The Commonwealth of Virginia's Standards of Learning History & Social Science Study Guide for Grades K - 12

National Firearms Museum
11250 Waples Mill Rd.
Fairfax, VA 22030 703/267-1600

National Firearms Museum Study Guide

In accordance with the Commonwealth of Virginia's Standards of Learning: History & Social Science

The National Firearms Museum is:

2,400 Firearms
650 Years of History
85 Exhibit Cases
15 Galleries
5 Life sized dioramas

Welcome to the National Firearms Museum, the foremost center of learning on the subject of Americans and their firearms within the Commonwealth of Virginia. This museum is much more than a celebration of the freedoms that our fore-fathers passed down to us. It is a living history lesson on the development of America as a world power as well as an insightful look into the technological development of firearms, a story that began in 1350 and continues through today.

American history and the development of firearms have often intertwined and supported each other, sometimes the sucess of one depended solely on the other. Its a relationship that is inseperable and a relationship that even today is cause for study and debate.

Firearms provided our colonial ancestors with a means to provide sustinance as well as provide for the common defence during the early and difficuly years of exploration and settlement of North America. In the late 1700's firearms served as a means to throw off the yoke of opression and provided "the shot heard round the world" which began the American quest for freedom.

In the 1800's firearms were ***the*** motivating factor in the development of a national industry and provided a path for other manufacturing to begin an industrial revoultion, like the revoultion of freedom waged 50 years earlier, America's industrial revoultion would also impact world history and development.

In the 1900's America's firearms industry and our heritage of firearms freedom

enabled us to twice save the world from opression through the "arsenal of Democracy" that was provided to the freedom seeking peoples of the world. The 20th Century saw great changes in firearms development and use, changes that continue today well into the 21st Century. Each and every exhibit in the National Firearms Museum references one or more of the following ten themes: Freedom & Liberty, American Personae, Artistry, Competition, Hunting, Law Enforcement, Military, Recreation, Economics & Commerce; and Technology & Manufacturing.

This course guide is meant as an aid to every educator in Virginia to assist them in incorperating the artifacts and history on exhibit in the National Firearms Museum into their Standards of Learning circullium.

Each section of the History & Social Science SOL is joined to an appropiate display case within the museum that further explains and or illustrates the objective of the SOL question.

We hope that this guide will encourage you and your class to visit the Natiuonal Firearms Museum as a field trip program in the near future. Our Educational Programs Staff is eager to answer any questions and provide you with the assitance and academic resources that you need.

Thanks for your interest in the programs of the National Firearms Museum.

-- Philip Schreier
Curator of Educational Programs
National Firearms Museum
Fairfax, Virginia
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A SPECIAL MESSAGE - From the Virginia Board of Education

The Board of Education has taken an important step to raise the expectations for all students in Virginia's public schools by adopting new Standards of Learning in four core subject areas: mathematics, science, English, and history and social science.

The new Standards of Learning are important because they set reasonable targets and expectations for what teachers need to teach and students need to learn. Clear, concise academic standards will let parents and teachers know what is expected of students, and each student's performance and achievement can be measured against the standards. This requirement provides greater accountability on the part of the public schools and gives the local school boards the autonomy and flexibility they need to offer programs that best meet the educational needs of students.

These standards are the result of an unprecedented partnership of educators and citizens. Under the leadership of four school divisions beginning in April 1994, thousands of Virginia's parents, teachers, principals, school board members, and community leaders contributed many hours of time to help review and revise drafts of proposals for the new standards. National experts were consulted. Public meetings were held across the state to hear from citizens. Thousands attended, and hundreds more wrote letters to share their suggestions. All of the comments and ideas were reviewed by the Board of Education as the standards were developed.

One of the most important things that schools and communities can do together is to set clear, rigorous, and measurable academic expectations for young people. The new academic standards adopted by the Board of Education are part of Virginia's efforts to provide challenging educational programs in our public schools.

James P. Jones, President, Virginia State Board of Education

Introduction to this guide: (From the VA Board of Education)

History and Social Science Standards of Learning Goals

The study of history and the social sciences is vital in a democratic society. All students need to know and understand our national heritage in order to become informed participants in shaping our nation's future. The History and Social Science Standards of Learning were developed with the assistance of educators, parents, business leaders, and others with an interest in public education.

The History and Social Science Standards of Learning are designed to * develop the knowledge and skills of history, geography, civics, and economics that enable students to place the people, ideas, and events that have shaped our state and our nation in perspective; * enable students to understand the basic values, principles, and operation of American constitutional democracy; * prepare students for informed and responsible citizenship; * develop students' skills in debate, discussion, and writing; and * provide students with a framework for continuing education in history and the social sciences.

History should be the integrative core of the curriculum, in which both the humanities (such as art and literature) and the social sciences (political science, economics, and geography) come to life. Through the study of history, students can better understand their own society as well as others. By better understanding the relationship between past and present, students will be better equipped to deal with the problems that might arise in the future. Students will understand chronological thinking, the connection between causes and effects and between continuity and change. History enables students to see how people in other times and places have grappled with the fundamental questions of truth, justice, and personal responsibility, to understand that ideas have real consequences, and to realize that events are shaped both by ideas and the actions of individuals.

Non-italicised print within this guide is text directly from the Board of Education=s SOL guide. Italicised print describes the cooresponding National

Firearms Museum exhibits that illustrate and/or convey the SOL requirement for that lesson. Those grade lesson requirements that are not referenced here have no cooresponding NFM exhibit.

Kindergarten Introduction to History and the Social Sciences - The standards for kindergarten students include an introduction to the lives of interesting people in history. During the course of their first year in school, students should learn basic concepts involving historical time sequence, geographic direction, and economic choices. They should use maps and globes to identify and locate some of the places and geographic features that are discussed in rich stories of history. Initial citizenship education should include the importance of following rules and respecting the rights of other people. Students should also have opportunities to learn about national symbols. They should learn how individuals acquire the economic goods and services they need and want. They should learn the concepts of self-control, justice, courage, heroism, and leadership.

History K.1 The student will understand that history relates to events and people of other times and places by * identifying examples of past events in legends and historical accounts, including Paul Revere's ride and the stories of Johnny Appleseed, Booker T. Washington, and Betsy Ross; * identifying examples of interesting Americans through exposure to biographies of important people of the past, including George Washington, Harriet Tubman, Abraham Lincoln, and Davy Crockett; and * describing the people and events honored in commemorative holidays, including Columbus Day, Thanksgiving, Independence Day, President's Day, and Lee/Jackson/King Day.

I. ORIENTATION GALLERY

#1 In The Beginning: *British Roots*

In 1871, a number of United States military officers contemplated how close the Southern Confederacy had come to winning *The War Between the States*. They believed that the war had ended favorably for the North only because of the North's sheer numbers and superior resources. Of the 650,000 casualties suffered by both sides, the South had smaller losses. Close to 65% of the men who were killed wore Union blue.

The officers further realized that as the population of the country became more urban, the tendency of citizens to use firearms to secure food and clothing lessened, resulting in a reduction of firearm skills.

In addition, soldiers were not formally trained in marksmanship and no ammunition was allocated for rifle practice in the U.S. Army. To resolve these problems, the officers envisioned the creation of a national organization that would encourage firearms proficiency.

#2 A NATION OF RIFLEMEN

Lieutenant Colonel William C. Church wrote the following editorial in the August 12, 1871, issue of his *Army and Navy Journal*:

> *An association should be organized in this city (New York) to promote and encourage rifle shooting on a scientific basis .... Private enterprise must take up the matter and push it into life .... The subject already has been presented to several enterprising officers and ex-officers of the [New York] National Guard, and they have been found enthusiastic in the matter .... Let us have our rifle practice association ....*

The result of this editorial was an informal meeting held in Colonel Church's office in August of 1871. Attending were fifteen men, primarily New York National Guard officers, who discussed the formation of an association to improve marksmanship. To this end, a ten-man Committee on Organization was formed to develop a constitution and bylaws for the proposed organization.

The American Committee on Organization looked across the Atlantic to Great Britain for guidance. The British, faced with changes in the structure of their military forces following the Crimean War (1856-1858), had established a National Rifle Association in 1859 " *... for the encouragement of Volunteer Rifle Corps and the promotion of rifle shooting throughout Great Britain.*"

Rifle matches and unit competitions began to attract large numbers of people to this growing and popular sport. On July 2, 1859, Queen Victoria opened the first matches at Wimbledon by firing a Whitworth rifle at a target 600 yards away. The American committee subsequently decided to use the British association as a model for their own organization.

On September 12, 1871, the Committee on Organization met again in Colonel Church's office and presented its final recommendations. The constitution and bylaws were subsequently adopted, with minor changes, by the full committee.

A delegation of thirty-six men, led by Major General Ambrose E. Burnside, appeared before the New York Secretary of State to present for approval the ratified articles of incorporation. On November 17, 1871, the New York Secretary of State approved a Certificate of Incorporation for The National Rifle Association of America.

#3 THE FOUNDERS

LIEUTENANT COLONEL WILLIAM CONANT CHURCH -- Colonel Church came from a socially prominent family. He was a respected journalist who, at age 24, became the acting publisher of *The New York Sun*, America's largest daily newspaper. During the early days of the Civil War, he was a free-lance war correspondent. He later accepted a commission as a Captain in the Union Army. In 1863, he resigned from the army to begin publishing the *Army and Navy Journal: Gazette of the Regular and Volunteer Services.* Through this publication, Church gained widespread recognition among fellow officers and a pulpit from which to preach marksmanship training.

In nearly every issue of this military journal, Church published articles about the lack of marksmanship training in the military. Many editorials complained that America's volunteer militia could march with precision, perform the Manual of Arms flawlessly, and present a natty

appearance, but could not hit the side of a barn with a rifle! His constant editorial barrage did much to turn the attention of influential officers and the public toward the formation of a National Rifle Association in America.

As an organizer of the NRA, Church solicited the patronage of a number of well-known military officers and politicians. He was elected as the NRA's first vice president, and in 1872 became the NRA's second president.

GENERAL GEORGE WOOD WINGATE -- A Civil War veteran who was impressed by the editorials of Colonel Church, George W. Wingate had been a keen hunter and target shooter since boyhood. He was also appalled by the lack of marksmanship in the military, and found few publications that could be used to train his men. Accepting a challenge from Colonel Church, General Wingate wrote a Manual of Rifle Practice which was published in six installments in the *Army and Navy Journal* between 1870 and 1871. His manual received national attention and acceptance. General Wingate served on the Committee of Organization, and was NRA president from 1886-1902.

MAJOR GENERAL AMBROSE E. BURNSIDE -- An 1847 graduate of West Point, Burnside retired from the Army six years later to finish work on a breechloading carbine of his own design. At the outbreak of the Civil War in 1861, he was appointed Colonel of Rhode Island Volunteers. In March of 1862, he was promoted to Major General. Burnside was given command of the Army of the Potomac for approximately five months in 1862-1863, and was then appointed Commander of the Army of the Ohio for the remainder of the war. Following the

Civil War, Burnside became a three-term governor of Rhode Island, and served in the U.S. Senate until his death in 1881.

A member of the Committee on Organization, Burnside was invited by the committee to become the first president of the NRA. His national reputation and prestige helped the NRA to secure the legislation necessary for its survival and growth.

II. OLD GUNS IN A NEW WORLD

#4 The Discovery of Gunpowder

Two of the most important developments in the history of man were the invention of gunpowder and the discovery that it could be used to propel projectiles. The firearms that evolved from these developments, and the defensive measures employed against them, changed the character of war. In medieval Europe, these changes were decisive factors in the decline of feudalism.

The true origin of gunpowder is unknown; however, it is believed that gunpowder was not a sudden invention, but evolved from several incendiary compounds used in ancient warfare.

In 846 A.D., Marcus Graecus described in his manuscript *Liber Ignium* an explosive compound composed of six parts saltpeter, two parts sulfur, and two parts charcoal. This description is the first written record of gunpowder.

German Franciscan monk Berthold Schwartz has been credited in many early European treatises with the discovery of gunpowder. However, researchers and scholars today are doubtful that he

existed.

#4a The First Projectile Arms

The sling, bow, and longbow, dating well into pre-history, were the first examples of projectile arms used by man. This evolution culminated with the crossbow in Medieval Europe. Using a very short, metal-tipped arrow (called a *bolt)* the crossbow was very effective in propelling it at high velocity with deadly accuracy. Though slow to load, the crossbow was used into the early 17th century, and its silent, accurate effectiveness has made it a desired weapon of today's government special operations units.

#5 The Hand Cannon

The earliest handguns were small versions of a cannon, and were attached to sticks and held under the arm or braced on the ground for firing. The open end of the tube was loaded with gunpowder, and a projectile was inserted. A drilled hole near the end of the tube was filled with gunpowder. The gun was fired by placing a torch or hot iron on the drilled hole to ignite the gunpowder. Extremely basic in form and function, *hand cannons* are the earliest arms to use gunpowder. Introduced in Europe about 1350, this firearm was used well into the 16th century.

#5a The Matchlock

The *matchlock* firearm appeared sometime after 1450. A touch hole (a hole drilled between the

outside and inside of the barrel) and a pan containing a priming charge of gunpowder were located on the side of the gun barrel at the breech (or rear end) of the gun. A smoldering wick (called a *slow match*) was held in the jaws of a metal pivot (called a *serpentine*) that was activated by a simple link arrangement with a trigger. Pulling the trigger resulted in the slow match contacting and igniting the priming charge. The flame from the primer charge passed through the touch hole and ignited the main powder charge inside the barrel. This simplicity and ease of operation made the matchlock a serviceable firearm that was used until the early 1700's.

#6 The Wheel Lock

Despite its ease of operation, the matchlock had a serious disadvantage -- wind and rain usually rendered the slow match inoperable. This problem led to the development in the early 1500's of a firearm called a *wheel lock* that used a self-contained ignition system. This new system centered around a piece of pyrite or flint held in the jaws of a vice and placed in contact with a spring-loaded serrated wheel that was wound like a watch. Pulling the trigger released the coiled spring and wheel, causing the wheel to spin against the pyrite and create a shower of sparks that ignited the priming powder. Today's butane lighters work on the same principal of spinning a steel wheel against a small flint to create sparks that ignite the escaping butane to produce a flame.

#7 The Snaphaunce

About 1550, a simpler and cheaper mechanism was introduced to ignite the priming charge in firearms. This improved mechanism, known as a *flintlock*, simply used the ancient flint and steel principle of starting fires by striking a piece of flint against a steel bar called a *frizzen* or *battery*.

One of the first firearms to employ this flint method of ignition was the *snaphaunce*.

The name *snaphaunce* was derived from the Dutch word *snaphaan* meaning *snapping hen*, a reference to the snapping or pecking action of the hammer against the steel frizzen. The mechanism of this *Dutch Lock*, as it was also known, used a piece of knapped flint held in the jaws of a vise-type hammer that was cocked and released to strike a steel post. The resulting flash of sparks ignited the priming powder held in the pan.

#7a The Doglock

The problems of foul weather and accidental discharge were some of the major reasons for the development of new locks and ignition systems. Within the first decade of the 17th century, the English refined the ignition mechanism to incorporate the steel frizzen or battery and the flashpan cover into one piece. When the hammer struck the frizzen, the blow would not only produce sparks, but also force the frizzen to pivot, uncovering the pan containing the priming powder. However, by using this device, the gun could no longer be carried safely in a full-cock position. To remedy this problem, the English developed a small catch, called a *dog*, that was engaged to hold the hammer in a safe position. This small dog catch gave the *doglock* mechanism its name.

#7b The Miquelet

During the first quarter of the 17th century, the Spanish introduced an ignition system that had a snapping lock (similar to the snaphaunce) with a combination steel striking plate and flashpan cover (similar to the frizzen or battery), and was distinguished by an externally-mounted driving

spring. The *miquelet*, as the system became known, was used throughout the world and was particularly popular in Spain, the Near East, and North Africa.

