely controlled the trade in furs and peltries in Pennsylvania from 1608 until 1675, as their territory was rich in all means of fur-bearing animals. This trade was so important that settlers established trading posts along the Susquehanna River as early as 1634.

About 1614, eight years after the exploration of the Susquehanna River, the Dutch erected Fort Nassau on the Delaware River south of Philadelphia. During 1616, Captain Cornelius Hendrickson explored the Delaware River to the mouth of the Schuylkill River.

The Iroquois Indians with whom the first traders on the Delaware River came in contact had crossed to the river, following the Minquas Indian trail, from their villages located in the area of present-day Lancaster County and also north along the Susquehanna River (Figure 2). Traders adopted the Minquas Indian trail running from the Susquehanna to Philadelphia as a trader's road as early as 1687 (Figure 3).

To the north of present-day Philadelphia the Delaware tribe, or the Leni-Lenape as they called themselves, were the most important confederation of the Algonquin Indian group.



These Indians occupied the entire Delaware River basin, including the present states of Delaware and New Jersey.

Trade with Indians north of Philadelphia began around 1622 but never amounted to much. All the struggles between Holland, Sweden, and England along the Delaware River had as their chief purpose domination of trade with the Iroquois Indians from the Susquehanna area. Some trade did exist to the north because where Easton now stands at the forks of the Lehigh and Delaware Rivers there was once a Shawnee Indian village of some 800 people. This was the largest Indian village mentioned in the recorded history of the Commonwealth of Pennsylvania.

As was true for those traveling west, Indian trails afforded the only means of travel for early traders and pioneers going north. Chief of these trails to the north of Philadelphia was the Minsi Path, which crossed the Lehigh River near present-day Bethlehem. This Minsi Path was the Indian trail running closest to the banks of the Delaware River (Figure 4).

From the first written history of Pennsylvania in 1608 until Swedish and English settlers began to arrive in large numbers around 1639, firearms used and traded in this country were all of the European style. Any gunsmithing done was of a repair nature, and it normally was not performed by professional gunsmiths. By the time settlers began to inhabit the state for reasons other than trade or exploration, traders already had suggestions for improvements to make guns better suited for the new land, and better suited for trade as well.



Figure 2. Paxtang and Warrior paths.



Figure 3. The Great Miniquas Path.



Figure 4. Minsi Path.

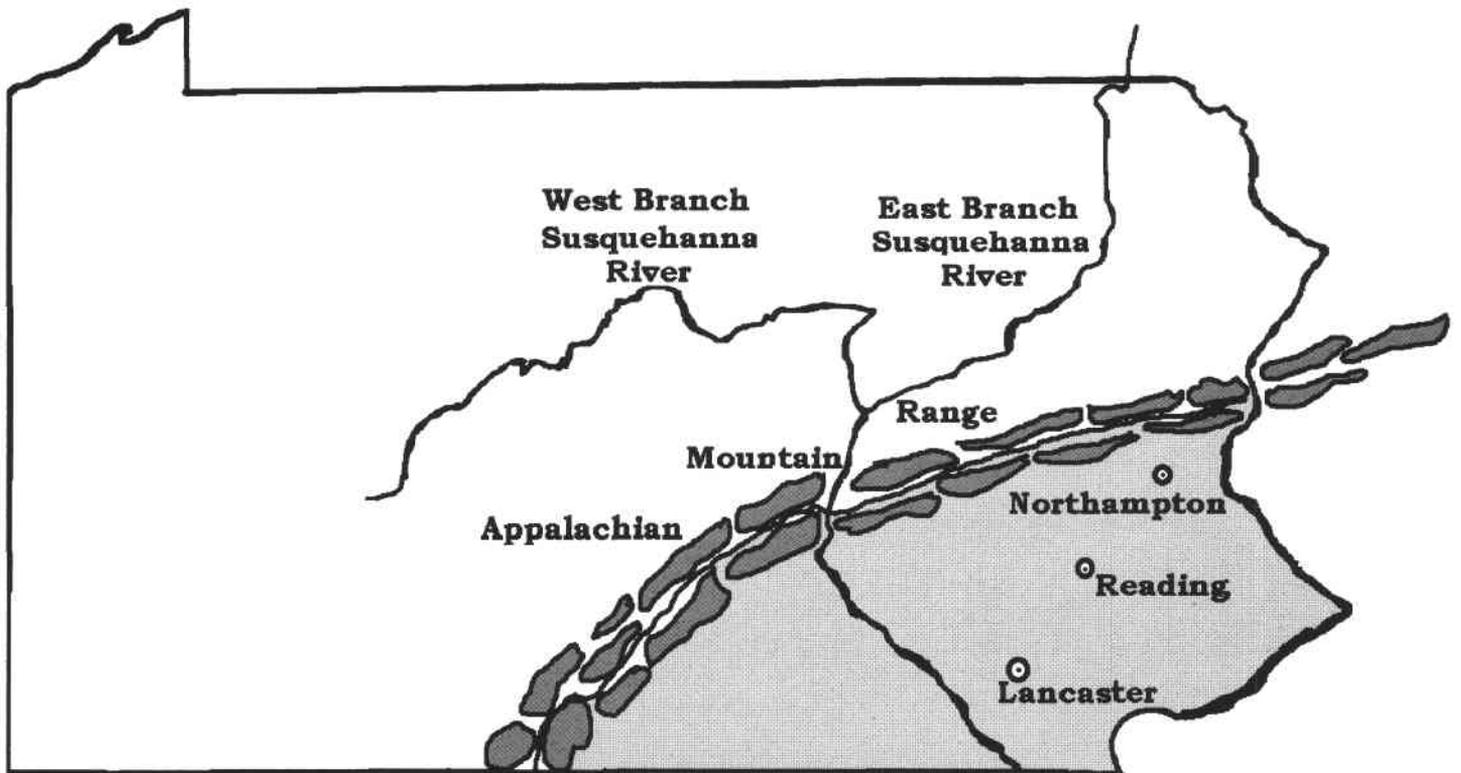


Figure 5. Where the Pennsylvania rifle was born.

Serious settlement of Pennsylvania did not begin until the second half of the seventeenth century when Mennonite, Quaker, Schwenkfelder, Moravian, Dunkard, Presbyterian, and numerous other "sectarians" came to the shores of the Delaware River seeking a better country in which to build their homes, worship God, educate their children, and gain a living.

In answer to this influx of settlers seeking individual freedom, William Penn began the orderly settlement of Eastern Pennsylvania in 1682. Penn had been granted a charter from King Charles II for some of the most fertile land in North America as payment for a family loan. Political power of William Penn's original colony was in the hands of the Quakers, but he actively solicited settlers from throughout England as well as from continental Europe. He attracted many settlers from the Rhine River region, from the Palatinate in Germany, and from Switzerland.

Nearly all early movement of explorers, traders, and settlers into Pennsylvania was within the area bounded on the north by the Blue Mountains, on the east by the Delaware River, and on the west by the Susquehanna River. This was the area settled the earliest, the area in which the Pennsylvania Rifle evolved and in which the earliest gunsmithing schools later were formed (Figure 5).

