THE CRAFT OF THE EARLY AMERICAN GUNSMITH

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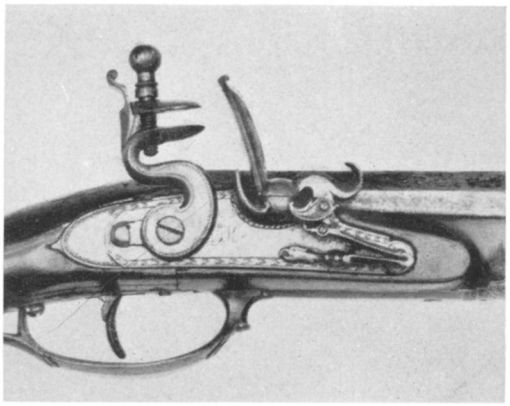
"I never in my life saw better rifles (or men who shot better) than those made in America . . . ," wrote General George Hanger, a British officer who served in the Revolutionary War and one of the best marksmen in England. In colonial days the rifle was used extensively in the frontier settlements, and the pioneers were trained sharpshooters; they had to be to protect themselves and to provide themselves with food and clothing. Their rifles were designed so effectively that a marksman could kill a squirrel jumping in a tree as far away as the eye could see. Tradition and early records by reliable authorities have handed down to us accounts of some of the remarkable shots made in the days of the muzzle-loading flintlock rifle. At the Battle of Saratoga Tim Murphy, a a hunter rifleman, made General Fraser, one of the ablest British officers, his special target and wounded him mortally at a range of over three hundred yards.