#8, 9, 10, 11 ART AND CRAFTSMANSHIP IN THE OLD WORLD

The early gunsmiths of Europe were responsible for the basic form and function of the arms that they created. The fine and elaborate decoration often found on early arms, however, was usually created by artisans who also used their skills on furniture, mounts, and caskets. With the contemporary development of firearms, the upper classes adopted richly decorated pieces as an indication of their social status. Some of the techniques utilized in the decoration of firearms were:

METAL AND WOOD INLAY

DAMASCENING

GOLD AND SILVER ENCRUSTATION

ENGRAVING AND ETCHING

GOLDSCHMELTZ

CHISELING

GILDING, SILVERING, BLUING, AND BROWNING

#12 The Mayflower Gun

In 1620, the ship *Mayflower* sailed from Portsmouth, England, and landed at Plymouth Rock in

Massachusetts. Prior to leaving the ship, the free men on board drafted and signed a Bill of Rights and Governance which become known as the *Mayflower Compact*.

One of the colony members was John Alden who established a home and raised a family despite the harsh winters and disease that thinned the ranks of the first settlers. During recent restorative work to his family home, this wheel lock carbine was discovered in a hidden crevice. This firearm is thought to have been brought over from England with Alden and his belongings, making it one of the original and oldest guns in the New World.

#13 EXPLORATION, SETTLEMENT, SURVIVAL, & TRADE IN THE NEW WORLD

#13a Exploration:

The brave and strong settlers who endured the raging ocean voyage to the New World brought firearms that had been crafted in their Old World. Although cumbersome, heavy, and inefficient in the American wilderness, these early firearms protected the explorers and colonists against man and beast, and aided them in their unending quest for food.

#13b Settlement and Protection:

Relationships between the European settlers and the Native Americans were tenuous at best. English, French, and Spanish colonists, although friendly and peaceful at times to the Native Americans, showed little hesitation in attacking them for economic gain. As tobacco, gold, and other spoils of the New World gained demand in Europe, the competition and greed for land and resources often resulted in war.

As settlements in America were established, protection from attack became a primary concern. Although the colonists' firearms were inaccurate, heavy, and slow to load and fire, these arms had a tremendous effect on the American Indian. James Rosier reported that when the native inhabitants of the Maine coast witnessed in 1605 the firing of the English musket, they were "*most fearfull and would fall flat down at the report of them.*"

#13c Survival:

The colonists' constant need for food, combined with the rich game resources of the wilderness, made firearms a basic tool of survival. Despite the disadvantages of primitive ignition systems, inaccurate smooth bores, and slow loading, the colonists managed to take large game with relative ease.

It had been discovered in late 15th century Europe that when a large number of small lead projectiles were loaded into a gun and fired, the projectiles would scatter widely and greatly increase the chance of success when hunting fowl and small game. A new design of firearm, called the *fowler,* was developed in England, and had an exceptionally long barrel and heavy breech. This firearm was specifically designed to fire masses of small lead projectiles known as *shot*.

#13d Trade:

European colonists formed an alliance with the American Indian by procuring valuable furs, food, and other goods through trade. Desirous of European trinkets and articles, the Indians traded beaver pelts to the colonists. The beaver skin was in great demand and brought high prices in Europe.

After witnessing the value of the firearm for hunting, war, and protection, the American Indians wanted to obtain firearms for themselves. However, most colonists regarded the possession of firearms by the native population as a threat to life and security. Proclamations, laws, and ordinances were enacted prohibiting firearms trade with natives. By the end of the 17th century, the illegal trade of guns and munitions became so prevalent that the colonies began to establish a legal arms trade which included licensing and taxation.

III. THE ROAD TO AMERICAN LIBERTY

#14 PRELUDE TO WAR: ARMS SEIZURE IN BOSTON

By 1775, relations between England and her American Colonies had suffered greatly. British military occupation and rule, and the excesses and abuses inflicted by the British upon the Americans, greatly angered the colonists. For example, under the revised Quartering Act of 1765, an officer of the King's Army could knock on the door of any private residence and demand lodging for his men.

Young British officers, spoiling for a fight, regularly took parties of soldiers on short military exercises through the Massachusetts towns of Waltham, Dedham, and Cambridge. The sight of Americans drilling in the fields greatly amused them. Their superiors, however, saw these drills as an omen of future armed resistance.

In Cambridge, the British troops seized powder and arms belonging to the townspeople. Private houses were entered and arms were seized. In Charlestown, more arms were seized. These acts sent an alarm throughout New England. In response, the men of Massachusetts formed Committees of Safety and exercised the right to call out colonial troops should the occasion arise. To provide for immediate defense, special groups of men were established who could answer the call to arms immediately. These citizen-soldiers were called *Minutemen*.

#15 THE SHOT HEARD ROUND THE WORLD

In Boston, British General Thomas Gage commanded 4,000 troops who were called *Redcoats* by the native Bostonians. These soldiers had been given the task of enforcing British ordinances

and keeping peace in the City of Boston. General Gage's exercises through the countryside and his recent confiscation of civilian firearms had aggravated the local population to the point of armed insurrection.

In April of 1775, Gage attempted to disarm the local militia units that dotted the countryside between Boston, Lexington, and Concord. Hearing of this plan, residents devised a system of signal lamps hung in Boston's Old North Church to signal the approach of British soldiers by land or sea. Paul Revere made his famous midnight ride to alert the citizenry of the British approach.

On April 19, 1775, under the direction of Colonel Francis Smith and Royal Marine Major John Pitcairn, Gage's troops clashed with the colonial Minutemen and patriot troops at the North Bridge located between Lexington and Concord. With the first shot upon the King's troops, the American Revolution had begun.

#16 THE FRANCO-AMERICAN ALLIANCE:

From the onset of the Revolution, Americans sought aid from various foreign powers. Money, arms, and an effective navy would be key factors in defeating the British. It was difficult for America to attract foreign aid because any nation that might ally itself with the US would surely face war with Great Britain, a first-class world power at the time. France became a likely ally after having suffered the loss of territories in the New World to the British. A private firm, Pliarne, Penet et Cie had already been shipping arms secretly to America by purchasing them directly from French government arsenals.

Benjamin Franklin sailed to France in an attempt to secure official French assistance. Shortly after his arrival, the news of the British defeat at Germantown and of British General Burgoyne's surrender reached Versailles. With this news, the French King Louis XVI proposed a treaty that was signed on February 6, 1778. Franklin returned to America with the Treaty of Alliance between America and France. This treaty included provisions of military aid, arms, finances, and the assurance of aid until American independence was achieved. In return, France asked for future American protection of the French West Indies.

#17 & 18 ARMS OF THE AMERICAN REVOLUTION

As in previous wars, the American Revolution was, for the most part, fought and won by the infantryman. His firearm was the flintlock musket with bayonet. This large bore musket had a maximum effective range between 80 and 100 yards.

The typical inaccuracy of these firearms led to the development of tactics known as volley firing in which the massed infantry of one unit fired in unison at their enemy. Troops were trained to load and fire with accuracy, three times per minute. Rifles, which provided excellent accuracy at long ranges, were used by the Americans in guerilla warfare, but were ineffective on the battlefield due to their small numbers. The American rifle, with no provision for a bayonet and a lengthy loading procedure, gained notoriety only in the hands of the sharpshooter.

Flintlock pistols were popular accoutrements for officers and cavalrymen. Large-bored and short-barreled, they were effective only at very close range. Officers' pistols were seldom used in combat, and were primarily decorative accessories symbolic of status and rank.

#19 MUSKET, RIFLE, FOWLER

Musket: The word *musket* is derived from the Spanish word *mosquette,* denoting a heavy military firearm. The earliest muskets were matchlocks weighing as much as 20 pounds and having a bore of nearly 8 gauge. By the colonial period in America, standardization of firearms had begun and the term *musket* was applied to any smoothbore military firearm of large caliber.

Rifle: The word *rifle* is derived from the German word *riffeln* meaning to cut or groove. According to tradition, the process of rifling a gun barrel was developed by either Gaspar Kollner of Vienna or August Kotter of Nuremberg in the late 15th or early 16th century. In the rifling process, a series of spiral *grooves* are cut into the inside (or bore) of the barrel. The ridges of metal between the grooves are called *lands*. Together, the lands and grooves make up *rifling*. This rifling imparts a spiral motion to the projectile that aids in accuracy and increases its effective range.

Fowler: A simple and inexpensive firearm, the fowler provided the common man with a new means of survival. By the late 15th century, it had been discovered that when a large number of small lead projectiles (called *shot*) were loaded into a gun and fired, the projectiles would scatter widely and greatly increase the chance of success when hunting fowl and small game. The English pioneered the manufacture of shot, and subsequently developed a very long barreled firearm with a large smooth bore, called a *fowler*, that was designed to kill large quantities of fowl and small game. Often, as much as a pound of shot (200 to 250 pellets) was seated down the long barrel with a significant charge of powder. Any sitting group of fowl or game was an

easy target for the resulting hail of projectiles.

GAUGE:

All smoothbore guns historically used the term *gauge* to express the bore size. Due to the inability of early gunmakers to perform accurate measurements, an easily-calculated system was required. The gauge of a gun is representative of the total number of round lead balls that fit the bore diameter and together equal one pound.

FIREARM TERMINOLOGY IN THE ENGLISH LANGUAGE

As with any popular subject introduced into a culture, there are expressions and terms which find their way into common usage. These expressions usually carry meanings other than the original intent of the phrase. The introduction of firearms into common usage in English-speaking society gave birth to a few expressions still in use today:

"A flash in the pan": The failure of the priming charge (located in the flash pan) of a flintlock to ignite the main charge and fire the projectile. *Common usage:* A person or event that appears to be successful at first, but proves to be a failure.

"Lock, Stock, and Barrel": The three main components necessary to have a complete firearm. *Common usage:* An total quantity or complete entity.

"Hang-fire" : A long delay in the firing of the gun after the primer has been ignited. *Common usage:* Having a slow beginning or a delayed start.

"Going off half-cocked": The accidental discharge of a flintlock when the hammer is in the half cock position. *Common usage:* Speaking or acting too hastily.

#20 WINDOW GRAPHIC (NO TEXT)

#21 THE FLINTLOCK

The flintlock mechanism, used until the advent of the percussion system, was developed in France during the early part of the 17th century and spread throughout western Europe. It was a combination, with refinements, of the snaphaunce and the miquelet. It embodied the interior mainspring and lock mechanism of the snaphaunce and the combination flash pan cover and

frizzen or battery used in the miquelet. The interior mechanism was improved by notching the tumbler for both half- and full-cock positions. (The half-cock was a safety feature.) The flintlock action, with its internal safety and simpler manufacturing process, quickly replaced the snaphaunce and miquelet as the most popular ignition system.

#22 THE PAPER CARTRIDGE

Early soldiers armed with firearms were called *musketeers*. As a part of their equipment, they carried in separate devices the various components necessary for firing their gun. Accoutrements were designed for the powder charge, priming charge, and ball. In the late 16th century, powder charges carried in rolled paper tubes were developed, and a means of attaching the lead ball was devised by tying one end of the paper cartridge to a flange on the ball. The development of a completely wrapped cartridge followed shortly thereafter, creating the first true form of fixed ammunition. This important innovation allowed the soldier to simply tear open the cartridge with his teeth, insert its contents in the barrel, and ram the charge back to the breech. This procedure saved several steps in the loading process and doubled the speed at which the musket could be fired.

#23 THE FRENCH & INDIAN WARS

A bitter struggle between Britain and France began in 1689 and lasted for over 70 years. In America, this war was known as *The French and Indian War*. Both warring factions sought the allegiance of the American Indian. As a result, the various tribes acquired numerous firearms

and munitions. The American Indians played a large and decisive role from the onset of the war.

Notable events during this war include the first appearance of the British *Brown Bess* musket in North America, and the death of British General Edwin Braddock who was killed while attempting to capture Fort Duquesne (now Pittsburgh) from the French. A young George Washington assumed command of Braddock's army and learned a few lessons in combat that would later serve him well. The war ended in September of 1756 with a spectacular defeat of the French in Quebec .

#24 THE METAMORPHOSIS OF AN AMENDMENT

THE BILL OF RIGHTS:

Americans feared that tyranny could result from an overly-strong federal government and president. This fear prompted discussions throughout the Constitutional Convention of 1787 regarding the inclusion of a Bill of Rights in the Constitution to protect individual freedoms.

The Commonwealth of Virginia enacted a declaration of rights in 1776, making that document the first formal statement of political liberty in America. It became the basis upon which the federal Bill of Rights would be framed. James Madison of Virginia became the major proponent of the Bill of Rights in the First Congress.

By 1791, the first ten amendments to the U.S. Constitution had been adopted, and became popularly known as the *Bill of Rights*.

PORTRAITS AND QUOTATIONS REGARDING THE SECOND AMENDMENT:

The Second Amendment to the Constitution of the United States preserves the right of the people to keep and bear arms. This amendment was put forth by the founding fathers as a basic right of a people and individuals against a tyrannical government. It stands today as a pillar of freedom inherent in American citizenship.

Patrick Henry:

"The great object is that every man be armed ... Everyone who is able may have a gun."

George Mason:

" ... the question then will be, whether a consolidated government can preserve the freedom and secure the rights of the people."

"I ask, who are the Militia? They consist now of the whole people."

James Madison:

"Notwithstanding the military establishments in the several kingdoms of Europe ... the governments are afraid to trust the people with arms."

Richard Henry Lee:

"To preserve liberty, it is essential that the whole body of people always possess arms and be taught alike, especially when young, how to use them."

James Madison's original resolution:

"The right of the people to keep and bear arms shall not be infringed; a well armed, and well regulated militia being the best security of a free country: but no person religiously scrupulous of bearing arms, shall be compelled to render military service in person."

House of Representatives Committee Version:

"A well regulated militia, composed of the body of the people, being the best security of a free State, the right of the people to keep and bear arms shall not be infringed, but no person religiously scrupulous shall be compelled to bear arms."

House of Representatives Final Version:

"A well regulated militia, composed of the body of the people, being the best security of a free State, the right of the people to keep and bear arms shall not be infringed, but no person religiously scrupulous shall be compelled to render military service in person."

Senate Final Version as Adopted:

"A well regulated militia, being necessary to the security of a free State, the right of the people to keep and bear arms, shall not be infringed."

#25 ESTABLISHING THE NATIONAL ARSENALS AND ARMORIES

In 1792, Congress authorized two National Arsenals for the storage, maintenance, and repair of military arms. By the end of 1794, Congress also authorized the construction of two National Armories for the manufacture of service arms. President George Washington personally selected the sites of Springfield, Massachusetts, and Harpers Ferry, West Virginia (then part of Virginia), as the locations for the two armories. In 1795, production began at Springfield, and by 1800 arms were being produced at Harpers Ferry.

#26 A LEGACY OF LAFAYETTE: THE FIRST U.S. PATTERN ARMS

The new armories at Springfield and Harpers Ferry began production of the U.S. Model 1795 Musket, the first standard pattern arm made for the United States military.

Based on the French Model 1768 Charleville used during the Revolution, the Model 1795 did not have the aesthetic beauty of the British *Brown Bess*, but it utilized barrel bands with retaining springs instead of pins, a double-bridled lock mechanism, and a reinforced cock, giving it great strength and utility.

The U.S. Model 1795 was produced at Springfield until 1814 and at Harpers Ferry until 1816. Total production at the two National Armories was approximately 168,000 muskets.

America's first military pistol was the U.S. Pistol, Model 1799, patterned directly after the French Model 1777 pistol. Over 2,000 pistols were manufactured in the Berlin, Connecticut, armory of Simeon North and Elisha Cheney.

#27 ARMING THE MILITIA

On May 8, 1792, Congress passed the Militia Act which provided a general guideline for states to arm and equip militia units. The bill provided that every free, white, able-bodied male between 18 and 45 years could be enrolled in the state militia. The idea was that each state

would have a free-standing and independent army that could supplement the regular U.S. Army if needed. Comprised entirely of volunteers, the militia units of the 1800's became very social organizations and chose such colorful names as the *Fencibles*, *Washington Greys*, *Lafayette Troop*, *Palmetto Guards*, and *American Highlanders*.

State governments faced the same problem as the federal government in securing arms for their troops. Some states established contracts with local arms makers. Virginia erected its own arms manufactory and arsenal -- the only state to do so. The General Assembly of Virginia authorized the establishment of the manufactory on January 23, 1798. Over 58,000 muskets, 4,200 pistols, 2,100 rifles, and thousands of swords, bayonets, and accouterments were produced at the Virginia Manufactory until it ceased operations in 1818.

