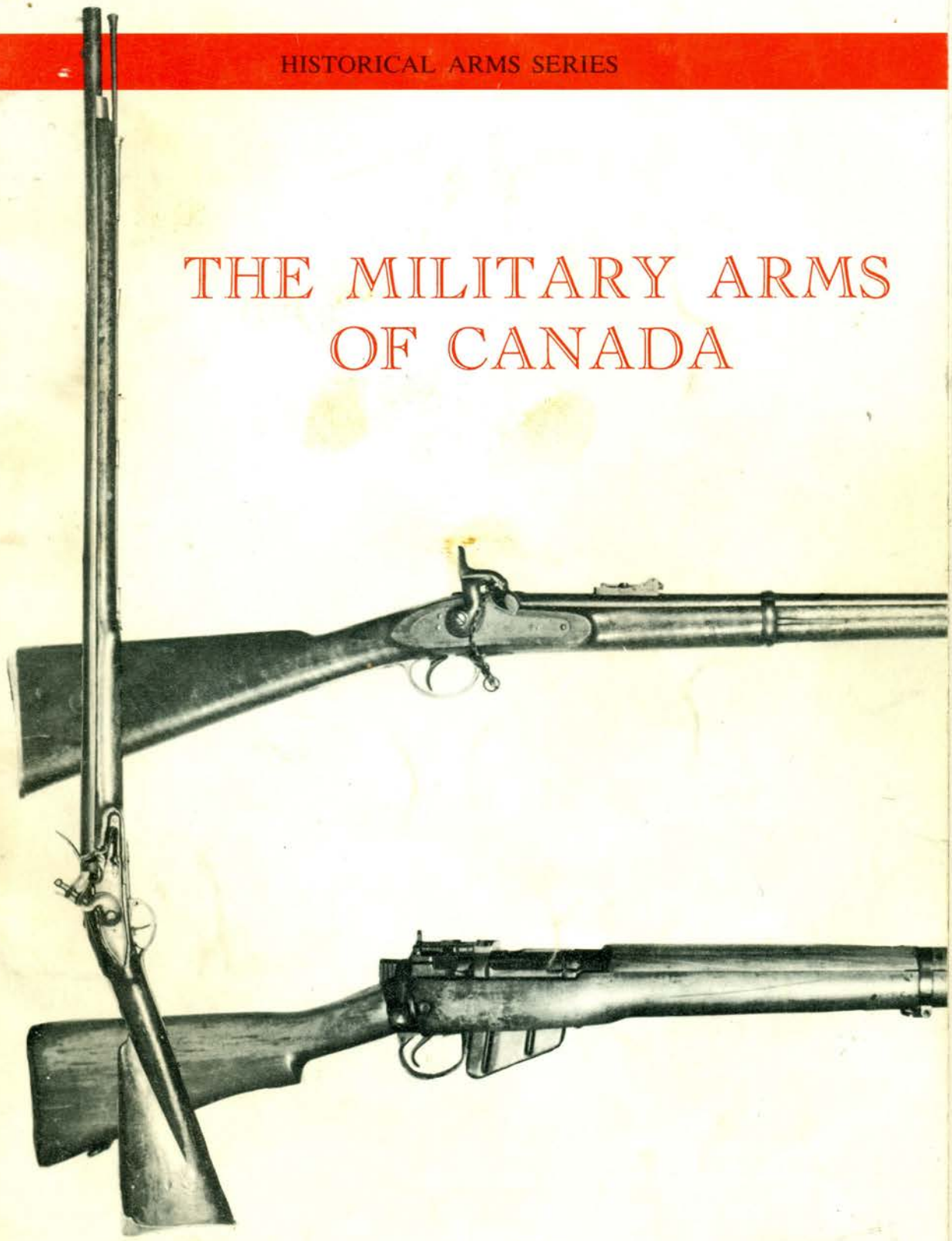
HISTORICAL ARMS SERIES

THE MILITARY ARMS OF CANADA



BY
THE UPPER CANADA HISTORICAL ARMS SOCIETY

COVER ILLUSTRATIONS

Left: Short Land Musket (Brown Bess) which was issued to the Hants Militia which was raised in 1793 from the County of Hants in Nova Scotia. From the G. Hamilton May Collection.
Upper: Pattern 1853 Enfield Long Rifle used by the Fourth Company, Montreal Volunteer Rifles. From the Edward J. Anderson Collection.
Lower: Lee-Enfield Rifle, No. 1, Mk. IV which was made at Long Branch, Ontario, in 1945. From the Robert J. Dynes Collection.

TITLE PAGE

The border of the title page has been taken from the book-plate used by the Militia Department of Canada in 1870.

THE MILITARY ARMS OF CANADA

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THE UPPER CANADA HISTORICAL ARMS SOCIETY

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With a Foreword by
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MUSEUM RESTORATION SERVICE

WEST HILL, ONTARIO
1963

Plate 1
A 17th century French musketeer preparing to place his match in the serpentine of his match-lock musket. Notice the similarity of this weapon with that illustrated in Plate 1, the bandoleer with containers for a single charge, and the forked rest. From *Le Maréschal de Bataille* by Pierre Lostelneau, Paris, 1649.

FOREWORD

It is a curious fact that before the Second World War few soldiers in Canada took much interest in the story of the firearms used by their predecessors since the early days of our history. It is equally curious that even fewer professional historians writing about our military history appreciated the need for more information about the arms and armament used by the men about whom they wrote. Since 1945 there has been a change in our attitude towards this subject. Many Canadians have become actively interested both in collecting arms and in adding to their knowledge of the weapons they have acquired. This is all to the good. Unfortunately, published material relating to Canadian arms has not been readily available. This little book thus fills a serious gap in Canadian military writing. Or rather, I should say it partially fills that gap. Clearly it is impossible to tell the complete story of military arms in Canada in a booklet of this size. Nevertheless, this first book on the subject, if it does nothing else, will lead to further and more complete studies in the future.

The authors of this work are members of the Research Committee of the Upper Canada Historical Arms Society. None of them is a professional historian, but each has done considerable research in the field of his particular interest. Together they have produced a work that answers the basic questions about the muskets and rifles used by soldiers past and present in this country. At various periods of our history experimental weapons or variations of standard weapons have made their appearance. It has not been possible to include these within the compass of this booklet. However, most, if not all the military long guns used in Canada since the days of the French Regime are mentioned here, and many of them are illustrated.

I recommend this little book to all who have served in the Canadian armed forces and to all who are interested in the military history of Canada. Even if a great deal remains to be published on the subject of Canadian arms and armament, the reader will find much useful information and many interesting facts in the pages that follow. Perhaps he may be encouraged to become a collector. Perhaps he may even be stimulated to do further research in the subject. One thing is certain: he will read Canadian military history with a clearer understanding of the intimate relationship of tactics and technology.

George F. G. Stanley

The Royal Military College of Canada
May Day, 1963

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INTRODUCTION

The study of the military arms used in Canada is primarily a study of the military arms of France from about 1600 until 1759, and the arms of Great Britain from the early 17th century until the present. This little book is designed as an introduction to that study.

Three general types of musket will be encountered in the early period, namely the musket, the carbine, and a lighter weapon sometimes called a fusil or light musket. Today the term carbine is used to identify a weapon with a short barrel, but at one time it was more a description of calibre, so that carbines may be found with 39-inch or even 42-inch barrels. The difference was that musket bore was .75 calibre whereas carbine bore was .64 calibre. The bore of a light musket might be anywhere between these, but was usually about .70 calibre.

When the British Board of Ordnance contemplated the development of a new weapon, they had gunsmiths make up sample models to their specifications. If the sample worked as had been anticipated, they were given the stamp of approval, or to use the official term, the pattern was sealed, and it became the standard by which all others of that pattern were manufactured. There was some leeway in the standards which would be accepted by the Board of Ordnance during the 18th century when firearms were manufactured by a number of gunsmiths, and it is possible to find minor variations, particularly in the barrel length and style of furniture. Examples of the Long Land Musket—the first Brown Bess—which normally had a 46-inch barrel have been recorded with variations of more than an inch in overall length.

There are one or two stamps which, if they were placed on a musket or pistol, will indicate British military ownership and may possibly indicate Canadian use. The most obvious is the crown and cipher of the reigning monarch, which is usually located on the lock. The ones most frequently encountered are those of the Kings George whose reigns covered 116 years, and Queen Victoria who reigned from 1838 until 1901,

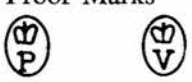
The name of the arsenal from which the arms originated may appear on the lock or action in conjunction with the royal cipher, or on the tail of the lock plate. The early weapons might have the name of the arsenal at the Tower or Dublin Castle, while later arms might be marked with the name of the arsenal at Enfield.

The broad arrow which was used to identify British equipment may be accompanied by the initials BO (Board of Ordnance), or after 1855, WD (War Department). It may appear on the lock or stock, or it may be incorporated into the inspector's marks on the barrel.

All arms accepted by the British army and consequently by the Canadian militia, were inspected at numerous stages throughout their manufacture, and often marked with the stamp of the inspecting officer or Department. These marks would normally appear on the stock or barrel of the weapon but on occasion they will be found on the lock, barrel bands or furniture.

During manufacture, the barrel of each weapon was "proofed" to see that it was strong enough to withstand a charge of powder in excess of what would normally be used, and stamped with the marks of the place where the work was done. The two major proof houses were at London (est. 1637) and Birmingham (est. 1813) but at various times during the past three centuries, Britain has found a need for more arms than she could produce and has resorted to purchasing arms in foreign countries. This resulted in some British military weapons turning up with marks of proof houses other than the two mentioned, notably the Belgian proof house at Liège.

Proof Marks



London

Birmingham

Leige

The basic design for the marks of each proof house remained the same for a long period of time, but during the 300 year period with which we are concerned, the skills of the die maker improved, so that the detail on the dies of 1880 was much more exact than that on the ones of two centuries earlier.

In the middle of the 19th century, just at the time the Snider-Enfield was introduced, a system of distinguishing between original and improved versions of a gun was introduced. The guns were categorized as Marks or variations within a Mark. Thus, the first of a type of gun was the Mark I and the next major change became the Mark II. Minor changes which did not warrant a completely new designation had a * added to the original stamping to produce the Mark (or Mk.) I* or as it is read and spoken, "Mark one star." There was no rule about how many stars might be added before a new designation was given, and one of the Ross rifles that was manufactured in Canada in the early 1900's was known as the Mark II***** or "Mark two, five star".

After 1856, a number of marks were supposed to be placed upon military equipment to indicate Canadian government ownership. The earliest of these was introduced in the Militia General Order of May 16, 1856, which stated that all arms were to be marked with the number of the Company and the number of the weapon in conjunction with U.C. for Upper Canada (Ontario) or L.C. for Lower Canada (Quebec). After confederation in 1867, the orders were changed so that equipment was marked with a D.C. in a diamond and the Company numbers. About the time that the Lee-Metford rifle was introduced the mark being used was M & D which stood for the Department of Militia and Defence. The latest mark of significance to arms collectors was not introduced until after the turn of the century. It incorporated the familiar British broad arrow, circled with the letter 'C' to denote Canadian ownership.

Chapter I

THE EARLY WEAPONS 1608-1700

When the white men first came to America they were not prepared for the difficulties they would encounter. They were not used to the long hard winters, the problems of raising and finding food, the impenetrable forests or the fighting tactics of the sometimes hostile Indians. The only real advantage the white man had over the Indian was his superiority in the field of firearms. It was this superiority, partially stimulated by desire for the great wealth which was here, that drove him to successfully settle North America.

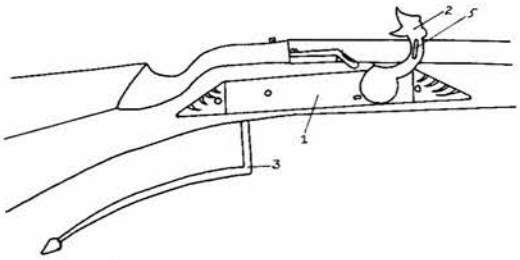
The earliest firearms, indeed most of those used until the middle of the 19th century, were what are known as muzzle-loading firearms. Many methods of discharging a gun were developed in the first 300 or more years of firearm's history, but almost all were loaded by pouring a measured amount of powder down the barrel and pushing a ball of lead down on top of it with a ramrod. A small amount of powder was then put into the pan to insure ignition of the main charge. The method was slow and with the musket of the early 17th century, required no fewer than twenty-three movements to complete the loading and preparation for discharge.

At the time the first French *habitation* at Quebec (1608) and the English settlements at Jamestown (1607) and Plymouth (1620) were being established, the standard military firearm was the match-lock musket. This was a long, cumbersome, smooth-bore weapon averaging about .80 calibre which had to be balanced on a rest in order that it could be aimed. It was fired by a lock on which a serpentine held a match or wick which had to be kept glowing and properly adjusted to ignite the powder in the pan. Even this weapon, crude at it was, for a while gave the white man some superiority over the Indians.

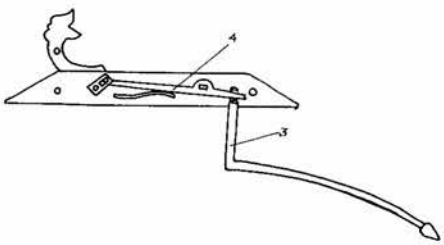
Other types of firearms were available from the gunsmiths of Europe but they were too expensive for military use. One of these was the wheel-lock. It was invented in Italy towards the end of the 15th century, or the beginning of the 16th century and by the end of that century, its use for the finer sporting arms had spread over most of Europe. The wheel-lock worked on the same principle as the modern cigarette lighter in which the spark is produced by rubbing the serated edge of a wheel against a piece of stone, in this case, pyrites.

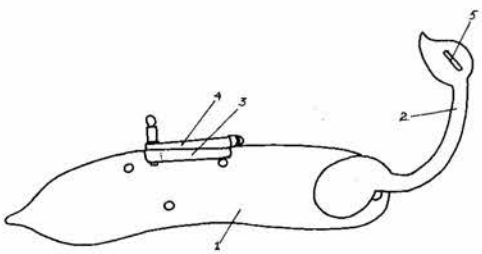
To fire the wheel-lock, it was necessary after loading to span the lock—that is, wind the wheel so that tension was applied to the spring, prime the pan, and place the dog so that the pyrites came into contact with the wheel. When the trigger was pulled, the wheel rotated quickly, the edge of it, scraping the piece of pyrites held in the jaws of the dog, produced a spark which ignited the priming powder and set off the main charge.

The most important of the early lock mechanisms was the flint-lock. It was invented in France, probably by Marin le Bourgeois of Lisieux in Normandy in the first decade of the 17th century.

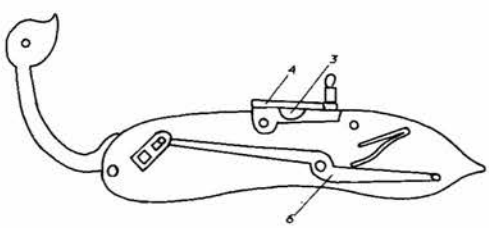


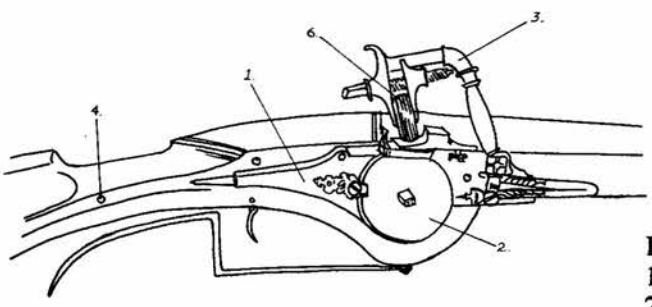
Match-lock. Type 1
1. lock plate
2. serpentine
3. trigger or tricker
4. activating arm
5. thumbscrew

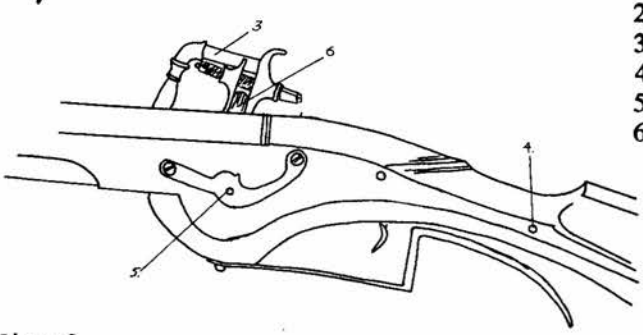




Match-lock, Type 2
1. lock plate
2. serpentine
3. pan
4. pan cover
5. thumbscrew
6. activating arm







French wheel-lock
1. plate
2. wheel
3. dog
4. pin at apex of mainspring
5. wheel spindal
6. pyrites

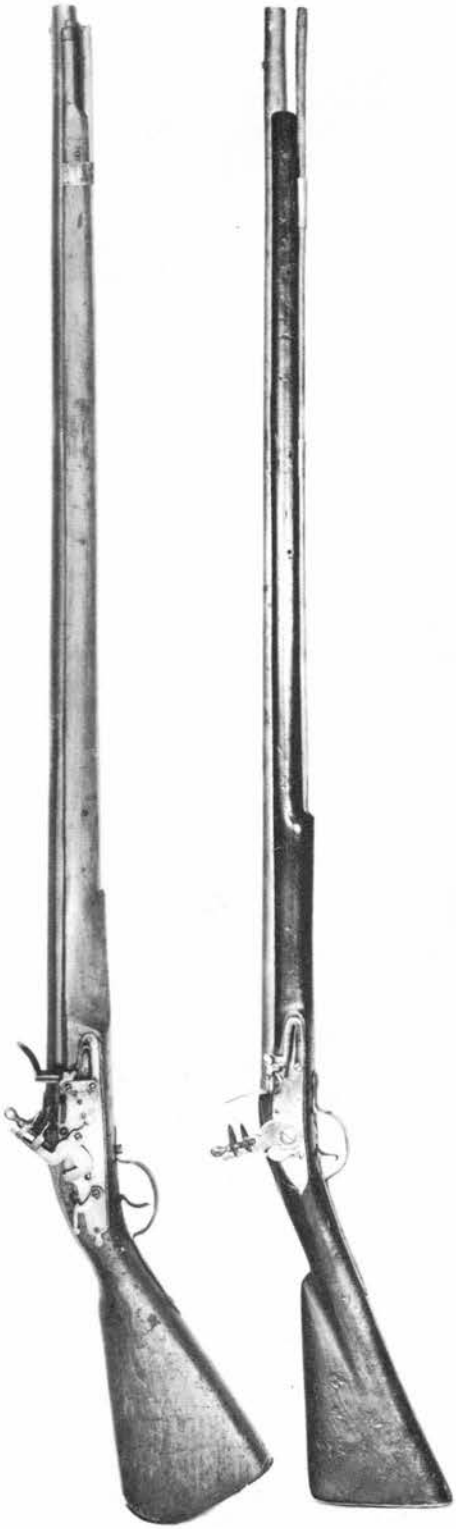
Plate 2
The parts of a type one and type two match-lock and a French wheel-lock from *The Canadian Gunsmiths—1608 to 1900.*

The mechanism of the flint-lock was comparatively simple. A small piece of spark producing flint was held in the vice-like jaws of the cock, which was actuated by a 'V' spring so that when the trigger was pulled, the flint moved rapidly forward to strike the steel frizzen or, as it was known then, the battery or hammer. The force of the flint hitting the frizzen lifted it and the pan cover of which it was part, up and forward, allowing the sparks to fall into the pan, ignite the priming, and discharge the weapon.