#### DEVELOPMENT OF THE UNIQUE "PENNSYLVANIA RIFLE" STYLE

By the beginning of the eighteenth century, trade routes north and west were established, and early settlers followed these established trade routes. By 1709 regular settlers (rather than just explorers and traders) had migrated nearly 70 miles inland from Philadelphia, following the Minquas Indian trade route used earlier, where they formed a wilderness community at what is now Lancaster. On the way west Pennsylvania Germans settled in the Lower Berks County area. Settlers in Lancaster County later would use this same route to bring produce to Philadelphia in Conestoga wagons for over a hundred years.

The "lower end" of Lancaster County was the seat of Scotch-Irish settlers who first entered the region in 1715 pushing past already existing Mennonite and Huguenot settlements. Lancaster County's township division of Drumore was organized in 1729. It would be logical to assume the very earliest professional gunsmiths to enter the Commonwealth followed these early settlers.

Unlike life in large cities, life in the early Pennsylvania wilderness was beset by many perils, making weapons of defense necessary in every rural home. The expert use of these weapons was a requirement for each member of the

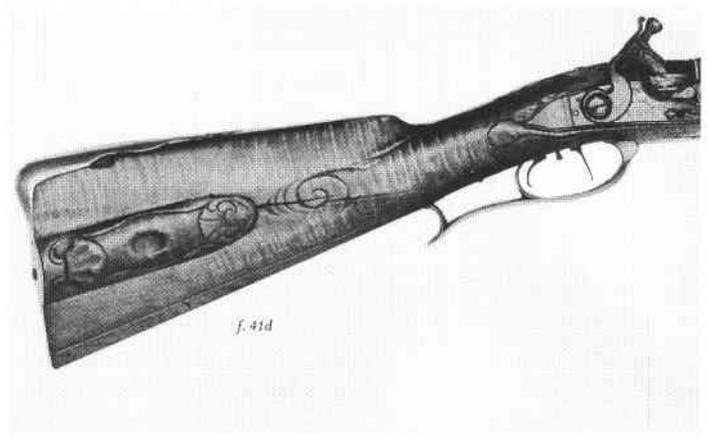


Figure 6. The Edward Marshall rifle.

household. A gun was the legitimate provider of food, clothing, and protection, and only through its influence was the settling of our continent made possible.

Settlers coming to America who were master gunsmiths moved quickly out of large urban areas to set up shop to repair and make muskets and fowling pieces for their wilderness neighbors. Methods pursued at first were in keeping with the general custom and practices then in vogue throughout the nations of Europe, but gunsmiths soon began to respond to the suggestions of traders for a new and better style of weapon.

Many argue that the Pennsylvania rifle was the only truly American decorative art form to evolve during the colonial era, because European standards and developments guided all other American art forms of the period. The Pennsylvania rifle evolved in answer to circumstances that were unique to colonial America.

As nearly as can be determined from written history, master gunsmiths who migrated west of Philadelphia along the Minquas Trail and north along the Minsi Path had already created the basic form and style of the "American rifle" by the middle of the eighteenth century (Figure 6). A look at the rifle owned by Edward Marshall, who participated in the

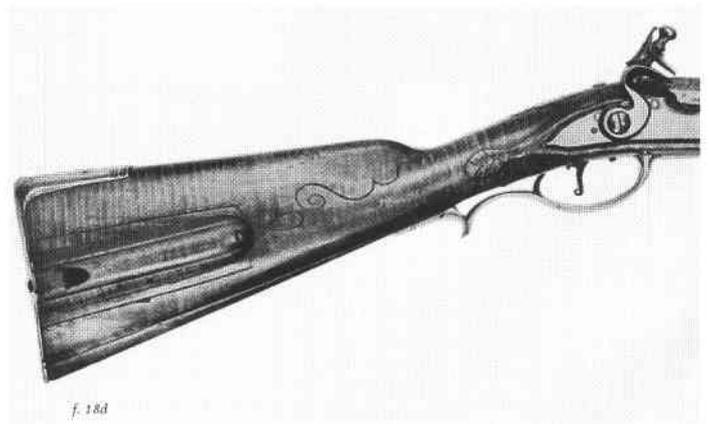


Figure 7. The Joh Schreit 1761 rifle.

famous Walking Purchase in 1737, shows a rifle fully developed into the classic Pennsylvania rifle style (Figure 7). The earliest known signed and dated Pennsylvania rifle is signed "Joh Schreit 1761."

## THE BEGINNINGS OF THE EARLY GUNSMITHING SCHOOLS

### *Lower Berks County and Lancaster Schools*

Early roads followed the Indian trails, settlers followed the roads, and gunsmiths followed the settlers. When a master gunsmith settled in an area, the next gunsmith would push on to settle in the next populated area.

The ongoing importance of trade with the Susquehanna Indians coupled with the desire to push even further west toward the rivers at Pittsburgh caused the Lower Berks County and Lancaster County areas to be settled earlier than other areas of the state.

Highways enabling pioneers to reach the territory between the Susquehanna and Delaware Rivers were Indian trails radiating out from Philadelphia. All these early trails, later made into roads, were channels of travel for pioneers who clustered in the Oley Valley and hill regions, and thickly populated the Goshenhoppen community in Berks County (Figure 8).

An example of the rapid growth in these areas is Reading. The first land lots were sold in Reading in 1749, and in 1750 there was but a single residence there. However, only three years later the county seat boom was on, and many houses were erected at that time.

In summary, the basic form of the "American rifle" evolved by the middle of the eighteenth century, and the Lancaster and Lower Berks County schools of gunsmithing evolved during the second half of the eighteenth century, beginning around 1750.

### *Bucks and Northampton County Schools*

In 1736, 8 to 10 years after the westward movement of settlers into the Lancaster area, the proprietors of the Commonwealth of Pennsylvania completed an extensive purchase of Upper Buck's County lands from the Indian nations.

As early as 1739, David Martin established a ferry at the "Point," where the Lehigh and Delaware Rivers meet near Easton. His modest hut was the first building erected on the Pennsylvania side of the Delaware River. At the time of Martin's coming to the "Point" there was not a single highway in what later became Northampton County. Martin's Ferry served the traveling public for 66 years.