V. THE PROSPERING NEW REPUBLIC

#28 THE ROMANCE OF THE LONG RIFLE

Old World Roots

German and Swiss immigrants who settled the Lancaster, Pennsylvania, region brought with them a unique, short rifle called the *jaeger* rifle (*hunter* in German) for use in the heavily-wooded areas that resembled their homelands. This rifle was a short, heavy, octagon-barreled gun in large caliber, and was used not only for hunting big game, but also for sporting and target competition. In *The Last of the Mohicans*, a classic work of American literature by James

Fennimore Cooper, a jaeger rifle is used by the hero *Hawkeye*.

Transition

During the first decades of the 18th century, immigrant German gunsmiths began to redesign the jaeger rifle into a firearm that was better-suited to the wilderness of America. During the transition period, the barrel was lengthened to 40 inches or more for greater accuracy. Patchboxes were fitted with sliding wood covers, and later with hinged metal covers. Rifles of this early period were relatively plain, although some arms had a few simple embellishments.

The Golden Age

The American *longrifle*, sometimes called the *Kentucky* or *Pennsylvania rifle*, was actually made in almost every colony and state from the mid-1700's until shortly before the Civil War. During the period 1790-1830, the design and manufacture of the longrifle went through a golden age of manufacture. Exquisite examples of gunsmithing artistry exist from this period. Fine grades of curly or tiger-stripe maple were used, and the engraved metal parts and carving of the wooden stocks achieved the status of a high art form.

At the close of the War of 1812, some 2,000 frontiersmen soldiers under General Andrew Jackson defeated the British at New Orleans (1815). Carrying longrifles, these pioneers turned the tide of battle and won an American victory. A popular ballad *The Hunters of Kentucky or*

The Battle of New Orleans memorialized the frontier riflemen, and did much to add the term *Kentucky rifle* to the common vocabulary.

But Jackson he was wide awake,

And was not scared at trifles,

For well he knew what aim we take

With our Kentucky rifles.

There is more folklore surrounding this distinctly American arm than any other firearm. The generic name *Kentucky rifle* is recognized the world over. It is truly one of the very few indigenous American arms. Their use in the early wilderness, the American Revolution, and the War of 1812, plus their role in opening the American West to settlement, has indelibly linked this gun to many of America's beloved pioneers and frontier heros.

#28a. DANIEL BOONE

Born in 1734, Daniel Boone became an American legend as a frontiersman during the period of the American Revolution. He settled in northwestern North Carolina and gained fame for his hunting expeditions into Kentucky. Known as *longhunters* because of their lengthy treks into the wilderness, Boone and others were the first persons to open this new region of land for settlement.

Daniel Boone held public office in Kentucky. He rapidly gained fame as a result of the many

factual and fictitious accounts of his exploits described in John Filson's *The Discovery, Settlement, and Present State of Kentucke* (1784). Boone, with his Kentucky rifle in hand, was frequently portrayed in sketches, paintings, and prints, and became one of the most famous men of 18th century America. In 1799, at the age of 65, he moved to Missouri. Daniel Boone died on September 26, 1820.

#28b. LEWIS & CLARK

In 1803, President Thomas Jefferson successfully negotiated the Louisiana Purchase from the Emperor of France, Napoleon Bonaparte. The United States doubled in size with the stroke of the pen that completed this transaction. An accurate inventory and map of the new territory was urgently needed, and Jefferson chose Meriwether Lewis, his private secretary, to lead an expedition to the Northwest frontier. Lewis chose William Clark, the younger brother of George Rogers Clark (a hero of the Revolution), to assist him in the expedition.

The objectives of the Lewis and Clark expedition were to find the source of the Missouri River, cross mountain barriers to discover an overland route to the Pacific Ocean, chart rivers, waterfalls, islands, and rapids, and notate the weather, animals, and minerals encountered. They also were to document the native populations in the region, secure specimens of strange creatures, and generally fill in the blank spaces that existed on current maps.

Lewis and Clark left St. Louis with 23 men on May 14, 1804, and reached the Pacific Ocean on November 15, 1805. On a tall pine on the Pacific coast, Clark carved the following notation:

William Clark, December 3, 1805, By Land from the U. States

After surviving a hard winter on the coast, the expedition began their return. On September 23, 1806, Lewis and Clark finally reached St. Louis, thus ending their historic expedition. All of Jefferson's tasks, and more, had been fulfilled.

The Air Gun

The principle of the air gun is propulsion of a projectile by compressed air. This type of gun is thought to have been invented in Germany as early as the 15th century. By the 18th century, air guns were used in Europe for hunting, sporting, and military purposes.

Lewis and Clark carried one, and possibly as many as three, three air guns on their expedition. In *The Lewis and Clark Expedition Into The American Northwest in 1804-5 and 6* (published in Philadelphia in 1814), the following account is given:

> *They* (the American Indians) *had indeed abundant sources of surprise in all they saw, the appearance of the men, their arms, their clothing, the canoes ... all in turn shared their admiration, which was turned to astonishment by a shot from the air gun; this operation was instantly considered as a great medicine, by which they as well as the other Indians mean something emanating from the Great Spirit, or produced by his invisible and incomprehensible agency.*

The air gun was of particular use to the expedition for two main reasons. First, the air gun could be used to silently shoot a number of animals in a herd without alarming the rest of the herd. Second, the silent nature of the gun did not alert any hostile natives to the presence of the expedition.

U.S. Model 1803 Flintlock Rifle

Patterned after the popular Kentucky rifle, this rifle was an accurate, well-made firearm that was practical for protection and for hunting in the wilderness. Made only at the U.S. Armory at Harpers Ferry, Virginia, it was the first and only flintlock rifle to be produced at a government armory. (Although commonly believed that Lewis and Clark used the U.S. Model 1803 Flintlock Rifle on their expedition, recent research has revealed that these rifles were not available until three months after the expedition left St. Louis.)

A total of 4,015 of these rifles was produced at Harpers Ferry Armory between 1804 and 1807. Additional rifles were needed by the military for the War of 1812, and production of the Model 1803 (Type II) was restarted in 1812. This production run lasted until 1820, resulting in a total of 15,703 Type II rifles.

#28c. MATCHES ON THE FRONTIER

The longrifle was a practical, graceful, and highly accurate arm that originally was used primarily for hunting and protection. However, it soon became a source of recreation and competition in frontier America.

By the late 18th century, the legendary skill of rifleman prompted challenges between competitors for prizes such as livestock, fowl, and purses of money. Offhand shooting was the rule in the early days. Later, the *bench rifle* would dominate competitive shooting. Competitive shooting often attracted riflemen from long distances, and the sport became a major cultural and social event for many localities.

#29 THE RIFLE SHOP

Almost every free man in rural America owned a rifle during the 18th and early 19th century. As a result, the rifle shop was a familiar sight in small towns and boroughs. Numerous gunsmithing activities were performed in these small structures, including iron forging, woodcarving, metal casting, rifling, and engraving. The cost of a rifle could range between $5 and $30, dependant on the level of ornamentation.

Barrel Making

The barrel was forged from a solid bar of iron called a *skelp*. The skelp was fired in a forge until it reached a white-hot welding temperature. The hot skelp was then placed in an anvil and hammer-welded around a rod called a *mandrel*. Because only a small section could be welded at a time, the mandrel had to be frequently removed, the skelp re-heated, and the process started again. This welding was continued until the skelp was converted into a metal tube known as the *barrel*.

The barrel was then clamped to a long bench with a movable carriage. A flywheel was used to

rotate a rod with a small cutting bit through the barrel. Larger bits were used until the barrel reached the desired caliber. The last bit used was sharply rectangular and polished the interior of the barrel to a high gloss.

The exterior of the barrel was finished by using a wheel and grindstone. The finished barrel would traditionally have eight facets and be octagonal in cross-section. Lastly, the gunsmith would carefully draw-file each facet to a smooth polished finish.

A rifling bench was used to produce inside the barrel the spiral lands and grooves that were known as *rifling*. The top of the bench was fashioned from a heavy wide plank. Two rings with setscrews were attached to one end of the bench to clamp the barrel. The gunsmith then set in place a sliding frame with a cylindrical tube that had ribs or guides spiraling around it in the same shape as the desired rifling grooves. These ribs passed through an index plate and caused a cutting tool to turn and cut a groove as a handle was rotated. The presence of these ribs and the index plate ensured that the tool cut the same path every time. The gunsmith slowly cut the rifle groove deeper with additional passes of the cutting tool. After finishing a groove, the barrel was turned and the process repeated for the other grooves.

Finally, a plug was fitted into the breech (or rear) of the barrel. The inside of the breech was tapped with a die, a *breechplug* was threaded, and the two parts were screwed together to create a strong, threaded seal. The breechplug had an extension called a *tang* in which a screw hole was drilled in order to secure it to the rifle stock.

Lockmaking

Most riflesmiths obtained locks (the firing mechanism of a gun) from lockmakers because these intricate mechanisms were difficult and time-consuming to make. It is common to see a lock inscribed with the name of the lockmaker, and the barrel inscribed with the name of the gunsmith who actually completed the firearm.

Rifle Furniture, Patchboxes, and Decorative Elements

The metal parts of these rifles (excluding the lock, other parts of the gun's action, and the barrel) are known as *furniture*. Such parts include the buttplate, sideplate, trigger guard, nosecap, and ramrod pipes. These items were sand-cast in the riflesmith's shop, and were usually made of brass. Hand-finished and polished, each piece was carefully fitted or inlaid in the wooden stock. The patchbox, often the most decorative item of furniture, was frequently indicative of the riflesmith's own taste and design. Many decorative furnishings were also hand-engraved by the riflesmith and displayed a high level of artistry.

Rifle Stocks

Maple stocks were the preferred choice for longrifles, although some examples exist in walnut. Maple gave the riflesmith the advantage of an extremely hard and durable wood in which to mount the heavy rifle barrel. Curly or tiger-stripe maples, with their distinctive grains, also provided an attractive background for brass and silver inlays.

Riflesmiths proficient in decorative carving of the stock were rare, and, as a result, most rifles had little or no carving at all. Patterns such as rococo scrolls, checkering, animals, and figures were usually carved in relief on the cheek side of the rifle buttstock. Decoration was also added

to the wrist and tang areas of the stock. In some cases, a fine molding was added below the barrel on the forestock.

Finishing

The last stage of stock preparation was staining and hand-rubbing, plus a final polishing of all brass and silver parts. Although many gunsmiths signed their works on the top flat of the barrel, numerous fine longrifles are unsigned and their makers will never be known.

#29a. THE PLAINS RIFLE

As America moved West, the old longrifle, with its slender barrel, small caliber, figured wood, and fine ornamentation began to give way to a new type of firearm. Although the longrifle was fit for the forest, the new breed of people who crossed the Appalachians needed to travel vast prairies, ride long distances on horses, and shoot large game such as bison and elk. These activities required a rifle that was shorter, of larger caliber with a heavier barrel, less decorative, and more utilitarian. The development of the short, heavy-barreled, full- and half-stocked *plains rifle* was the result of these needs.

The Hawken Rifle

The plains rifle was developed in St. Louis, Missouri. Christian Hawken, Sr., a notable riflesmith from Hagerstown, Maryland, had taught the skills of gunsmithing to his sons George,

John, Jacob, Samuel, and William. Jacob and Samuel Hawken moved to St. Louis in the first decade of the 19th century. The earliest development of the plains rifle and its distinctive form can be traced to these brothers, and their design became known as the *Hawken Rifle*. Also called a *mountain rifle* and *buffalo rifle*, the name *Hawken Rifle* has become a generic name for the plains rifle style.

The typical form is a short, heavy-barreled rifle with a half-stock, and little, if any, decoration. A pair of barrel wedges with oval escutcheons was often used to fasten the barrel to the forestock. A patchbox, if present, was normally of simple design, and was circular or oval in shape. Trigger guards were usually rounded and scrolled in order to avoid snagging on clothing or saddles. Delicacy was not a design consideration, and these rifles were made for hard, rough use. Barrel length was between 36 and 38 inches, and stocks were fashioned of plain maple or walnut.

Other Makers

Plains rifles became so popular that many other riflesmiths began to produce them. Henry Leman of Lancaster and James Henry of Philadelphia joined St. Louis makers such as H.E. Dimmick in the production of the plains rifle.

#30 THE GOLD RUSH

In the wake of the Mexican War, America acquired the former Spanish territory of California. Prior to 1848, California, as a generally undeveloped frontier area, had attracted mountain men and a few enterprising merchants who established trading posts. But the discovery of a few

gleaming nuggets in a sawmill's tailrace waters on January 24, 1848, changed California forever. Gold had been found and the world rushed in!

Traveling to California involved a long sea voyage around South America or a faster, but more hazardous, overland route across the Great Plains. Thousands of *49ers* seeking their fortunes in California brought an incredible variety of handguns and longarms for personal protection during the arduous trip and at the lawless mining camps.

#31 ELI WHITNEY & U.S. ARMS CONTRACTS

In 1798, Congress authorized the purchase of muskets from private contractors in order to supplement those firearms being made at the national armories. Eli Whitney of New Haven, Connecticut (who achieved fame at an early age with his invention of the cotton gin), was awarded a government arms contract for 10,000 U.S. Model 1795 muskets on June 14, 1798.

Whitney's contract contained a unique idea: " *... to make the same parts of different guns, as much like each other as the successive impressions of a copper-plate engraving.*" With this idea, Whitney articulated the industrial concept of parts interchangability.

Whitney devised tools and machines for manufacturing separate components and proved that workmen with little or no experience could operate machinery and turn out large quantities of

gun parts with amazing precision. By developing special machinery, jigs, and other devices, Whitney turned a complex manufacturing process into a series of simple operations -- a concept that revolutionized all manufacturing in America!

#31a. PERCUSSION SYSTEM

In 1807, Doctor Alexander Forsyth, a Scottish Presbyterian minister, patented a gun lock that eliminated the priming powder charge, the flashpan, and the frizzen. Forsyth's design instead used a modified hammer to deliver a sharp blow that ignited a small, pill-shaped, impact-sensitive chemical compound placed upon a metal part called a *striker*. This design, also known as a *pill lock*, resulted in the invention of a wide variety of detonating-type locks, and eventually led to the development of a *percussion cap lock* system patented by Joshua Shaw in 1822. The *percussion cap* was a small, copper cap containing an impact-sensitive chemical compound (usually fulminate). This new percussion system using a copper cap became the principal means of discharging firearms until the perfection of the metallic cartridge that is used today.

The percussion system revolutionized the design and use of firearms. It eliminated the flint and priming pan, and was less susceptible to dampness. However, the new system did not immediately replace the old. Although percussion arms were in general use by civilians as early as 1830, military men did not accept them until about 1840. Flintlock arms continue to be made and used today.

#31b. THE MAYNARD TAPE PRIMING SYSTEM

Dr. Edward Maynard, a dental surgeon from Washington, D.C., patented an automatic tape priming system for percussion firearms in 1845. Dr. Maynard had spent a single semester at West Point and, combining this brief introduction to the military with his knowledge of chemicals, he invented a successful, but short-lived, priming system. Maynard's system used a narrow paper tape which had small quantities of impact-sensitive fulminate placed in a single row down the middle of the tape. The tape was sealed with shellac or varnish, and resembled a roll of the paper caps used for modern toy pistols.

During the period 1848-1860, hundreds of thousands of government and contract arms utilized the Maynard Tape Priming System. In 1861, the government replaced the tape system because the tape failed to hold up to the rigors of foul weather and moisture.

#31c. HALL'S BREECHLOADER

John H. Hall of Portland, Maine, patented a breechloading rifle in 1811 that became a landmark in the arms industry. Following the War of 1812, Hall successfully petitioned the government to test his breechloader. This firearm was found to be superior to muzzleloaders in every respect, and on March 19, 1819, Hall furnished an additional 1,000 rifles to the Government. All of these arms were made at Hall's factory in Harpers Ferry. Hall adopted Whitney's idea of interchangeable parts and installed machinery in his factory to produce standard, interchangeable

parts. A series of rifles and carbines utilizing the Hall breechloading system were produced in the United States from 1823 to 1853.

#31d. THE U.S. MODEL 1841 RIFLE

This rifle was developed and approved for manufacture by the U.S. Government in 1841. An accurate and attractive, brass-mounted rifle, it was admired by the men who used it. The U.S. Model 1841 Rifle was first used during the Mexican War at the Battle of Buena Vista in February of 1847. The successful use of this rifle by the First Mississippi Volunteer Infantry, under the command of Colonel Jefferson Davis (later to become president of the Confederate States of America), won the rifle its common name -- the *Mississippi rifle*.