The military authorities of the day were reluctant to adopt new ideas before they had been thoroughly tested, but the civilian had no such inhibitions and was prepared to accept new designs without hesitation. The settlers in America were well aware of the mechanical superiority of the wheel-lock and more particularly of the flint-lock over the match-lock, and they knew that the match-lock was not a practical weapon to use in the forests around their homes. There was a life or death incentive to improve the arsenal which was available for their defence.

The effect this had upon the defensive weapons in Canada in the 17th century was to bring into use a great variety of arms, both sporting and military. The list of goods left at Quebec in 1629 when the *habitation* was captured by the English Captain Lewis Kirke included "fourteen (match-lock) muskets; one (wheel-lock) harquebus; two large wheel harquebuses from six to seven feet long; two others of the same length, firing by match:" The armoury of Captain Kirke included "75 musketts and 25 fowlinge pieces and 10 arkebusses a Croake and 30 pistols". These two lists illustrate how arms of the most advanced principles were adopted by the military on this continent earlier than they were in Europe, and indicate a situation which

Plate 3
Left *Royal Ontario Museum*
A 17th Century match-lock musket of .80 calibre with a 39 inch barrel. This is very similar to the one illustrated by Lostelneau in 1649 but may be of English or French origin.
Plate 4
Right *George F. Harding Museum*
Late 16th or early 17th century French match-lock musket with ivory and bone inlays. This gun is .75 calibre and has a 40 inch barrel.



existed until the early years of the 18th century.

It would be impossible to describe the great variety of arms which found their way to Canada during the 17th century, as many would have been purchased by individuals who were concerned with acquiring something which suited their taste and pocket. Most would probably have originated in England or France, but others naturally were produced in the other gun making centres in Europe. The photographs which relate to this chapter have been selected to illustrate that point.

Up to the end of the century, the military arms of Europe had little influence on the arms used in North America. The settlers, if they could afford them, still purchased the semi-military weapons from the gunsmiths of Europe, but when the military authorities in the Mother Country began using guns which were the equal of those in use on this continent, the Colonial officials started using the issue military weapon.

During the last years of the 17th century, the British authorities began converting the existing supply of match-lock muskets to the flint-lock system. At first this conversion merely required the substitution of a complete flint-lock plate for the old match-lock plate, but subsequently a completely new gun was manufactured using the old pattern for a guide. The similarity will be seen by comparing the lock shape of the carbine showing the cipher of William III (1698-1702) with the match-lock shown with it.

Before the end of the second decade of the 18th century, the military weapons of France and England had been standardized so that distinct models may be identified. In England, the last of the issue match-lock muskets had a lock plate with a rounded surface form which carried over into the early flint-lock, and, as we shall see, remained in use for more than 100 years, through most of the flint period.

Plate 5
Left *Harold L. Peterson Collection*
English dog-lock musket, c. 1640. The dog-lock is identified by the safety catch or dog, located behind the cock.

Plate 6
Right *Brenton S. Rowe Collection*
English dog-lock musket, c. 1700. This weapon is marked *Walker* on the lock.

Plate 7 *H. M. Tower of London*
English Match-lock musket of the late 17th century. The similarity between this and the flint-lock which followed it, can be noted.

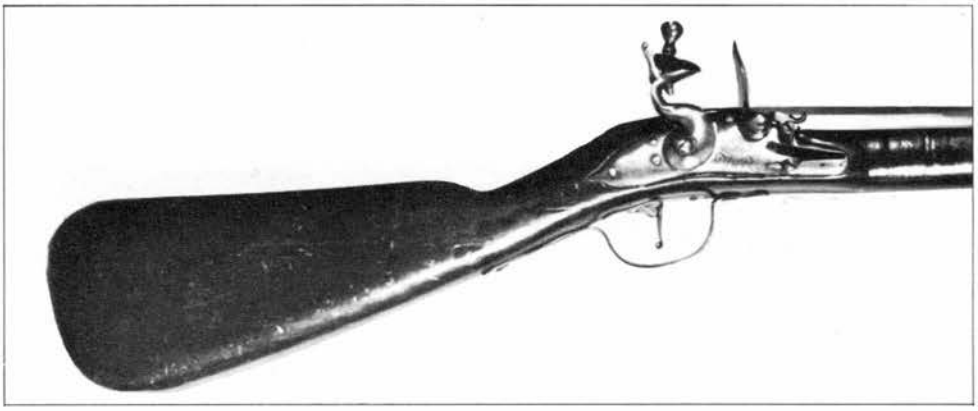


Plate 8 *George A. Tweedie Collection*
Flint-lock carbine engraved on the lock with the crown and monogram of William III.

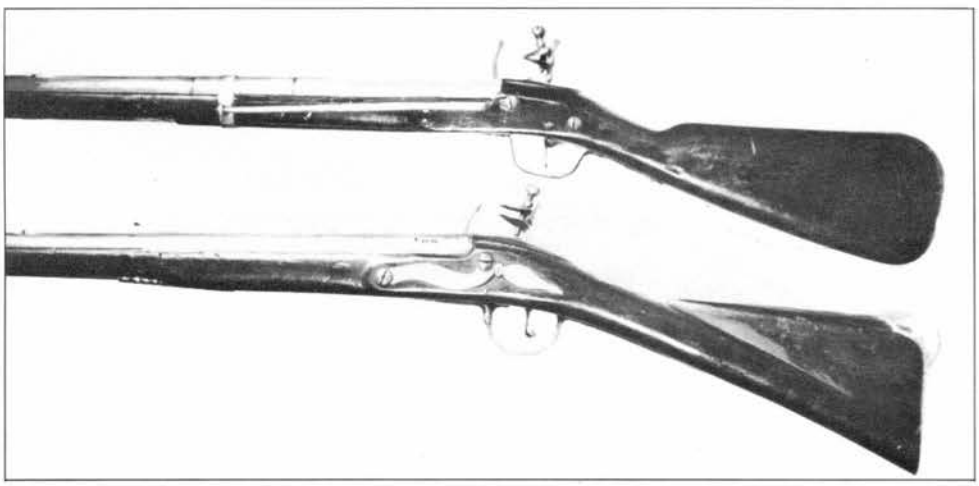


Plate 9 *George A. Tweedie Collection*
Upper: The saddle bar of the carbine illustrated in Plates 8 and 14 and the iron side plate of the Queen Anne Musket in Plate 13.

Plate 10 *Howard W. Ledger Collection*

QUEEN ANNE PISTOL c. 1710

Calibre .64 Bbl. length — 12¼ in.

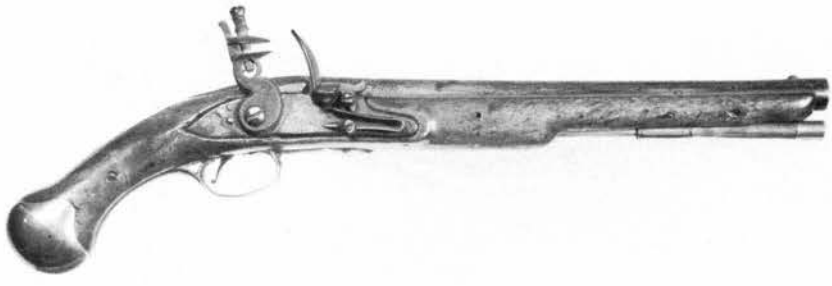


Plate 11 *Brenton S. Rowe Collection*

FLINT-LOCK CAVALRY PISTOL c. 1760

Calibre .56 Bbl. length — 12 in.

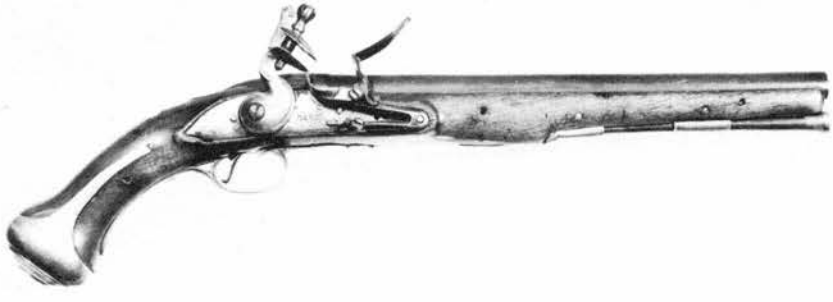


Plate 12 *Brenton S. Rowe Collection*

FLINT-LOCK PISTOL BY KING

Calibre .56 Bbl. length — 12 in.

CHAPTER 2

THE FLINT-LOCK MUSKET 1700-1840

During the reign of Queen Anne (1702-14), the conglomeration of muskets that had been acquired by the army of William III were replaced by a weapon referred to as the Queen Anne Musket. This musket had a 46 inch barrel of 11 bore (.75 calibre) which was fastened to the stock by pins. It had light iron furniture, including an escutcheon plate, there was no fore-end tip but there were three large ramrod pipes to accommodate a wooden ramrod.

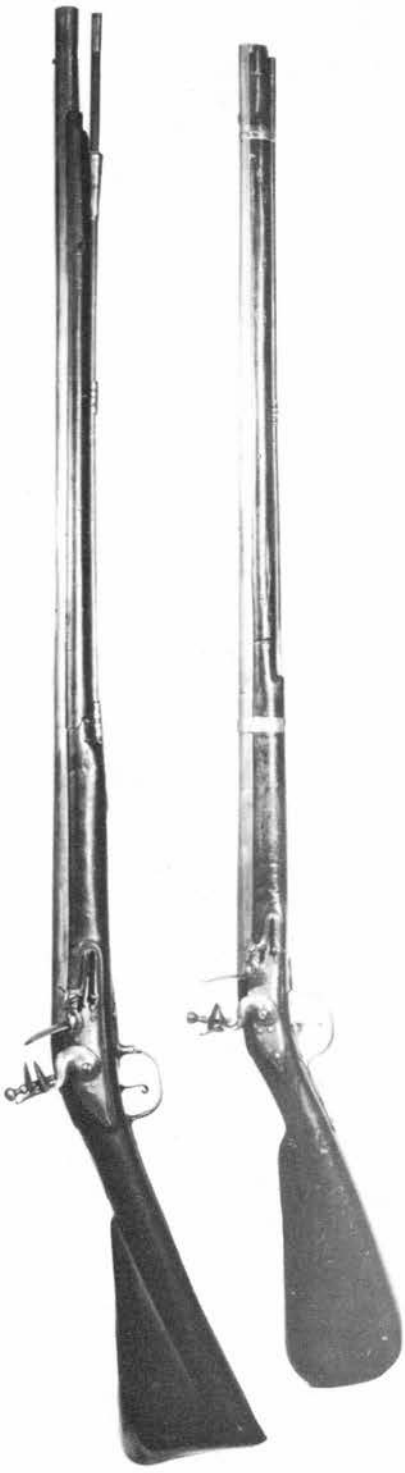
Between 1720 and 1730, the British musket took on a form which was to change very little in the next 80 years and came to be affectionately known as the Brown Bess. Two distinct models were manufactured so that, based primarily upon barrel length and furniture style, it is possible to date a Brown Bess Musket with reasonable accuracy.

From the Queen Anne Musket was evolved the first standardized Brown Bess which made its appearance sometime during the late 1720's. The earliest known is in the Tower of London and bears the date 1728. On it, the steel furniture of the Queen Anne type was replaced with brass and the side plate was of convex form, having a long tail. At the forward end of the trigger guard, there was an acorn ornament and at the rear, a small bead. The tang of the butt plate was rather long, extending some distance along the comb.

At about this time, the arms of the British army in America were the same as those issued in England, although they may not have been introduced here until most of the forces at home had been supplied. In addition, light companies were issued with tomahawks.

The first model Brown Bess musket with its 46 inch barrel of .75 calibre and an overall length of about 62 inches was the standard arm employed until 1768, when the Ordnance Department issued an order that future muskets be made with 42 inch barrels. It took a few years before these were issued, particularly to the regiments stationed in the colonies so that muskets of both lengths were in use in America during the Revolution (1775-83). Officers and sergeants were often equipped with a lighter type of musket referred to as a fusil or carbine and musketoons or blunderbusses were issued for a short time, to be used principally by sentries on night duty.

On January the 24th, 1794, the Duke of Richmond sent a letter to the Home Secretary, the Right Honourable Henry Dundas, in which he stated that the militia in Canada numbered 29,377 but that they had only 8,617 muskets. In the past, the Government had purchased arms from the large stores of the East India Company in an effort to fill their needs when the gunsmiths could not meet them, and he had previously suggested that trade muskets would be suitable for the militia of Canada and the West Indies. Because of the demands of the East India Company, the gun trade was set up to supply their musket which was known as the



India Pattern and in 1797, the Board of Ordnance adopted it.

This musket had a 39 inch barrel and was the same calibre as the original Brown Bess. It had less ornate brass furniture and only three ramrod pipes. When introduced, it had a goose neck cock, but in 1809, this was changed to a reinforced cock. The lock plate was straight along the bottom edge. It was lighter in weight than the previous models and the overall length was about 55 inches.

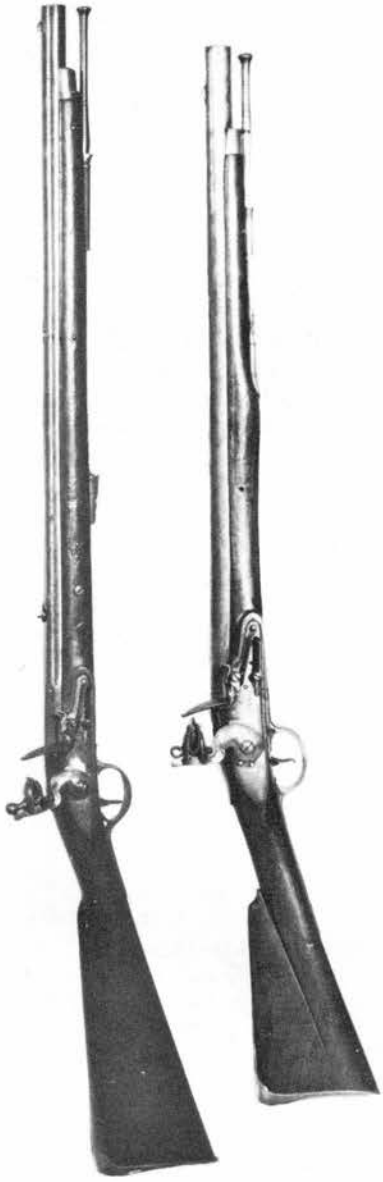
At the outbreak of the War of 1812, some of the militia in Canada were still using the French muskets which had been acquired in 1763. There is some indication that there were considerable quantities of them in use by the militia in western Ontario but this has not been definitely established. The *Return of Garrison and Field Ordnance at Fort George* made on March 31st, 1813 records that there were 720 English muskets and 240 French muskets in store there at the time.

The Militia Establishment for the First Regiment of York Militia, First and Second Regiments Leeds Militia, and First Regiment Oxford Militia called for rifle companies. These regiments had, in addition, flank (light) companies and regular battalion (line) companies, but to date, it has not been possible to identify the weapon with which they were

Plate 13
Left *George A. Tweedie Collection*
QUEEN ANNE MUSKET Introduced c. 1700
Calibre .75 Bbl. length — 39¼ in.
Characteristics: Iron furniture with escutcheon plate, three ramrod pipes long tang on the butt plate, side plate of oval profile, distinct curve on lower edge of lock plate, no bridle on the pan.

