Our National Arm

by Randolph Carlyle.

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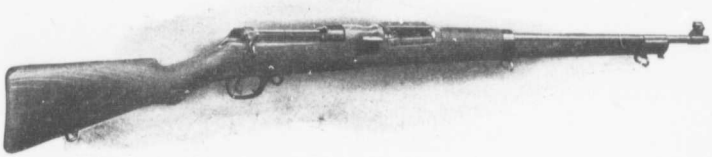


THE ROSS RIFLE, MARK II, WITH MARK III SIGHT

OUR NATIONAL ARM

BY RANDOLPH CARLYLE

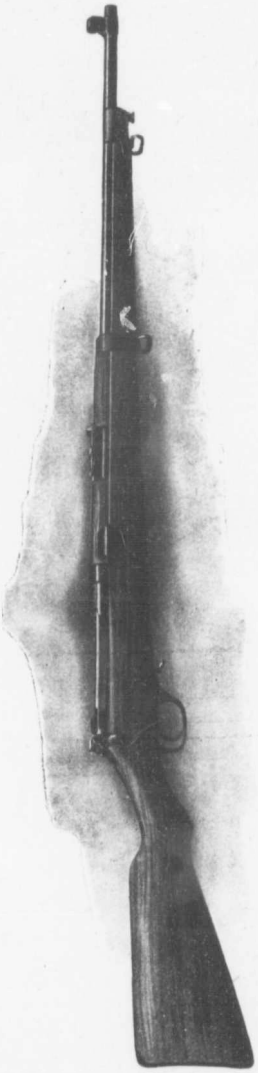
THE Ross rifle, the national arm of Canada, by being made an issue of party politics in the House of Commons and the object of severe charges by Opposition sharpshooters, has received a distinction quite unique among weapons of defense. Not only has its selection as the national arm been set up as a question for Parliamentary debate, but it has been subjected in time of peace to practical tests more severe than it is ever likely to experience in time of war.

In view of the great importance attached to a national weapon of defense in any country, it is worth while to know how the Ross rifle became the national weapon of Canada, and to learn something about the various vicissitudes it has passed through during the five years of its existence as such. In the first place, it was invented by Sir Charles Ross, a young Scottish Knight, who seems to have come honestly by his fondness for weapons of defense. At the time of the Reformation the holy relics and church plate from the Abbey of Fearn were sent for safe keeping to Balnagown Castle. The Ross of that day promptly sold the plate, bought a cannon, blew up the house of his most objectionable neighbors, and went to jail. And now, after the lapse of several centuries, the direct descendant of that old-time fighting Scot has raised nearly five hundred thousand dollars, not by selling church plate, but by calling on the resources of his great estate, and invested it in the manufacture of firearms on the site of the battle of the Plains of Abraham, near the city of Quebec.

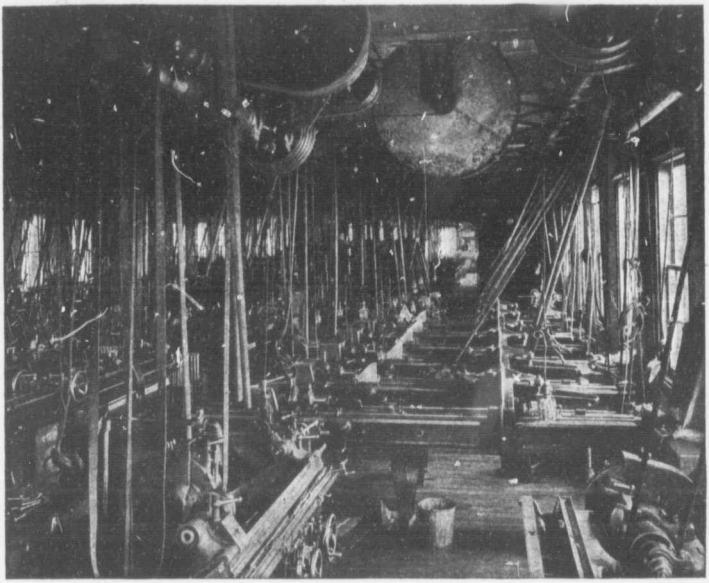
How did this come about? There had long been a growing conviction that in materials of defense the colonial Governments of the British Empire should as far as practicable carry on the manufacture of at least small arms and ammunition, and not depend on supplies from the mother country. In accordance with that view, Sir Frederick Borden, Minister of Militia and Defense for Canada, proceeded to ascertain what could be done to provide for the manufacture in Canada of an adequate supply of rifles for the various regiments of