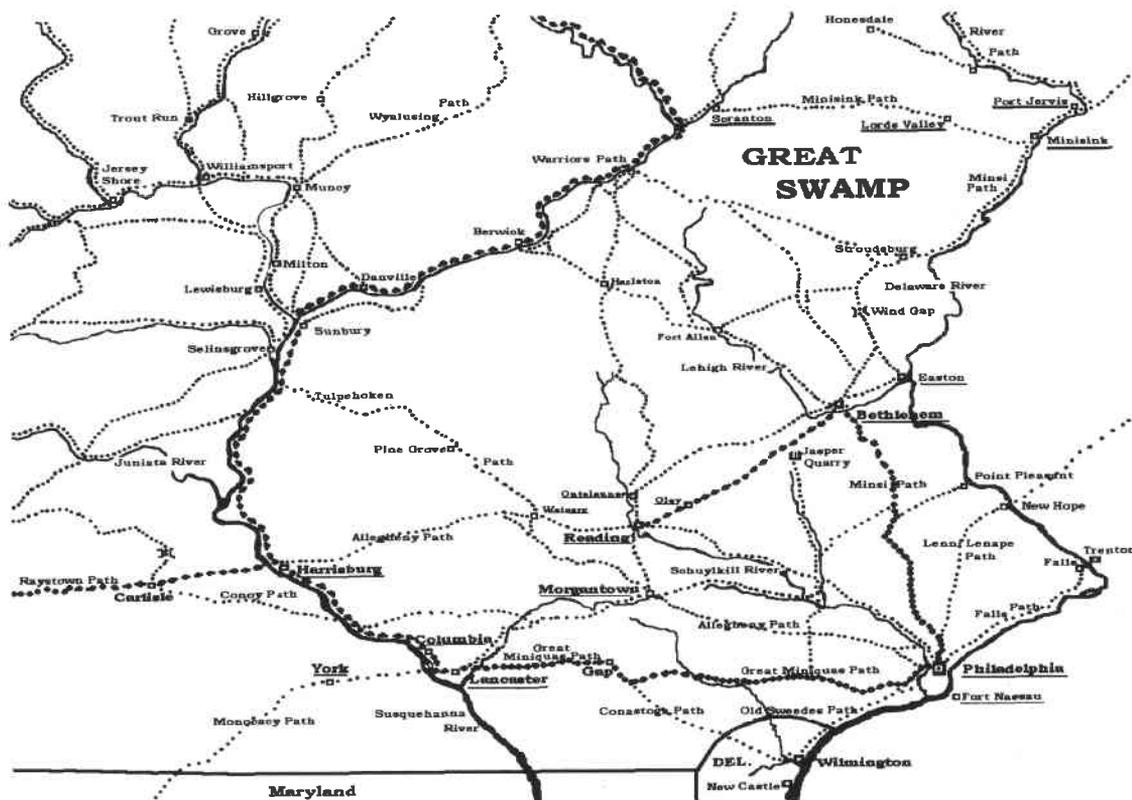


Figure 8. Indian trails of eastern Pennsylvania.

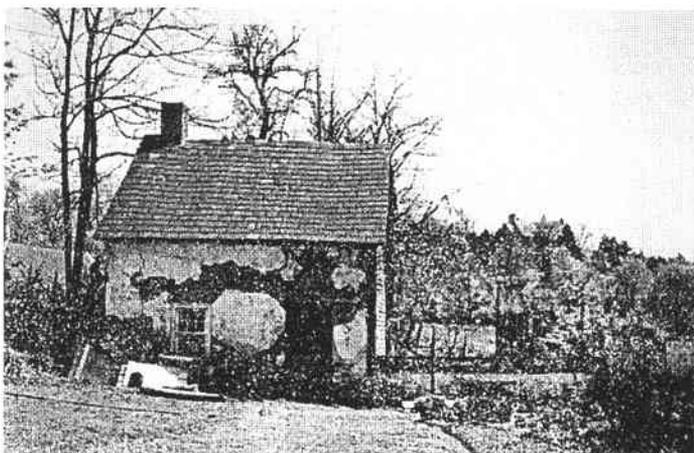


Figure 9. Grouse Hall in 1950.

An interesting historical fact is that in 1746, near the village of Wenersville, Whitehall Township, in Northampton County, a land permit was granted to a gentleman named Lynford Lardner. Lardner emigrated from England to Philadelphia in 1740 and was associated with the Penn family through the marriage of his sister to Richard Penn. A sportsman at heart, Lardner established a plantation, complete with an English-style shooting box, upon his grant in Whitehall Township. Appropriately named Grouse Hall (Figure 9), the lodge became a focal point of sport hunting for the upper-class citizenry of Philadelphia. Grouse Hall created a unique demand in the area for additional sporting arms.

At Christians Spring, near Nazareth, there was in 1747 a gristmill and a sawmill and in 1748 a schoolhouse and a dormitory. Northampton County was cut out of Bucks County in 1752, by which time the population at Christians Spring was recorded as 54. By 1757 sixteen boys were assigned from Bethlehem to gain schooling in the trades of tailoring, shoemaking, farming, locksmithing, weaving, writ-



Figure 10. Christians Spring, late nineteenth century.

ing, brewing, and bee keeping at Christians Spring (Figure 10). Andres Albrecht, a Lancaster gunsmith, started a gunshop at Christians Spring in 1762. Albrecht had arrived from Germany in 1750. John Christian Oerter, born in 1747, was in 1759 sent to Christians Spring to learn the gunsmithing trade from Albrecht. In 1766, at the age of 19, Oerter took over as master of the Christian Springs gunshop (Figure 11). Oerter died young at 30 years of age in 1777.

As was true for Reading, in 1750 there was only one house at the site where Easton was laid out, but by 1755 a total of 63 houses were occupied by industrious Easton residents. William Allen's town, later called Allentown, was not laid out until 1762.

All the activity north of Philadelphia suggests that even though Lancaster and the Lower Berks County areas began to develop earlier, the greater population existed north of Philadelphia in the Northampton County area. Gunsmiths settled in Bucks County as settlers moved north to the Easton area. It would appear the gunsmithing schools in Bucks and Northampton Counties began to evolve about the same time as the Lancaster and Lower Berks County schools.

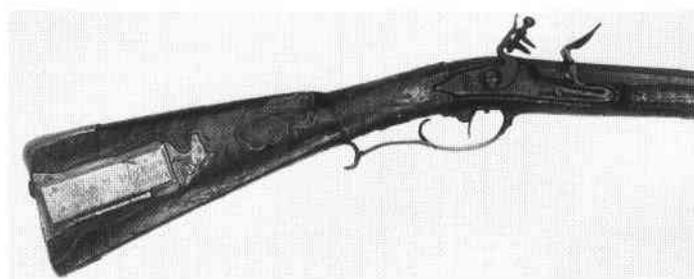


Figure 11. John Christian Oerter rifle.

#### *Upper Berks County School*

The Upper Berks County School of gunsmithing evolved as settlers searched for a more direct route from settlements in the Lancaster area to settlements in the Easton area. The King's Highway, leading from Goshenhoppen to Bethlehem, was completed in 1736. This was the first road laid out to reach the course of the Easton-Reading road as now located, today's Route 222. Bethlehem in its isolation was the only village in the Northampton County region at this time (Figure 12).

Early Moravians and other missionaries traveled from Bethlehem to the Reading Ferry site over an Indian path (Oley Path) by way of the present-day towns of Mountainville, Macungie, Topton, and the Oley School House near where Pricetown is now located. This meandering trail was an unlikely course for an intercounty King's Highway. Thus Berks County citizens decided to alter the course of the road



Figure 12. Oley Path.

to follow the Northampton County line by way of Kutztown in 1753. David Schultz laid out the Easton to Reading King's Road in 1755.