These rifles were manufactured by the government at Harpers Ferry and by five other contractors (including Remington, Whitney, and Tryon). Over 70,000 of these rifles were produced between 1846 and 1855. On July 5, 1855, the Secretary of War ordered that the standard caliber of U.S. arms be changed from .54 to .58 caliber. Many of the Model 1841 Rifles were altered to .58 caliber prior to and during the Civil War.

#31e. FLINT TO PERCUSSION

The production of flintlock arms ended in 1842 due to the new percussion system of ignition. In the years leading up to the Civil War, approximately 100,000 military flintlock arms were altered

to the percussion system. Three basic types of alterations were used:

The French Style Alteration

Known also as the *side lug* or *drum and nipple* conversion. All external lock parts were removed, threaded holes were plugged, and the flashpan was cut and ground flush with the lockplate. A drum-shaped appendage containing a percussion nipple was then screwed into the touch hole, and a percussion hammer was added.

The Belgian Alteration

Known also as a *cone type* conversion. All external lock parts were removed, threaded holes were plugged, and the flashpan was cut and ground flush with the lockplate. The small cavity in the remnant of the pan was filled in, giving it a level profile. The touch hole was plugged, a nipple was installed on the top right side of the breech, and a military-style offset hammer was installed.

The Bolster Type Alteration

All external lock parts were removed, threaded holes were plugged, and the flashpan was removed. The flashpan area of the lockplate was cut to fit a part called a *bolster* that was attached by one of two methods:

- A comma-shaped bolster was brazed over the touch hole of the barrel breech; or

- The entire breech of the barrel was removed and a new breech and integral bolster was threaded and screwed to the old barrel.

#31f. REMINGTON

Eliphalet Remington, Jr. created a handmade flintlock rifle in Ilion, New York, 00during the summer of 1816. He and his father soon began the manufacture of complete custom-made rifles, and opened a factory to produce gun barrels for other gunsmiths. By 1828, his business had become so successful that it outgrew his present facilities, and he found it necessary to build a larger factory.

Remington was not an inventor, but was able to recognize useful ideas and inventions. He quickly acquired the rights to such innovations and incorporated these improvements into the manufacture and design of his firearms. Remington's first large-scale manufacturing effort occurred in 1845 when he won a government contract for 5,000 Mississippi rifles.

Remington was awarded subsequent government contracts. His business expanded to a second facility in Herkimer, New York. Remington died in 1861, but his business continued, and the name of Remington became synonymous with arms-making in America.

#31g. COLT

Samuel Colt was born in Hartford, Connecticut, in 1814. Mechanically inclined, he spent a great deal of his youth tinkering and experimenting. In 1830, at age 16, Colt served as a sailor aboard the brig *Corvo*. In his spare time, he whittled wooden models of pistols. Conceiving a design based on the action of a ship's wheel, he soon constructed a working wooden model of a six-shot *revolver*. Colt returned to Hartford and had the wooden revolver duplicated as a patent model.

Nearly three years passed before Colt was able to produce models that met the requirements of the patent office. Continually insolvent, Colt made his living by barnstorming activities in which he demonstrated nitrous oxide (laughing gas). He billed himself as *Dr. Coult, of New York, London, and Calcutta*. Finally, on December 18, 1835, Samuel Colt acquired his first firearm patent.

Colt began the manufacture of his revolvers and rifles in 1836 in a small plant in Paterson, New Jersey. His arms won acclaim during the Seminole War in 1838, and were popular among the Texas Rangers in the early 1840's. However, no government contracts were awarded to Colt, and he was forced to declare bankruptcy in 1842.

In 1847, Samuel H. Walker of the Texas Rangers and the U.S. Mounted Rifles worked with Colt

in re-designing a new six-shot revolver. Colt was subsequently awarded a government contract for 1000 revolvers, and contracts from the U.S. government and numerous foreign countries have continued unbroken to today. Samuel Colt directed the company until his death in 1862.

#31h. ETHAN ALLEN

Gunmaker and inventor Ethan Allen of Massachusetts was born in Bellington on September 2, 1806. (Allen should not be confused with the Revolutionary War hero of the same name.) He began his career with a small cutlery shop in 1831.

In 1836, after making a cane gun for a friend, Allen made an underhammer single-shot pistol that he called a *pocket rifle*. One year later, Allen secured a patent for a double-action percussion pistol. This double-action mechanism, although applied at first only to single-shot pistols, was the basis for his development of a handgun with multiple revolving barrels. This *pepperbox*, as his handgun was commonly called, became the mainstay of his company and one of America's most popular handguns.

Throughout the years, with the various firm names of *E. Allen*, *Allen & Thurber*, *Allen & Thurber & Co.*, *Allen & Wheelock*, and *E. Allen & Co.*, Allen produced a long line of single-shot pistols, pepperboxes, revolvers, derringers, and a variety of rifles and shotguns. Allen died in late 1871, and the company continued under the names of Allen's two sons-in-law, *Forehand & Wadsworth*.

#31i. SMITH & WESSON

Horace Smith and Daniel Wesson of Massachusetts established an arms-making partnership in 1852 that produced numerous firearm innovations and became one of the most successful arms manufacturers in the world.

Smith, born in 1808, was a percussion gunsmith and also worked for a time at the Springfield Armory. Wesson, born in 1825, came from a family of notable arms makers. Smith and Wesson formed a partnership in 1852 to manufacture a lever-action magazine pistol called the *Volcanic*. Smith and Wesson manufactured these pistols in their factory in Norwich, Connecticut, but in mid-1855 sold their interest to the Volcanic Repeating Arms Company. (Volcanic Repeating Arms Company eventually was sold at bankruptcy to Oliver Winchester.)

Smith and Wesson formed another partnership in 1856 to develop and manufacture a revolver that chambered a self-contained metallic cartridge. The patent on this *bored-through cylinder* concept was owned by Rollin White and licensed to Smith & Wesson. For the next twenty years, Smith and Wesson maintained a monopoly on this small revolver that revolutionized the arms industry. Smith lived until 1893 and Wesson until 1906, leaving an impressive list of arms-design patents assigned to their names.

#31j. SAM WALKER

Born in Maryland in 1817, Sam Walker was a veteran of the Seminole War in Florida (1838), a conflict in which he first came into contact with the revolving arms of Samuel Colt. After the war, Walker moved to Texas and became a Texas Ranger. The Rangers were armed with Colt's

Paterson Model revolver, and used these pistols with great success against the hostile Comanches and lawless elements in south Texas. Walker's company of Texas Rangers was accepted into military service during the Mexican War of 1847, and became known as the U.S. Mounted Rifles.

Walker was responsible for outfitting the Mounted Rifles with the best in arms and equipment. He contacted Colt and persuaded him to design and develop a revolver that would stand up to the rigors of military use. The massive four and one-half pound revolver that Colt developed was accepted into service in June of 1847, and became Colt's first government contract. The pistol, now known as the *Walker Model*, is the rarest and most valuable of all Colts. Colt made 1000 of these pistols for the military. He also made 100 pistols that were sold privately and known as civilian models. Colt sent Walker a gift of two pistols bearing the serial numbers 1009 and 1010. Walker used these pistols during the battle of Huamantla, Mexico, on October 9, 1847, where he was mortally wounded.

#32 WAR OF 1812

Thirty years after winning independence from Great Britain, the United States entered the market of world trade and found that the British and French controlled the economic stage. Hindering the trade efforts of the United States, the British claimed the right to seize British sailors serving on American vessels, and, in practice, captured Americans and pressed them into British service as well. A declaration of war between the two countries was declared on June 18, 1812.

The bulk of the American fighting force consisted of state militia units that were armed with

privately-owned muskets and rifles, and also with state-contract muskets made by the same contractors who produced arms under federal contract. Some state arms were imported from the English firm of Ketland and Sons before the outbreak of hostilities. Federal troops used Pattern 1795 Muskets made on the contract of 1808 as well as Pattern 1812 contract muskets.

The United States was unprepared for a large scale war against such a world power as England. During the first two years of the war, a string of American defeats disheartened and impoverished the nation. A major land and sea attack by the British in August of 1814 resulted in the burning of most of the public buildings in Washington, including the White House. On the night of September 13, 1814, the British naval bombardment of Fort McHenry in the harbor at Baltimore, Maryland, inspired the composition of *The Star Spangled Banner* by eyewitness Francis Scott Key.

A long series of bitter and futile engagements blazed along the Canadian border at Detroit, on the Great Lakes, and at Niagara. American victories eventually resulted when Britain's military forces became severely divided between the American conflict and the rising tide of Napoleon's forces in Europe.

The War of 1812 officially ended with the signing of the Treaty of Ghent (Belgium) on December 24, 1814, but word of the signing did not reach the United States until two weeks later following Andrew Jackson's stunning victory against the British at New Orleans.

#33 TEXAS INDEPENDENCE

Stephen Austin is credited with the initial settlement of the Mexican territory that later became Texas. Beginning with only 300 families in 1823, the settlement grew to a population of 50,000 by 1835. A movement to claim independence for the region gained strength, and a war between the Texans and the Mexican government began in 1835. Sam Houston was named commander-in-chief of the armies of Texas.

The war lasted a little over a year, and reached its apex when a brave band of 187 Texans was besieged by a Mexican army of 5,000 troops at a dilapidated Spanish mission known as the *Alamo*. Colonel William B. Travis defended the mission against Mexican dictator Antonio Lopez de Santa Anna and his army. Serving under Travis were Jim Bowie and Davy Crockett. The tiny band of Texan defenders withstood the continuous artillery barrage and fire of the Mexican army for 12 days. On March 6, 1836, the Mexican army broke through the Texans' defenses and massacred all persons with the exception of one woman and her child.

Four days earlier, Texas had officially declared independence from Mexico. On April 21, 1836, shouting "*Remember the Alamo!*" from astride a white horse, Sam Houston and the main force of the Texas army attacked Santa Anna and his troops with such force and surprise that the Battle of San Jacinto was over in only eighteen minutes. Santa Anna was captured during the battle, and was released in exchange for a promise of independence for Texas. The armed conflict ceased, and the Republic of Texas remained independent until annexed by the United States in a joint resolution of Congress passed on March 2, 1845.

#34 MEXICAN WAR

In July of 1845, editor John O'Sullivan wrote an article discussing America's "*manifest destiny*"

-- a belief that the United States had a right to govern North America from the Atlantic to the Pacific and from the Canadian border to the Rio Grande.

Mexico refused to recognize the authority of the United States to annex Texas and began to create unrest on the border. President Polk sent U.S. troops to enforce the Rio Grande boundary. However, Mexican forces crossed the river and attacked the American soldiers. In response, on May 13, 1846, the United States declared war on Mexico .

Throughout the 20-month conflict, major battles would ensue throughout Mexico. The United States forces were commanded by General Zachary Taylor and General Winfield Scott. (The Mexican War served as a training ground for many young line officers whose later careers reached legendary proportions. Such officers included: Robert E. Lee, J.E.B. Stuart, P.G.T. Beauregard, Jefferson Davis, and Ulysses S. Grant.)

The Treaty of Guadalupe Hidalgo was signed on February 2, 1848, ending the Mexican War. The treaty established the Rio Grande as the boundary of Texas, and ceded all of present-day Texas, California, Utah, Nevada, western Colorado, western New Mexico, and most of Arizona to the United States.

VI. A NATION ASUNDER

On December 20, 1860, the legislature of the state of South Carolina, exercising the powers granted to it by the 10th Amendment of the Constitution of the United States, passed an

ordinance of secession and separated itself from the United States as a free and sovereign government.

Within the next six months, eleven other states adopted similar resolutions and formed the Confederate States of America. After the Battle of Ft. Sumter in April of 1861, the federal government refused to recognize the independence of the Southern states and declared that open rebellion existed, calling 100,000 men to arms to suppress the revolt.

The War Between the States did not end until four years later on April 9,1865. Over 2 million men saw service in both armies, and the conflict left some 650,000 casualties in its wake. (Prior to the war, the federal army had numbered only 18,000 officers and men.)

#35 THE CONFEDERATE STATES OF AMERICA

The sudden rush by both the North and the South to arm and equip their armies resulted in a boom in the arms industry. The Confederacy had the greatest difficulties to overcome in equipping their troops. Primarily an agrarian society, the South did not possess the manufacturing capabilities of the North.

The Confederacy used arms from a variety of sources, including the former federal arsenals, state militia arms, and personal weapons of individual soldiers. The South was able to augment these arms with imports until the Union navy effectively blockaded Southern ports. For the most part,

the Confederacy fought with weapons that had been captured on the battlefields and with a relatively small number of weapons made at armories that were established in the South after the start of the war.

#36 UNION CARBINES

The war quickly brought about a number of firearm innovations that were heralded as sure-fire ways to end the war quickly. The greatest advances in firearm technology came in breechloading arms, primarily cavalry carbines. A mounted trooper of the war was far more effective as a fighter if his firearm was light, short, and easily reloaded in the saddle.

Christian Sharps and the breechloading carbine that he had developed in 1848 opened the door to numerous advances and dozens of patents. Federal government procurement officers issued contracts for the maximum output of guns from such primary manufacturers as Sharps and Spencer. However, the tremendous demand for arms was still not met, and the government was forced to purchase arms from manufacturers who, although their products were not up to government standards, could make deliveries of shootable firearms on schedule.

#37 UNION RIFLES

At the beginning of the Civil War, the bulk of the North's longarms were safe in the hands of their regular infantry units or were secured in federal arsenals and armories. Previous U.S. Pattern arms such as the Model 1841 rifle, the Model 1842 musket, and the Model 1855 rifled musket were quickly readied and issued to waiting troops. Changes in the standard service arm resulted in the adoption of the Model 1861 rifled musket, the Colt Contract Model of 1861, and eventually the Model 1863 rifled musket. Over one and one-half million .58 caliber arms were turned out by the Springfield Armory and 32 private contractors during the course of the war.

#37a A Northern Arms Factory

The age of steam ushered in an industrial revolution, and thousands of advances were made in manufacturing processes. Factories were located to make the best use of water, or hydraulic, power that was sometimes referred to as *white coal*.

In New England, the Merrimac, Connecticut, Concord, and Chicopee rivers flow through a fertile valley, creating a region known as *Gun Valley* due to the numerous arms manufacturers who set up factories along these valuable water sources.

The scene before you is a recreation of the interior of the Smith & Wesson revolver factory in Springfield, Massachusetts, during the Civil War. The large steel machine in the center of the floor is a rifling machine used to manufacture Smith & Wesson revolvers. The machine was powered by large leather belts hooked up to drive rods in the ceiling. Like Smith & Wesson, most arms factories ran 24 hours a day, six days a week, during the war years.

#38 UNION PISTOLS

Federal quartermasters struggled to overcome a severe shortage of firearms that were needed to equip the Union troops. With the age of sword, saber, and lance giving way to the revolver and carbine, pistols were desperately needed by the Union army.

Colt, Remington, and Smith & Wesson made firearms at record levels, but could not produce the quantities that procurement officers needed. As a result, a dozen or more additional revolver companies and manufacturers began supplying their entire production output to the government, even though their arms had not been received favorably by the military or the public prior to the war.

#39 CIVIL WAR IMPORTED ARMS

It soon become apparent from the opening battles of the War Between the States that the conflict would be lengthy. Both the North and the South realized that more guns would be needed quickly, and looked to the armories and arms manufacturing centers of Europe for additional firearms.

On the Union side, General John C. Fremont, Colonel George Schuyler, and Marcellus Hartley (from the private military outfitting firm of Schuyler, Hartley & Graham) worked tirelessly to obtain new arms. Their efforts served not only to equip Union troops, but also to deprive the Confederates of the opportunity to buy these arms.

The Confederates relied primarily on the efforts of Major Caleb Huse, Major Edward C. Anderson, Commander James D. Bullock, and Captain James H. North. Also serving as arms procurement agents for the South were Courtney & Tennant of Charleston, South Carolina, S. Isaacs, Campbell & Company of London, and Nelson Clements of Texas.

The guns obtained from the foreign markets consisted of a variety of small arms whose quality varied from useless to excellent. Many of the firearms were converted smoothbores that were outdated. Calibers ranged from .54 to .71 caliber. Most of the imported arms came from England, Austria, Prussia, Saxony, Bavaria, France, and Belgium.