the Dominion. His policy has been signally endorsed by eminent authority in Great Britain, for at the Imperial Conference in 1907 a paper from the Secretary of State for War was laid before the Conference. In part it recommended as follows: "It is most desirable that the area of supply of the warlike store under reference should be as wide as possible, and, therefore, the colonial Governments should be urged to arrange for local manufacture and provision, rather than to rely on the resources of the United Kingdom." It would seem, therefore, as if Sir Frederick Borden had actually anticipated the sentiment of the highest authority on questions affecting the defense of the Empire, and that his recommendation to the Canadian Government in favor of the establishment in Canada of a factory for the manufacture of small arms was a step in advance of the Imperial policy. At any rate, to the Minister of Militia and Defense for Canada belongs the credit for the initiation of a departure that has resulted in the establishment under the very guns of the citadel of Quebec of an industry that has already meant much, not only to the people of Quebec, but to the Dominion as a whole.

But there was another reason, and a very grave reason, too, which prompted the Minister of Militia and Defense to make an effort to have a rifle factory established in Canada. In 1900, after the Canadian contingents had been despatched to South Africa, the Government of Canada wished to buy 10,000 rifles through the Imperial Government. They found that it was impossible to procure even a thousand. It may be argued that, as a matter of circumstance the Imperial Government would be unable to provide rifles during a time of stress like that, and such is the very condition of affairs that impressed on the Minister of Militia and Defense the necessity for some provision whereby Canada could sup-



THE ROSS TARGET RIFLE



RIFLING DEPARTMENT, THE ROSS RIFLE COMPANY'S WORKS

ply her own rifles and be independent of assistance from abroad during any possible time of war. The sending of the contingents to South Africa had depleted the supply of small arms to the extent of 7,000, and when it was learned that none could be procured in England, the seriousness of the situation, should Canada at such a time be attacked, became apparent.

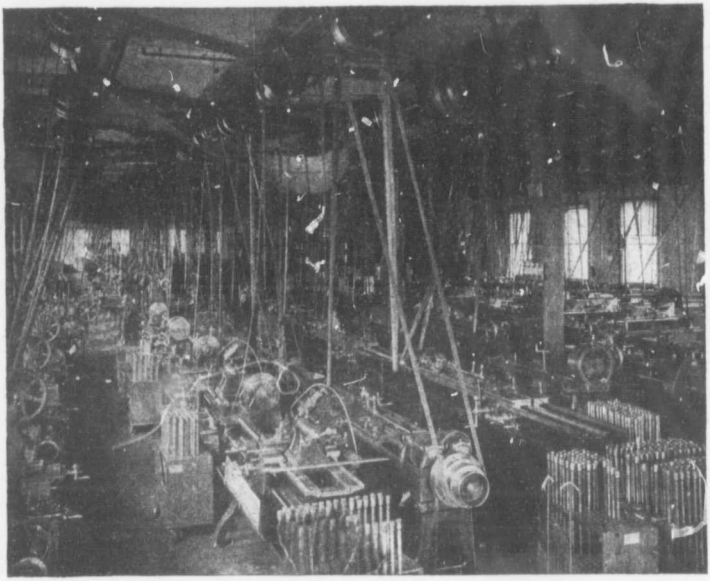
Then arose the problem, How could a factory for the manufacture of rifles be established in Canada?