This weapon was made by a number of contractors. The lock of the specimen illustrated is marked *W. Predden*. The barrel is engraved with the cipher and crown of Queen Anne.

Plate 14
Right *George A. Tweedie Collection*
WILLIAM III CARBINE Introduced c. 1700
Calibre .64 Bbl. length — 36 in.
Characteristics: Iron furniture, two iron barrel bands, long sling bar and from lock to rear bands, long sling bar from lock to rear band and ring, rounded butt, wooden ramrod, lock with rounded profile and curved lower edge.



armed. One wonders if it could have been the Baker rifle. In the collection at Fort George, on the Niagara Peninsula, there are several Baker rifles, one of which is associated with the Servos family, a name prominent in the Niagara District and with the militia during the War of 1812.

The trends which relate to the military arms of England also took place in France. Towards the end of the 17th century a certain amount of standardization was begun, a flint-lock musket was introduced and conversion of the match-locks into flint-locks was started. Surirey de Saint Remy in his *Memoires d'Artillerie* published in Paris in 1698, illustrates both a match-lock and a flint-lock musket which are similar to those adopted in England.

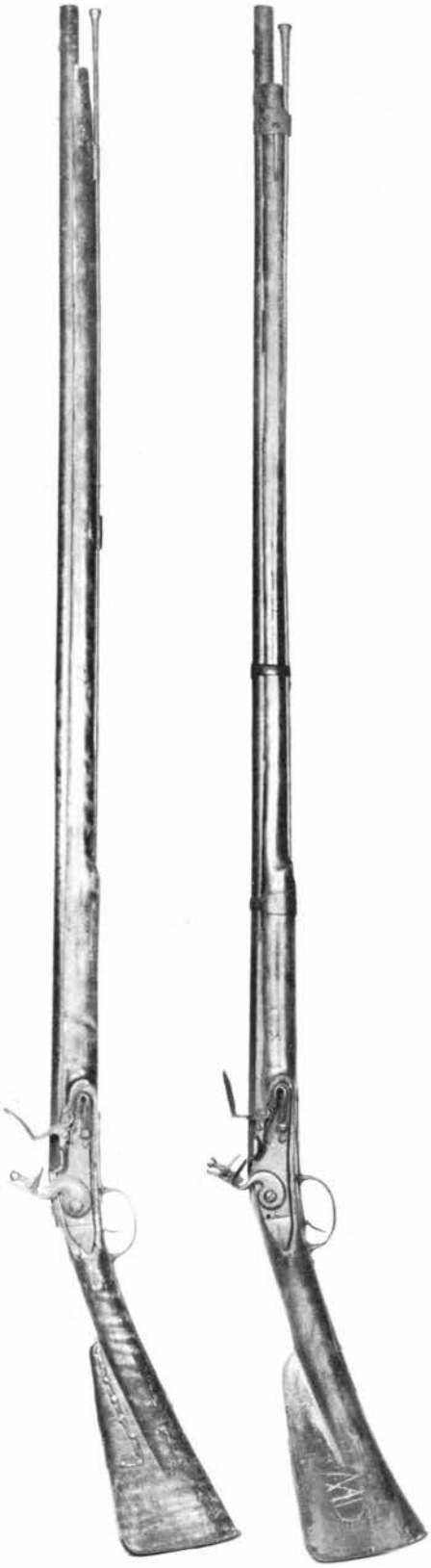
Four government arsenals were involved in the manufacture of French military arms. They were located at St. Etienne, Tulle, Maubeuge and Charleville, where all of the weapons were made to conform to the standard patterns.

Very little material has been found referring to the arms used in Canada during the French Regime. Orders were issued during the last half of the 17th century, that each militiaman

Plate 15
Left *George A. Tweedie Collection*
NOCK CARBINE Introduced — 1797
Calibre .64 Bbl. length — 28 in.
Characteristics: The first 3¾ inches of the bore (from the muzzle) was smooth, the remainder was rifled with seven grooves, round barrel which was octagonal for 2½ inches at the breech, brass furniture, two ramrod pipes, open rear sight, sling bar and ring on left. Some with standard lock, others with Bolton's patent lock having the cock mounted inside the plate, lock marked *H. Nock*.

Plate 16
Right *Robert J. Dynes Collection*
ELLIOTT CARBINE Introduced — 1773
Calibre .68 smooth-bore Bbl. length — 28 in.
Characteristics: Brass furniture with two or three ramrod pipes, no tail pipe, ramrod retained by ridge on fore-end tip and groove in swell of rod, sling bar and ring.

This gun was made by private gunsmiths and was marked with their name. It will be found with slight variations in the furniture. The one illustrated is marked *Ketland* on the lock.



was to supply his own musket and to keep it in serviceable condition. To encourage this a merchant at Montreal and one at Quebec were instructed to sell them weapons and to accept payment in farm produce at the current rate. The results of this action seem to have been limited, for in 1681 there were 9,710 inhabitants but only 1,810 "firelocks"—or approximately one for each family.

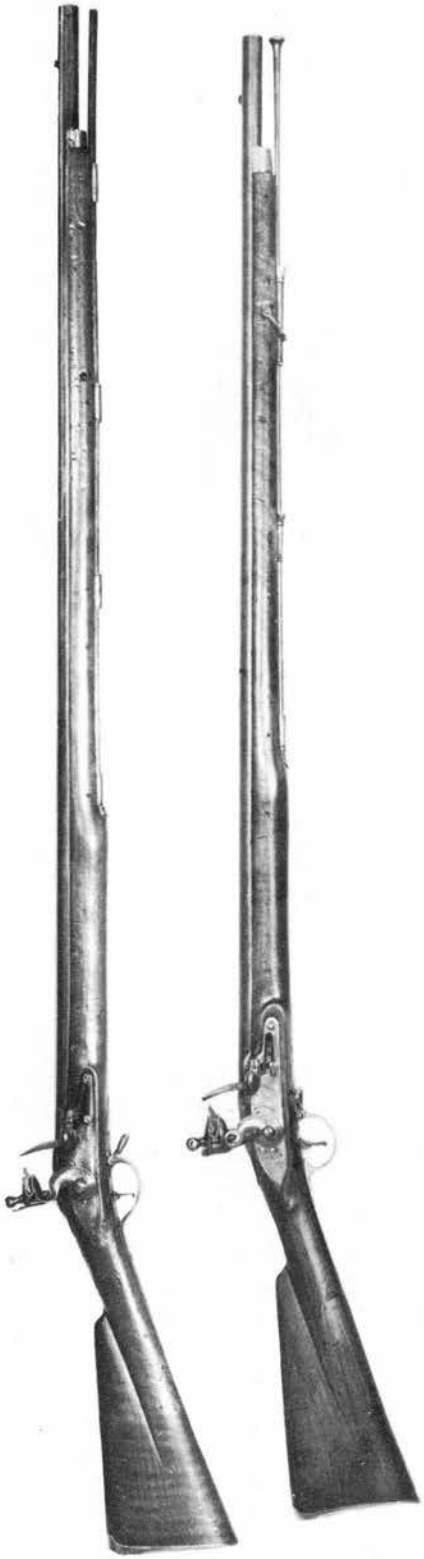
The arms described by St. Remy in 1698 may have been the first standardized French arms but it is not until 1717 that collectors have identified a distinct model. Between then and 1763, the date of the signing of the Treaty of Paris which gave to England all of the French domains within the present boundaries of Canada, there were four variations of the French military musket which may have been used. These include the Models 1717, 1728, 1746 and 1754, but considering the reluctance with which both English and French governmental authorities were willing to protect their North American investment, it is unlikely that many of the Model 1754 found their way to this continent before the beginning of the Seven Years' War in 1757.

One account records that about 1755, "the officer in charge of ordnance stores reported that he had difficulty in providing the militia with proper arms as when they (the militia) reported for service they usually came with their firearms in such a bad state of repair that he was obliged to issue others. The chief inconvenience which he noticed was the differences in the calibre of their weapons, and

Plate 17
Left *Brenton S. Rowe Collection*
This French military musket appears to be a pre 1717 Model as it does not have the barrel fastened with bands. The lock plate is flat, the cock round in profile. It probably can be dated between 1700 and 1717 and was found in the Eastern Townships of the Province of Quebec.

Plate 18
Right *Brenton S. Rowe Collection*
FRENCH MUSKET, MODEL 1728
Slight variations will be found in French muskets so that it is often difficult to identify a particular weapon with a specific model.

The two muskets illustrated here, are now fitted with steel ramrods, but they were originally made for ramrods of wood.



stated that when they received an issue of ammunition, three fourths of them were obliged to pare down the bullets with their knives to make them fit the barrels . . . He further reported that the militia preferred *"les fusils Tulle de chasse,"* on account of their handiness. He therefore recommended that this type of weapon should be provided with a bayonet . . ."

Somewhere in the records of the French Regiments which served in America—La Reine, La Sarre, Béarn, Carignan-Salières, Guienne, Royal-Roussillon and several others —there will some day be found more precise information about the arms used during that first 150 years. But until then, it is necessary to work with the meagre information which is available.

THE ENGLISH MUSKETS

LONG LAND MUSKET—(Brown Bess)

It would be wrong to assume that there were only two varieties of musket made before the adoption of the India Pattern in 1797, but this will be all that are covered here because they are the types which were most often issued in America during the 18th century. Brown Bess is their popular name but to give them their correct designation, they are the Long Land Musket and the Short Land Musket.

The lock of the early Long Land Musket which was introduced in the last half of the

Plate 19
Left *Robert J. Dynes Collection*
LIGHT INFANTRY CARBINE Introduced c. 1757
Calibre .70 Bbl. length — 42 in.
Characteristics: Brass furniture, including escutcheon of Long Land Pattern design, side plate with oval profile, four ramrod pipes, wooden ramrod, combination block front sight and bayonet standard, browned barrel.

These were made by several contractors. The one illustrated is marked *GRICE* and dated 1758.

Plate 20
Right *Howard W. Ledger Collection*
INDIA PATTERN FUSIL Introduced c. 1800
Calibre .69 Bbl. length — 39 in.
The characteristics of this light musket are the same as those for the India Pattern Musket.

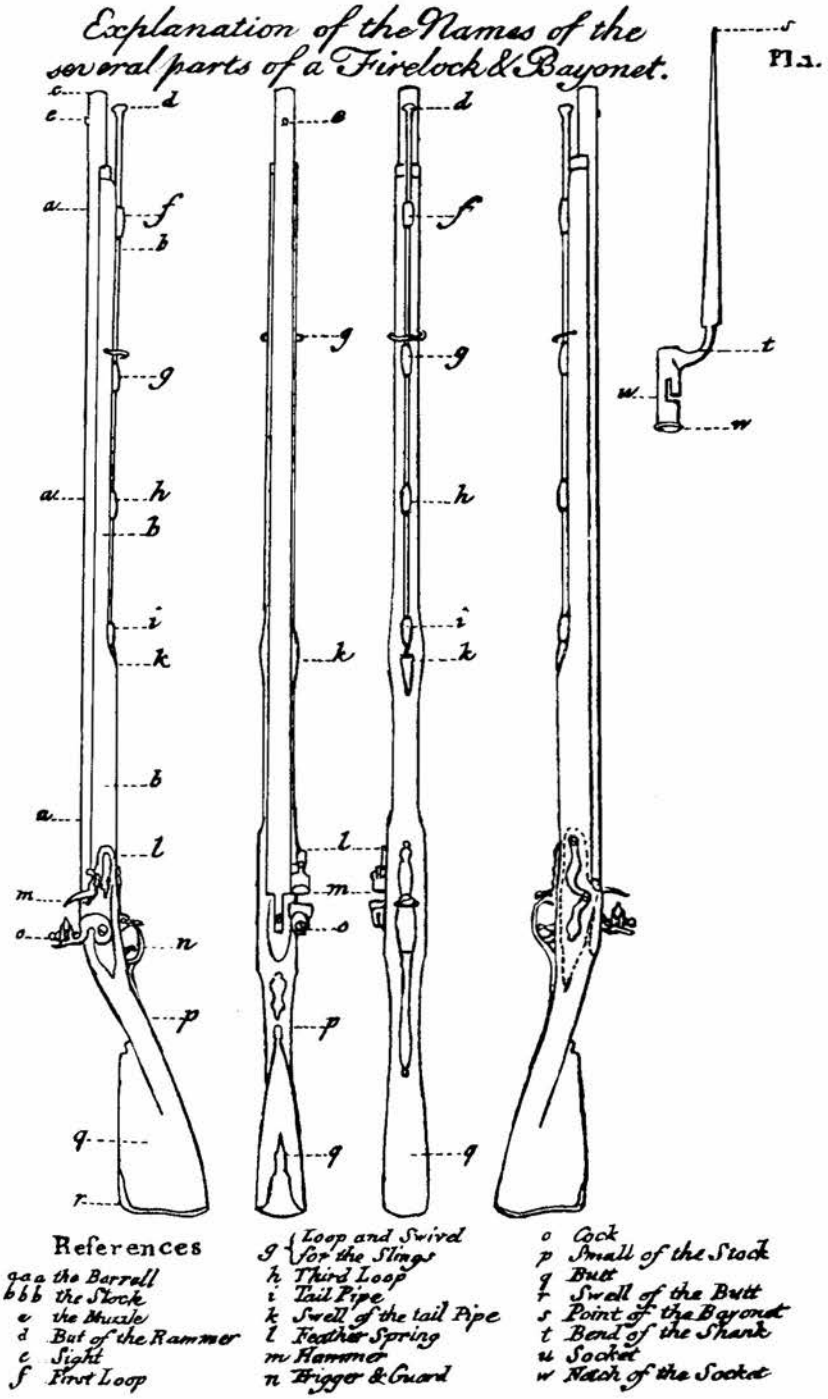
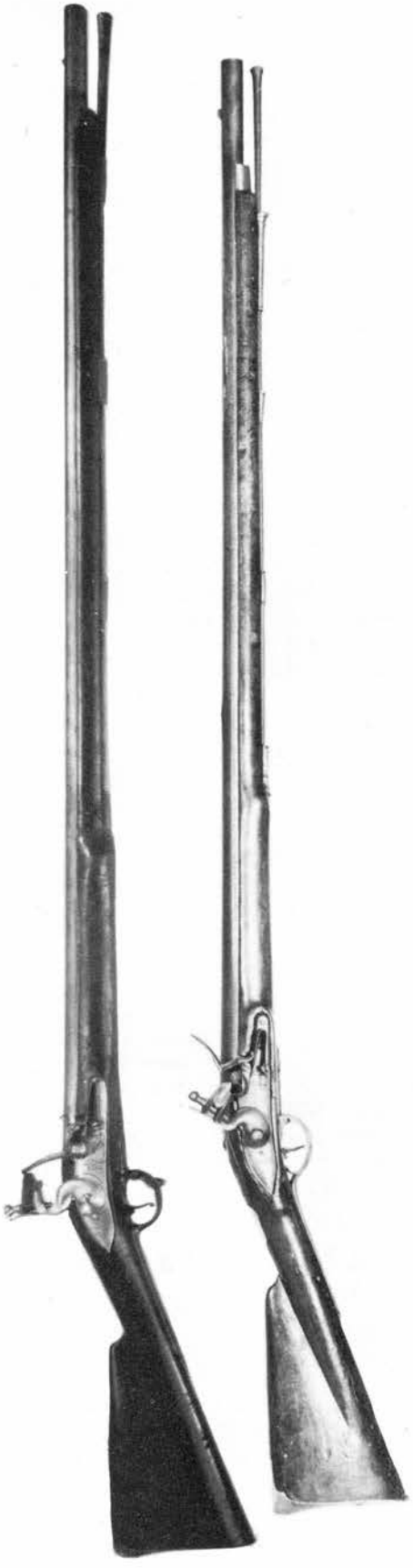


Plate 21

The parts of a Long Land Musket from the second edition of *A Plan of Discipline for the Use of The Norfolk Militia* by William Windham and Viscount George Townshend. This manual was published in 1768 and was one of the authorities of the period.



1720's was rounded in shape, very similar to the match-locks of the late 17th century and the flint-locks which replaced them. There was a distinct curve to the lower edge of the lock plate, a bridle over the tumbler but no bridle from the pan to support the frizzen screw.

The .75 calibre barrel was 46 inches long and was fastened to the stock with pins. All of the furniture was brass, of a design similar to that on the Queen Anne Musket, and included an escutcheon, a long side plate of oval profile and a butt plate with a long tang. A wooden ramrod was held by three brass pipes and a tail pipe. In a short while the pan received a bridle to support the frizzen and on some guns a steel ramrod replaced the wooden one.