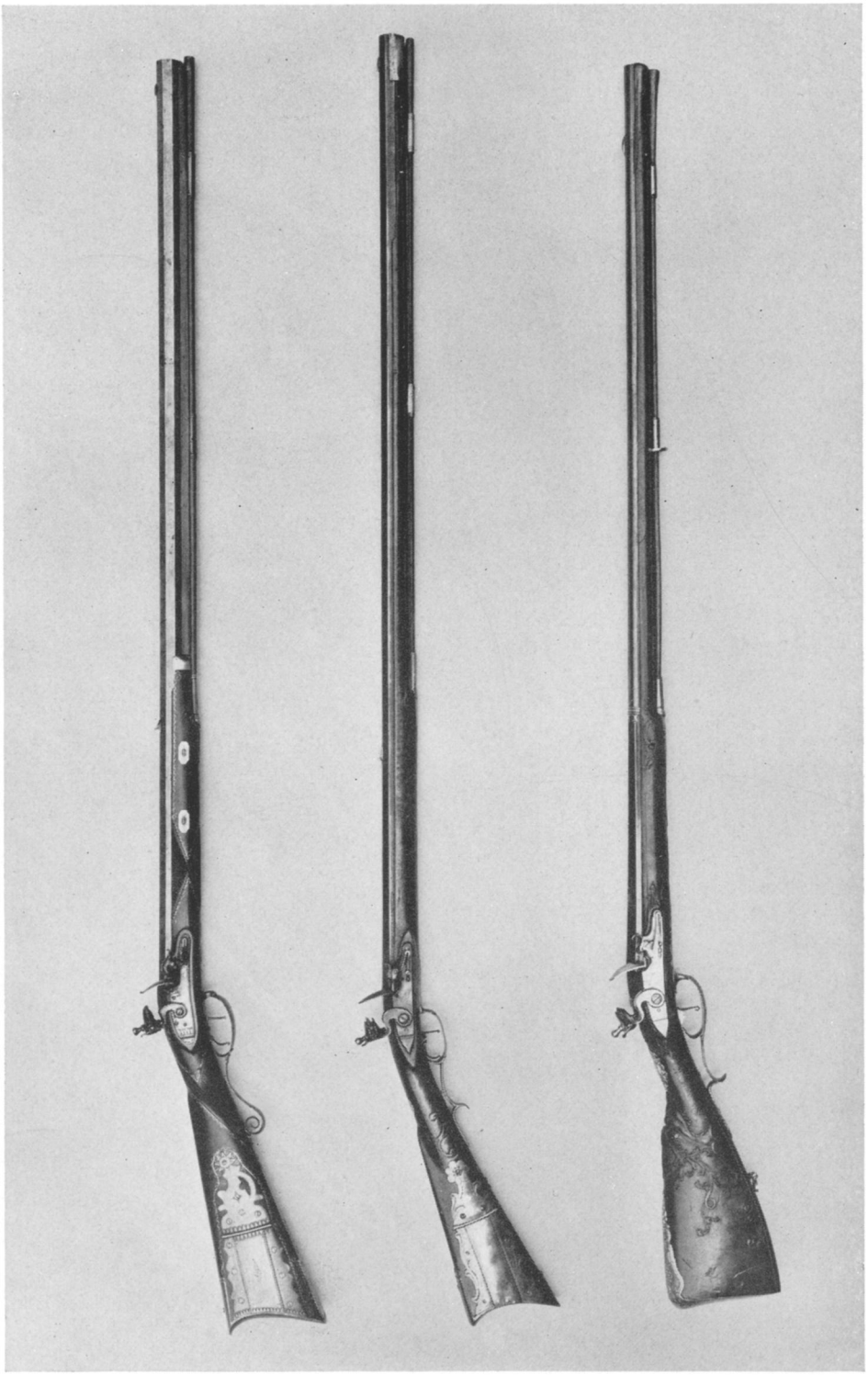


Flintlock of a Kentucky rifle, made by J. Kuntz of Philadelphia, late XVIII *century*

From the standpoint of achievement the Kentucky rifle was the premier weapon of the world for over a century. It was developed to fulfill the demands of frontier life; it was a firearm to be used undercover—wherever there were trees or ditches to hide the rifleman while he reloaded—or in open order out of musket range. The settlers who were moving into the wilderness west of the Cumberland Mountains and east of the Mississippi River carried Kentucky rifles for everyday use; their chosen weapon took its name from this region where it was so well known and so generally and effectively used.

The Kentucky rifle is rightly considered a distinctly American achievement. We need not claim its independence of the European rifle to appreciate it, however. The American gunsmith, at his best, was a great craftsman, but he learned his craft from a European master gunsmith who had served years of apprenticeship. The influence of European gunsmiths on American weapons has not been easy to study in the past. Very few firearms of any sort used in America during the seventeenth century, or even during the Revolutionary War, have been preserved, and those that exist are mainly in the hands of private collectors and have rarely been shown with the European weapons to which they are related. A group of exceptionally fine early firearms have recently been brought together in the Armor Gallery (A-33), where they will be on view through November. These interesting loans, which came mainly from three of the leading collectors in the field, Herman P. Dean of Huntington, West Virginia, Joe Kindig, Jr., of York, Pennsylvania, and William G. Renwick of Weston, Massachusetts, have provided a rare opportunity of studying the American weapons with their European prototypes.

The rifle was first developed in Europe as a sporting piece, for in the early history of firearms improvements were generally applied to weapons made for noble huntsmen before they were applied to military weapons. The princi-



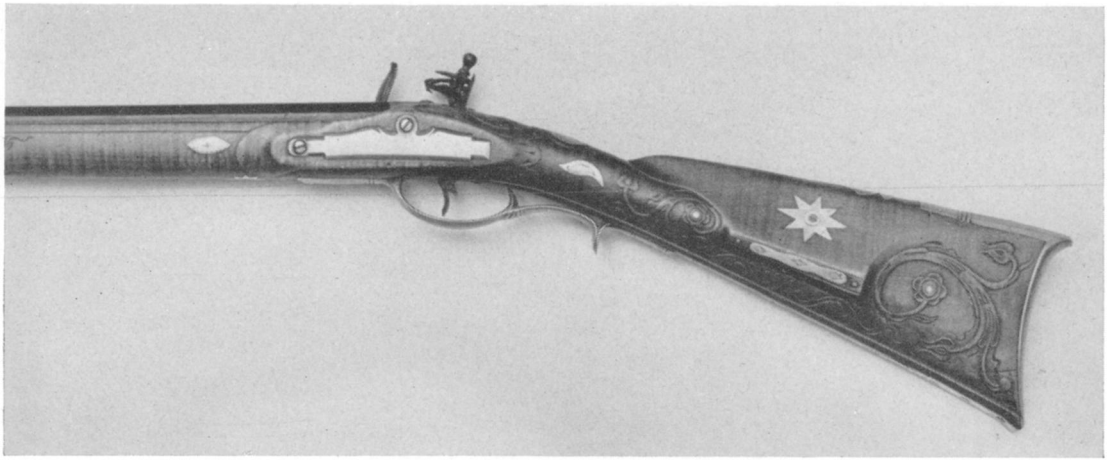
RIGHT: *German rifle signed S. Hauschka, about 1730.* CENTER: *Kentucky rifle by Henry Albright, pre-Revolutionary.* LEFT: *New England rifle by Silas Allen, 1820*