Sir Frederick Borden, according to his own statement on the floor of the House of Commons, went to the Birmingham Small Arms Company and tried to induce them to manufacture in Canada, but it was found impossible to induce them or any other small arms manufacturers to make the venture. The project stood in abeyance for a short time. Then Sir Charles Ross volunteered to establish a factory in Canada, provided the Government would enter into a contract for the purchase of enough rifles to justify the undertaking.

Sir Frederick consulted with his colleagues, and as a result he called on General Otter, now chief of the General Staff; Colonel Gibson, who for many years was President of the Dominion Rifle Association; Colonel Sam Hughes, M.P.; Colonel Anderson, a distinguished engineer, and Major Gaudet, head of the Dominion Arsenal, to make a report on the rifle. Their report is worth republishing here:

"On the whole, the Board find that the Ross rifle has features which, in their opinion, afford advantages over the Lee-Enfield.

"All agree that the straight pull is a very important advantage over



BARREL DEPARTMENT, THE ROSS RIFLE COMPANY'S WORKS

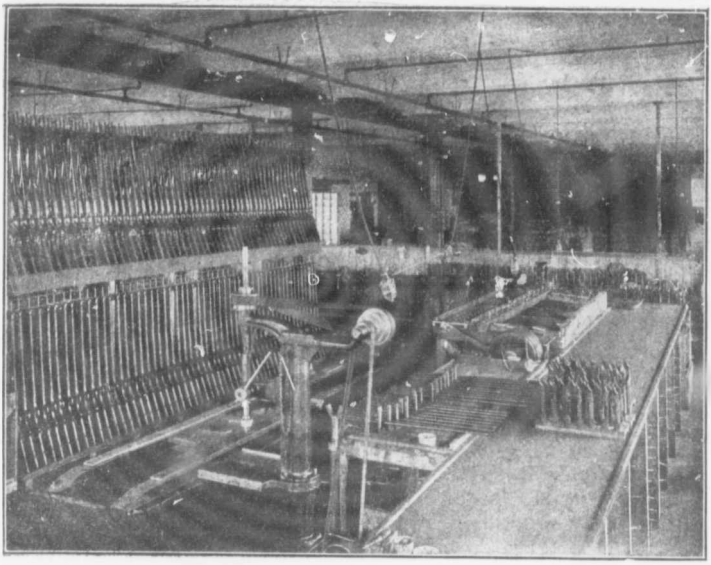
the Lee-Enfield action. The simple mechanism is evidenced by the fact that the breech can be taken entirely apart and put together again without tool other than an ordinary knife, and the operation of taking apart and assembling the parts takes considerable less time than the Lee-Enfield. Another important advantage is the strength of the breech mechanism, while the limit of the Lee-Enfield is restricted. It may be said that any increase of velocity which is ever likely to be required can with absolute safety be obtained in the case of the Ross rifle.

"The Ross rifle is approximately a pound lighter than the Lee-Enfield.

"The chief objection or difficulty which was found in connection with the test to which the Ross rifle was subjected was brought out in the endurance test. While in the firing 1,300 rounds out of each of the rifles, the Lee-Enfield did the test quite satisfactorily. It was found that after heating, the breech of the Ross rifle closed with more or less difficulty, the action being very stiff, with occasional jamming, besides which a possibility of 'double loading' exists.

"Were this an inherent objection to this rifle, independent of details of mechanism, the Board would regard it as a very serious matter, but Sir Charles Ross states that any difficulty in this respect can be effectually obviated, and the Board submit herewith a memorandum, 'Exhibit D,' from him, in reference to this point, which, in his opinion, affords an explanation of the unsatisfactory result of this test, and the manner in which the same may be overcome.