SHORT LAND MUSKET—(Brown Bess)

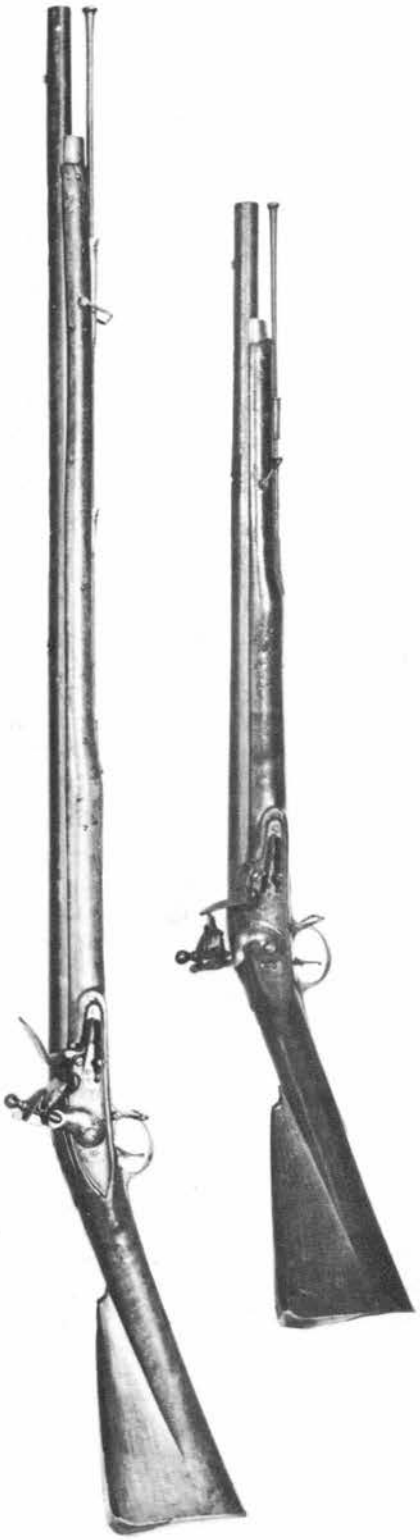
The Short Land Musket had a barrel which was 42 inches long but otherwise, the same as the Long Musket. Although it was first manufactured in the 1720's, it was not until 1769 that it was introduced in quantity. The furniture at that time was changed slightly. The side plate remained the same shape al-

Plate 22
Left *H. M. Tower of London*
LONG LAND MUSKET Introduced c. 1725
Calibre .75 Bbl. length — 46 in.
Characteristics: Brass furniture with escutcheon, four ramrod pipes originally intended for wooden ramrod but later altered to take one of steel.

This was the first of the flint-lock muskets to be known as the Brown Bess. The one illustrated is dated 1731.

Plate 23
Right *G. Hamilton May Collection*
SHORT LAND MUSKET Introduced — 1769
Calibre .75 Bbl. length — 42 in.
Characteristics: Brass furniture including escutcheon, four ramrod pipes lock plate with rounded profile, early models had a top jaw on which a tennon slid in a groove in the spur of the cock, later models were constructed with a notch in the top jaw which straddled the tang, combination front sight block and bayonet standard, no rear sight.

The weapon illustrated was issued to the Hants Militia which was raised in 1793 from the County of Hants in Nova Scotia.



though it was made with a flat profile and the tang of the butt plate was shortened. There was some overlap in the use of the two styles of furniture because of the quantities in store and it was not until about 1775 that the flat side plate was put into universal use. The ramrod was of steel.

The lock plate was of the same rounded profile as that on the 46 inch Bess. The cock of the first of the Short Land Muskets had a top jaw on which a tenon was constructed so that it would align with a groove cut into the tang of the cock. On later models a slot was made in the top jaw in order that it would encompass the squared tang of the cock.

INDIA PATTERN FLINT-LOCK MUSKET

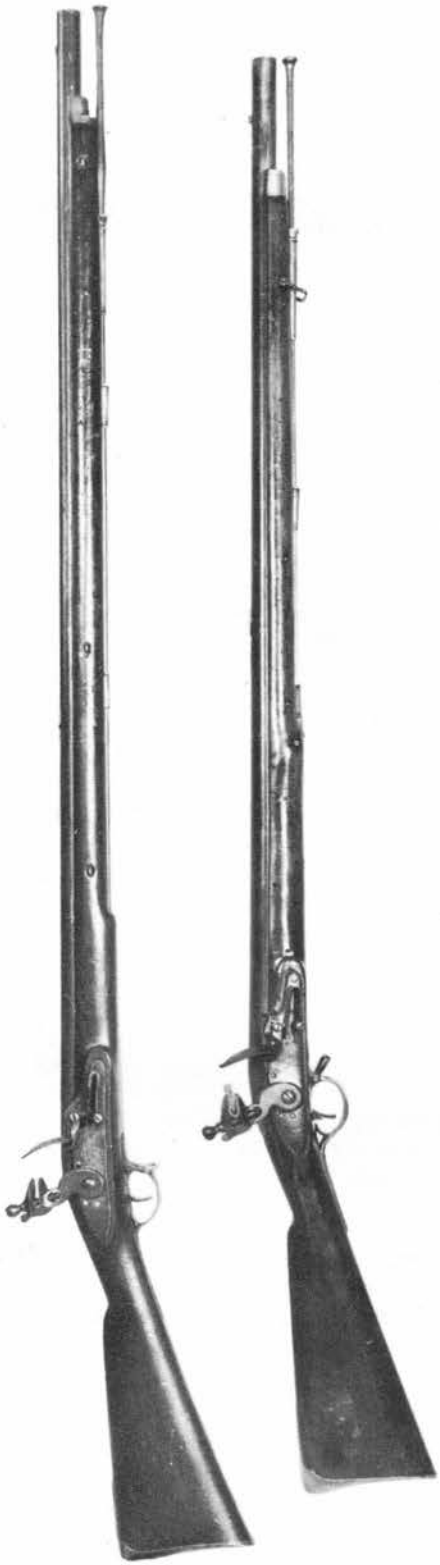
The India Pattern flint-lock musket was officially adopted by the British Government in 1797 and was designed after a musket which had been in use by the East India Company for a number of years. Its 39 inch barrel was smooth-bore of .75 calibre and was fastened to the stock with pins. A square metal sight-block was located on top of the barrel near the muzzle to which the triangular bayonet was locked. No rear sight was provided. The stock was of walnut and shaped much the same as the earlier Brown Bess Patterns. The brass furniture of the India Pattern Musket was much simplified when compared with the previous designs. There

Plate 24
Left *G. Hamilton May Collection*
INDIA PATTERN MUSKET Introduced — 1797
Calibre .75 Bbl. length — 39 in.
Characteristics: Brass furniture, three ramrod pipes, combination front sight and bayonet block, no rear sight.

Early locks were fitted with a goose-neck cock but in 1809 this was changed to a reinforced cock.

Plate 25
Right *Howard W. Ledger Collection*
INDIA PATTERN CARBINE Introduced c. 1800
Calibre .75 Bbl. length — 26 in.
Characteristics: Brass furniture, two ramrod pipes, sling swivels (missing) not sling bar. Otherwise the same as the India Pattern Musket.

There is no evidence that this carbine was used in Canada but it is one of those which were available.



was no tail on the side plate, the trigger guard was much plainer, one ramrod pipe was removed because of the shorter barrel and the escutcheon plate was eliminated.

Many critical comments were made of this musket most of which were not valid. It is true that it was not a very accurate weapon, but the tactics of the day did not require it to be. Col. George Hanger, who was a Major during the Revolution, wrote in 1804 "A soldier's musket if not exceedingly ill bored (as many of them are) will strike the figure of a man at 80 yards; it may even at 100; but a soldier must be very unfortunate indeed who shall be wounded by a common musket at 150 yards . . ."

THE FRENCH MUSKETS

In 1698, Surirey de Saint Remy illustrated three muskets and a rifled carbine in his *Memoires d'Artillerie* that are distinct models which predate the Model 1717. He included a scale with each drawing from which it is possible to compute measurements, but they must be considered as approximate.

His *Common Musket* is a rather heavy, full stock, smooth bore, match-lock with a 42 inch barrel of .62 calibre. The barrel is pinned to the stock and there are three simple ramrod pipes and a decorative lower pipe. There appears to be a pierced side plate and an escutcheon on the wrist.

The *Common Fusil* is a flint-lock of the same size and calibre as the match-lock musket. The lock plate and cock have a round

Plate 26
Left *George A. Tweedie Collection*
NEW LAND SERVICE MUSKET
Introduced — 1803
Calibre .75 Bbl. length — 42 in.
Characteristics: Brass furniture, three ramrod pipes, no tail pipe, side plate with three screw attachment (one in centre), barrel fastened with three keys, low comb. Lock plates in this series were flat, with no decorative engraving but were marked with the crown over G.R.

Plate 27
Right *Howard W. Ledger Collection*
This .75 calibre musket with a 37 inch barrel is a transition piece illustrating the use of older pattern parts on a New Land Pattern musket.

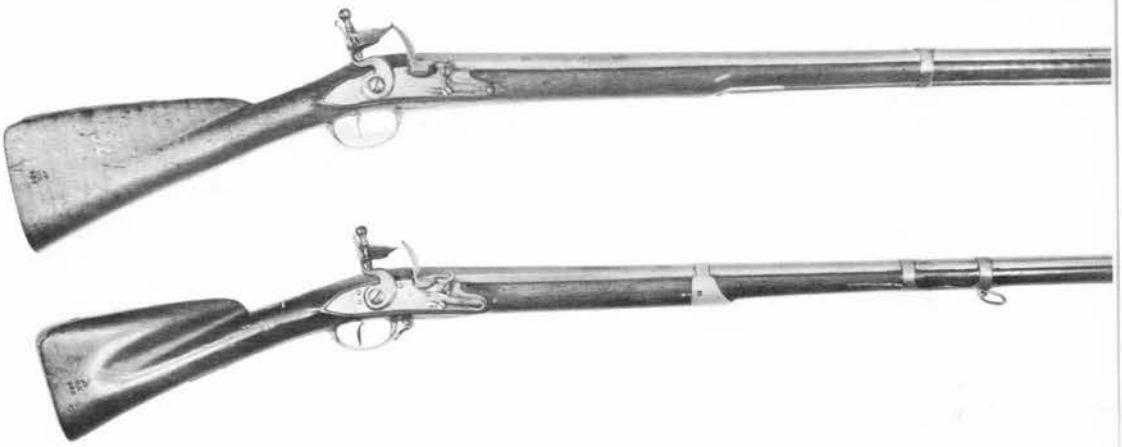


Plate 28 — *H. M. Tower of London*

FRENCH MUSKET, MODEL 1717 (Upper) — Introduced — 1717
Calibre .69 — Bbl. length — 47 in.

FRENCH MUSKET, MODEL 1728 (Lower) — Introduced — 1728
Calibre .69 — Bbl. length — 47 in.

profile. The trigger guard and side plate are very similar to those used on the Model 1717 and 1728 muskets and there is an oval escutcheon plate on the wrist. The fore-end is pin fastened and has one barrel band with a sling swivel on the left side. Another swivel is located on the left side of the stock near the lock and may be attached to the lock screw. Two stock types were produced, one, full to the muzle, the other shortened to allow use of a triangular bayonet.

The *Common Musketoon* is a short musket with a 36 inch barrel which is similar to the Fusil except for a sling bar replacing the side ring and having a rather ornate escutcheon plate on the wrist. St. Remy described a safty device in which the frizzen may be turned away from the path of the cock.

The *Rifled Carbine* which he described has a 36 inch barrel and a full stock. It is similar to the comon Fusil but there appear to be slight differences in the trigger guard, butt plate and escutcheon.

FRENCH MUSKET, MODEL 1717

The Model 1717 was a .69 calibre musket with a 47 inch barrel and an overall length of 64½ inches. The barrel was fastened to the stock with pins and a single barrel band. The wooden ramrod was contained in two pipes and a tail pipe. The stock was light in weight but with a high comb.

Both the goose-neck cock and the lock plate were flat in profile and there was a reinforcing arm from the frizzen screw to the frizzen spring screw. Sling swivels were fitted to the left side as on the common fusil.

FRENCH MUSKET, MODEL 1728

This model was made to the same specifications as the Model 1717 except that the barrel and fore-end were fastened with two barrel bands and a nose-cap band. The latter was fastened with a band spring fitted from the rear. The same lock was used except that the frizzen bar was removed.

FRENCH MUSKET, MODEL 1746

In the Model 1746, the wooden ramrod was replaced with one of steel.

FRENCH MUSKET, MODEL 1754

In 1754, the sling swivels were moved from the side of the arm to the under-side and the front two barrel bands were fastened with band springs.

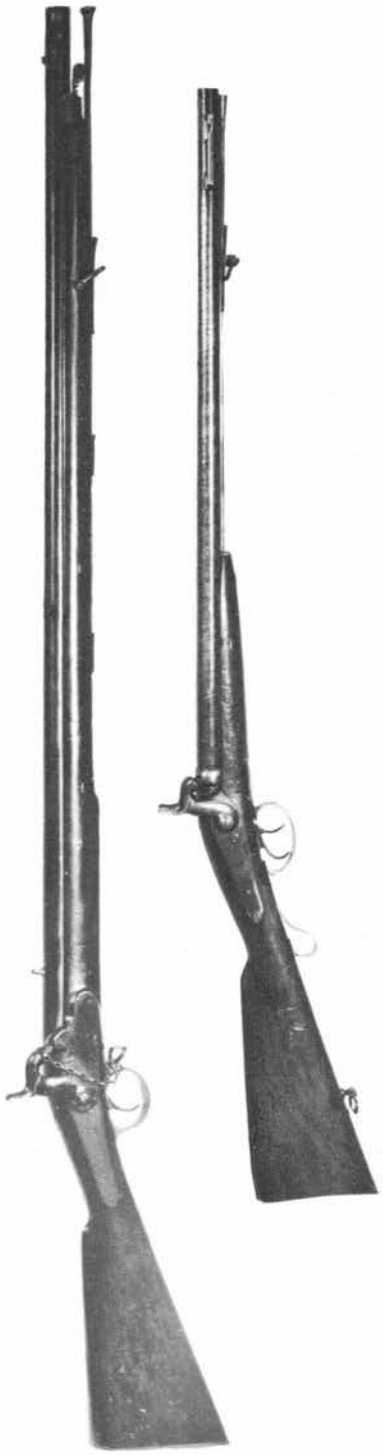
CHAPTER 3

THE RIFLE AND MUSKET 1820-1860

After the War of 1812 and until the outbreak of the Rebellion of 1837, the Canadian Militia was only a 'Paper Army'. Gone were the glorious embodied and fencible regiments of Canadian militia raised during the late war. Disbanded, their weapons and accoutrements were returned to the Imperial Stores from which they had originally been drawn. Here and there across the provinces were to be found isolated active units such as the York Dragoons, of York (Toronto), Upper Canada, regularly engaged in military drill. The officers and men of these independent companies and troops purchased their own uniforms, equipment and weapons. The government took little, if any, notice of them. However, all male inhabitants of the Canadian provinces were in the sedentary militia. They were formed into regiments with long lists of officers, but no muskets. Once each year in Upper Canada, and three times per year in Lower Canada, the militia was assembled to be drilled and re-sworn. The muskets and accoutrements for this paper army were held in Imperial depots. They could be issued to the militia only in the event of war or other national emergency. In the meantime, the small garrison of British regulars was charged with defending 3,000 miles of border, and with aiding the civil powers in divers duties such as putting down riots and providing guards of honour for patriotic occasions.

In the late fall of 1837, the long-smouldering civil unrest erupted. Firebands such as William Lyon Mackenzie in Upper Canada, and Louis Papineau in Lower Canada, were gathering strength to overthrow the government. When the Rebellion finally broke out in December 1837, there was not a British regular in Upper Canada. The Lieutenant-Governor Sir Francis Bond Head, had lent them to the Governor of Lower Canada. He had, however, arranged for 4,000 stand of arms to be lodged in the old city hall in Toronto. These muskets were flint-locks, probably of the India Pattern, and a stand consisted of a musket with sling, a ramrod, a bayonet with scabbard and belt, a cartridge box with belt, and a supply of extra flints.

In the ensuing panic caused by Mackenzie's raid, the militia organization was forgotten. The 4,000 flint muskets were handed out to loyal gentlemen who were duly sworn in on the spot by a government official. As a consequence of the rebellion in Upper Canada, 106 complete regiments were established, and in 1838 the British Government sent 30,000 stand of arms to Canada for the militia. Some of the batallions were organized like troops of the line, while others did duty for a stated period of time. Infantry regiments were armed with flint-lock muskets, while the cavalry were armed with flint-lock carbines and swords, all of which had been lent by the British Government. Some of these regiments were not disbanded until 1843, at which time the weapons and uniforms were returned unless purchased. The York Light Dragoons (now the Governor General's Horse Guard) did purchase their swords and belts.



In January, 1838, fifty double barrel carbines with back action percussion locks were ordered for the sergeants of the Guards who were coming to Canada. These met with an unfavourable reception, possibly because they were heavier than the muskets of the other ranks, and were replaced in 1840 by a two groove rifled musket. This musket was the same as the Brunswick rifle, except that the fore end stopped short of the end of the muzzle by approximately three inches and used a triangular bayonet instead of the Brunswick sword bayonet.