VII. THE AMERICAN WEST

#40 SOLDIERING ON THE FRONTIER

Prior to the Civil War, U.S. Army garrisons had been established throughout the American West to protect our frontier. Beyond these military posts lay the great American desert and numerous tribes of American Indians.

U.S. Cavalry troopers stationed throughout the west often found themselves fighting at a disadvantage because the firearms supplied by the government tended to lag behind the most current advances in technology. Troopers engaged in such battles as The Little Big Horn (June, 1876) were armed with single shot breechloaders while their victorious adversaries were armed with the more advanced repeating rifles of the day.

Eventually, as witnessed before during the War Between the States, overwhelming numbers and resources prevailed during the series of battles between the U. S. Cavalry and various Indian tribes that took place over a period of forty years, culminating with the death of nearly 300 Sioux at the Battle of Wounded Knee on December 29, 1890.

40a. ERSKINE S. ALLIN AND THE NEW SPRINGFIELD RIFLE

At the close of the Civil War, the federal government had an enormous inventory of surplus arms and equipment, including numerous muzzleloading rifled-muskets. Rather than destroy these arms, the Chief of Ordnance decided to convert them from their muzzleloading configuration to a breechloading system. E.S. Allin, the Master Armorer at the Springfield Armory, developed a system that converted the old muskets into breechloaders. Allin's design, known as a *trapdoor* due to the pivoting action of the breechblock, evolved into the Springfield Model 1873. The *Trapdoor Springfield* models were the U.S. Army's primary longarms for 30 years.

#40b. BUFFALO HUNTING ON THE PLAINS

From Canada to Mexico and from the Mississippi to the Rocky Mountains, an incredible herd of *50 to 100 million* American bison, popularly called *buffalo*, roamed the West. For the Plains Indian, this animal was the staff of life, and provided meat for food, fur for warmth, and bones for tools. For the commercial hunter who was primarily interested in obtaining hides and meat to sell, the buffalo was regarded only as a source of wealth.

Thousands of hunters traveled West to make their fortune by killing buffalo. The loud noise of a rifle being fired could scare a buffalo herd into a stampede and reduce the number of animals taken by a hunter. For this reason, most hunters armed themselves with rifles capable of scoring a kill at tremendous distances so that the sound of the gunshots would not panic the herd.

Many hunters used Civil War surplus arms that had been fitted with new barrels and converted to fire centerfire cartridges. Manufacturers such as Ballard, Marlin, Sharps, Remington and Winchester soon began to produce and promote rifles that were specifically designed for hunting buffalo.

By 1883, the unchecked harvesting of the buffalo herds left the American Bison in danger of becoming extinct. However, due to the enactment of strong and effective conservation measures, limited numbers of buffalo now exist in our national parks.

#41 THE GUNS THAT WON THE WEST: COLT & WINCHESTER

Two American gun manufacturers, Colt and Winchester, completely dominated the firearm scene in the last quarter of the 19th century. These companies achieved their fame and success through excellent designs, clever marketing, prolific production, and testimonials from prominent users. The most famous of their firearms, the *Colt Single-Action Revolver* and the *Winchester Lever-Action Rifle*, earned the title of *The Guns that Won the West.*

THE WINCHESTER LEVER-ACTION RIFLE

The *Henry* rifle, patented by B. Tyler Henry in 1860, earned its laurels on the battlefields of the Civil War. It was known to Confederates as "*... that rifle you load on Sunday and shoot all week.*"

Oliver F. Winchester purchased Henry's company and the patent rights for this unique firearm. In May of 1866, he changed the name of the firm from the *New Haven Arms Company* to the *Winchester Repeating Arms Company*, thus beginning a long history of legendary firearms.

The Model 1866 Winchester boasted a number of important improvements, principally in the method of loading and ejecting cartridges and in the adoption of a side-frame loading gate. Attempts to market the gun to the federal government failed, but sales to foreign countries flourished.

Other models based on this design were developed and offered for sale in 1873, 1876, 1886, 1892, 1894, and 1895. These various models gave the public a wide variety of choices, and Winchester lever-action rifles became legendary throughout the United States and the world. The Model 1873 was immortalized in the Hollywood film *Winchester '73* starring James Stewart, and over five million of the Model 1894 Winchesters have been produced.

THE COLT REVOLVERS

Colt's first successful revolver for the metallic cartridge was Colt's Single Action Army Model of 1873. Also known as the *Colt Peacemaker*, *Colt Single Action*, and *Colt Frontier Six-Shooter*, this revolver incorporated many design innovations and was a vast improvement over the old

percussion models. Strengthened by a top strap and a screwed-in barrel, it had a removable cylinder pin, was loaded from the rear of the cylinder, and incorporated a sliding-rod cartridge ejector.

The U.S. Ordnance Department began field-testing the revolver in November of 1872. These tests resulted in the government awarding Colt an initial contract in 1873 for 8,000 revolvers in .45 caliber for use by the U.S. Cavalry.

The Colt Single Action became an icon of the American West. Inhabitants of the Old West frequently lived by the Colt and died by the Colt. Many famous, as well as infamous, persons are associated with this revolver, including Buffalo Bill Cody, Wyatt Earp, Billy the Kid, Calamity Jane, and General George Armstrong Custer. An unknown wit made the remark: *"It wasn't God or the Declaration of Independence that made all men free and equal ... it was Colonel Samuel Colt!"*

In addition to the *Colt Peacemaker*, Colt also produced a myriad of small- and large-frame revolvers in both single-action and double-action models. These Colt revolvers were hugely popular and were used extensively throughout the period of western expansion.

#42 COMPETING FOR THE MARKET

The success of Colt and Winchester in the Western markets sparked fabulous competition from virtually every corner of the globe. Copies of these guns were made in Europe and Mexico, and a number of reputable American companies also entered the contest to capture the market from Colt and Winchester. Eventually, Colt and Winchester invaded each other's sales territories by

developing both revolvers and rifles.

Smith & Wesson, Remington, Whitney Arms Company, and Merwin & Hulbert competed vigorously with Colt and Winchester not only for commercial sales in the United States, but also for foreign and domestic government contracts. Smith and Wesson became a strong rival of Colt, while Remington and Marlin challenged Winchester for the single-shot and lever-action rifle market.

#43 TIN STARS & SIXGUNS: FRONTIER JUSTICE

Settlement of the frontier often left law and order far behind. A man who was predisposed to evil and who was skilled in the use of a gun could take advantage of others in numerous ways: jumping a gold claim, robbing a Wells Fargo stagecoach, stealing a herd of cattle, or robbing a bank.

The organization of vigilante groups was a common answer to the violence. These large, loosely-organized bands of vengeance-seeking volunteers swept through the Western territories and states to pursue and capture suspected criminals, and they enforced their own brand of justice at the end of a rope.

Many of the legendary lawmen of the West were, at one time or another, on both sides of the law, and often slipped from one side to the other in the performance of their duties. These rugged men carried a virtual arsenal of firearms. They chose their guns with the same care as a carpenter selecting the implements for a tool box -- a good rifle for long-range shooting, a

shotgun for effective close-range encounters, and a revolver or two for immediate use. Eventually, justice and order prevailed in the West, leaving tales of the O.K. Corral, stage hold-ups, and vigilante hangings the stuff of legends, folklore, and tall tales.

#43a. AMERICAN PERSONAE: WILLIAM F. "BUFFALO BILL" CODY

Born in Scott County, Iowa, in 1846, William F. Cody spent his boyhood in Kansas. For a short period, he was employed as a rider for the Pony Express. During the Civil War, he served with the 7th Kansas Infantry and 9th Kansas Cavalry. From 1867-1868, Cody hunted buffalo to feed workers building the Kansas-Pacific Railroad and earned the nickname of *Buffalo Bill*. Cody also had a distinguished career as an Army Scout, and became Chief Scout for the 5th U.S. Cavalry. He participated in over 16 military engagements, and was awarded the Congressional Medal of Honor in 1872.

His rise to legendary status began with the writings of E.Z.C. Judson (also known as *Ned Buntline*). Buntline's dime novels romanticized the heroic life of Buffalo Bill who was encouraged to write his first autobiography in 1879. In 1883, Cody organized an outdoor exhibition that became world famous as *Buffalo Bill's Wild West.* Dramatizing life and legend in the American West, the show remained on the road for more than 30 years. Acts in the show included *The Pony Express*, *The Attack on the Deadwood Stagecoach*, *Rough Riders of the World*, and the roping of broncos (wild horses). Attractions such as these were the basis for today's rodeos. Stars of the show included Buck Taylor (*King of the Cowboys*), Annie Oakley (*Little Sure Shot*), Johnny Baker (*The Cowboy Kid*), and, for one season, Custer's nemesis -- Sitting Bull.

William F. Cody died on January 10, 1917. He provided much-needed employment to many people at a time when job opportunities were few, and brought thrills, laughter, and excitement to huge and admiring audiences. His use of buffalo in the show increased public awareness of the animal and its plight, and helped to preserve the animal from extinction. He was truly an American original and the first superstar of the twentieth century.

#43b. AMERICAN PERSONAE: ANNIE OAKLEY

Born in Darke County, Ohio, in 1860, Phoebe Anne Oakley Mosey later adopted the stage name of *Annie Oakley*. As a child she learned to hunt rabbit and quail that she sold to supplement the family income. She developed a remarkable skill as a marksman, and in five short years paid off the mortgage on the family farm with earnings from game that she shot and shipped to market.

Her local fame inspired a shooting contest near Cincinnati against noted marksman and vaudeville performer Frank E. Butler. She defeated him by a single point, soon fell in love with Butler, and eventually married him. Butler became Annie's manager, and booked her on various show and circus tours. In 1885, she joined *Buffalo Bill's Wild West* show in Louisville, Kentucky.

Her deadeye accuracy with rifle, pistol , and shotgun brought her worldwide fame. She could hit a dime tossed in the air, shoot a cigarette placed in her husband's lips, and slice in half a playing card that was held edge-on to her at a distance of 30 paces. Perhaps the most famous woman marksman in history, she was further immortalized in the 1946 Broadway musical *Annie, Get Your Gun*.

#43c. AMERICAN PERSONAE: NAT "DEADWOOD DICK" LOVE

Born into slavery in 1854, Nat Love moved from Tennessee to Kansas shortly after the end of The War Between the States and found work as a cowboy on the rapidly expanding frontier. Nat was just one of thousands of freed blacks who earned a living between 1866 & 1890 as cowboys. One in six trail riders and cowhands was black. Nat's proficiency at marksmanship earned him the moniker "Deadwood Dick" after he won a shooting contest in the Dakota Territory town of Deadwood in 1876. His fame as a marksman and cowhand was fictionalized in the "Deadwood Dick" series of dime novels that were popular at the time.

Nat wrote his autobiography in 1907 and spent the remainder of his days as a Pullman porter, passing away in 1925 at the age of 71. His autobiography, photo and the dime novels about his life have left historians with a difficult task of separating tales about his life into fact or fiction. Either way, Nat's positive impact on the culture of the American west has assured his place in history along side Cody, Oakley and others as a true American original.

#43d. AMERICAN PERSONAE: THE AMERICAN WESTERN

Cinematography, the art of the motion picture, was developed in France in 1896. Shortly after its introduction, Thomas A. Edison patented cameras and projectors and was soon making "movies" of the Rough Riders departing for Cuba in 1898 as well as scenes from Buffalo Bill's Wild West Show. In 1903 Edison filmed a silent feature ***The Great Train Robbery*** which became, not only the first commercial film ever released but the first in a purely American genre that has become known as the western. Radio and then Television also joined in bringing the Western into the homes of Americans and making it the most popular of all shows and feature films.

Westerns have remained a staple of the American diet. In 1929, Warner Baxter, who portrayed the Cisco Kid in ***Old Arizona*** became the first screen cowboy to win the Academy Award for best actor. Since then stars such as John Wayne, Garry Cooper, John Houston, Walter Brennan, Clint Eastwood and Lee Marvin have all earned Oscars for directing or starring in movies with western themes. The cowboy and his six-gun have themselves become a part of the American Personae with such classic films as ***High Noon, The Man Who Shot Liberty Valance, Shane and The Unforgiven.***

VIII. THE NEW PROSPERITY

#44 MOTHER OF INVENTION

Plato wrote that "*Necessity is the Mother of Invention*", and nowhere can *necessity* be better illustrated than by describing a nation at war. The demands of the American Civil War upon a divided country fostered an entrepreneurial spirit that spilled forth a flood of ideas, innovations, and inventions.

Great advances were made in the arms industry. New cartridges, multi-shot firearms, speed-loading devices, breechloaders, and repeaters were all designed, built, tested and marketed to fill

the needs of two giant armies.

#44. CARTRIDGE TECHNOLOGY

The Combustible Cartridge

The development of the conical, hollow-based bullet by Francois Minie of France led to experimentation with a variety of cartridge designs. In the combustible cartridge, a percussion cap was combined with a flammable or combustible wrapper and a bullet to produce a self-contained cartridge. Heavily-nitrated cloth or paper was used to produce highly-flammable wrappers. These types of cartridges were used with the Sharps, Starr, and Merrill breechloading carbines.

The Separately-Primed Cartridge

The first successful use of a metal cartridge case occurred during the Civil War period. Rubber and cardboard cases were also used for some cartridges. In this type of cartridge, a small hole in the base of the cartridge case allowed sparks from a percussion cap to enter the case and ignite the powder charge contained in the cartridge. The Maynard and Burnside breechloading carbines used metal cases, and the Smith carbine used rubber cases.

The Rimfire Cartridge

Invented by Nicolas Flobert, a noted French gunmaker, this metallic cartridge was developed just prior to the Civil War. It is a self-contained metallic cartridge that consists of four basic components: the *case*, the *primer*, the *powder charge*, and the *projectile* (or *bullet*).

The primer in a rimfire cartridge is an impact-sensitive chemical compound that is contained in the inside rim of the case's base. When the cartridge is struck on the rim, the primer ignites, and the flame from the primer in turn ignites the powder charge.

Smith & Wesson was the first firearm manufacturer in America to successfully use the rimfire cartridge, and B. Tyler Henry used a .44 caliber rimfire cartridge in his famous Henry Repeating Rifle. Rimfire cartridges have changed little in design over the years, and this type of cartridge is widely available today in .22 caliber ammunition that is used in a variety of modern handguns and rifles.

The Center-fire Cartridge

Great strides in ammunition technology took place between 1860 and 1875 with the development of a cartridge that contained a primer located in the center of the base of the cartridge. The Frankfort Arsenal in Philadelphia had begun experiments based on this idea as early as 1858, and other experimenters continued developing this concept until the cartridge evolved into its present form. Other types of cartridges, such as the pin fire and the teat fire cartridges, offered little competition to this new *centerfire* concept. Today, the centerfire cartridge is used universally.

#45 EARLY TARGET PRACTICE: THE ERA OF THE SCHEUTZENFEST

Competitive shooting at targets has been a favorite sport among Americans since before the American Revolution. One of the oldest forms of organized shooting in the United States was introduced about 1850 in the Midwest by Swiss and German immigrants, and was known as the Scheutzen match or *scheutzenfest*. The first competitive shooting club, called a *scheutzenbund*, was organized in 1865. These competitions were quite stylized in form, and shooters used customized small-caliber rifles equipped with pronged buttplates, hand rests, elaborate sights, and heavy barrels. Shooting took place from a standing position at targets placed at a distance of 150-200 yards. The scheutzenfest was more than just a rifle competition -- it was an important social event. By 1890, nearly all large American communities with a German heritage had large *scheutzenbunds*.

#46 CREEDMOOR, SEA GIRT, AND THE NATIONAL MATCHES

The Mists of Creedmoor

In 1872, the Range Committee of the National Rifle Association negotiated with the State of New York to establish a target range for the training of the National Guard and other personnel. The establishment of a range was the principle goal of the NRA at that time. A 70-acre parcel known as Creed's Farm on Long Island was purchased from the Central and Northside Railroad for the new range.

Colonel Henry G. Shaw, editor of the New York *Sun*, viewed the property on one misty morning

and remarked "*Just like the moors of southern England. Perhaps we should call it Creed's Moor, rather than Creed's Farm.*" The name *Creedmoor*, now synonymous with firearms and target shooting, was agreed upon as the new name for NRA's target range.