Details of two Kentucky flintlock rifles, showing the brass patchbox covers. The button that released the hinged cover was sometimes ingeniously concealed.

pal reasons for the accuracy of the rifle were the tight fit of the ball and the rotating motion given to it by the spiral grooves in the barrel. The rifle took its name from these grooves, which are called rifling after the German word *riffeln,* to groove. The drill-like spinning motion they gave the ball made it travel a flatter trajectory than the musket ball, which tumbled in flight, and attain the target more accurately and quickly. The principle was far from new; the arrow and the crossbow bolt were made to spin by feathers, and the javelin-thrower gave his weapon a rotary twist with his hand.

As used in the Kentucky rifle, the ball, only slightly smaller than the barrel between opposing lands (the portion between the grooves), was wrapped in a patch of greased linen or leather. Most writers claim that this is an American invention, but there are European specimens dating about 1600 in the Museum. The patch made the ball fit the tube snugly and at the same time acted as a lubricant, so that the ball could easily be rammed home. Because it fitted tightly the rifle bullet had much greater gas pressure behind it than the loose-fitting musket ball. This pressure, together with the small caliber of the bullet, resulted in higher velocity and greater distance.

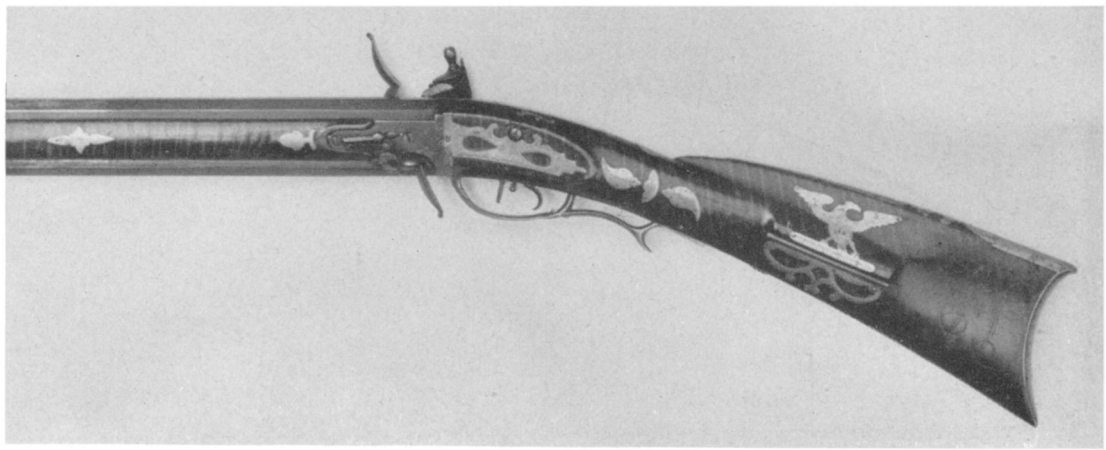
European eighteenth-century firearms were made to live up to a tradition of centuries of quality workmanship. German and Swiss hunting firearms were especially fine, and it was from these weapons that the American rifle was developed. The model for the Kentucky rifle is