Although Upper Berks County School of gunsmithing was the last part of the original four Pennsylvania schools of gunsmithing to evolve, the gunsmith school formed quickly in this area. By the time of the Revolution, this road from Easton to Reading was the most traveled road in America.

#### CHARACTERISTICS OF EARLY GUNSMITHING SCHOOLS

When rifle making began in this country, every rifle was produced entirely by a single master craftsman, skilled in working with wood, iron, silver, and brass. The rifle was indeed an art form, decorated with carefully chosen wood, artfully carved, and inlaid with engraved brass, silver, ivory, and bone.

Master gunsmiths settled and set up shop in areas where the population was expanding. As their businesses grew they engaged apprentices to learn the gunsmithing craft. These apprentices eventually went off on their own, hiring additional apprentices in their shops. Unique schools of gunsmithing evolved as each craftsman of this growing number of gunsmiths to some extent followed the style and characteristics of their particular "Old Master."

Gunsmithing schools are normally referred to using names of counties even though county borders seldom define them. More often the actual boundaries of schools were geographic features such as rivers and/or mountain ranges.

As time passed, a number of unique subschools evolved within the original schools of gunsmithing. Examples of firearms from these subschools can be identified as having characteristics of the parent school but also as having their own unique characteristics. Subschools evolved in the areas of Kutztown, Reading, and the Alamengle region north of Kutztown, to name only a few.

The Pennsylvania rifle quickly evolved from a necessary weapon to an art form as American gunsmiths skillfully finalized its style toward the end of the eighteenth century.

As I pointed out in my first talk to this Society at Valley Forge in 1976, although many rifles are unsigned, they exhibit unique features allowing them to be attributed to their areas of manufacture, to their schools, and often even to their individual makers. The ability to recognize school characteristics is necessary for the proper identification of unsigned rifles. This ability also proves quite valuable in the detection of restorations, repairs, and overimproved rifles.

We will now explore characteristic differences between rifles produced by each of the four earliest gunsmithing schools. Those schools were located east of the Susquehanna River, west of the Delaware River, south of the Blue

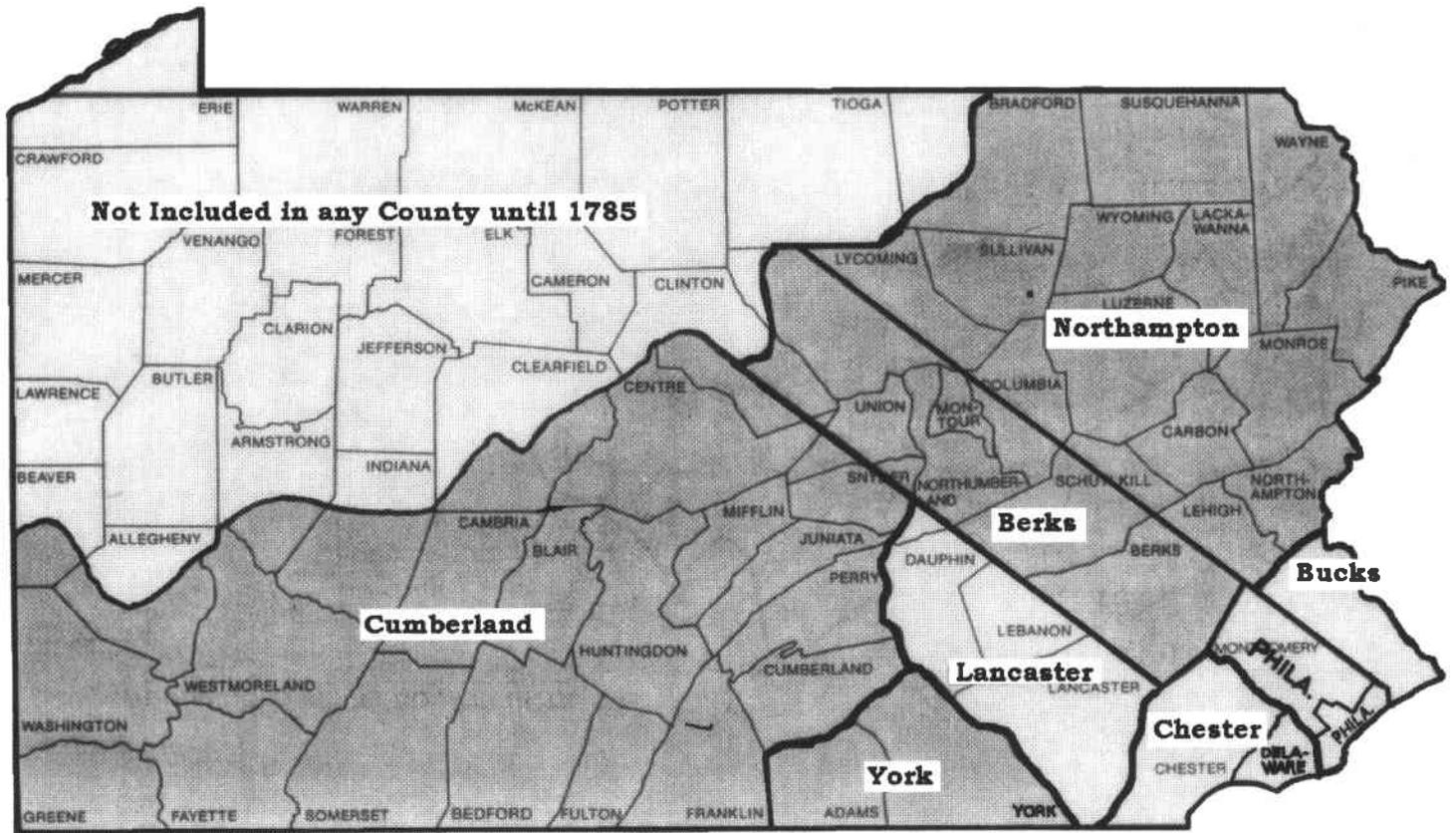


Figure 13. Pennsylvania, 1770 (8 counties).