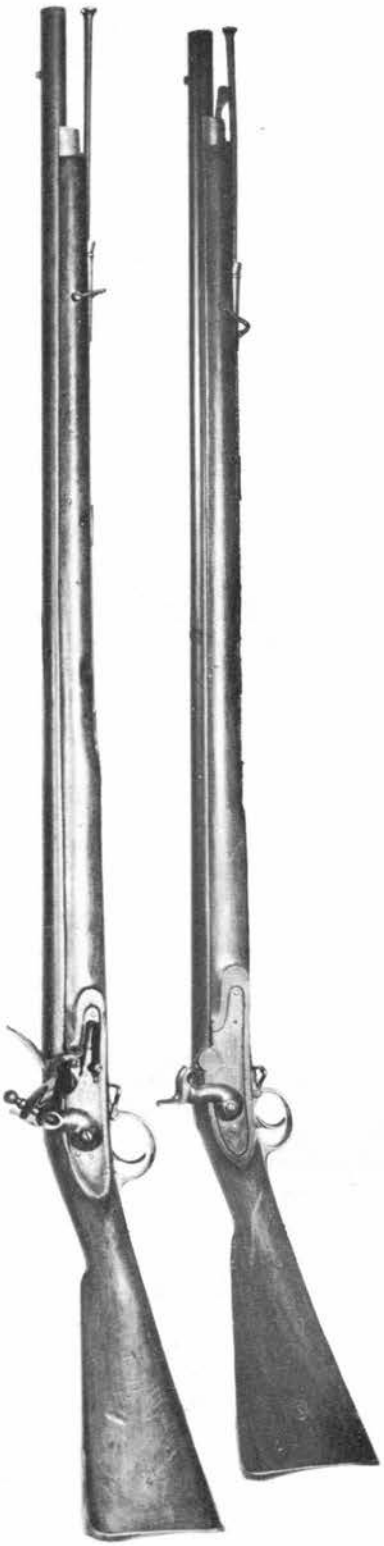
In 1840, the Royal Canadian Rifle Regiment was formed at Fort Henry (Kingston, Ont.). This was a regular British line regiment recruited from the British Army, but was to do only garrison duty in Canada. Initially they were armed with Baker flint-lock rifles, but within a few years they were rearmed with Brunswick rifles.

From 1843 until 1854, the militia reverted to its sedentary role. The British army once more took over the defence of Canada and one of its duties was to field-test new weapons and equipment. In 1836 the 85th Regiment brought to Canada, one each of four trial percussion muskets. These muskets were flintlocks, converted to percussion by Lovell's improved percussion cap, Manton's plug, the common percussion cap, and Eccles cap. Eventually, after trials conducted all over the

Plate 29
Left *George A. Tweedie Collection*
LOVELLS PATTERN 1838 Introduced — 1838
Calibre .75 smooth-bore Bbl. length — 39 in.
Characteristics: Percussion back action lock, brass furniture, three ramrod pipes, no tail pipe, bayonet spring catch, barrel fastened with three keys, open rear sight, blade on block front sight.

Plate 30
Right *George A. Tweedie Collection*
LOVELLS DOUBLE BARREL CARBINE
Introduced — 1838
Calibre .64 smooth-bore Bbl. length — 26¼ in.
Characteristics: Double barrel, back action locks, brass furniture, trigger guard with pistol grip, bayonet bar on right side of barrel, bead front sight.

Fifty of this pattern were issued to the sergeants of the guards who came to Canada in 1840.



world by the British Army, the common percussion cap was adopted as the best method of converting the existing stocks of flint-lock muskets to percussion. In 1839, 800 New Land Pattern muskets converted to percussion were ordered issued to a battalion of guards for further climatic tests in Canada. The Pattern 1839 conversion was also adopted in that year.

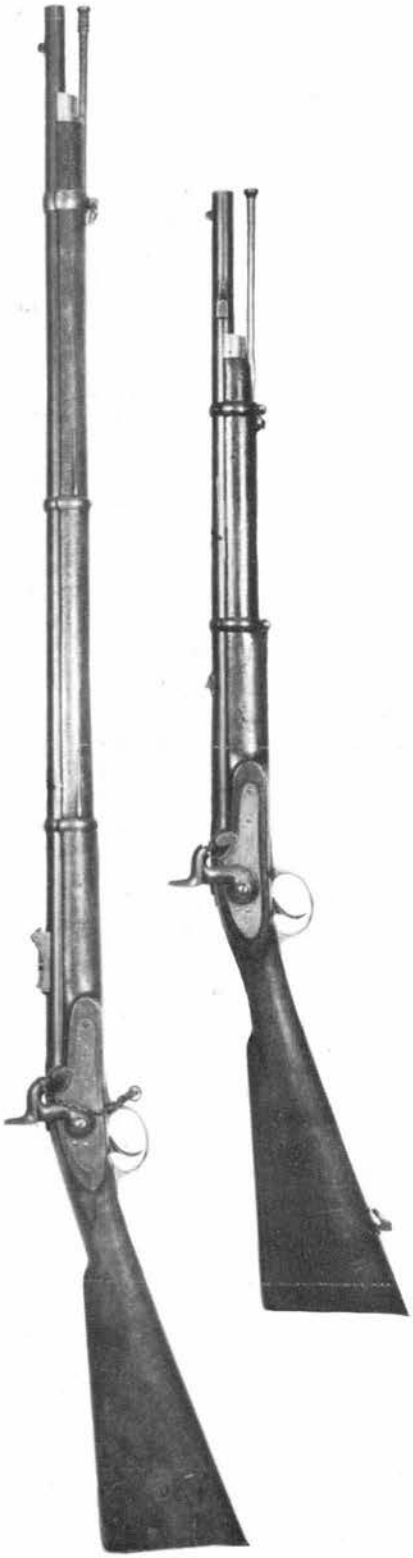
The year 1854 marked a most important event for the modern Canadian militia. In the Crimea, the British army was engaged in a major conflict and British garrisons around the world were drained of manpower to supply the army in the field. The garrison for the whole of British North America dropped from 7,000 men to a mere 3,000 and the British Government appealed to the Government of Canada to take a more direct part in its own defence. Accordingly, a Commission was formed to put the militia of Canada on a more active footing. The Commission was to purchase arms, ammunition and accoutrements as well as to reorganize and set up a Militia Department. The new force was to be organized into two classes or groups. The most important of these was Class A. They were to supply their own uniforms, but would be

Plate 31
Left *G. Hamilton May Collection*
VICTORIAN FLINT-LOCK MUSKET
Introduced — 1840
Calibre .75 Bbl. length — 39 in.

Characteristics: Brass furniture, three ramrod pipes, rounded tail on the lock plate, reinforced cock. The size of the comb was reduced.

Most of this model were destroyed in a fire in the Tower where they were being converted to percussion in 1841 but some examples have turned up in Newfoundland which may indicate its use there.

Plate 32
Right *George A. Tweedie Collection*
PATTERN 1839 CONVERSION Introduced—1839
Calibre .75 Bbl. length — 39 in.
Characteristics: This is an arsenal conversion of the flint-lock muskets which utilized the original lock plate. Evidence will be found of filled screw holes where the frizzen screw and the frizzen spring screw were located. A bolster, into which was screwed a percussion nipple was brazed to the barrel, and the cock was replaced by a percussion hammer.



armed and paid for drill. The second was to be Class B. This class would supply their own uniforms, but would not be paid for drill. The Government would attempt where possible to arm them. If a vacancy existed in Class A, a Class B unit would normally be promoted to Class A. The total number of Class A volunteers was not to exceed 5,000 men. The Commission was sent to England in 1855 to purchase arms for the militia. This was to be the first time in its history that Canada was to pay for its own weapons. The Commission bought 2,500 Pattern 1853 Enfield rifled muskets, 250 Enfield artillery carbines, 800 Colt Navy revolvers, Model 1851 and 800 cavalry swords of the Pattern 1853. The officers of this force were obliged to purchase their own weapons but they were to conform to the patterns then in use by officers in the regular British army. The Commission also purchased the necessary appendages and accoutrements to go with the new arms. All of this equipment was to belong to the Canadian Government and was to be marked according to the regulations as laid out in the Militia General Order of 16th May, 1856.

Plate 33
Left *Edward J. Anderson Collection*
PATTERN 1853 ENFIELD LONG RIFLE
Introduced — 1853
Calibre .577 Bbl. length — 39 in.
Characteristics: Three groove rifling, three solid barrel bands retained by band springs inlet to the front of the band, front band much wider than the other two, early ramrods were retained in stock by a swell or enlargement of the rod about 6 inches from the tip, later rods were held by spring as on the Pattern 1858.

About 2,500 of this pattern were purchased by the Canadian Government in 1855, and it was also used by the Newfoundland volunteer militia.

Plate 34
Right *Edward J. Anderson Collection*
PATTERN 1853 ENFIELD ARTILLERY CARBINE
Introduced — 1853
Calibre .577 Bbl. length — 24 in.
Characteristics: Three leaf adjustable rear sight graduated to 300 yards, two clamping bands, bayonet lug on right of muzzle with guide.

Early models were issued with a button tip ramrod. Later models were provided with a knurled and slotted ramrod head.

Plate 35 *Edward J. Anderson Collection*

COLT NAVY REVOLVER (Model 1851)

Calibre .36 Bbl. length — 7½ in.

Plate 36 *Edward J. Anderson Collection*

BENTLEY SELF COCKING REVOLVER c. 1850

Calibre .44 Bbl. length — 6 in.

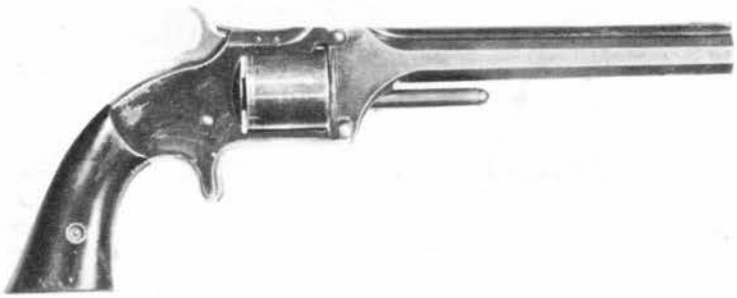
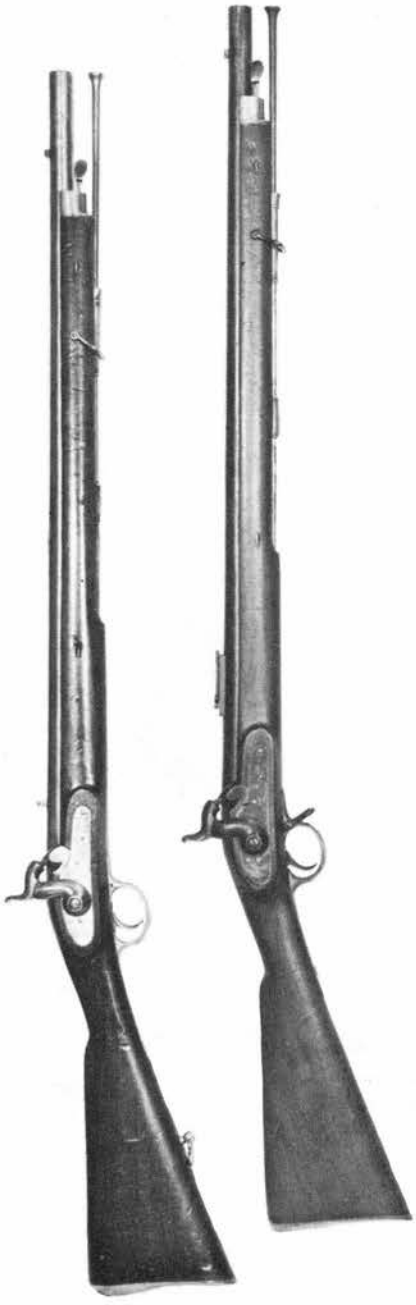


Plate 37 *Edward J. Anderson Collection*

SMITH & WESSON REVOLVER (Second Model)

Calibre .32 rim-fire Bbl. length — 6 in.



In 1856, the government issued 300 percussion muskets to the Class B. Militia. The Second and Fifth Battalion (sedentary) Lincoln Militia were also armed with 100 percussion muskets to guard the Welland Canal. The literature of the period does not state which musket was issued, but they would have been of either the Pattern 1839, the Pattern 1842, or perhaps, some of each.

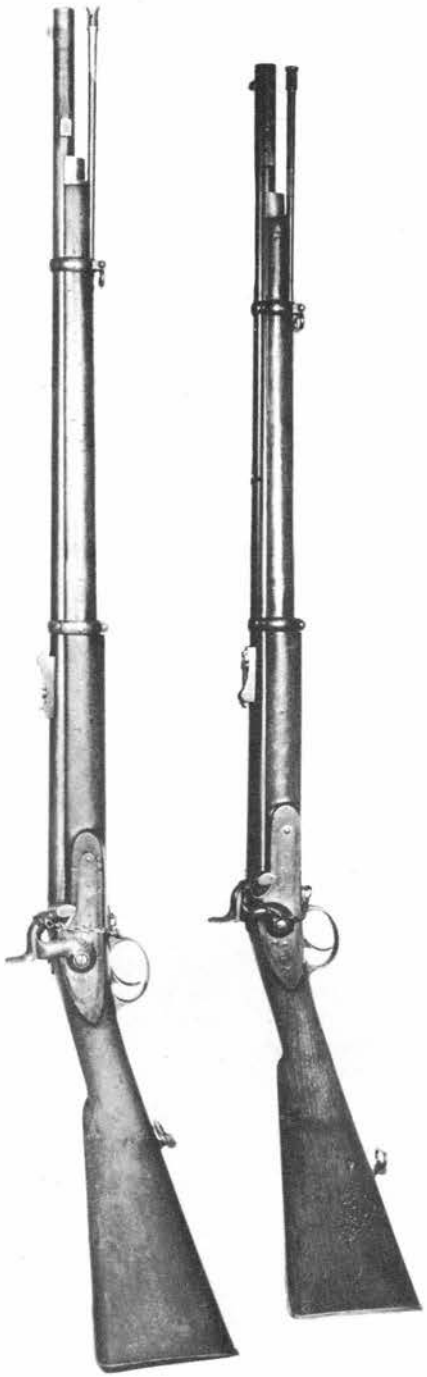
The British Government, in 1855, made a gift to the Canadian Government to arm the militia artillery consisting of four 9 pdr. field guns, two 24 pdr. howitzers, seventeen 6 pdr. field guns and six 12 pdr. howitzers. They remained part of the armament of the militia artillery until the late 1880's.

On April 12th, the Southern Confederacy of the United States seceded from the Union. This was the beginning of the American Civil War. It did not have too much effect on Canada until the ill-fated "Trent Affair", November 8th, 1861. The boarding on the high seas of the British mail packet *Trent* by the United States Navy, in search of Confederate agents very nearly caused Great Britain to go to war against the United States. Indignation and alarm ran high in Canada and reinforcements for the small British garrison were rushed from England. Meanwhile, Canadians were flocking to the colours. New regiments of infantry and rifles, batteries of artillery, and troops of cavalry sprang up across the country. At this time the British Government sent out 30,000 stand of arms to Canada. These were

Plate 38
Left *Howard W. Ledger Collection*
PATTERN 1842 MUSKET Introduced — 1842
Calibre .75 smooth bore Bbl. length — 30 in.
Characteristics: Lock smaller and barrel slightly heavier than the Pattern 1839, different bolster, button ramrod tip. This pattern introduced the lock which was to become standard.

Plate 39
Right *Howard W. Ledger Collection*
PATTERN 1851 (Minié) RIFLE Introduced — 1851
Calibre .78 Bbl. length — 30 in.
Characteristics: Three groove rifling, brass furniture, long range rear sight.

The Minié rifle appeared in various barrel lengths so that the term *Minié* is used to distinguish the type of rifling and the bullet used with it.



made up of long rifles, short rifles, artillery carbines and cavalry carbines. They were of the Pattern 1858 which varied only in minor modifications from the Pattern 1853. On May 8th, 1862, the Canadian Government stated that it had on hand 7,000 Enfield rifles.

After the Trent affair had died down, conditions were comparatively quiet until the St. Albans raid of October 19th, 1864, when Confederate agents using Montreal as a base, raided the Vermont town. Due to the ill feeling generated by this act, the Canadian Government made up provisional battalions of militia to patrol the border and to quell further action by Confederate agents or sympathizers in Canada.

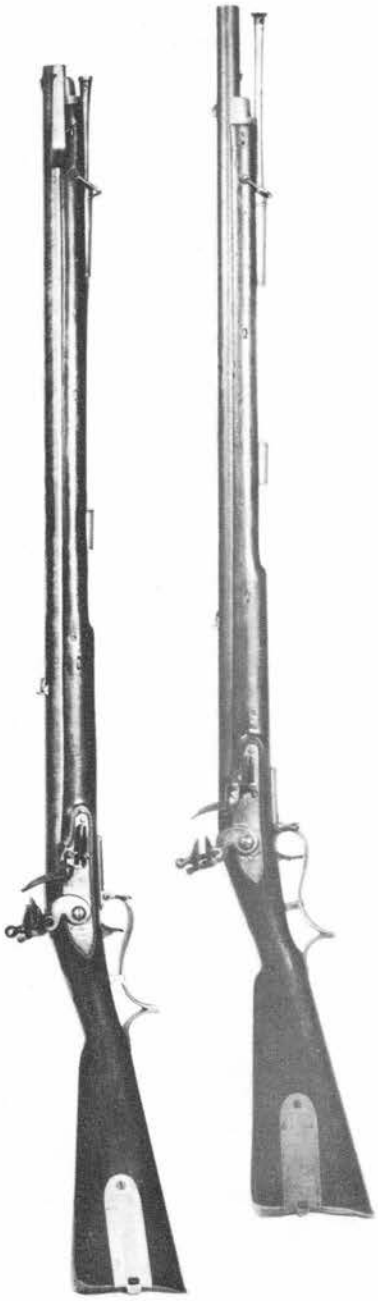
Immediately following the Civil War, the Canadian border communities were in a state of turmoil. Irish Nationalists living in the United States and calling themselves The Fenian Brotherhood, were preparing to strike a blow against England by invading Canada. On the night of May 31st, 1866, the Fenian army crossed into Canada at Fort Erie, Ontario. The militia and the British regulars were alerted. Two columns were sent to the frontier to engage the Fenians, but only the militia column composed of the Queen's Own Rifles from Toronto, the 13th Battalion from

Plate 40
Right *Edward J. Anderson Collection*
PATTERN 1858 SHORT RIFLE Introduced — 1858
Calibre .577 Bbl. length — 33 in.
Characteristics: Iron furniture five groove rifling, two clamping bands, adjustable rear sight graduated to 800 yards, plain bayonet stud with no guide on the right side of the barrel, for 23 inch sword bayonet.