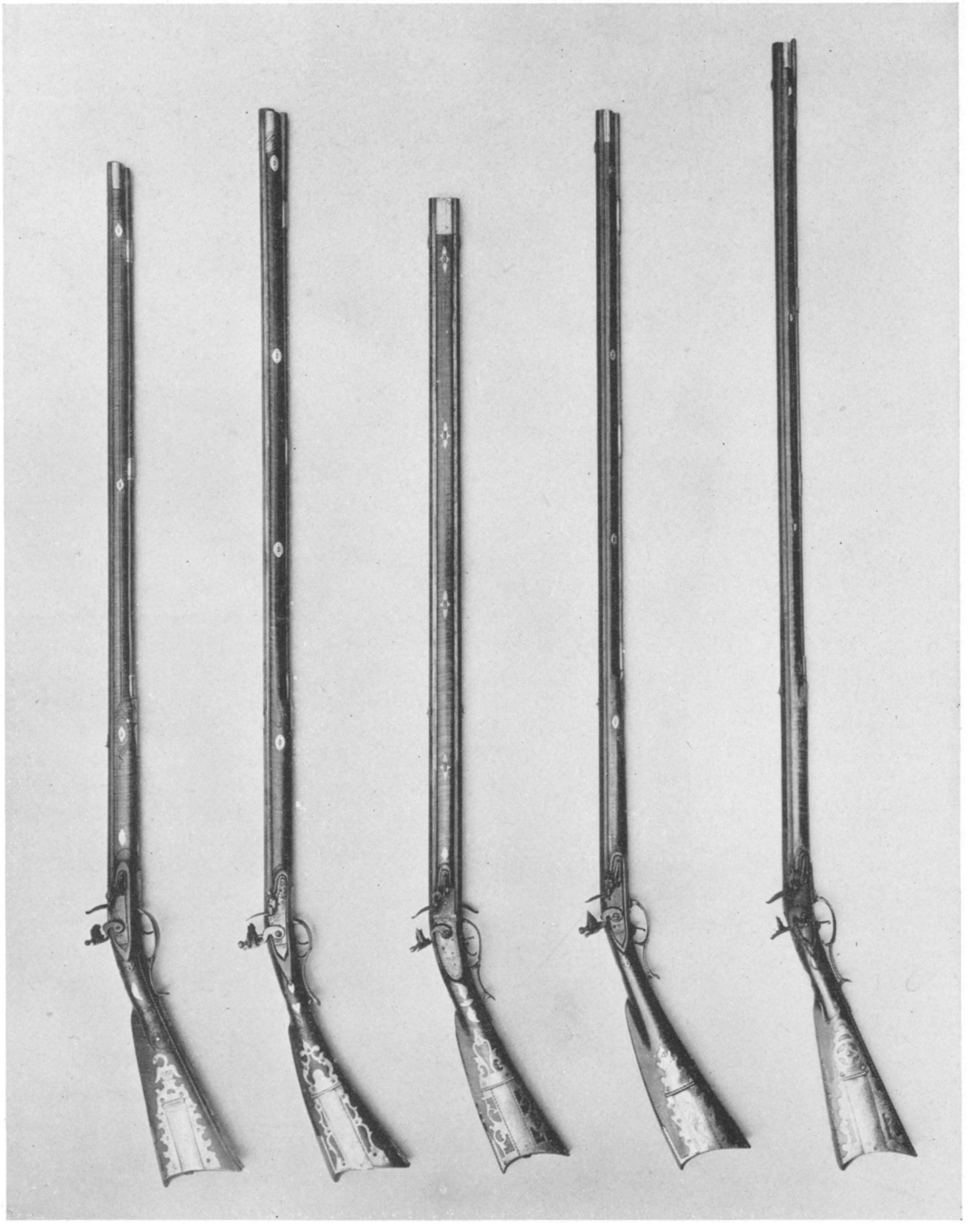


The maple stocks were carved and inlaid with silver plaques. These usually had talismanic significance. The star of Bethlehem was often placed on the cheekpiece.