The first shots on the new range were fired on April 25, 1873, by George Wingate. The dedication match was held on June 21, 1873, with two individual matches followed by a regimental team competition. Prizes included a purse and a gold-mounted Winchester Model 1866 Rifle. The establishment of the Creedmoor range attracted hundreds of new members to the NRA, as well as inquiries from all over America regarding match competitions.

Although urban growth eventually forced the closing of the range at Creedmoor, the name came to imply the highest standard of quality. Arms manufacturers such as Remington, Sharps, and Marlin used the name Creedmoor in their advertising for their top-of-the-line target rifles.

A New Range at Sea Girt

When the Creedmoor range closed, nearly every state in the Union had developed its own rifle teams and private clubs. Many of them had their own ranges based upon NRA rules and patterned after Creedmoor. In 1890, the New Jersey State Rifle Association established a new 148-acre range in the resort community of Sea Girt. In 1892, the National Rifle Association transferred its national and international matches to the new range at Sea Girt. The success of these competitions brought national attention to Sea Girt, and the National Rifle Association became internationally recognized as a governing organization.

#47 CAMP PERRY

The range at Sea Girt, New Jersey, served the NRA and the National Matches well in its initial years. However, after 15 years of heavy use, the range began to suffer from overcrowding and outdated camping facilities.

A new site was located by Ammon B. Critchfield, the Adjutant General of Ohio and an NRA vice president. The property was located on a level plain measuring one mile long and 1/2 mile deep. It stretched along the shore of Lake Erie just south of Put-in-Bay, and was less than 45 miles east of Toledo.

In 1905, the Ohio state legislature appropriated $25,000 toward the purchase and development of a National Guard rifle range and camp, and Critchfield recommended the Lake Erie location. The Ohio State Rifle Association and the Ohio National Guard Association agreed to purchase 30 additional acres as the site of a clubhouse.

Dedicated in August of 1907, this new installation was named *Camp Perry* in honor of Captain (later Commodore) Oliver Hazard Perry who triumphed over the British during the War of 1812 at the Battle of Lake Erie. The National Matches are currently held each summer at Camp Perry.

#47a. Elizabeth (Plinky) Topperwein

In 1906, at Sea Girt, at the qualification matches for the NRA National Marksman's Reserve competition, a woman named Elizabeth Topperwein suddenly appeared in the registration lines and signed up as a participant in the match. For the first time in history, a woman competed in an official NRA match against hundreds of male shooters!

Born in San Antonio, Texas, Elizabeth (Plinky) Topperwein may have lacked the fame and showmanship of Annie Oakley, but she was the greatest female marksman of her time. Shattering all previous records, Plinky could handle a pistol, rifle, or shotgun with equal authority. A champion on the tossed target, she could clip coins with a pistol using either hand. Married to marksman Adolph Topperwein, she and her husband were employed as exhibition shooters for the Winchester Repeating Arms Company.

#48 THE BOOMING ARMS INDUSTRY

From the last quarter of the 19th century until World War II, the United States went through a production boom of inexpensive firearms. Manufactured for protection, sport, recreation, and backyard hunting, these pistols and rifles were simple in design and made of inexpensive materials.

During this period, numerous arms firms were established that engaged solely in the design and marketing of these revolvers and rifles. Purchases through the mail were extremely large, and the number of households owning an inexpensive revolver or rifle was estimated at over 90%.

Some well-established companies also engaged in manufacturing these low-cost firearms and added to the flood of revolvers and rifles on the market. Famous names included Colt, Harrington & Richardson, Hopkins & Allen, and

Iver Johnson.

A Circus of Names:

One of the great amusements for the marketing departments of many firearm companies was the creation of imaginative and humorous names for inexpensive firearms. Listed below are just a few of the memorable trade names:

ALERT

ALASKA

AMERICAN BOY

AVENGER

BANG-UP

BLOOD HOUND

BLUE JACKET

BONANZA

BUFFALO BILL

BULL DOG

BULL DOZER

CHIEFTAIN

CONQUEROR C O W B O Y RANGER CZAR

DEAD SHOT

DICTATOR

DREADNOUGHT

EARTHQUAKE

ENCORE

FAULTLESS FAVORITE

HALF BREED

HARD PAN

HECLA

IMPERIAL

JOKER

JEWEL

LIBERTY

LION

LITTLE GIANT

LITTLE SCOTT

LONG TOM

MIDGET

MOHEGAN

MONARCH

MY COMPANION

NAPOLEON

NERO

NEW BABY NONPAREIL

ODD FELLOW

PAROLE

PATH FINDER

PENETRATOR

PET

PINAFORE

PRAIRIE KING

PROTECTOR

RANGER

RATTLER

RED CLOUD

RED HOT

ROBIN HOOD

ROB ROY

SAFE GUARD SCOUT

SECRET SERVICE SMOKER

SPITFIRE

SPY

SUCCESS

SWAMP ANGEL

TERROR

TRAMP'S TERROR

TRUE BLUE

TYCOON

UNION JACK

VEILED PROPHETS

VENUS

VICTOR

WIDE AWAKE

WILLIAM TELL

WINNER

WONDER

.....

Wall Panel: Semi-Automatic and Automatic Firearms

SEMI-AUTOMATICS:

A semi-automatic firearm fires a single cartridge each time the trigger is pulled. After the shot is fired, the gun's operating mechanism automatically extracts the empty, fired case from the firing chamber, ejects the empty case from the gun, and inserts a new, unfired cartridge from the magazine into the chamber. *Its operation requires that its trigger be pulled for each shot*. It is also known as an *autoloading* or *self-loading* gun because a new cartridge is automatically placed into the chamber after each shot.

Many different variations of this mechanism exist, but the basic principles involved are the same. This type of firearm should not be confused with a full-automatic firearm, and it is important to remember that each shot from a semi-automatic gun requires a separate and deliberate pull of the trigger by the shooter.

FULL-AUTOMATICS:

A full-automatic firearm is designed to fire multiple shots when the trigger is pulled. In this type of firearm, the gun will continue to fire as long as the trigger is pressed or until the magazine runs out of cartridges. After the first shot is fired, the gun's operating mechanism automatically extracts the empty, fired case from the firing chamber, ejects the empty case from the gun, inserts a new, unfired cartridge from the magazine into the chamber, and fires the new cartridge, continuing this cycle until the shooter releases the trigger or the magazine is empty.

IX. AN AGE OF ELEGANCE

#49 THEODORE ROOSEVELT

Theodore Roosevelt is an icon of his era. He was a prolific writer, historian, politician, military hero, and loving father and husband. Born in 1858, he labored under the ravages of asthma as a child. His father stressed the need for a vigorous personal regimen to combat the asthma, and Theodore (he was never called *Teddy* by his family) began to thrive in the outdoors.

He earned his spurs as a cowboy during a two-year stint as a rancher in the Badlands of South Dakota, and also became an excellent hunter. Well aware of the fact that he was not a great marksman, he humorously remarked that he didn't shoot well, but did shoot often. Teddy Roosevelt will also be remembered as one of America's greatest conservationists.

His firearm collection was perhaps the largest ever assembled by any president of the United States. He was known for insisting upon exacting standards for his guns, and favored Winchesters and Colts. He also treasured a pinfire shotgun that was a gift from his father.

A Balance Between Man and Nature

An ardent lover of nature and a staunch conservationist, Teddy Roosevelt was responsible for the establishment of the National Forest Service, the conservation and rebuilding of the buffalo herds, the National Conservation and Waterways Commission, the National Monument system within the National Park Service, and the first 51 bird sanctuaries in the United States.

More than any other figure in history, Teddy Roosevelt emulated the balance between conservation and sport:

> *" ... the encouragement of a proper hunting spirit, a proper love of sport, instead of being incompatible with a love of nature and wild things, offers the best guarantee for the preservation of wild things ...."*

Following his years as president, Roosevelt embarked in 1909 upon a year-long African safari. Carrying a sporterized Model 1903 Springfield, a Holland and Holland double rifle, a Fox 12-gauge shotgun, and three Winchester Model 1895's, his adventure acquired 4,897 mammals and more than 4,000 birds, 2,000 reptiles, and 500 fish, all of which were carefully preserved and shipped to the Smithsonian Institution for study and display.

Teddy's Bear

Teddy Roosevelt's love for hunting the grizzly bear inspired numerous journalists to compare his squinting eyes and toothy smile to that of a grizzly. The grizzly bear soon became a political symbol for his presidency.

When Roosevelt refused to shoot a motherless bear cub during a hunting expedition, the story of his compassion quickly spread across the country. An enterprising toy merchant labeled all of his stuffed toy bears "*Teddy's Bear*", and the *teddy bear* soon became a national sensation that endures to this day as a favorite toy and stuffed companion.

Theodore Roosevelt & the NRA

Theodore Roosevelt was an active proponent of military rifle practice and an ardent supporter of legislation that established the National Rifle and Pistol Matches in 1903. Roosevelt signed Public Law 149 on March 3, 1905, authorizing the sale of surplus military rifles, ammunition, and equipment to National Rifle Association affiliated clubs. Competitions were held for affiliated shooters to qualify as National Marksman who would be listed by the War Department as members of the National Marksmen's Reserve (called the "*third line of Defense for the Army*").

On February 16, 1907, the following correspondence was sent to the NRA by President Theodore Roosevelt:

> "*I am so heartily interested in the success of the National Rifle Association of America and its work done in cooperation with the National Board for the Promotion of Rifle Practice that I take pleasure in sending you herewith my check for $25 for life membership therein.*"

#50 AN AGE OF ELEGANCE

Theodore Roosevelt inspired many persons to take up "*the strenuous life*", a lifestyle that encouraged hard, outdoor work and various types of outdoor recreation that included hunting, hiking, fishing, rowing, and rifle practice. Legions of persons followed his example and began enjoying the numerous positive aspects of hunting. Hunting trips and expeditions, including

African safaris, became a popular form of recreation for millions of Americans.

From 1880 to 1930, a period that became known as the Age of Elegance, the world's finest gunmakers produced some of the most exquisite firearms ever created. In the cases within this room are some of the firearms that accompanied Roosevelt and other hunters on the great safaris and hunting expeditions of the 20th century. This room is a close copy of Roosevelt's library in his home in Sagamore Hill, and is typical of the trophy rooms established by many hunters.

#56 AMERICA'S *SPLENDID LITTLE WAR* WITH SPAIN

On February 15, 1898, the American battleship *U.S. Maine* exploded in Havana harbor. The United States, believing that Spain was responsible for the loss of the ship and over 200 men, declared war on Spain. The Secretary of State called the conflict a "*Splendid Little War*" Victory for the United States came within nine months as America's army troops in Cuba and naval forces in the Philippines dismantled the last vestiges of the once-powerful Spanish Empire.

The Spanish Mauser rifles and the American Krag rifles that were used in the Spanish-American War were evenly matched in effectiveness. Eventually, the Model 1903 Springfield, a licensed copy of the Spanish Mauser, replaced the Krag as the primary service rifle for American troops.

Roosevelt's Rough Riders

Theodore Roosevelt resigned his office as Assistant Secretary of the Navy in 1898 in order to organize a cavalry regiment to fight in the Spanish-American War in Cuba. The regiment was

commanded by Colonel Leonard Wood, a Medal of Honor winner under whom Roosevelt served as a Lieutenant Colonel.

The response to recruiting advertisements was overwhelming, attracting cowboys, rangers, Indians, and even gentlemen riders from the Harvard, Yale, and Princeton polo clubs!

On the morning of July 1st, 1898, near Santiago, Cuba, Roosevelt's *Rough Riders*, as his regiment was popularly known in the press, attacked the Spanish forces along San Juan ridge and adjoining Kettle Hill. In the mid-afternoon, the Rough Riders overran the Spanish positions and made their heroic way into the history books. Roosevelt's popularity soared upon his return to the United States, resulting in his election as vice president.

#57 THE WORLD AT WAR, 1914 1918

The Great War, now commonly referred to as the World War I, began following the assassination of Archduke Franz Ferdinand of Austria in June 1914. By mid-August 1914 most of the major European powers were at war. The United States entered on the side of the British and French in April 1917. World War I signaled the end of the age in which conflicts were settled with some semblance of chivalry. It was a war of rapidly changing technology, fought using tactics of the Napoleonic era. Companies, even battalions of soldiers, were thrown against squads of men, each squad manning a single machine gun capable of firing 800 rounds a minute. One General responded to the rapid destruction of his entire Division by telling his men to "... dig, dig, dig, until you are safe".

By Christmas 1914 a trench system wound it's way from the Belgian coast on the North Sea to

the Swiss border some 1500 kilometers away! For four years, until November 1918, the trenches remained in place, virtually unchanged. The word stalemate entered the dictionary to describe a useless situation with no foreseeable conclusion. The result was 8-1/2 million dead and 21 million maimed and disabled, plus 12-1/2 million civilian casualties.

The bolt-action rifle was standard armament among the 30 nations involved in this global conflict, with some members of the Allies B countries at war with Germany B paying licensing fees for their rifles to the German firm of Waffenfabrik Mauser. The dominating arm of the war was the machine gun. Once thought wasteful and expensive, its use ensured that neither side could advance on the other without incurring horrifying losses. The war was brought to an end on November 11, 1918, by the combination of overwhelming Allied offensive action and the spread of revolution throughout Germany that forced the Kaiser's abdication and the replacement of the monarchy with a civilian government willing to surrender.

#57a. WWIALLIES

A variety of bolt-action arms were used by the Allied nations to equip their infantry units. Some countries found that demand for rifles could not keep pace with production so other models for which tooling and machinery already existed were put into service production. Canadian soldiers, for example, were armed with either homegrown Ross rifles, the Models of 1905 or 1910, the British Enfield SMLE #1, MK III, or American made Pattern 14 Enfields!

Revolvers were produced in great quantities and became indispensable on nightly trench raids. From 1915 to 1917, Britain purchased quantities of Colt Model 1911 pistols and both Colt and

Smith & Wesson revolvers in .455 caliber to keep up with demand.

#59 WWITHE CENTRAL POWERS

The boltaction design of the Mauser brothers and the straightpull bolt of the Austrian Mannlicher system accounted for the majority of arms carried by the Central Powers. Most arms accepted a 7.92 mm cartridge, the 8mm as the Mauser cartridge was known. A 13 mm (.51 caliber) boltaction rifle produced for use against British tanks, has the distinction of being the largest rifle of the war.

The P08, or Luger, semi-automatic pistol was the basic sidearm of the German forces and considered a favorite trophy by American soldiers whose penchant for collecting mementos caused someone to quip that the British fought for a principle, the French for their homeland, and the Americans for souvenirs!

#60 THE BOLT ACTION RIFLE/MAUSER TECH.

Development of the modern bolt-action rifle began in Europe, although important successes were achieved in America during the War Between the States. The development of the self-contained metallic cartridge was the motivating factor in the invention of repeating arms as well as alternative breech loading devices. In 1838, Nicholas Dreyse invented a bolt-action system called the *Zündnadelgewehr* or Needle Gun. This Needle Gun used a modified percussion system of ignition. When the bolt was closed and the trigger pulled, a long needle-like firing pin was driven through the base of the paper cartridge and the powder charge to ignite a percussion cap set into

the base of the projectile, and fire the gun.

Early development of the sliding bolt-action repeating rifle was completed in Switzerland by an inventor named Frederick Vetterli. Vetterli's rifle used a copper, rimfire cartridge, and was the first bolt-action repeater in the world manufactured in any quantity. The Vetterli was developed in 1867 and went into general production in 1869.

THE RIFLES OF THE BROTHERS MAUSER

In the world of firearms, few people have left a greater mark than brothers, Wilhelm and Paul Mauser. The genius of the Mausers'first boltaction design was such that many subsequent Mauser designs were merely adaptations of the original brought about by advances in technology.

The Mauser brothers originally encountered difficulty in attracting the attention of their own government to the possibilities of a boltaction rifle and sought financial backing in the United States. At one point the Remington Arms Company was approached and seemed interested. But the Ilion, N.Y. gunmaker backed out of a pending contract just as the German government showed renewed interest.

Eventually the Mausers' designs became the most produced and copied of all firearms innovations. Most sporting and military boltaction rifles (and some shotguns) can trace their development to the efforts of the brothers Mauser.

THE MAUSER RIFLE CHRONOLOGY

1868- MauserNorris bolt action rifle patented in the United States.

1871- Contract for the German Model 1871 (M 71) signed at Spandau, Prussia.