The Short Rifle is often referred to as a Sergeants Model but the correct designation is that given.

Plate 41
Right *George A. Tweedie Collection*
LANCASTER RIFLE Introduced — 1855
Calibre .577 Bbl. length — 31½ in.
Characteristics: Lancaster patent oval rifling, brass furniture, two steel barrel bands, bayonet lug with guide track on the right side of the muzzle, rear sight placed on barrel in reverse to that found on other rifles of the period.

The Royal Engineers stationed in Canada were armed with the Lancaster rifle.



Hamilton, and the rifle companies from the towns of York and Caldonia, actually engaged the Fenians in a pitched battle at Lime Ridge near Ridgeway, Ontario. It is interesting to note the state of the Militia at this time. They were very short of ammunition, had no knapsacks, water bottles, blankets or cooking utensils and very little food. A company of the Queen's Own Rifles had only thirty-two rounds of ammunition per man for their Spencer Rifles. The remainder of the Regiment was armed with long Enfield rifles. The Dunnville Naval Company, which was on the tug *Robb*, was armed with Short Enfield Rifles, taking a sword bayonet. The Welland Field Battery was armed with Long Enfield Rifles, because their field guns were in an unserviceable state of repair. The Governor General's Body Guards, the only Canadian militia cavalry to take part in the action, even though it was limited, was still armed with swords and the Colt Navy revolvers with which they had been issued in 1856.

THE RIFLE AND RIFLED MUSKET

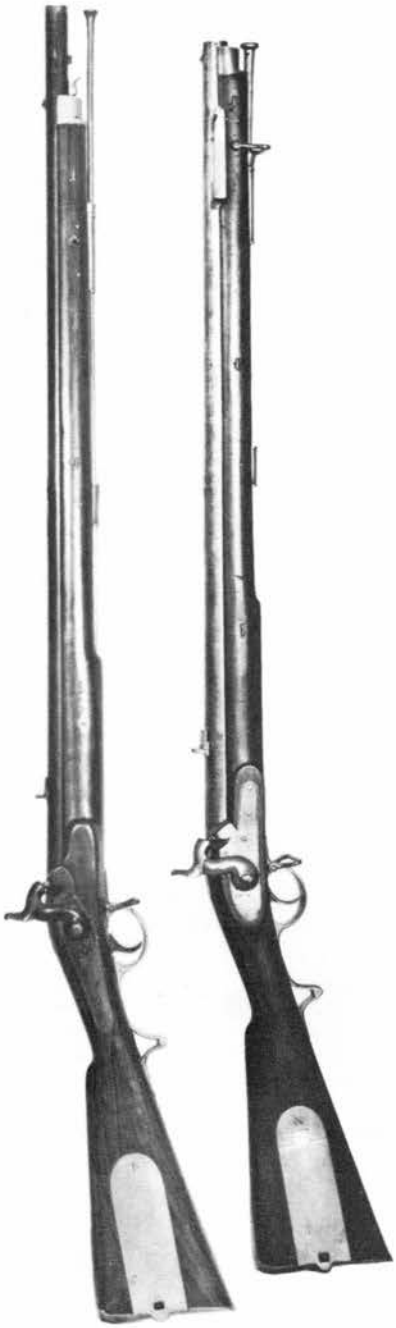
BAKER FLINT-LOCK RIFLE

The Baker rifle is one of those which may have been used by militia units during the War of 1812. It was issued as a temporary measure to the Royal Canadian Rifle Regi-

Plate 42
Left *R. J. Dynes Collection*
BAKER RIFLE Introduced — 1800
Calibre .65 Bbl. length — 30 in.
Characteristics: Brass furniture, including patch box and trigger guard forming skeleton pistol grip, full stock with two ramrod pipes, brass fore-end tip, bayonet lug on right of muzzle, two leaf rear barrel sight, and blade front, flat lock plate.

Plate 43
Right *Victor Zubatiuk Collection*
BAKER RIFLE Introduced — 1800
Calibre .65 Bbl. length — 30 in.
In the 1820's a number of Baker rifles were made up with slightly shorter stocks in order to accommodate a socket bayonet, and some were altered from existing guns. The barrel of that illustrated has the evidence of the earlier bayonet lug.

There were different patterns used for the patch box.



ment in 1840. The Baker had a 30 inch barrel of .653 calibre, rifled with seven grooves making one quarter turn in 30 inches. The barrel was fastened to the stock with keys and was fitted with a bayonet lug. There was a brass patch box on the right side of the stock at the butt, which was to contain patches and such equipment as wipers, jags and a wrench. The brass trigger guard was shaped to form a semi pistol grip.

The Baker was the first rifle to be officially adopted by the British army. It remained in service from 1800 until shortly after introduction of the Brunswick rifle in 1838.

BRUNSWICK RIFLE

The Brunswick rifle has the distinction of being the first percussion weapon adopted by the British Army. It had a 30 inch rifled barrel of .70 calibre. The rifling consisted of two deep groves making one turn in 30 inches. A round ball with a belt about its circumference was loaded so that the raised belt engaged the two grooves. The Brunswick was regarded as one of the worst arms of its time. It had a very severe recoil and beyond 400 yards was inaccurate. It was issued to the British regiments, including the Royal Canadian Rifle Regiment, but was never issued to the militia. It remained the principle weapon of the British rifle regiments until the adoption of the Minié Rifle in 1851 and the Pattern 1853 Enfield rifle.

Plate 44
Left *Howard W. Ledger Collection*
SERGEANT'S MODEL BRUNSWICK
Introduced — 1840
Calibre .70 Bbl. length — 33 in.
Characteristics: Back action percussion lock, brass furniture with patch box and pistol grip trigger guard.

Plate 45
Right *Robert J. Dynes Collection*
BRUNSWICK RIFLE Introduced — 1838
Calibre .70 Bbl. length — 30 in.
Characteristics: Deep, rounded two groove rifling with notches cut in the muzzle to facilitate loading the belted ball, large brass patch box, brass furniture, long bayonet bar on right side of muzzle, key fastened barrel.

Some Brunswick rifles were issued to the Royal Canadian Rifle Regiment in the 1840's.

PATTERN 1839 CONVERSION

The 1839 conversion is essentially the India Pattern or New Land Pattern flint musket, converted to percussion. The flint cock was replaced by a percussion hammer, the frizzen and pan were removed and a lump of metal called the bolster was brazed to the side of the barrel. The bolster was threaded to take a musket nipple.

PATTERN 1842 MUSKET

This pattern is a New Land Service type that was designed as a percussion weapon. It was not a conversion. The lock was slightly smaller in size than those on the converted flint muskets. This, along with the Pattern 1839, could be the percussion musket referred to in the Canadian Militia General Orders and the literature of the period.

PATTERN 1853 ENFIELD RIFLE

The Pattern 1853 Enfield was rifled with three grooves making one turn in 78 inches. It fired a 530 grain hollow base, conoidal bullet with a charge of 70 grains of black powder. The 39 inch, .577 calibre barrel was held to the stock by three iron bands retained by flat springs inlet into the stock. This was the first British musket or rifle to have the barrel retained in this manner. The ramrod was button tipped and retained in the stock by a swell in the rod located approximately 6 inches from the tip. No patch box was provided. The furniture was brass.

Plate 46
Left *George A. Tweedie Collection*
PATTERN 1839 SGTS. MUSKET
Introduced c. 1840
Calibre .75 Bbl. length — 33 in.
The Pattern 1839 arms were not necessarily made as complete flint-locks. The componant parts for flint arms were in store in the Tower and when the Pattern was authorized, the parts were altered to percussion before assembly.

Some of the Sergeant's model were sent to Canada along the Pattern 1839 Muskets in the late 1840's.

Plate 47
Right *Howard W. Ledger Collection*
PATTERN 1839 CARBINE Introduced c. 1840
Calibre .72 rifled Bbl. length — 15¾ in.
This carbine is built along the same lines as the Paget carbine, but it is different and can be considered a different model.

PATTERN 1853 ENFIELD ARTILLERY CARBINE

The artillery carbine was a short version of the Pattern 1853 rifle designed for use by the artillery. It had a 24 inch barrel using the same rifling and the same ammunition as the rifle. Instead of a socket bayonet it took a sword bayonet with a 23 inch blade fitted on a bayonet lug with a guide, located on the right side of the barrel.

PATTERN 1858 ENFIELD SHORT RIFLE

This pattern was shorter than the 1853 Enfield Rifle, but longer than the 1853 Artillery Carbine. It was issued to supply the rifle regiments with a handier weapon than the Long Enfield, yet give the same accuracy and performance. The Pattern 1858 had a 33 inch barrel which was rifled with five grooves making one turn in 48 inches. It took the same ammunition as the 1853 Enfield.

The brass furniture of the Pattern 1853 was replaced by iron, and the solid bands were replaced by clamping bands. The ramrod was held in the rifle by a spoon located in the

Plate 48
Left *Edward J. Anderson Collection*
PATTERN 1858 ENFIELD LONG RIFLE
Introduced — 1858
Calibre .577 Bbl. length — 39 in.
Characteristics: Three groove rifling, three clamping bands adjusted with screw, slotted and knurled ramrod, adjustable rear sight graduated to 800 yards, plain blade front sight mounted on a square sight block which also served as the locking block for the bayonet.

This was the most widely used rifle in the Canadian militia until the introduction of the Snider-Enfield. It was this model which was converted to the Snider-Enfield.

Plate 49
Right *Edward J. Anderson Collection*
PATTERN 1858 ENFIELD ARTILLERY CARBINE
Introduced — 1858
Calibre .577 Bbl. length — 24 in.
Characteristics: Three leaf rear sight graduated to 300 yards, bayonet stud as on the Short Rifle and for the same bayonet, rear sling swivel on underside of the butt, front swivel mounted on the upper barrel band.

The Artillery carbine was made in this barrel length for easier handling while on the march with artillery.

Plate 50 *Robert J. Dynes Collection*
PATTERN 1858 CAVALRY CARBINE Introduced — 1858
Calibre .577 Bbl. length — 20 in.
Characteristics: Three leaf rear sight with notches for 50, 100 and 300 yards, swivel ramrod, sling swivel ring and bar on left of stock opposite the lock.

stock just ahead of the trigger guard and the tip was slotted and knurled. This rifle took the same type of sword bayonet as the 1853 Artillery Carbine.

It was issued to rifle regiments but was also carried by sergeants of infantry regiments. A brass mounted model of this weapon was made for the Navy.

In 1862, 1,500 of the Pattern 1858 Short Rifle were sent to Canada for the militia.

PATTERN 1858 ENFIELD LONG RIFLE

This rifle was a longer version of the 1858 Enfield Short Rifle but was rifled with three grooves like the Pattern 1853. It had a 39 inch barrel, brass furniture, iron clamping bands and took an 18 inch triangular socket bayonet.

PATTERN 1858 ENFIELD CAVALRY CARBINE

This was a short version of the 1858 Long Enfield with the addition of a swivel ramrod. It had a 20 inch barrel and took the same ammunition as the 1853 and 1858 Enfields. No figures are available on the number shipped to Canada for the militia, but at least one has been found marked DC. This is not the correct mark for the period during which this model was in use but it does indicate Canadian Government possession.

CHAPTER 4

THE BREECH-LOADER 1860-1890

As a result of the Fenian raid of 1866 and the threat of subsequent attack, the Governor General of Canada made an urgent request to the British Government for an immediate supply of Snider-Enfield breech-loaders for the Canadian militia. The Snider action had just been adopted by the British Government for converting muzzle-loading Enfields to breech-loaders but a considerable delay was anticipated before they could be supplied to the militia. Consequently, numerous breech-loading arms were immediately purchased in the United States by both the Canadian and British Governments.

The Canadian Government purchased 3,000 Peabody rifles, and the British Government purchased additional Spencer rifles and Spencer carbines to lend to the militia. About 250 Starr carbines using a .52 calibre rim-fire cartridge were also made available and some Westley Richards breech-loading rifles were issued in Montreal.

The Peabody and Spencer rifles were issued to the infantry and rifle battalions in the localities along the United States border most exposed to attack, namely from Lake Memphremagog on the east, to London on the west. Most of the Spencer carbines were issued to the militia cavalry, although at least one field battery of artillery also used these arms. These breech-loaders were used until displaced by the Snider-Enfield rifles and carbines which were delivered shortly afterwards. Most of the Spencers were sold to surplus arms dealers in the United States in the early 1870's, but the Peabody rifles were kept in store until the late 1880's when some were issued to drill associations (Cadet Corps) in Ontario and Quebec.

The first shipment of Snider-Enfields consisted of 30,000 rifles complete with bayonets and accoutrements. They arrived at Quebec from England late in 1867 as a loan which later became an outright gift. Additional rifles of this type were purchased by Canada from the British Government in the years following. They were issued to infantry and rifle battalions, artillery units and the Grand Trunk Brigade. Many were stamped with the battalion number together with the weapon number in compliance with a Militia Department circular dated Ottawa, 25th September, 1867 which was titled *Instructions relating to marking of Arms & Accoutrements.*

Snider-Enfield rifles saw service from British Columbia to Newfoundland. The Long Rifle was the principal weapon of the Canadian volunteer and permanent force from 1867 until the mid 1890's, and was not withdrawn completely until after 1900. It saw service in the Fenian Raid of 1870, the Red River Rebellion also in 1870, and the North-west Rebellion in 1885. The Snider-Enfield provided a sound and serviceable arm for this country for many years and it was not until the 1890's that it was outclassed by the small-bore magazine rifle.

In 1871 Canada purchased 2,500 Snider-Enfield cavalry carbines to replace

the Spencer carbines then in use by the cavalry. When the North-West Mounted Police was formed in 1873, the men were issued these carbines and used them for many years on the western prairies. Like the rifles, the carbines were used by the militia until the 1890's. Some rifles were cut down to carbine length by the Government in 1905 for use by cadet corps.

In 1874, 2,100 Martini-Henry rifles were purchased in England, most of which were placed in store in Montreal until 1885, when a small number were issued for use in the North-west Rebellion. In 1885 a further 5,000 were purchased, but at the end of the Rebellion those issued to the militia were turned in and Snider-Enfields were re-issued. Some were again issued in the 1890's to infantry and rifle battalions, and later to drill associations.

Another weapon used by the military and police forces of Canada was the Winchester Model 1876 carbine, some of which were purchased in 1878 for the North-West Mounted Police. More were obtained in 1880 and 1882 for the force, and when the rebellion broke out in 1885, some of the militia cavalry units which went west used this weapon. They were withdrawn from the cavalry after the rebellion but continued in use by the N.W.M.P. until well after 1900.

THE BREECH-LOADING RIFLES

Plate 51 — *George A. Tweedie Collectiton*
STARR CARBINE — Introduced — 1865
Calibre 56-52 rim-fire — Bbl. length — 21 in.
Characteristics: Single shot, breech-loading, iron furniture, saddle ring on left of the action, case hardened frame and blued barrel.

The Starr metallic cartridge carbine was designed to use the same cartridge as the Spencer rifles and carbines then in use in Canada.

STARR CARBINE

The Starr metallic cartridge carbine was the second model produced by the Starr Arms Company, the first being a percussion weapon adapted to a paper cartridge. The metallic cartridge carbine was developed during the American Civil War, and some 5,000 were purchased by the War Department of the United States.

The breech was opened by lowering a lever which formed the bottom bar of the trigger guard. This lowered a two-piece breech block and pulled the extractor back so as to eject the empty case. A new cartridge was then loaded, and the lever raised, closing the breech. The carbine had a 21 inch barrel and was .52 calibre rim-fire.

SPENCER RIFLE

The Spencer rifle and carbine was a repeating arm having a seven shot magazine. It was patented just prior to the American Civil War by Christopher M. Spencer and saw extensive use in that war. The United States Government purchased almost 95,000 carbines and over 12,000 rifles between 1860 and 1865.