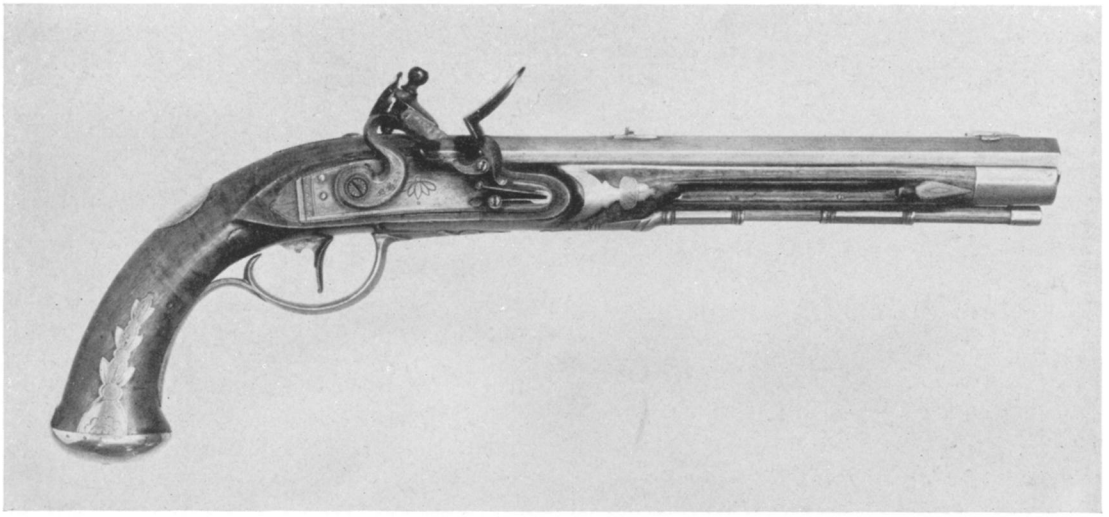
generally thought to be a short, heavy German rifle with a bore of about 75 caliber, made for hunting wild boar and antlered stag at close range. Its true predecessor, however, is a German rifle of another type, a slender piece with a long barrel and a smaller bore. Such a rifle, a masterpiece of its type, is in the Museum (ill. p. 55). It is streamlined, fifty-five inches long, and weighs only eight pounds. The barrel, of .61 caliber, is rifled with seven straight grooves. The stock is carved with a boar's head; and the lock is finely engraved. It is signed by Johann Sebastian Hauschka, a court gunsmith active in Wolfenbüttel from about 1720 to 1775. At the time Hauschka made this masterpiece, about 1730, American gunsmiths were making rifles similar in construction but severely plain. Fine guns like Hauschka's were, of course, made in thousands on the continent, and it was a profitable day for the colonists whenever one of these skillful gunsmiths emigrated to this side.

In spite of its name, which it acquired when Kentucky was a vast wilderness and not a mere state, the Kentucky rifle was made mainly in Pennsylvania by gunsmiths of German and Swiss descent. Lancaster was early developed as a rifle-making center. The Pennsylvania-German gunsmith was among the most versatile colonial artisans, and his best rifles were works of art. He made rifle barrels of soft iron around an iron core, welding a few inches at a time and withdrawing the rod as the work progressed; he wrought locks with springs of well-tempered steel which represent the highest mechanical





Eighteenth-century Kentucky flintlock rifles. From left to right, they bear the names of these master gunsmiths: N. Beyer (Lebanon), Samuel Pannabecker (Allentown), S. Bieg, Christian Dürr, and George Schroyer (Reading).