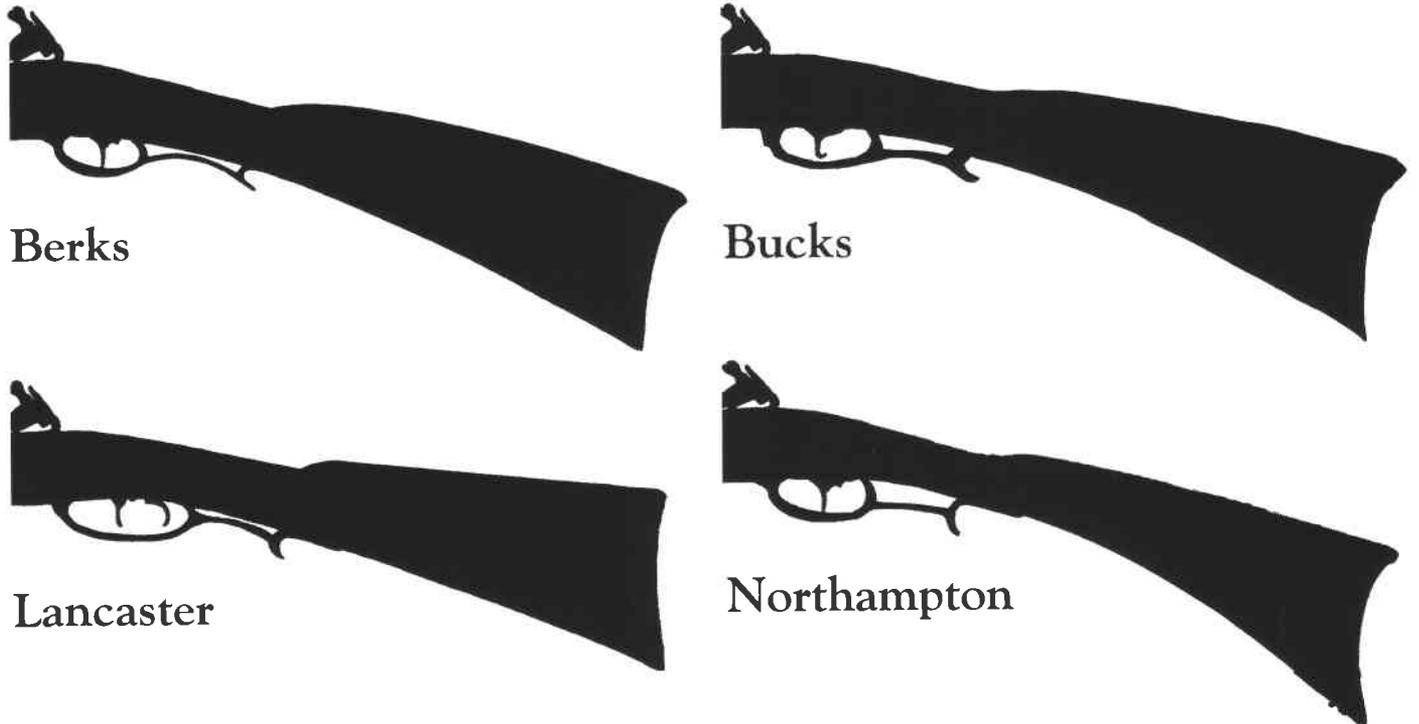


Figure 14. School silhouettes.

Mountains, and outside of Philadelphia, in the area that in 1770 consisted of Bucks, Berks, Chester, Lancaster, and Northampton Counties (Figure 13).

### *Silboettes*

Al Sullivan, in a talk before this society in Washington, D.C., in 1969, discussed the importance of silhouettes in determining the origin of a Pennsylvania rifle. Let's take a look at the silhouettes of our four earliest schools (Figure 14): The Berks County stock profile has a severe Roman nose comb dropping sharply toward the wrist, and the bottom of the stock arches gently downward from the trigger to the toe. The traditional stock profile of the Lancaster County school rifle appears nearly like a modern rifle, straight on top and bottom. The Bucks County stock profile has a graceful Roman nose comb with the bottom of the stock arching severely downward from the trigger to the toe. The Northampton school rifle has a unique stock profile curved top and bottom with a double curve on the bottom beginning at the triggerguard.

### *Bucks County School*

The typical Bucks County rifle nose cap tends to be relatively short, open-ended in the front so the stock is visible from the muzzle and contoured on the underside for the ramrod (Figure 15). Often the Bucks County nose cap is decorated with two scribe lines at the front and two scribe lines at the rear of the cap (Figure 16). The nose cap style is similar to the Northampton County nose cap except for size and decoration.

Patchbox doors of this school usually consist of a side-opening door hinged at the bottom (Figure 17). It is not uncommon in this school for the gunsmith to sign his name on the patchbox door; in the rifled pictured in Figure 17, the maker, Weiker, included the price of \$18.00 as well.

Carving on Bucks County rifles tends to be incised and rather finely executed (Figure 18). A fleur-de-lis design is often incorporated into the carving (Figure 19). Double scribe lines are often used on the sides of the forearm from the lock panel to the rear entrance furrel (Figure 20).

The "thumbnail" or "beehive" feature is used extensively on the toe plate, butt plate (Figure 21), trigger guard (Figure 22), and furrel finials (Figure 23). The rear entrance furrel finial is sometimes large, extended, and ornate (Figure 24), often ending in a fleur-de-lis design. Side plates are heavy beveled brass (Figure 25), sometimes ending with a bulb to the rear. The side plates usually feature small horns about the rear lock bolt screw.

The Bucks County traditional trigger guard (Figure 26) has a stud, similar to the Northampton County style, and a rear spur that is curved to the rear (Figure 27) with a flat filed into the bottom of the spur. The trigger guard is often held in place with a wood screw at the rear finial (Figure 28). Triggers tend to be curled and slanted rearward (Figure 29), and butt plates tend to be straight up and down where they contact the shoulder and are rounded into the butt plate tang (Figure 30).

The crosspiece of the rear sight is located directly in the center of the sight base (Figure 31). Decorated scribe lines are used front and rear of the crosspiece. This type sight is also used on Northampton school rifles.

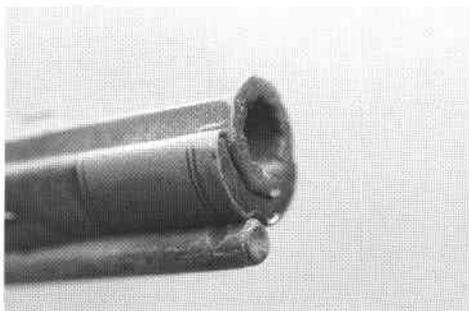


Figure 15. Bucks County nose cap.



Figure 16. Bucks County nose cap.



Figure 17. Bucks County patchbox.

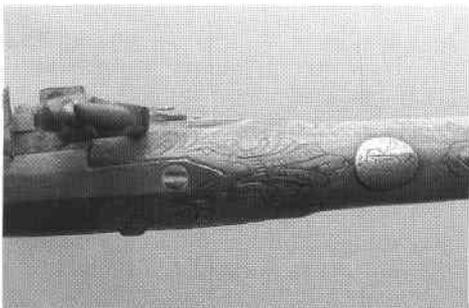


Figure 18. Bucks County fleur-de-lis carving.

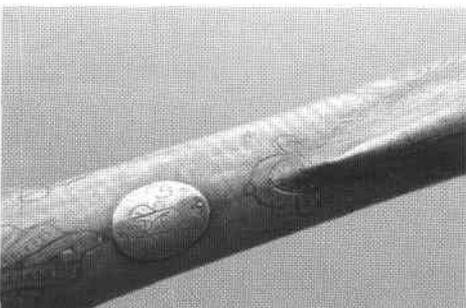


Figure 19. Bucks County fleur-de-lis carving.

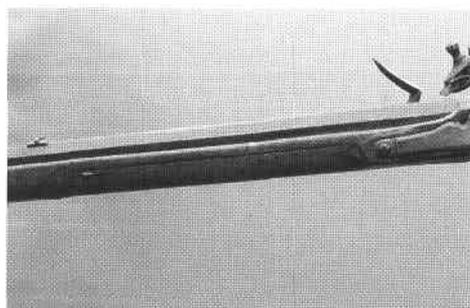


Figure 20. Bucks County forearm carving.