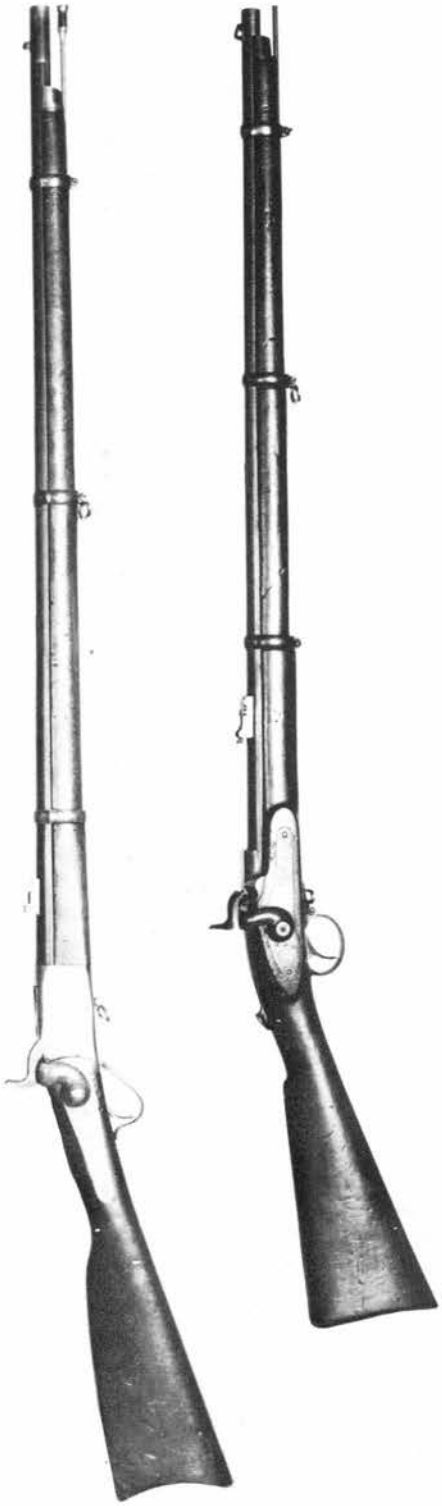
The action was opened by lowering a lever which also formed the trigger guard. This opened the breech, ejected the fired cartridge and positioned the next cartridge for loading from a tubular magazine in the butt. When the lever was raised it fed a new cartridge and closed the action and chamber. The guns used in Canada were chambered for the 56-50 (.50 calibre) rim-fire cartridge. The rifle had a 30 inch barrel, with three barrel bands, and was stocked to within about three inches of the muzzle. The carbine had a 20 inch barrel, one barrel band, and a half stock.

WESTLEY RICHARDS RIFLE

The Westley Richards "monkey-tail" breech-loader was patented in 1858 and was considered by many to be the best type of military breech-loader of the period. The action consisted of a special breech plug attached to the underside of a lever which lay flush with the top of the stock when the breech was closed. This lever was hinged at its forward end so when raised it exposed the chamber for loading. The .45 calibre paper cartridge which was used with it had a greased felt wad at its base. The entire cartridge was inserted into the gun and the lever closed. A standard bar action lock with a side hammer, which was used to detonate a cap placed on the nipple above the chamber. This fired the cartridge which forced the felt wad at the rear of the cartridge tightly against the breech to form an effective gas seal. The wad remained in the breech after firing but was thrust

Plate 52
Left *Fort York Collection*
SPENCER RIFLE Introduced — 1860
Calibre 56-50 rim-fire Bbl. length — 30 in.
Characteristics: Seven round magazine located in the butt, iron furniture, three barrel bands, front sight base that retained the bayonet, rear sight graduated to 900 yards, blued barrel and furniture, case hardened action.

Plate 53
Right *G. Hamilton May Collection*
SPENCER CARBINE Introduced — 1860
Calibre 56-50 rim-fire Bbl. length — 20 in.
Characteristics: These are the same as for the rifle except that it was not fitted for a bayonet and a saddle ring was located on the left side of the action.



forward into the barrel when a new cartridge was loaded, and travelled ahead of the bullet when the gun was next fired.

The Westley Richards carbine was officially adopted by the British Government in 1861, and continued in use by the cavalry until the Snider-Enfield was issued.

PEABODY RIFLE

The Peabody rifle was a single shot arm in which the trigger guard was lowered for loading. This tipped the falling block which was hinged at the rear. The guns were manufactured by The Providence Tool Company under the patent issued to H. O. Peabody on July 22nd, 1862. The early Peabody was one of sixty-five guns which were tested by the United States Army Board at Springfield in 1865, and was the only rifle not eliminated in the trials. The termination of the American Civil War prevented its adoption by the U.S. Army.

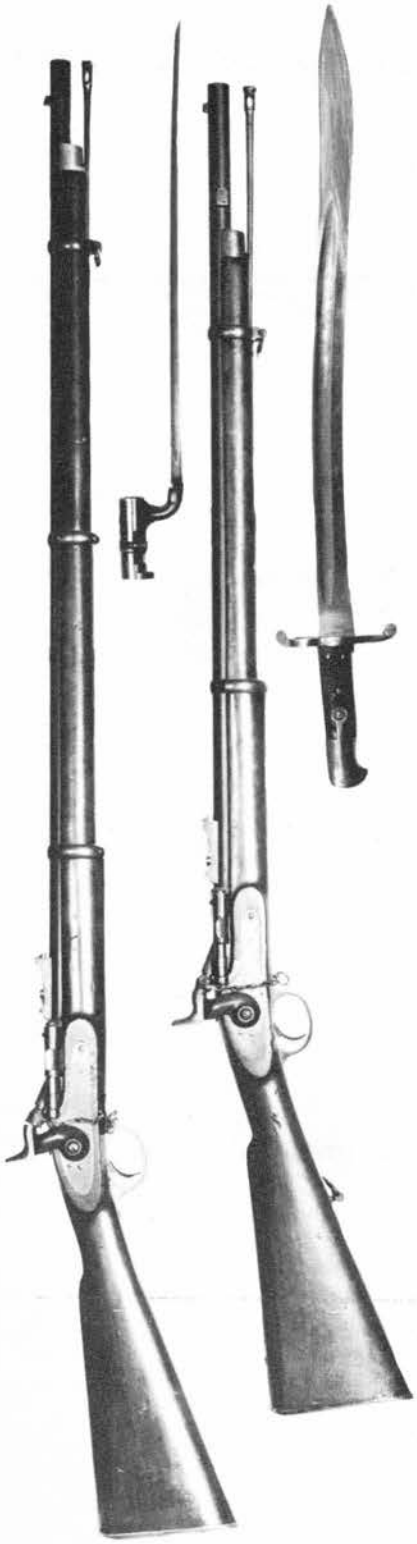
The rifle had a 36 inch barrel and was chambered for the .50-60 rim-fire cartridge. All metal parts were iron and the gun took a triangular socket bayonet of the same design as that used in the U.S.A.

Plate 54
Left *G. Hamilton May Collection*
PEABODY RIFLE Introduced — 1865
Calibre .50-60 rim-fire Bbl. length — 36 in.
Characteristics: A single shot breech-loading rifle, iron furniture, three barrel bands, small rear sight graduated for 100, 300 and 500 yards, blade front sight and bayonet standard, case hardened action, blued barrel.

In 1866, the Canadian Government contracted with the Providence Tool Company of Providence, Rhode Island, for 5,000 Peabody rifles complete with bayonets. Only 3,000 were delivered.

Plate 55
Right *Fort York Collection*
WESTLEY RICHARDS RIFLE Introduced — 1861
Calibre .45 paper cartridge Bbl. length—35½ in.
Characteristics: A breech-loading rifle on which the breech was opened by lifting a lever located on the top of the wrist, three barrel bands, no bayonet stud, blued barrel, case hardened bar action lock, rear sight graduated from 100 to 800 yards.

The Westley Richards Rifle was issued to the Montreal brigade which included the Victoria Rifles.



SNIDER-ENFIELD RIFLE

In 1866 the British Army adopted the Snider system for converting their large stocks of percussion Enfield muzzle-loading rifles to breech-loaders. The Snider-Enfield, as the resulting gun was called, was to be a stop-gap weapon until a better breech-loading rifle could be developed, but it was very reliable and better than many comparable military breech-loaders of its day.

The action was screwed on to the Enfield barrels which had been shortened at the breech and chambered for the .577 cartridge. It took the form of a trough, level with the lower edge of the chamber. The cartridge was placed in the trough, pushed forward into the chamber, and the space was filled with a block, hinged from the right side which contained a striker or firing pin that was struck by the external hammer. After firing, the breech was opened and the block pulled towards the rear, which extracted the cartridge. The rifle was then turned over to eject the empty case.

The cartridge had a straight case of rolled brass, covered with a single layer of thin paper. The bullet, like that for the percussion Enfield, was .577 calibre, and a loaded cartridge was 2⅜ inches in overall length.

Snider-Enfields ran through three versions or marks. Mark I*, II* and II** differed

Plate 56
Left *G. Hamilton May Collection*
SNIDER-ENFIELD LONG RIFLE Introduced — 1866
Calibre .577 centre-fire Bbl. length — 36½ in.
Characteristics: Brass furniture, three iron barrel bands, rear sight graduated to 950 yards, front sight used to retain the socket bayonet, square headed cleaning rod, all steel parts blue.

The Snider-Enfield Long Rifle was issued to Infantry.

Plate 57
Right *G. Hamilton May Collection*
SNIDER-ENFIELD SHORT RIFLE Introduced—1866
Calibre .577 centre-fire Bbl. length — 30¾ in.
Characteristics: Iron furniture, two barrel bands, bayonet stud on right side of the barrel, rear sight graduated to 1,000 yards, square or round headed cleaning rod.

The Short Rifle was issued to rifle regiments and sergeants of infantry regiments. A 23 inch sword bayonet was issued with it.

Plate 58 *Robert J. Dynes Collection*
SNIDER-ENFIELD CAVALRY CARBINE (*Upper*) Introduced — 1866
Calibre .577 centre-fire Bbl. length — 19 in.
Characteristics: Brass furniture, single barrel band, large screw heads for leather sight cover, short rear sight base, no sling swivel or saddle ring.

SNIDER-ENFIELD CADET CARBINE (*Lower*) Introduced — 1905
Calibre .577 centre-fire Bbl. length — 19 in.
The Snider-Enfield Cadet Carbine was actually a Long Rifle which had been cut down by the Canadian Government to provide a lighter weapon for drill associations. This work was done in 1905. The original rear sight was retained and a brass bead front sight was fitted.

from each other only in minor details. The block was kept closed by a small spring-activated pin which projected from the receiver into the rear of the block when the action was closed. All the above guns were converted Enfield rifles or carbines. The Mark III version was a completely new gun, and was made up originally as a breech-loader. It was made after 1869 when there were no Enfields left which were suitable for conversion. The Mark III guns had steel barrels as opposed to the iron previously used. A new improved method was used to keep the breech-block closed. It consisted of a relatively large diameter safety bolt located in the block which locked into the back of the receiver. There was a thumb release on the left side of the breech-block for unlocking the action.

Snider-Enfields were issued in four basic models. The Long Rifle was the infantry model and had a 36½ inch barrel measured from the face of the breech-block to the muzzle, and three barrel bands. The butt plate, trigger guard and fore-end tip were brass and the gun took an 18 inch triangular socket bayonet which was retained by the front sight block.

The Short Rifle was issued to rifle battalions and sergeants of infantry battalions and had a 30¾ inch barrel. The butt plate, trigger guard and fore-end tip were made of iron and only two barrel bands were used. A 23 inch sword bayonet with a leather covered grip was issued with these guns and was retained on a lug on the right side of the barrel near the muzzle. The British Navy was issued with a model similar to the short rifle which had brass furniture.

The Cavalry Carbine was half-stocked and had only one barrel band. No fore-end tip was fitted and the butt plate and trigger guard were brass. Unlike the two rifles which had a rear sight with a base just over 2 inches long, the original carbine rear sight was 1½ inches in length. A leather cover normally fitted over the

carbine rear sight to prevent damage while being carried on horseback.

An Artillery Carbine was also available, and although it was not issued to the Canadian militia it was used by British artillery in garrison at Fort Henry and Quebec. It had a 24 inch barrel and took a sword bayonet similar to that on the Short Rifle.

MARTINI-HENRY RIFLE

As soon as the Snider breech had been adopted in 1866, the British Government advertised a competition for a new rifle, to consist of an action and barrel capable of the same standard of accuracy found in the best muzzle-loading rifles of the day. The trials which followed lasted until 1871 when the Martini action and the 33 inch Henry rifled barrel were officially adopted by the British Government for the new service rifle.

The action consisted of a falling block hinged at the rear and operated by a lever located behind the trigger guard. The construction of the block was such that the recoil was taken by the back and sides of the receiver and not by the block axis pin in the rear of the block. The cartridge was fired by the striker which was driven forward by the action of a strong coil spring within the breech-block. Lowering the lever allowed the front of the block to fall and strike the lower arm of the extractor, thus ejecting the fired case. When a new cartridge was chambered, the action was closed which compressed the

Plate 59
Right *Robert J. Dynes Collection*
MARTINI-HENRY RIFLE Introduced — 1871
Calibre 577/450 Bbl. length — 33 in.
Characteristics: Iron furniture, two barrel bands, indicator on right side of action to show if cocked or fired. The Mk. IV had a lever that was almost twice as long as that shown here but this variation was not used in Canada.

Plate 60
Right *George A. Tweedie Collection*
MARTINI-HENRY CARBINE Introduced — 1871
Calibre 577/450 Bbl. length — 21 in.
Characteristics: Iron furniture, two barrel bands, button tip ramrod, special designed fore-end cap.

Some models of the carbine were issued without the sight cover. This version of the Martini-Henry was not used in Canada.

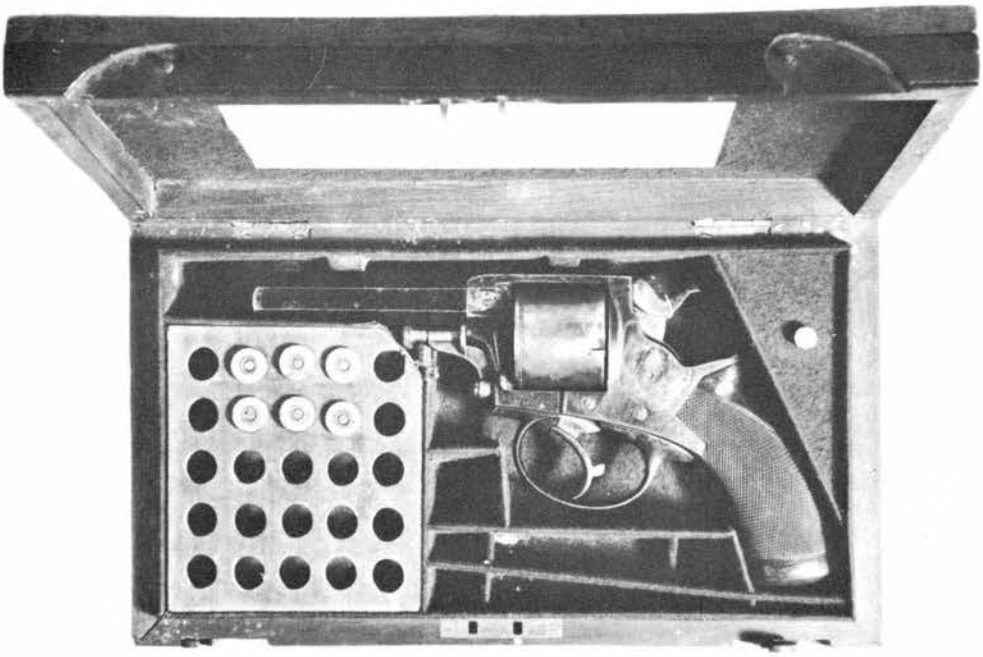


Plate 62 *George A. Tweedie Collection*

TRANTER PATENT REVOLVER

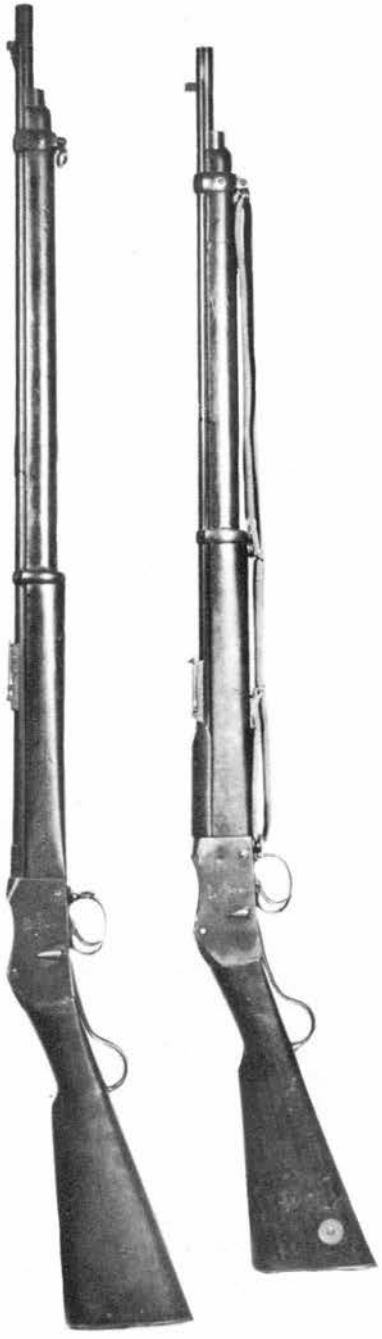
Calibre .50 Bbl. length — 4½ in.

The inscription O. *Smith, 1885* is written on the lable in the case for this revolver. At that time, he was Colonel of the Winnipeg Light Infantry.

Plate 63 *George A. Tweedie Collection*

ADAMS REVOLVER (Model 1868)

Calibre .450 Bbl. length — 5½ in.



Newfoundland, which was a British Colony, decided to rearm its constabulary in 1896 with a weapon more modern than the Snider-Enfield then in use. About 75 Martini-Enfield rifles were obtained and were used until 1934 when they were replaced by more modern weapons.

In 1895, 500 Lee-Metford carbines were purchased from the British War Department by the Canadian Department of Militia and Defence. They were stamped M & D on the butt to denote government ownership and, of the lot, 200 were issued to the North-West Mounted Police.

The discovery that Metford rifling eroded quickly with cordite loaded .303 ammunition resulted in this type of rifling being discontinued in 1895.