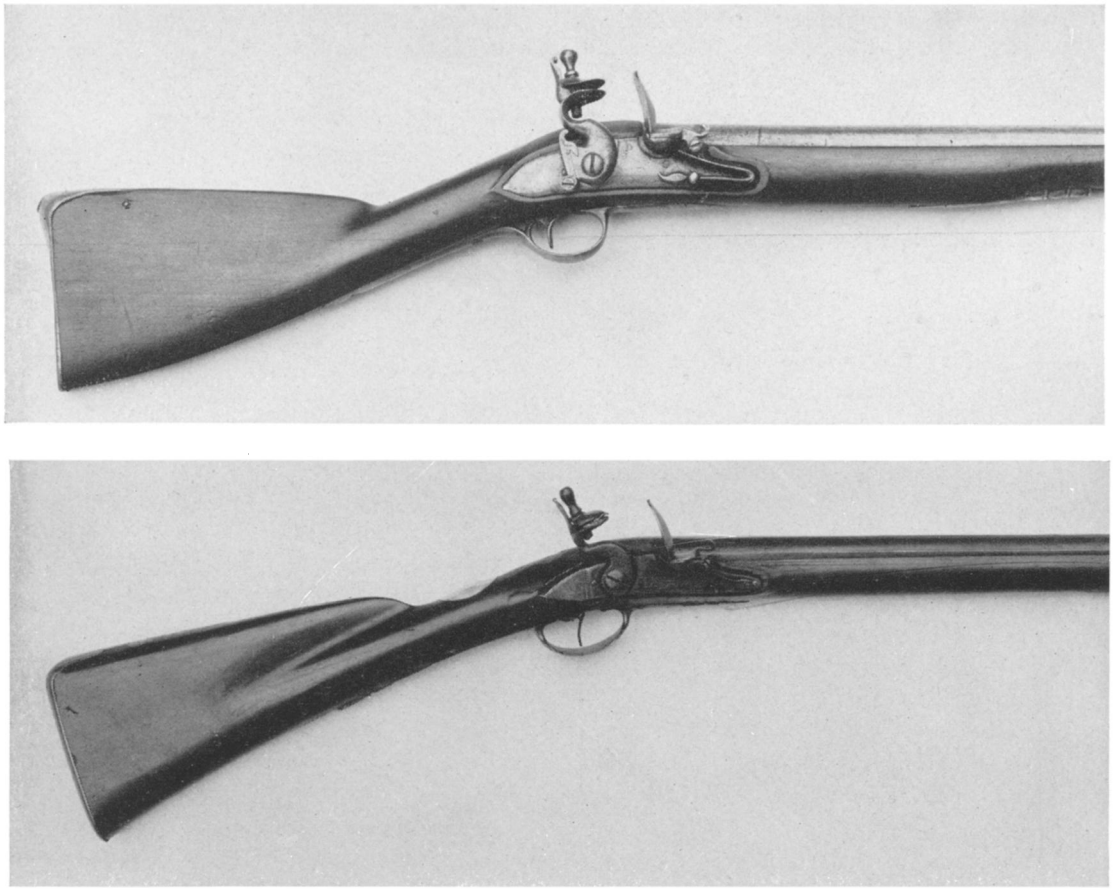
Kentucky flintlock rifled pistol said to have been carried by General John Sullivan in the Revolutionary War. Maple stock, rifling of eight grooves, caliber .41

and technical accomplishment of his time, and proof-tested the springs severely, for life might depend on their quality; he made superbly balanced gunstocks of maple, upon which he carved designs in relief that sometimes equal the fine carving found on Philadelphia Chippendale furniture of the period; and he often polished the stock with a finish that resembles tortoise shell and enriched it with inlays of brass and silver. The inlays usually had talismanic significance. The crescent moon is the symbol of the Virgin. The heart, which sometimes has the lower tip twisted slightly to one side, is an ancient Christian symbol of the fifth wound of Christ. The bird symbolizes the human soul.

An early settler's gun in the group we are discussing, dating about 1730, a forerunner of the conventional Kentucky rifle, has a sliding wooden patchbox cover. This is a European feature. The hinged brass patchbox cover which is characteristic of the Kentucky rifle evolved from the custom of decorating the wooden patchbox cover with brass. We know from numerous contemporary advertisements that the same engravers who ornamented guns and pistols also worked for the silversmiths. Some of their best work was on the pierced and engraved patchbox covers.

The frontiersman's rifle was custom built, and the twelve Kentucky pieces we have brought together show considerable variation both in construction details and in ornamentation. The over-all length varies from 51 to 66 inches, the weight from seven to eleven pounds, and the caliber from .37 to .61. The rifling usually consists of seven grooves, which are straight in some pieces and have a left or right twist in others. Two splendid and rare double-barrel pieces are included in the exhibition. One has a smoothbore barrel and a rifle barrel disposed side by side. In the other, two rifled barrels, each with its own flashpan and cover, are disposed over and under and rotate on a central axis, so that when the top barrel has been discharged the rifleman can reverse their positions and fire the second barrel with the same lock.

Pistols, as well as shoulder arms, were frequently rifled. Because they were easily portable pistols were usually carried by mounted men and by officers for use at close range. In the group of eleven single and four pairs of Kentucky flintlock pistols in the exhibition, covering roundly the hundred years beginning 1750, are a number of rifled pieces, including a fine pair by Henry Albright of Lancaster. Among the pedigreed pistols are George Washington's pistols, made about 1760, the rifled pistols car-



Colonial muskets, about 1700. ABOVE: *Doglock musket made by Theophilus Munson of New Haven.* BELOW: *Flintlock fowling piece made by Thomas Earl of Leicester, Massachusetts*

ried by General Wolfe at the Battle of the Plains of Abraham (1759), and a silver-mounted rifled pistol that was carried by General John Sullivan in the Revolutionary War.