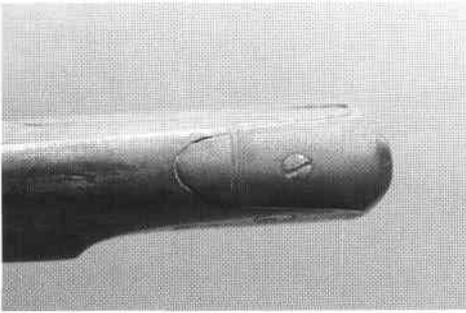


Figure 21. Bucks County "thumb nail" feature.

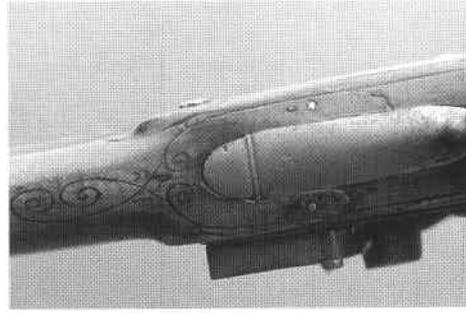


Figure 22. Bucks County "thumb nail" feature.



Figure 23. Bucks County "thumb nail" feature.

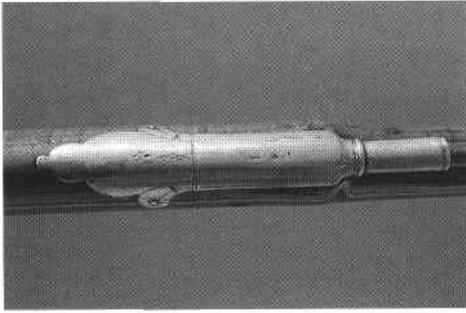


Figure 24. Bucks County entrance furrel.



Figure 25. Bucks County side plate.



Figure 26. Bucks County trigger guard.

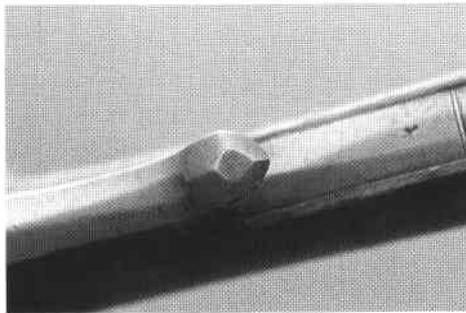


Figure 27. Bucks County trigger guard spur flat.

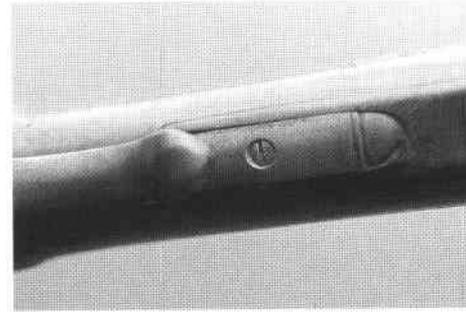


Figure 28. Bucks County trigger guard rear screw.



Figure 29. Bucks County trigger.

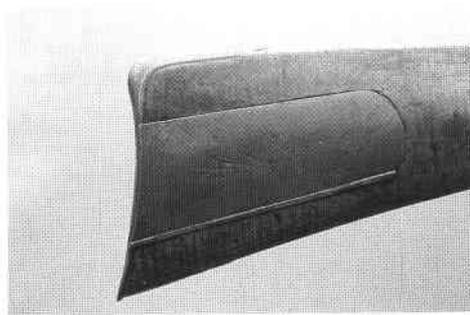


Figure 30. Bucks County butt plate.

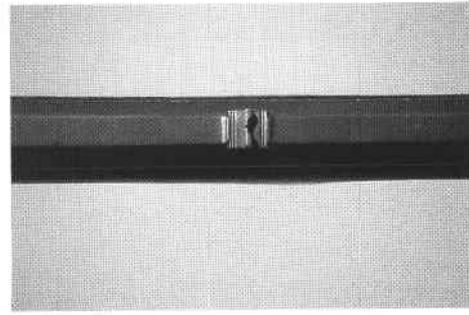


Figure 31. Bucks County rear sight.

### *Berks County School*

The typical Berks County nose cap is generally formed from one piece of sheet brass and therefore is not open at the muzzle (Figure 32).

A "beaver tail" is often relief-carved at the barrel tang (Figure 33) at the rear entrance furrel (Figure 34), and/or to the rear of the lock mortise (Figure 35).

The rear barrel sight tends to be high in the center (Figure 36) with the cross blade to the rear of the base.

Side plates tend to be heavy beveled brass and normally include a stepped down forward area where the front lock bolt screw is located (Figure 37).

In early Berks County rifles the patchbox release is typically within the heel of the buttplate, and the release often resembles a second screw (Figure 38).

There are three distinct styles of patchbox finials: the Pannabecker/Haga style (Figure 39), the Leonard Reedy style (Figure 40), and the John Bonewitz style (Figure 41). The catch in the patchbox door is often fastened with two rivets rather than the usual one (Figure 42).

The trigger is broad in width, and the trigger guard (Figure 43) is somewhat similar to the 1804 Harpers Ferry

half stock rifle in that it is wide in the bow with a long, broad rear rail.

Ramrod pipes tend to be fastened with two pins through the wood (Figure 44) rather than the usual one.

Cheekpieces tend to be bold (Figure 45), almost European in style. The Berks County butt plate is generally broad and straight up and down with a pronounced heel (Figure 46).

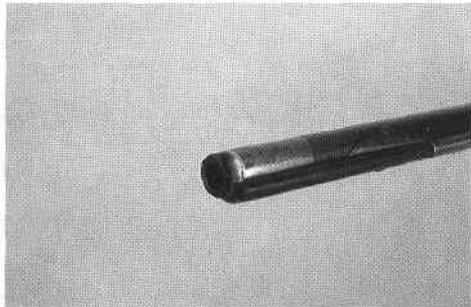


Figure 32. Berks County nose cap.



Figure 33. Berks County "beaver tail" carving.



Figure 34. Berks County "beaver tail" carving.



Figure 35. Berks County "beaver tail" carving.

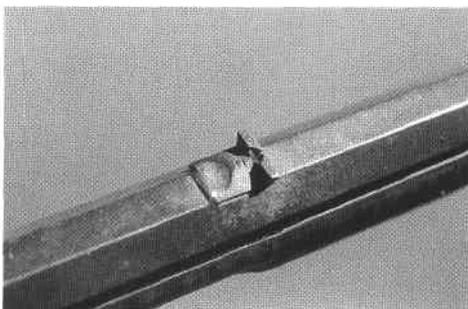


Figure 36. Berks County rear sight.



Figure 37. Berks County side plate.



Figure 38. Berks County patchbox release.