"Speaking generally, the Board believe that the Ross rifle has features



ASSEMBLING DEPARTMENT, THE ROSS RIFLE COMPANY'S WORKS

which are a positive advantage over the Lee-Enfield, while it is contended by Sir Charles Ross that he can easily remedy any of the drawbacks which have been pointed out.

"The rifle has been on the ranges during the week of the Dominion Rifle Association meeting, and has been examined and fired more or less by many riflemen of experience, and while it is not suggested that any conclusive testimony has been afforded from such desultory examinations and tests, it is significant of the favorable impression of riflemen that no adverse comment were known to have been made, and all seemed to be pleased with the action of the rifle.

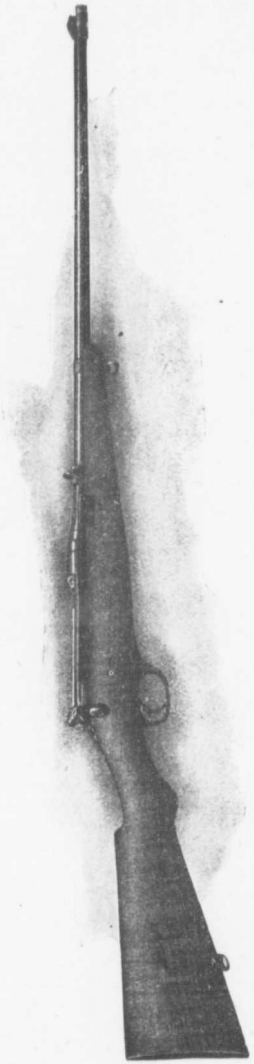
"The Board do not profess to pronounce upon the question of a complete remedy of this objection, but, having called attention to it, assume that due precaution and provision with reference thereto will be taken in event of the rifle being adopted."

On the strength of that report and the fact also that practically the same rifle (the Mannlicher), 1,000,000 of them, was in use in the Austrian army, induced the Government to give the Ross Rifle Manufacturing Company a contract for 12,000 rifles and whatever rifles the Government might afterwards require, provided, however, that in case of emergency, such as war, the Government could demand immediate delivery of whatever number might be required, and if the Rifle Company could not deliver them, then the Government might buy them elsewhere. That looks like a fair business arrangement.

Since then, experts, both prejudiced and unprejudiced, have examined it under special and extremely rigorous conditions, and as a result it is safe to say that the latest model of the Ross rifle is the best all-round

light military weapon in the world. That is a pretty strong statement, nevertheless it has excellent support. Tested in the United States in comparison with the Springfield rifle, the light arm of the United States, it stood out well, and in many respects it proved to be a superior weapon. But perhaps the most flattering comment that has ever been made on it comes from the President of the Standing Small Arms Committee of Great Britain, whose report to the Army Council of a recent comparative test at Hythe of the qualities of the Lee-Enfield rifle, the New Springfield rifle, and the Ross rifle, Mark II. gives the national arm of Canada a most favorable standing, and places it in some respects above either of the others. Recently some highly creditable scores have been made in England with the Ross rifle. In June it made fifteen consecutive bull's eyes, fired by F. W. Jones, winning the gold jewel and the championship of England at 1,000 and 1,100 yards. This competition was open to all rifles and all comers. At Bisley it took first place in the "Edge" match, won the challenge cup in the "Halford" Memorial by taking first place against all comers and all rifles. It also took second place in the "Waldegrave" match.