Despite the obvious merit of the rifle its value was limited, and the musket was more common in early America, especially in New England. The single New England rifle in the Museum's permanent collection, a fine presentation piece made by Silas Allen of Shrewsbury, Massachusetts, is a late one, dating about 1820, and in its construction it clearly shows the influence of the Kentucky rifle.

At the beginning of the Revolution John Adams wrote from Philadelphia of "a peculiar kind of musket, called a rifle," and told that ten companies of riflemen were to be recruited from Pennsylvania, Maryland, and Virginia—companies Washington was soon to be awaiting at Cambridge. Better than New Englanders Washington had known of the rifle skill of the backwoodsmen because the few Englishmen who escaped at Braddock's defeat on the banks of the Monongahela in 1755 owed their lives to his riflemen.

Neither the rifle nor the smooth bore was the better arm in every case, whether for hunting or for war. The musketeer could load and fire his piece three or four times a minute, a speed no rifleman could achieve, but to facilitate loading he used a bullet considerably smaller than the bore, thus losing much of the force of the powder. Moreover, the bullet scraped the barrel as it left the muzzle and followed an erratic course. While the ordinary rifleman could sight his gun carefully and rely upon his

aim at more than a hundred yards, the military musket could hardly be aimed; a hit at sixty yards was mere accident.

The barrel of the musket was poorly made, but more muskets were available for just that reason. Rifles were more difficult to make and comparatively expensive. Although many Kentucky pieces are smooth bore they may be considered precision smooth bores compared to the military muskets, for they were far more carefully made.

The musket was better for close-range fighting, however, because it could be loaded so quickly and, since luck was more important than skill in making a hit, it was fired in volleys. Its use saved the army the extremely difficult job of training marksmen. Moreover the army could not use the rifle until machinery had been developed that could produce a uniform rifle in large quantities. For these reasons the musket continued to be standard in the American Army until 1855.

Many thousand muskets of various types were imported from England during the colonial period. When the Puritans came into the Massachusetts Bay region they came well armed, and in order to keep the men proficient in military exercises special training days were held at regular intervals. The principal arms used by the Americans in the Revolution were the French army musket of 1763—a smoothbore flintlock known as the Charleville musket; the Brown Bess, English army musket from 1690 to 1840, and the American "Committee of Safety" musket. These muskets with bayonets were the weapons which won victories at close range in the open field.

The doglock, a safety device of English origin invented early in the seventeenth century, was widely used on New England muskets. It got its name from the dog, or catch, that engages a notch on the heel of the hammer and holds it in half-cocked position to prevent unintentional discharge of the piece. One of our doglock fowling pieces, dated 1663, is signed by the gunsmith James Phips of Kennebec River, father of Sir William Phips, Governor of Massachusetts. Another, a fine Queen Anne militia musket, has a doglock with the mark A R (Anne Regina) surmounted by a royal crown.

In colonial days firearms played an important part in trade with the Indians. If the Indian wanted a gun, and he usually did, the trader would have an extra long one, because the beaver skins with which he was paid had to be stacked as high as the gun was long. This was not so bad a trade when one recalls that the first real estate transaction in the borough of Brooklyn was effected when the Dutch bought the site of the city of Brooklyn from the Canarsee Indians for one pound of shot.

An early fowling piece which we have included in our select group is of particular interest. It is a long goose gun of about 1785 which is marked: PERKIN PHILADA. Perkin, who had emigrated from England, became the first master armorer at the national armory at Harper's Ferry, Virginia. In 1794, when difficulties with France stopped further importations of firearms, Congress appropriated money for the establishment of two national armories — at Springfield, Massachusetts, and Harper's Ferry, Virginia (now West Virginia). The United States martial muskets were copied from the French muskets, models 1763 and 1777. Production was started at Springfield in 1795 and at Harper's Ferry in 1803. The era of handmade firearms was then virtually at an end.