In the same year a Venezuelan border dispute between Great Britain and Venezuela supported by the United States, threatened war and prompted the Canadian Government to rearm the militia. Once government enthusiasm was aroused, it was decided to get the best weapon available and 40,000 Lee-Enfield rifles, and 2,300 Lee-Enfield carbines were ordered from England. The Birmingham Small Arms Company supplied 13,000 rifles and the London Small Arms Company supplied 8,150 rifles. The balance of the rifles and all of the carbines were supplied by the Government small arms factory at Enfield Lock. The Government Arsenal, which began production at Quebec City in 1882 was, by 1898, well organized and producing .303 cartridges for use in the Lee-Enfield rifles.

Plate 64
Left *George A. Tweedie Collection*
MARTINI-METFORD RIFLE Introduced — 1893
Calibre .303 Bbl. length — 33 in.
Characteristics: Basically a 577/450 Martini-Henry rifle with the calibre reduced to .303, by using a heavier barrel and different sights.

Plate 65
Right *George A. Tweedie Collection*
MARTINI-ENFIELD RIFLE Introduced — 1896
Calibre .303 Bbl. length — 30 in.
Characteristics: original barrel replaced with one of smaller diameter and calibre, two barrel bands. The bayonet was fastened to the front sight block.

Issue of the new arms in Canada began early in 1896, with the permanent force receiving them first and the militia battalions soon after. The Yukon Field Force of 203 officers and men who were sent to Fort Selkirk, Yukon Territory, in 1898 to reinforce the police, carried Lee-Enfield rifles. When the force was withdrawn in 1900, the guns were left for the use of the Dawson City Rifle Company.

During the South African War (1899-1902) the 7,386 men who went overseas, together with 1,000 raised for garrison duty in Halifax were armed with Lee-Enfield Mk. I rifles and carbines. The expense of equipping the overseas troops was borne by the British Government.

In 1900 the Minister of Militia, The Hon. Sir Frederick Borden, was unsuccessful in his attempts to have an English firm manufacture the Lee-Enfield in Canada. At this time, Sir Charles Ross, 9th Baronet of Balnagown, suggested a rifle of his own design. It was modified from the Model 1890 Austrian Mannlicher and had been produced in London, England and Hartford, Conn. for him. In 1901, he presented examples for trial, and, after various modifications, an agreement was reached. Sir Charles then undertook to manufacture his rifle in a factory built for the purpose near the Plains of Abraham at Quebec, where Wolfe and Montcalm had met nearly 150 years before.

In 1902 a contract was signed for 12,000

Plate 66
Left *George A. Tweedie Collection*
LEE-METFORD MAGAZINE RIFLE, Mk. I*
Introduced — 1892
Calibre .303 Bbl. length — 29½ in.
Characteristics: Metford rifling, long magazine for column loading, bolt cover on the action, finger grooves on the side of the fore-end.

Plate 67
Right *Robert J. Dynes Collection*
LEE-METFORD CARBINE, Mk. I
Introduced — 1894
Calibre .303 Bbl. length — 20¾ in.
Characteristics: Five round magazine almost covered by the stock, single barrel band and fore-end cap band, rear sight graduated from 200 to 2,000 yards, blade front sight, no provision for a bayonet, weight 7 pounds, 7 ounces.

Ross Rifles, Mk. I at a cost of $25.00 each. The price in England for the Lee-Enfield rifle was $18.27 at that time. In 1904, 1,000 rifles were delivered to the R.N.W.M.P. and 500 to the Department of Marine and Fisheries. It was not until August, 1905 that the first 1,000 rifles were received and accepted by the militia, the delay being attributed to manufacturing difficulties and the lack of skilled workmen. In 1906, the R.N.W.M.P., discarded the Ross in favour of their older Winchester, Lee-Metford and Lee-Enfield carbines.

Production of the Mk. I continued after the start of manufacture of the Mk. II but was discontinued shortly thereafter. The Pattern of the Mk. II was sealed on 18th February, 1905 although 3,000 were delivered in the original contract of 12,000.

In 1906, the Canadian team sent to the rifle matches at Bisley were issued Mk. II** rifles equipped with the Ross Mk. II rear sight fitted with a wind gauge. The sight was later changed but the Ross rifle continued to win a reputation for Canada for many years to come.

The first reference to a proposed Mk. III was made in 1906 but to quote from the *Official History of the Canadian Forces in the Great War, 1914-1919* "the designation Mk. II persisted until 5 stars and over eighty changes had been made which alter the weapon almost beyond recognition." Manufacture of the Mk. III began in November, 1911.

By 1912, all the Lee-Enfields that were in service with the militia had been withdrawn and were replaced by the Ross rifle. In 1913, 15,000 Lee-Enfield Mk. I rifles were sold as surplus to the New Zealand Government at a price of $1.00 each. The following year the R.N.W.M.P. purchased 1,000 Lee-Enfield carbines from the Department of Militia at the same price, to replace the Ross Mk. II which they had found unsatisfactory, and 800 of which had been destroyed in a fire in the Regina barracks.

At the beginning of World War I, the Ross factory stepped up production and in August, an order for an additional 30,000 arms was placed by the Canadian Government. The First Division of the Canadian Expeditionary Force (C.E.F.) was armed with the Ross rifle, Mk. III before going overseas. Upon arrival in France, serious difficulties developed due to dirt in the straight pull action and manufacturing differences in the English and Canadian ammunition.

By 1916, the First, Second and Third Canadian Divisions had been rearmed with the Lee-Enfield Short Rifle (SMLE) Mk. I and Mk. III, an arm developed in England and pattened after the Lee-Enfield Mk. I but having a shorter barrel. The Fourth Division had been issued Lee-Enfield Short Rifles in France and the Fifth Division although still in England, was also issued a small supply.

In June of 1916, the Colonial Secretary asked that no more Ross rifles be sent to England as the lack of standardization had presented problems, and production of the SMLE, Mk. III had increased sufficiently to arm all the men serving in France. Contracts with the Ross Rifle Company were cancelled and production came to an end. In March, 1917, the Company buildings were expropriated by the Canadian Government.

Left with a large stock of Ross rifles, the Department of Militia was unable to find a buyer although 20,000 were purchased by the United States in 1917 for training purposes. The remainder were reconditioned and placed in reserve. In all, 342,000 Ross rifles were purchased by the Canadian Government, 129,780 being used overseas. It is interesting to note that at the time of Dunkirk in 1940, 75,000 Ross rifles were sent to England for use by the Home Guard.

In 1919-20 sufficient Lee-Enfield Short Rifles, Mk. III were returned from overseas to meet the demands of the Canadian militia. The second Dominion

Arsenal, which had been built at Lindsay, Ontario in 1916, was closed at the end of March, 1922 and ammunition production continued only at Quebec. Also, during 1922, 600 Mk. III Lee-Enfield rifles were purchased from the British War Department, together with other stores.

During the period 1919-39 all Canadian militia were armed with the Lee-Enfield, Mk. III. Two rifles, the Lee-Enfield, Mk. I and the Lee-Enfield Short Rifle, Mk. III were converted in some numbers to .22 rim-fire for target training purposes. They were designated Mk. II-.22 and Mk. IV-.22.

When war was declared in September 1939, Canadian troops were armed with Lee-Enfield Short Rifles, Mk. III, but as the war progressed they were replaced with the No. 4 Lee-Enfield rifle, development of which was started in England in the early 1930's

THE CALIBRE .303 RIFLE

MARTINI-METFORD RIFLE

The Martini-Metford rifles sold to Canada by British arms contractors were altered from Martini-Henry rifles to .303 calibre, a conversion in which only the breech-block and barrel were changed. The resulting breech was still a single shot Martini type with its falling block hinged at the rear and operated by a lever behind the trigger guard. The old fore-end for the .45 calibre Henry barrel was used. The new .303 calibre Metford rifled barrels were quite heavy because of their external dimensions which were made large enough to fit the old fore-end. The barrels were 33 inches long and the gun was issued with a 12 inch knife bayonet similar to that used with the Lee-Metford and Lee-Enfield rifle of the period.

Plate 68 *Robert J. Dynes Collection*
MARTINI-METFORD CARBINE Introduced — 1893
Calibre .303 Bbl. length — 20¼ in.
In 1893, 250 Martini-Metford carbines were purchased for the cavalry. The basic characteristic is the .303 calibre barrel with Metford rifling.

The Martini-Metford carbines in calibre .303 were also conversions from the Martini-Henry. They were fitted with a new oversized barrel, 20¼ inches long, and were stocked to within 5 inches of the muzzle. As with the rifle, the result was a heavier carbine.

MARTINI-ENFIELD RIFLES

The Martini-Enfield rifles used in Newfoundland were also converted Martini-Henry rifles, but a completely new .303 calibre barrel and fore-end were used. The 29½ inch barrel had a new type of rifling developed at Enfield because it had been found that the Metford rifling wore out quickly. The guns were issued with the 22

inch triangular Martini-Henry socket bayonet which had been bushed and altered so the blade was fixed below the barrel and not at the side.

LEE-METFORD MAGAZINE RIFLE Mk. I*

The Lee-Metford, the pattern for which was sealed in January, 1892, was the first magazine rifle adopted for British service. It had a 30 3/16 inch barrel of .303 calibre, seven groove rifling with a left hand twist of one turn in 10 inches. There was a rear sight graduated for from 200 to 1,800 yards and a barley corn front sight. It had all steel furniture. The overall length was 49½ inches, weight nine and one half pounds and it had a magazine capacity of eight cartridges.

LEE-METFORD CARBINE Mk. I

In 1895, Canada purchased 500 Lee-Metford Carbines, Mk. I, .303 calibre with barrels 20¾ inches long. The rifling was seven grooves with a left hand twist of one turn in 10 inches. The rear sight was graduated for from 200 to 2,000 yards and there was a blade front sight. There was no provision for a bayonet and all furniture was steel. The overall length was 40 inches, weight seven pounds, seven ounces. Magazine capacity was five rounds.

LEE-ENFIELD MAGAZINE RIFLE Mk. I

In 1895-96, Canada purchased 40,000 calibre .303 Lee-Enfield Mk. I rifles. They had a 30 3/16 inch barrel rifled with a left hand twist of one turn in 10 inches. The rear sight was graduated for from 200 to 2,800 yards and there was a barley corn front sight. All furniture was of steel except the butt plate, which was made of brass. Overall length was 49½ inches, weight nine and one quarter pounds. Magazine capacity was ten rounds.

SHORT MAGAZINE LEE-ENFIELD RIFLE Mk. I, (SMLE)

This was the first of the now familiar short rifles commonly known as the SMLE. The 25 3/16 inch barrel was rifled with five grooves having a left hand twist of one turn in 10 inches. The magazine capacity was ten rounds. It was equipped with a sliding charger guide attached to the bolt head. When the bolt was drawn back, the groove in the charger guide would permit the use of a five round charger clip. The overall length was 44½ inches and weight, nine and one quarter pounds.

LEE-ENFIELD SHORT RIFLE Mk. III

Barrel specifications for this rifle were the same as for the Mk. I. The magazine capacity was also ten rounds but the charger guide was riveted to the top of the action. It was sighted for from 200 to 2,000 yards. Overall length was 44½ inches and weight was eight pounds, ten and one half ounces.

LEE-ENFIELD RIFLE No. 4, Mk. I

In 1939, the No. 4, Mk. I Rifle which had been under development as the SMLE. Mk. VI was officially introduced. It had a 25 3/16 inch barrel of .303 calibre with five groove rifling with a left hand twist. The magazine capacity was ten rounds, overall length was 44½ inches and the weight nine pounds, two ounces.

ROSS RIFLE

The Ross rifle was a straight pull bolt action rifle that was made in calibre .303 British and .280 Ross for the Canadian Government. Although the first agreement to manufacture them was made by Sir Charles Ross in 1901, the first delivery was not made to the military until 1905.

Plate 69 (Left to right)
LEE-ENFIELD MAGAZINE RIFLE, Mk. I* — Robert J. Dynes Collection.
SHORT MAGAZINE LEE-ENFIELD, Mk.I — Robert J. Dynes Collection.
SHORT MAGAZINE LEE-ENFIELD, Mk. III — Robert J. Dynes Collection.
SHORT MAGAZINE LEE-ENFIELD, Mk. VI — George A. Tweedie Collection.
SHORT MAGAZINE LEE-ENFIELD, No. 4, Mk. I — Robert J. Dynes Collection.

The Ross military rifle is rather difficult to categorize in Marks and variations of Marks as the original designations were altered in 1912 and there is possibility of confusion. In addition, there were numerous changes made that did not alter the designation, particularly in the Mark II which persisted through five *'s and over eighty changes before being designated Ross Rifle, Mark III, and was then redesignated Rifle, Short Ross, Mark II. *The Handbook for the Canadian Service Rifle, 1913* describes the principal distinguishing features of the Ross Rifle as follows.

RIFLE, G.P. ROSS (formerly known as Ross Rifle Mark I).—The Main Spring of this rifle is compressed on closing the Bolt Action. The Back-sight was of the "lever" pattern; barleycorn foresight. Magazine, control platform system, holding 5 cartridges. Weight about 8 lbs. Length of Barrel, 28 inches. Component parts are not interchangeable with other patterns of Ross Rifles. This Rifle has been authorized for use with G.P. ammunition.

RIFLE, SHORT ROSS, MARK I (formerly known as Ross Rifle Mark II).—The main points of difference from G.P. pattern are as follows: The Main Spring is compressed on opening the Bolt Action. Owing to a difference in size of chamber, this rifle is not suitable, and is forbidden, for use with G.P. ammunition.

The remaining features are practically the same as the G.P. rifle.

RIFLE, SHORT ROSS, MARK II (formerly known as Ross Rifle Mark II3*—II5*).—

Plate 70
Left *George A. Tweedie Collection*
ROSS RIFLE 1905, Mk. II Introduced — 1905
Calibre .303 Bbl. length — 30 in.
Characteristics: Straight pull, bolt action, five round magazine fitted with depressing lever on right side of barrel. This rifle will be found with many barrel lengths and sight arrangements.

Plate 71
Right *George A. Tweedie Collection*
ROSS RIFLE 1910, Mk. III Introduced — 1910
Calibre .303 Bbl. length — 30 in.
Characteristics: Straight pull, bolt action, locking lugs turning inside bolt, four groove rifling with left hand twist of one turn in 10 inches. Rear sight mounted on receiver, blade front sight.

This rifle is identical with the Short Mark I, except that it is fitted with a Sutherland Sight and new pattern Extractor.

RIFLE, LONG ROSS, MARK II (formerly known as Ross Rifle Mark II**).—This rifle differs from previous patterns in the following particulars:—Weight, 9 lbs. 8 oz.; length of barrel, 30.5 inches. Double pull trigger action (instead of single). Upright pattern Back Sight. The addition of a Charger Guide Sight Base.

RIFLE, LONG ROSS, MARK III.—The principle differences between the Mark III rifle and those of earlier manufacture are:—

(1) The adoption of an interrupted Screw Bolt Head with corresponding Locking Lugs in the Receiver. The Bolt Head travels horizontally instead of vertically.
(2) The Magazine is altered to admit of charger loading; the Lifter Fingerpiece is accordingly done away with.
(3) The Combined Bolt Stop and Magazine Cut-off replaces the former pattern.
(4) A Screw Elevating Rear Aperture Back Sight is fitted to the Charger Guide Sight Base; this replaces the open Sight in the Rifle, Long Ross, Mark II. (Vide Canadian List of Changes.).
(5) The Front and Rear Handguards and spaces for Back Sight (on barrel) are replaced by one Handguard.
(6) The Sliding Steel Butt Trap is replaced by a hinged Brass Trap.

Plate 72
Left *Robert J. Dynes Collection*
LEE-ENFIELD RIFLE, Mk. II-.22 Introduced—1912
Calibre .22 rim-fire Bbl. length — 25 3/16 in.
This was converted to .22 calibre for training purposes from the Lee-Enfield Magazine Rifle, Mk. I*.

Plate 73
Right *Robert J. Dynes Collection*
LEE-ENFIELD RIFLE, Mk. IV-22.
Introduced — 1921
Calibre .22 rim-fire Bbl. length — 25 3/16 in.
This was converted from the Lee-Enfield Magazine Rifle, Mk. III and had the same dimensions and weight as the SMLE.

CHAPTER 6

EPILOGUE

In June, 1955, the Honourable Ralph Campney, Minister of National Defence announced that the Canadian Army had adopted the Belgian FN semi-automatic rifle. This was the result of extensive trials carried out by infantry battalions and other Canadian units in the Arctic and Germany and the desire to obtain a rifle which would be common to the forces of all North Atlantic Treaty Organization (NATO) countries.

The rifle was designed to use the standard 7.62 mm. (.30 calibre) NATO ammunition, dimensions of which were finalized at the Belgium, Canada, France, United Kingdom and United States Small Arms Ammunition Conference held at Ottawa in January, 1954.

Plate 74 *Dept. of National Defence*
RIFLE FN. CALIBRE 7.62 (Model C1) Introduced — 1955
Calibre 7.62 mm. Bbl. length — 21 in.

The FN (Fabrique Nationale) rifle is a gas-operated, air-cooled semi-automatic arm capable of firing over 600 shots per minute. The selection lever (safe or semi-automatic) and the cocking handle are on the left side, the gas cylinder is on top of the barrel. A twenty round magazine is located in front of the trigger and when it is empty, after the last shot, the breech block remains open. The breech block is mechanically locked before firing and is not unlocked until the bullet has left the barrel.

Since it was originally issued, some modifications have been made to suit Canadian requirements.