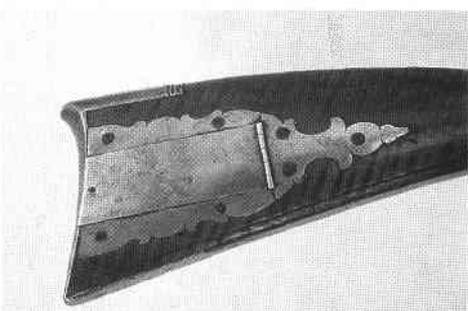


Figure 39. Pannabecker/Haga patchbox.

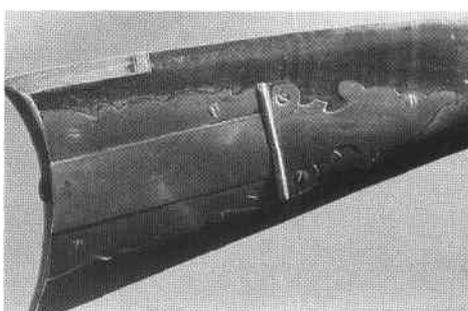


Figure 40. Leonard Reedy patchbox.

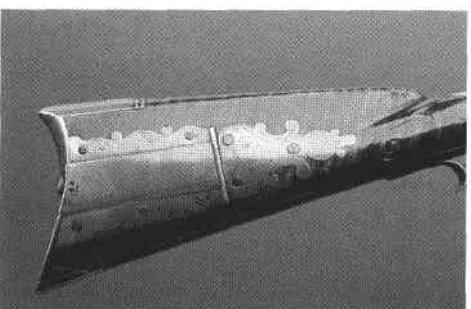


Figure 41. John Bonewitz patchbox.



Figure 42. Berks County patchbox door rivets.

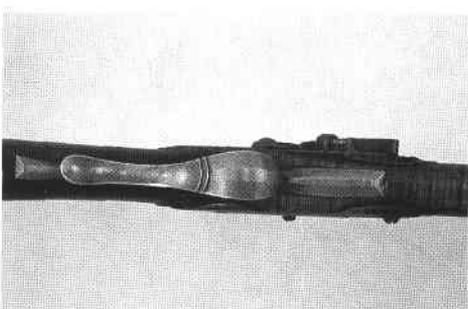


Figure 43. Berks County trigger guard.

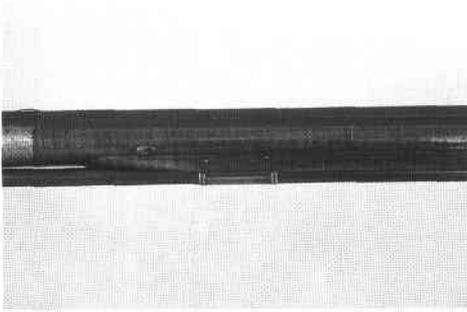


Figure 44. Berks County ramrod pipe pins.

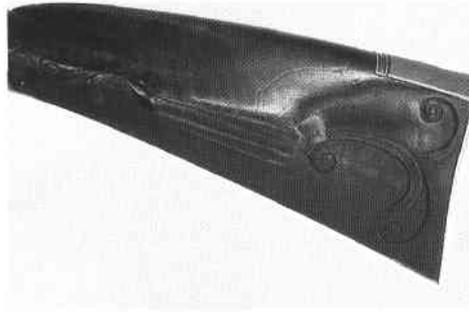


Figure 45. Berks County cheekpiece.

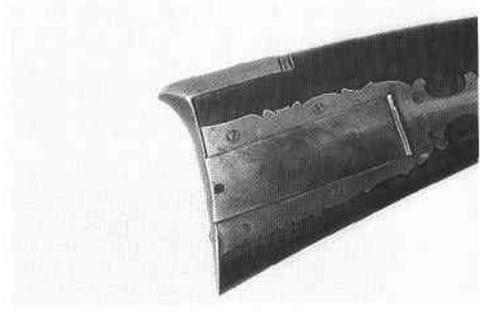


Figure 46. Berks County butt plate.

### *Northampton County School*

I have covered the characteristics of the Northampton County school in detail in my previous three talks to the society. In general, these characteristics are as follows: an open-ended nose cap (Figure 47) which is formed on the bottom to accept the ramrod (not unlike Bucks County rifles); a trigger guard that features a stud forward of the wide trigger guard bow, with the rear rail parallel to the wrist (Figure 48); the use of an Indian head design for decoration almost anywhere on the rifle (Figures 49-51); and the use of the arrowhead design on side plates, toe plates, and rear barrel tangs (Figure 52).

The butt plate is inlet into the heel of the stock so it is often invisible in the profile view, while patchboxes tend to be two-piece with variations of the fleur-de-lis finial. Early rifles often have cast brass patchboxes with heavy raised doors (Figure 53), while later rifles tend to feature four-piece patchboxes made from flat stock brass (Figure 54).

As mentioned earlier, the rear sights are similar to those found on Bucks County rifles, with the crosspiece located in the center of the base (Figure 55).

Many guns manufactured in the Northampton school had a red violin finish (Figure 56), and stock forends were usually V-shaped in cross section.

The Northampton County stock cheekpiece tends to be short, broad, and high off the stock (Figure 57).

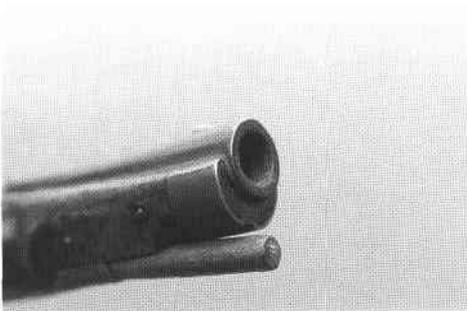


Figure 47. Northampton County nose cap.

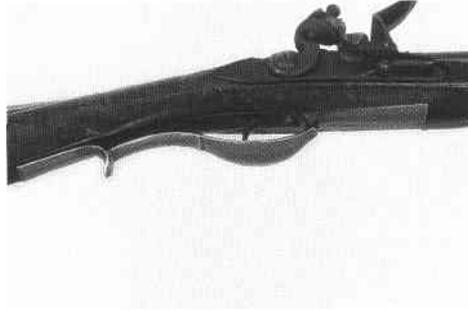


Figure 48. Northampton County trigger guard.



Figure 49. Northampton County "Indian head."



Figure 50. Northampton County "Indian head."

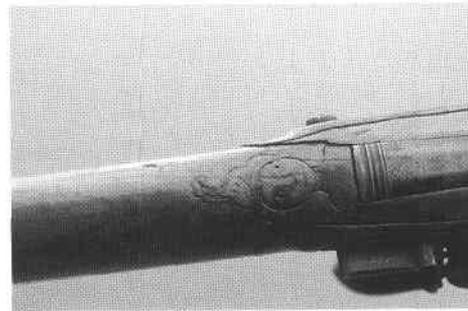


Figure 51. Northampton County "Indian head."



Figure 52. Northampton County arrowhead.