1872- 100,000 M 71 rifles ordered by the Kingdom of Wurttemberg.

1874- The German government firearms factory at Oberndorf sold to Mauser.

1876- 26,000 M 71s sold to China.

1878- Magazine attachments developed for the M 71.

1880- Tubular magazine added to the M 71.

1881- Improvements to the single shot bolt-action developed into the Serbian Model 78/80. 120,000 M 78/80s sold to Serbia.

1882- Wilhelm Mauser dies.

1884- Prussia adopts the Model 71/84, tubular magazine repeater. 27,000 M 71/84s ordered by Serbia and Wurttemberg. The Mauser Company becomes Waffenfabrik Mauser.

1887- Vertical and revolving box magazines developed for the M 71. Turkey orders 550,000 Model 1888 rifles.

1889- Belgium contracts for the Model 1889 rifle that incorporates the 7.65 x 53 mm cartridge and projecting, single-column, vertical box magazine with stripper clip loading system.

1890- Turkey renegotiates her contract to substitute the Model 90 vertical box magazine rifle in 7.65 mm for the earlier Model 1888.

1891- Argentina, Bolivia, Columbia, and Ecuador adopt the Mauser Model 90. Spain orders rifles for field testing.

1893- Spain adopts the Mauser Model 90, chambered for the 7 x 57 mm cartridge and equipped with a staggered-column, internal box magazine. Turkey orders 150,000 Model 90s and 201,000 7.65 mm rifles with a magazine cut off.

1894- Sweden adopts the improved Mauser Model 90 (the Swedish Model 1894) in 6.5 x 55 mm. Congo Free State adopts the Mauser Model 90.

1895- Germany orders test quantities of Model 90s fitted with barrel jackets. Chile, Mexico, Uruguay, the Transvaal, and the Orange Free State adopt the Mauser.

1896- Mauser demonstrates a new 7.63 military automatic pistol for Kaiser Wilhelm II. Sweden and Luxembourg adopt the 6.5 mm Mauser. Spain and Cuba take delivery of Spanish Model 1893 Mausers.

1898- An improved Mauser, chambered for the 7.92 x 57 mm *Infanterie* ("I") cartridge, adopted for the German army and designated the *Gewehr* (Gew.) Model 98. The Model 98 action becomes the pinnacle of Mauser design.

1899- Sweden orders 45,000 Mausers in 6.5 x 55 mm. Serbia adopts the Mauser in 7 x 57 mm.

1902- Mexico adopts the Mauser in 7 x 57 mm.

1901- United States orders 5,000 Mausers for field tests.

1903- Turkey adopts modified pattern in 7.65 Turkish. The United States adopts the U.S. Magazine Rifle, Model of 1903 (the M1903 Springfield) and pays Mauser a royalty for use of patents on the magazine loading stripper clips.

1904- Model 1904 rifles produced with a rear safety lug on the bolt and a rib to guide bolt travel. Brazil, Chile and Portugal adopt the Model 1904.

1906- Sweden adopts the Model 1904.

1908- Short rifle introduced and designated *Karabiner* (Kar.). 98. Sporting rifles designed and manufactured.

1914- War production begins.

1917- Mauser 13 mm antitank rifle developed.

1920- Sporting rifles return to production, contract manufacture begins in Poland.

1922- Waffenfabrik Mauser name changed to MauserWerke A.G.

1924- Belgium manufactures Mausers for export to Arabia, Argentina, Brazil, China, Columbia, Costa Rica, Ethiopia, Greece, Iran, Liberia, Lithuania, Mexico, Paraguay, Peru, Poland, Uruguay, Venezuela, and Yugoslavia. Manufacture of Mausers begins in Czechoslovakia and Yugoslavia.

1935- War Production begins.

1945- Mauser factory, production facilities, and records destroyed by Allied bombing attacks.

#60 INTERNATIONAL ARMS TRADING AND MILITARY SURPLUS

The United States Government had thousands of military surplus arms and other items of equipment immediately following the end of the Civil War. Those arms which were not converted at the Springfield Armory to breechloaders remained in government storage for decades.

The Franco-Prussian War in 1870 created an instant overseas market for the surplus arms that had languished in American armories. Marcellus Hartley (of the military outfitting firm of Schuyler, Hartley, and Graham) was the first person to enter the lucrative field of government surplus sales. Much of the surplus equipment was unused, in perfect condition, and available at a fraction of its original cost. Firearms that cost $30-$40 each when manufactured sold for pennies on the dollar. Remington, Herman Boker & Company, H.K. White, Francis Bannerman, and W. Stokes Kirk are just a few of the larger firms that engaged in the purchase and sale of

military surplus arms to Europe.

#60 FRANCIS BANNERMAN

The name of Francis Bannerman & Sons is legendary among arms and military collectors. He and his sons operated a flourishing military surplus business in New York for almost seventy years. The family business began at the close of the Civil War when large stores of military surplus arms were purchased at government auction. Most of the Bannerman's business was conducted through a mail-order catalog. Operating from a small warehouse at the Brooklyn Navy Yard, the company soon outgrew its facilities and moved to larger quarters in Brooklyn. Following the Spanish-American War, Bannerman bought nearly 90% of all material that the United States captured from the Spanish. To store the huge amounts of captured and surplus arms and munitions, Bannerman bought Pollepel Island on the Hudson river in 1900.

After Francis Bannerman VI died in 1918, the business was carried on by his sons. The firm issued its last illustrated catalog in 1955, and the firm moved to Blue Point, Long Island, in 1959. The last Bannerman sold the business to a former general manager, Jim Hogan, in 1968.

#61 THE GENIUS OF JOHN M. BROWNING

The son of a gunsmith, John Moses Browning was born in Ogden, Utah, on January 21, 1855. From his earliest youth, Browning displayed a remarkable talent for invention. By age 13 he had made his first gun B of scrap iron B in his father's gunshop. By age 24 he had been granted his first patent B for a breechloading single shot rifle. Browning's first firearm patent was bought by the Winchester Repeating Arms Company and marketed as the Model 1885 (the renowned "High Wall" and "Low Wall" rifles). Browning's inventive genius produced 128 patents for breechloading rifles, magazine rifles, autoloading guns, repeating shotguns, gas-operated firearms, semiautomatic firearms and machine guns. His designs were manufactured by Winchester, Remington, Colt, Stevens, and the Fabrique Nationale d'Armes de Guerre in Herstal, Belgium. Several of his designs were adopted by the U.S. Army, notably the Model 1911 pistol, the Model 1917 Browning water-cooled machine gun, and the Model 1918 Browning automatic rifle. Perhaps the greatest inventor in small arms history, John M. Browning died of a heart attack on November 26, 1926.

#61a. THOMPSON

John T. Thompson was born in Kentucky in 1860 and graduated from the U.S. Military Academy at West Point in 1882. He joined the U.S. Army Ordnance Department and retired as a Brigadier General in 1914. He patented numerous devices for automatic small arms. His greatest invention, however, was the Thompson submachine gun. Chambered for the .45 ACP cartridge, this air cooled selective-fire firearm used a delayed blowback action creating an extremely reliable firearm. The submachine gun, manufactured on contract by Colt and the Auto Ordnance Company, was capable of firing from a two-column box magazine holding 20 rounds or drum magazines having either 50 or 100 rounds capacity.

Thompson's gun was first used in combat by the U.S. Marine Corps in Nicaragua in 1925. Widely purchased by police departments and by the U.S. military, the Thompson submachine gun was widely used by both U.S. and allied troops during World War II. The use of this firearm in the hands of legendary lawmen and infamous gangsters alike in the early part of the 20th century earned it the moniker "the gun that made the '20s roar!"

#61b. GARAND

John C. Garand was born in Canada on New Years Day 1888. Moving to Connecticut at an early age, he developed an interest in firearms while helping his brother operate a shooting gallery. He obtained a position at the Springfield Armory and in 1919 began his work on developing a semiautomatic operating system for a rifle action.

His design, popularly known as the "Garand SemiAutomatic Rifle," was ready for testing by 1930. Officially adopted by the U.S. Army in 1936, as the U.S. Rifle, Caliber .30, M1, the Garand is a gas-operated rifle with an 8-round enbloc clip inserted from the top. Ejecting each spent cartridge the gun automatically loaded a new one with each trigger pull. General George S. Patton, Jr. dubbed the M1 "...the finest battle implement ever devised." The United States was the only nation in World War II to equip its infantry with a semi-automatic rifle as a standard service arm. As such, arms historians have credited the M1 Garand with an important role in the Allies' victory in World War II.

Over four million M1 Garand rifles were manufactured during the World War II. More were built during the Korean War and M1 Rifle serial numbers reach into the six million range.

John C. Garand died in Springfield, Massachusetts on February 16, 1974.

#62 WORLD WAR II

The global conflict, fought between 1939 and 1945, is considered the largest and most destructive war in history. Truly a world war, campaigns were fought in Europe, Asia, Africa, North America (Alaska) and the islands in the Pacific. Total casualties numbered 60-80 million, including the largest number of civilians ever to die as a result of one war. The submachine gun, light machine gun and semi-automatic sidearms were used in great numbers, further changing the shape and scope of infantry tactics as platoon and squad strength unit actions defined typical combat experiences.

#62 WWIIAXIS

Germany, Italy, and Japan, known as the Axis powers, were the aggressor nations in the global struggle known as World War II. Their primary infantry armament did not differ much from that used in World War I. For these nations the standard infantry rifle was still a boltaction, although squads and platoon-size units were supplemented with submachine guns and light machine guns on an unprecedented scale, making them very effective.

#63 WWIIALLIES

In the first years of World War II (Sept. 1939 to June 1941) the British Empire and Commonwealth, stood alone,allied against the German-Italian tide. The Soviet Union joined the Allies after Germany invaded Russia in June 1941. The United States maintained a formal stance of neutrality until the Japanese sneak attack at Pearl Harbor, on December 7, 1941, brought us into the war as an Allied Power. Prior to that time the American public had been generally sympathetic toward the plight of the British and legislation was passed in Congress allowing for the transfer of arms, ammunition, and vitally needed equipment such as planes, ships, and vehicles to England under the provisions of the LendLease Act. Because British society lacked a heritage of personal firearms ownership, American citizens were encouraged to ship their personal firearms to England in an effort "to save a British home". Over 7,000 arms were sent and issued to Home Guard units for local defense.

#64 WWIIUS

Products of "The Great Arsenal of Democracy," arms and equipment made in the United States, were directly responsible for the victory of democratic ideals over those of dictators and fascists. The entire country was placed on a war economy in 1942 and all manufacturing and even agricultural resources were turned to the war effort. With men serving on the battlefront, women workers replaced them at their posts in the armories and firearms manufacturing plants throughout the country becoming competent and skilled contributors to the war effort. Millions of rifles, pistols, tanks and planes were produced in the greatest manufacturing effort in history. Major gun manufacturers suspended their sporting lines and produced arms for the infantry and Marines. Colt and Winchester produced a dizzying array of arms with Remington and Smith & Wesson supplying a great deal of needed firepower. Companies that in peacetime produced items such as jukeboxes, sewing machines and typewriters produced rifles and pistols. In just the field

of small arms the list of manufacturers is impressive:

COMPANY	PEACETIME GOODS	WAR PRODUCTION
Guide Lamp Division, General Motors	Automotive Components	The OSS Liberator Pistol
National Postal Meter	Metering Machines	M1 Carbines
Remington Rand	Typewriters	M1911A1 Pistols
IBM	Business Machines	M1 Carbines
Smith-Corona	Typewriters	M1903A3 Rifles
Quality Hardware	Sheet Metal Fabricating Machines	M1 Carbines
Union Switch & Signal	Railroad Equipment	M1911A1 Pistols
RockOLa Manufacturing	Jukeboxes	M1 Carbines

Singer Manufacturing	Sewing Machines	M1911A1 Pistols
Inland Division, General Motors	Automobile Steering Wheels	M1 Carbines
Standard Products Co.	Automobile Window Frames	M1 Carbines

#65 WWIIDIORAMA

The Place: St. Lo, Normandy, France

The Time: July 25-27, 1944

The Scene: Men of the 116th. Infantry, 29th. (BlueGray) Division secure the town of St.Lo for the Allied invasion force. St. Lo was an important crossroads for the invasion force of Allied troops following DDay. Heavy house-to-house fighting earned the title "hardened veteran" for those men who, not long before, had been fresh, inexperienced troops on their way, as General Eisenhower put it, "[to] embark on a great crusade".

#66 A WAR IN KOREA

The United States entered this conflict B often called a police action B on behalf of the United

Nations in June 1950. The war pitted the Democratic People's Republic of Korea (North Korea) B who were backed by the Communist Chinese and the Soviet Union B against the Republic of Korea (South Korea) B backed by the United States and the United Nations. The M1 Rifle remained the standard service rifle of the United States and of many of our United Nation allies. Some countries still clung to the effective and powerful, but slow, boltaction rifle. Australian infantry continued to use the same rifle that they had used on the shores of Gallipoli some 40 years before.

#66a. VIET NAM

Perhaps the most controversial conflict in modern times, the Viet Nam War began with North Vietnamese communist-led terrorist attacks against the government of the Republic of Viet Nam (South Viet Nam) in the late 1950s. Fought as a jungle guerrilla war, American forces began to be involved in the conflict in 1959 and remained until the fall of Saigon in 1975 suffering 58,000 men and women killed in action. As a guerrilla conflict, the war was fought with a wide variety of arms. U.S. soldiers captured enemy rifles of the type used during the War Between the States 100 years earlier! In the end the North Vietnamese won the conflict not with a combination of ancient surplus arms or conventional communist block equipment, but with superior propaganda, extraordinary patience, diplomatic skill, and a crushing military defeat delivered to South Vietnamese forces.

#67 MODERN CONFLICTS: DESERT STORM

Beginning on January 17, 1991, in an unprecedented six week campaign, United States and

Allied forces numbering 450,000 men and commanded by U.S. Army General Norman Schwarzkopf won a sweeping victory against an Iraqi army of nearly 1,000,000 troops. A brilliant two-pronged ground force attack routed the entire Iraqi Army in 100 hours. An estimated 100,000 Iraqi troops were killed and 65,000 captured. The allies suffered only 234 dead, 479 wounded and 57 missing in action. A variety of selective-fire arms, standard among the coalition forces proved to be more than a match for the communist bloc arms of the Iraqi soldier.

#68 PRESIDENTIAL PIECES & REGAL GUNS OF ROYAL HOUSES

Since ancient times heads of state have been given arms that have stood out from the rest. Originally designed so that soldiers could easily identify their leaders on the field of battle, embellished arms eventually became symbols of rank and authority. The pieces exhibited here were all owned, at one time, by a President of the United States or by a member of a royal family. They represent a variety of finishes, from the ostentatious and gaudy to the plain and utilitarian. Their history of ownership by such famous individuals increases their value far and above what similar arms with no historical connection would bring on the open market.

#70 SHOTGUN FUN

The earliest shotgun competitions were social events where live pigeons were released from boxes, known as traps. Originating in England in the 18th century, the sport soon became a popular pastime for British sporting gentlemen. Spreading quickly throughout other parts of Europe, the "trap" shooting was introduced in America about 1800. In 1836, Charles Portlock of

Boston, Massachusetts introduced the use of glass balls as a substitute for live birds. Measuring about 2.5" in diameter, both clear and colored glass targets were used. Some were checkered to make the ball break more easily. Other alternative target materials were tried as well.

Around 1880 the clay pigeon appeared. George Ligowski of Cincinnati, Ohio is generally credited with the development. The clay bird was uniform in size and shape, and provided a fairly good representation of bird flight. Initially Ligowsksi's targets were made entirely of clay, and that name has endured even though they are now manufactured using other materials.

#70a. MODERN SHOTGUN SHELL TECHNOLOGY

The use of a quantity of small spherical lead balls as projectiles for hunting and sporting ammunition has its origins in the late 16th century. Early hunters and sportsmen muzzleloaded their firearms with a flask for black powder, paper or cloth wadding, and shot measured from a separate shot pouch. By the beginning of the percussion period, Eley of London had developed a premeasured load contained in a small wire mesh holder or cartridge. The development of the self contained shotgun shell paralleled that of other small arms breechloading ammunition utilizing various types of primers.