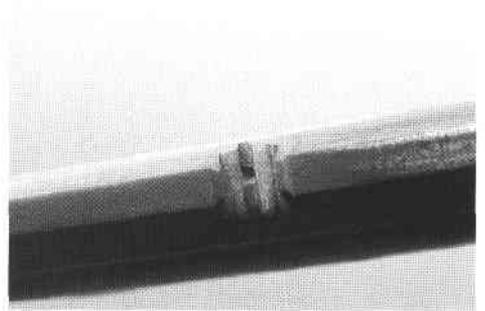
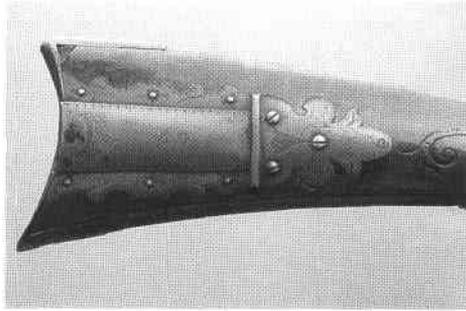
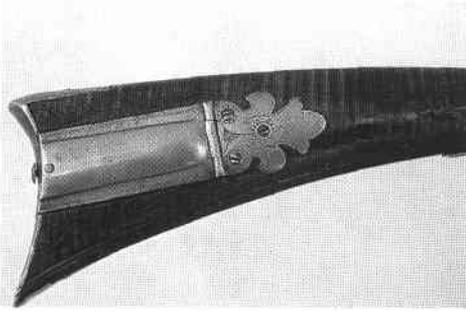


Figure 53. Northampton County patchbox.

Figure 54. Northampton County patchbox.

Figure 55. Northampton County rear sight.

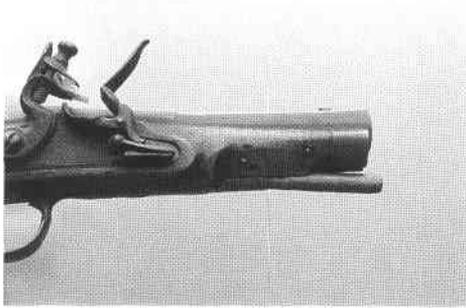


Figure 56. Northampton County V-shaped forend.

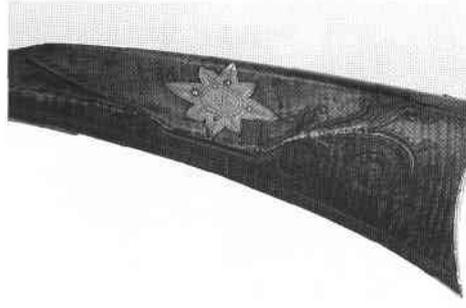


Figure 57. Northampton County cheekpiece.

*Lancaster County School*

Lastly, lets take a quick look at a few of the characteristics of the typical Lancaster County school rifle.

The traditional Lancaster County school rifle has a cheekpiece that tends to be low on the cheek side of the butt (Figure 58).

The spur on the bottom of the trigger guard extends very straight down, with little or no curl to the rear (Figure 59).

Butt plates exhibit little or no curvature (Figure 60), and patchboxes often feature a daisy-head finial (Figure 61). The J.P. Beck and Nicholas Beyer rifles produced in the area which was later to become Lebanon County often featured the "whales tail" finial (Figure 62).



Figure 58. Lancaster County cheekpiece.

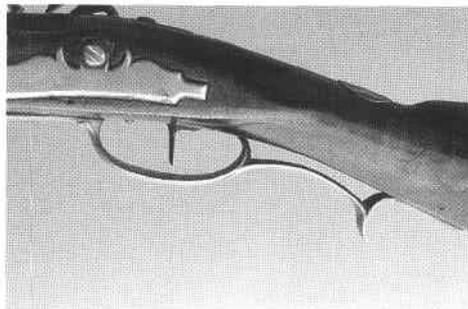


Figure 59. Lancaster County trigger guard spur.



Figure 60. Lancaster County butt plate.

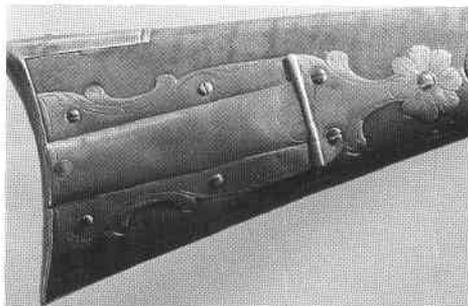


Figure 61. Lancaster County typical patchbox.

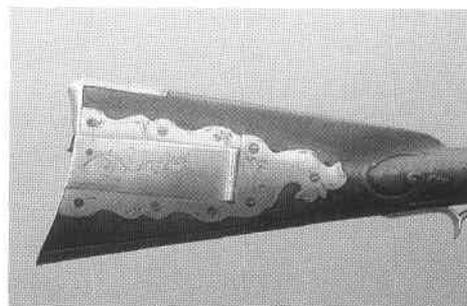


Figure 62. J.P. Beck/Nicholas Beyer patchbox.

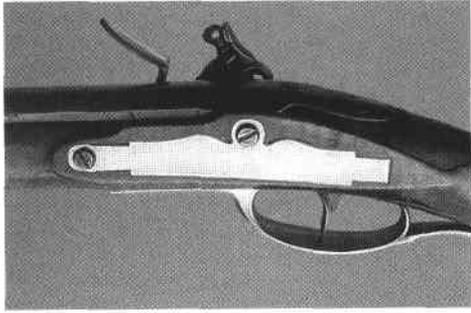


Figure 63. Lancaster County side plate.

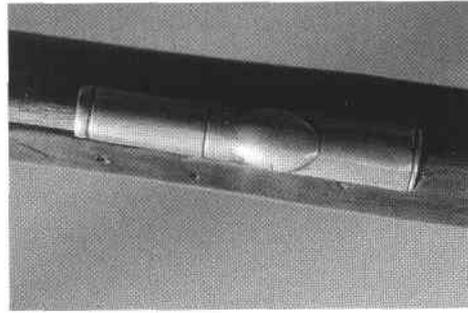


Figure 64. Lancaster County base thimble.

Brass side plates (Figure 63) are normally shaped similar to those on Berks County rifles but are not usually as heavy and do not have the stepped-down feature under the forward screw.

Lancaster County school base thimbles tend to be shorter than thimbles used in the other schools of gunsmithing (Figure 64).

#### IN CONCLUSION

This is only the beginning of the Pennsylvania gunsmithing story. My future plans are to document the remaining schools of gunsmithing in Pennsylvania (the York, Bedford, Northumberland, Allegheny, and Lebanon schools) and then to cover the many subschools such as the Huntington, Somerset, upper Susquehanna, Kutztown, Allemaengle, Oley Valley, Franklin/Adams, and Reading schools. To complete the Pennsylvania gunsmithing picture, I would like to profile gunsmithing families in each of the schools and their own unique family characteristics. Assuming I accomplish this task, I'm sure I will be far too old to write any more articles. Thank you for your interest and attention.

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