With the successful development of rimfire and centerfire rifle cartridges, the shotgun shell developed its modern form. Most were fashioned of a brass base with primer and a rolled cardboard or paper case containing the shot. The late 19th century saw the widespread use of brass casings which could be reloaded with powder, shot, and wadding. The expense of manufacture, however, soon made the all-brass shell impractical. Today shotgun shells are made of a variety of materials, commonly using a brass or alloy base with a plastic casing.

#71 OLYMPIC & COMPETITION SHOOTING

The first Olympic Games were held in 776 B.C. in Greece and repeated at four-year intervals until they were discontinued in 392 A.D. In 1896, Baron Pierre de Coubertin revived the Olympic games and organized the first international event in Athens, Greece. There were nine sporting disciplines represented, but as a former French shooting champion, de Coubertin included shooting B three pistol and two rifle events B as one of the nine, on the Olympic program. Olympic shooting events have been a part of every Olympic program except the 1904 and 1928 games. Only four nations competed for shooting medals in 1896, while some 80 countries met on the firing line in more recent games. The shooting events now attract the third largest participation of any sport represented in the modern Olympic Games.

The United States has over 45 Olympic medals to its credit, American shooters rank third highest among Gold Medal winners for U.S. Olympic athletes. Shooter Carl Osburn ties swimmer Mark Spitz with 11 Olympic medals for having won the most medals. In 1976 Margaret Thompson Murdock became the first woman in history to win an Olympic shooting medal (Silver). In 1984 separate women's shooting events were instituted. In that year American Pat Spurgin became the first woman in history to capture an Olympic Gold for shooting. Launi Meili (1992) and Kim Rhode (1996) have continued the excellent tradition of winning shooting gold for America.

#71a. MODERN COMPETITIVE SHOOTING

Thousands of Americans enjoy the sport of competitive target shooting as their principal hobby. It is enjoyed today in a variety of disciplines such as, smallbore and high power rifle, pistol, air gun, shotgun and black-powder muzzleloading. Modern technology has given the sport a new look as accurate firearms, specifically manufactured for these competitions, have been developed along with highly efficient, scientifically designed cartridges.

Today, thousands of shooting clubs across the nation at the local, state, and national level provide safe firearm handling, marksmanship, and competition training for interested individuals and teams. Numerous colleges and universities offer scholarships in a variety of shooting disciplines. Outdoor and indoor ranges, dotted across the country, hold monthly and annual competitions among members. On a global scale, national shooting teams and individuals compete in many international competitions held throughout the world.

#72 A CHILD'S ROOMCIRCA 1952

Toy pistols and rifles are a unique expression of American culture. When toy guns first appeared on the market in the 1850s, they were instantly popular and remained among the most popular toys until the 1960s.

The first toy guns were, for the most part, a variety of pea shooters and cork poppers usually made of wood with metal hardware. Later, cast iron and brass toys entered the market. By 1870 inventors began to find a new use for the Maynard tape priming system and the capgun was born. In early designs, realism was secondary to imagination and many examples barely resembled a real firearm. Following World War II, when a dramatic increase in the demand for toy guns was experienced, cast metals, and plastic were used to inexpensively satisfy the market. Today toy guns continue to be a popular attraction to youngsters as well as a collecting field for yesterday's children.

#73 A YOUTHFUL ACCLIMATION

Since the turn of the century, the .22 caliber single-shot bolt-action rifle has been the most popular "first" firearm for young boys and girls. Teaching the art and responsibility of safely handling a gun to a child or an adolescent is as old as firearms themselves. The craft and manufacture of specialized firearms for youth is nearly as old. By the late 19th century, well known arms manufacturing companies regularly engaged in the design and sale of the "boy's" or "ladies" rifles, as they were then termed. Many of America's youth came of age, as had their forefathers, learning to handle a gun safely and effectively. This instruction in safe gun handling, shared between parent and child, has become a traditional American rite of passage from childhood to adult responsibility.

#73a. AMERICAN PERSONAE: ED McGIVERN

Born in Omaha, Nebraska in 1874, Ed McGivern earned a reputation as "the fastest gun in the world." One of this country's most celebrated exhibition shooters, he learned the art of fast shooting with astounding accuracy by pursuing a rigorous path of discipline and self-training in his youth. Ed McGivern became a scientific expert with a handgun. Every spare moment was spent developing championship shooting skills along with a variety of scientific timing devices designed to measure intervals of time as short as 1/20th of a second. At the age of 58 he set a world record for accurate rapid fire shooting B five shots, fired in less than 9/20th of a second into a group that could be covered by a half-dollar coin, from a distance of 20 feet.

#74 THE SHOOTING GALLERY

People have always been fascinated with testing their skill and marksmanship by shooting at a variety of objects. The development of the shooting gallery as a game at fairs, carnivals, and

amusement parks is a distinctly American phenomenon. At the height of its popularity, amusement companies designed and produced elaborate galleries which included still targets, knock downs, bells and chain-driven moving wheels, silhouettes, and bullseye targets. So popular was the pastime that all major firearm manufacturers produced lines of "gallery" rifles and pistols chambered for .22 rimfire ammunition, and ammunition makers turned out millions of .22 "gallery" cartridges.

#75 GAS, AIR, & SPRING GUNS

The firing of a projectile through the use of compressed air, gas and spring loaded guns has a long history of development and goes back as far back as the 16th century. By the late 19th century these guns developed into a popular toy for young boys and girls. While some are still used today for serious Olympic target and sporting purposes, the great majority of those manufactured are intended for recreational plinking by the youth of the world. In 1870, Henry M. Quackenbush patented an air gun that accepted both BBs and darts. In 1882, Clarence Hamilton of Plymouth, Michigan developed an allmetal air gun. The Hamilton air gun was given the now familiar name "Daisy", and the very first Daisy is on display here, a gift of the present-day Daisy Manufacturing Company. In a child's world, the name Daisy has become as recognizable and familiar as Colt and Winchester. In 1890 Daisy was selling about 85,000 air guns per year. By 1960 annual production and sales were close to 1.5 million.

#76 UPLAND BIRD HUNTING AND WATERFOWLING

UPLAND

"...the gunner must select a bird from the thundering mass of rocketing fowl, because the man who shoots into the brown takes home no meat".

Robert C. Ruark

The skies of early America were filled with pigeon, quail, grouse, and woodcock. The double-barrel shotgun had been the traditional favorite for this sport, but newer pump action repeaters and auto-loaders have also won favor in the hunt. With birds rising at a speed of 30 to 50 miles per hour from heavy cover, a quick handling, lightweight shotgun is essential. Close ranges make the loose choke, and light load of the bird gun a suitable arm for bagging the upland bird.

WATERFOWLING

Feb. 24 -- "Went a ducking between breakfast and dinner and killd 2 Mallards and 5 Bald faces."

Oct. 5 -- "Went after Blew Wings with Humphrey Peake. killd 3 and returned by Muddy Hole."

from the diary of George Washington, duckhunter, 1768

Waterfowling B Geo. Washington's "[going] a ducking" B while certainly a necessity for food among some people, developed into a sport early on. By 1650 it was considered a sport of a gentleman, but its old world zenith was reached in England near the close of the 19th century. Competing with the fine European double-barrel shotguns, Americans perfected the pump-action and the auto-loader, both favorites among waterfowl hunters to this day. Among others, an Englishman named W.R. Pape was granted an 1866 patent for his system of choke boring by which the muzzle of a shotgun barrel is constricted, thus controlling the shot pattern and increasing its density at longer distances.

#77 ARTISTRY IN ARMS

Since the early development of firearms, gunsmiths have sought a way to create beauty along with function. Many modern guns are embellished as a part of their production with the addition of bluing, stamped designs, gilding and polishing. The art of the engraver, found in many fine and early European and American guns, is continued to this day.

The firearms displayed here, many from the collection of Dr. William L. and Collette N. Roberts, are an assemblage of the finest examples that today's craftsmen have produced. From bold finishing to delicate inlay, each is a personal expression of an artist's skill, applied to one of mankind's most traditional media.

#78 THE LONG ARM OF THE LAW

The establishment of police forces can trace its roots to England and to the Magna Carta, agreed to by King John in 1215. This document established the offices of sheriff and constable and provided guidelines for their authority and actions. Local and state militia forces provided protection for cities and townships in the early 19th century, but the political office of sheriff remained the mainstay of the police force. By the early 19th century larger cities such as Boston and Philadelphia had organized volunteer police forces known as Watch and Ward. By 1850 many cities had Police Commissioners and forces of officers under them.

Police forces were gradually absorbed into civil service systems. August Vollmer, Police Chief of Berkeley, California in 1910 is generally considered the "father" of the modern police department. During his term he introduced motorized patrols and college education for members of the force.

AMERICAN PERSONAE: THE TEXAS RANGERS

Originally organized in the 1820s, as a local militia force to protect settlers from attacks, the Texas Rangers became a full time, paid corps in 1835. They served the U.S. Army as cavalry and scouts during the Mexican War of 1847 and many individual Rangers served in various Confederate cavalry units during the War Between the States. The Rangers were reconstituted in 1874 as a statewide law enforcement agency. Active today, the Texas Rangers were placed under the authority of the Texas Department of Public Safety in 1935.

#79 FAKES, FORGERIES AND FABRICATIONS

The art and crime of forgery has been with mankind for centuries. As in the world of fine art and antiquities, the hobby of firearm collecting is not immune. With any object that has significant value, the unscrupulous will seek ways to deceive the novice and, often, the expert. Restoration, while acceptable in many cases, should always be disclosed in detail since the restoration may not be apparent to the naked eye.

Some fakes are made from scratch at the mechanic's work bench. A craftsman skilled in the arts of metal and wood working can easily alter a valuable firearm, or reproduce one, in such a manner as to fool the collector. The key to protection lies in knowledge. The fakes exhibited here

represent both works that were created from scratch and firearms that have been altered to resemble more valuable cousins.

#79a. MODERN MUZZLELOADING

It is said that the sun has never set on muzzle-loading firearms. While certainly nearing extinction during the late 19th century and early 20th century, riflemakers labored in remote areas of America where the cartridge gun or its ammunition were both unobtainable and impractical. By the 1950s a revival in the art of early gunmaking had begun. Pioneers in the field such as Wallace Gusler of Colonial Williamsburg, Carl Pippert of Bladensburg, Maryland and John Bivens of WinstonSalem, North Carolina began to recreate the beauty and function of the American longrifle using the same tools and methods as had their forefathers. Today, muzzle-loading rifle and pistol makers abound, creating the past for the present in the great tradition.

The renewed interest in muzzleloading guns, that began in the 1950s and grew rapidly during and after the Centennial of the War Between the States fostered a new industry, the manufacture of reproductions of antique arms. Two men, Turner Kirkland, in Tennessee, and Val Forgett, in New Jersey were pioneers. Kirkland was first to mass produce a reproduction "Kentucky"longrifle. Forgett re-introduced reproductions of Colt "cap-n-ball" revolvers. Their efforts opened the field of blackpowder shooting to hundreds of thousands of enthusiasts as well as providing an opportunity for collectors and shooters to fire guns that would be cost prohibitive otherwise.

#80 HUNTING: BIG & SMALL GAME

WHITETAIL DEER

"His magnificent bounds, in which strength, speed and lightness are combined, his gallant carriage, the flaunting defiance of his white flag of a tail elevated high in the air...make him an object of the keenest interest and desire to every lover of the chase".

Richard Irving Dodge

To early Americans, deer provided a basic resource for survival. Deer skin became clothing. Venison was a primary source of food. Herds increased as man developed heavily timbered regions and small undergrowth flourished providing increased food for the whitetail. Under legislative supervision, the whitetail deer has flourished in the United States.

As a sport, whitetail hunting is as popular as ever. Their light frame, speed and ability to hide have inspired the introduction of numerous firearms and cartridges designed specifically for the sport. Current deer rifle designs include features to make them light weight, accurate, easy to load, and short for maneuvering through tangled brush and timber.

SMALL GAME

Bye, Baby Bunting,

Daddy's gone a hunting

To get a rabbit skin

To wrap the Baby Bunting in.

Anonymous Nursery Rhyme

The tradition of hunting for small game in America is timeless. Squirrels and rabbits were a constant source of available food and warm clothing. Species such as the woodchuck, skunk, raccoon, and others, also have been hunted for the welfare of game and domestic animals. Single shot, slide and lever-action repeaters, the bolt-action, and auto-loader have all been chambered for .22 rimfire ammunition, and used with great success in this hunting field. The small, lightweight .410-bore shotgun has also made its mark in field and forest. Once purely for survival and now a popular sport, small game hunting is popular across the continent.

BIG GAME

"These bears being so hard to die rather intimidates us all; I must confess, I do not like the gentleman and had rather fight two Indians than one bear".

Meriwether Lewis

Considered one of the great adventures of hunting, American big game provides a serious challenge for the hunter. For the seasoned hunter a big game trophy of elk, moose, mountain goat, or bear is a mark of perseverance and skill. Today, the challenge is finding the game in its habitat, the last of the wilderness areas. Craggy peaks, high mountains, cliffs, deep forests, and rushing rivers are a measure of risk to the hunter. While some North American big game animals are on the endangered species list, others are plentiful and through careful compliance with game protection laws, the American hunter can still experience the thrill of a wilderness hunt.

The sheer size and weight of American big game presented a challenge to firearm manufacturers as early as 1830. The early Plains Rifle was an adaptation of the eastern "Kentucky" with larger bore and shorter barrel. Today, rifles are practical in their form while packing a large bore powerful load. Long range shooting is often necessary in the hunt for big game so accuracy and

excellent sights are required as well. So specialized is this field that individual rifles are designed for timber, mountains, plains, and the rugged terrain of Alaska.

#80 SIDEBAR: WILLIAM B. RUGER

Born in Brooklyn, New York, William B. Ruger developed an early interest in firearms by shooting on his High School rifle team. Studying gun books and patents he developed a strong interest in firearms design. Just prior to World War II Ruger took a job at the Springfield Armory designing a machine gun and obtained a patent. In 1948 he and a partner, Alex Sturm, developed a .22 caliber self-loading pistol and Sturm, Ruger & Company was begun. The .22 caliber "Standard" semiautomatic pistol was the first firearm they produced. The success of his design set him to work developing a high quality revolver. These products were followed by a long line of firearms including the Blackhawk series of single-action revolvers, black-powder revolvers, police revolvers, self-loading carbines, falling block, single shot rifles, bolt-action rifles, semiautomatic rifles and pistols, and Red Label shotguns. Today, Ruger guns are made for every interest from plinking to big game hunting. The genius and marketability of Ruger's designs have made Sturm, Ruger & Company an American success story.

#80 SIDEBAR: ROY WEATHERBY, SR.

Roy Weatherby, Sr. grew up as a Kansas farm boy. His lifelong love affair with firearms began when he read a newspaper offer advertising a Daisy BB Gun as a premium for selling garden seeds. Weatherby became heavily involved in the firearms industry opening his firm in 1945. He developed a series of high velocity cartridges and the Weatherby Mark V rifle, noted for its accuracy, durability and reliability in the sport of big game hunting. His active interest in conservation and hunting led him to create the "Weatherby Big Game Trophy" in 1956. The award is considered the "Oscar" of the hunting world. In 1984 Weatherby was named by the Los Angeles Olympic Organizing Committee as the exclusive licensee to produce a limited edition

Olympic Games Commemorative Rifle. In 1985, on the 40th Anniversary of Weatherby, Inc., President Ronald Reagan sent his congratulations stating, "Stories like yours are encouraging and inspiring, for it is hard working individuals like you who make up the backbone of this nation."

#81 FREEDOM'S DOORWAY

Throughout these 14 galleries, the 85 exhibit cases, and the 2,000 guns that you have seen, one common thread is consistent. Firearms retain a unique place in American history and contemporary society because America is a unique democracy. It is unique because it is ultimately up to the people to decide who will govern. Nowhere else on earth has a constitutional government been established that guarantees the people a right to keep and bear arms as a balance against a tyrannical government or the invasion by a foreign foe. Charlton Heston, in a speech before the National Press Club in September 1997 said: " ...[the] doorway to freedom is framed by the muskets that stood between a vision of liberty and absolute anarchy at a place called Concord Bridge. ... go forth and tell the truth. There can be no free speech, no freedom of the press, no freedom to protest, no freedom to worship your god, no freedom to speak your mind, no freedom from fear, no freedom for your children and for theirs, for anybody, anywhere, without the Second Amendment freedom to fight for it."