The Ross Rifle Company began to manufacture, and up to the present time they have delivered about 46,000 rifles, and have received in payment from the Government about $1,150,000. After a time complaints regarding the rifle began to be lodged, and Mr. Wallace Nesbit, in Parliamentary Committee at Ottawa, said that a prearranged campaign had been started, mostly by rifle manufacturers in Great Britain, the object of which was to discredit the Ross rifle and effect a discontinuance of the contract between the Company and the Government. Members of the Opposition in Parliament began to urge charges of deficiency in the mechanism of the



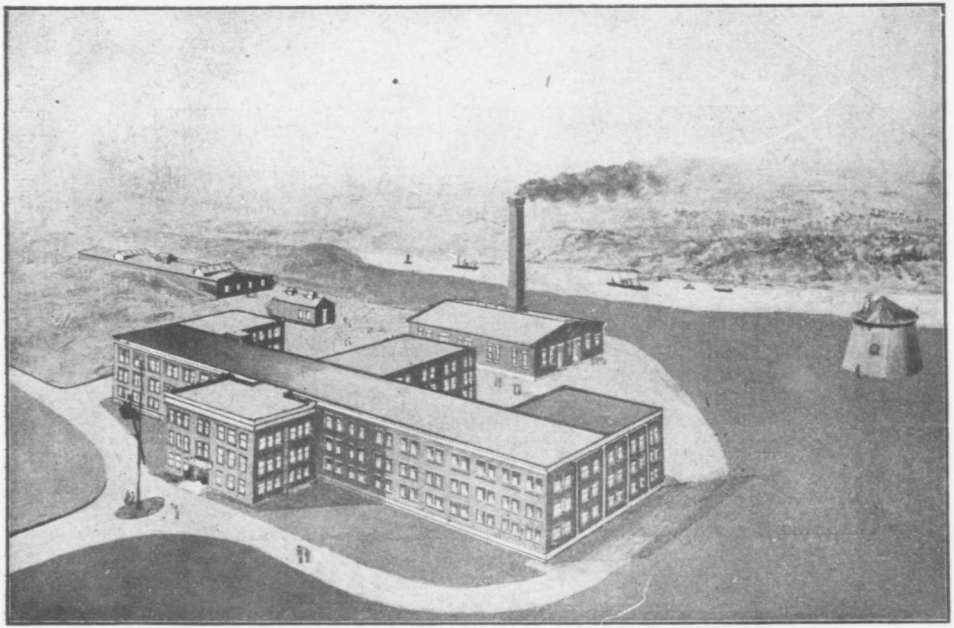
THE ROSS SPORTING RIFLE

rifle. It has not been denied that the rifle was not in every respect a perfect weapon, and improvements have been made in it from time to time as their advisability was determined as a result of actual service. It is worth knowing in this connection that, for instance, the Lee-Enfield rifle, which is the small arm of Great Britain, has reached Mark XIV. in its manufacture, meaning that the rifle has been manufactured on fourteen consecutive improved models. So far the Ross rifle has reached only as high in number as Mark III., and its friends believe that it is now the most perfect rifle in the world. Major-General Lake, speaking of it at the annual meeting of the Dominion Rifle Association, spoke as follows:

"Finally, I would add my word to what the Minister has said about the Ross rifle, and with him beg you to suspend your judgment and give it a fair trial. I can say this perhaps with the more freedom because the rifle was selected and adopted for the service rifle of the militia, and the

From an oil painting

SIR CHARLES ROSS,
INVENTOR OF THE ROSS RIFLE



THE ROSS RIFLE FACTORY, ON THE PLAINS OF ABRAHAM, QUEBEC

contract for its manufacture was entered into, before I had the honor of receiving my present appointment; and I have not been connected in any way with the Boards of expert riflemen who have discussed and approved the arm, nor am I in any way pledged to this rifle or another. Speaking personally, I can only say that I fully endorse what the Minister has said about the defects discovered, they are faults of detail, and, so far as I have seen, are neither irremediable nor inherent in the Ross rifle. They can be, and many have already been, remedied. The body and action generally of the rifle seem strong and good. Similar defects to those found in the Ross have come out, more or less, in all new rifles, when put in the men's hands before the pattern is finally adopted—to find out these very points. The men use the rifles in their usual rough and ready fashion, and certainly do not bestow on them the care an expert shot bestows on his target weapon. Hence, hitherto unsuspected weaknesses are discovered. They are certain to be found. I have, therefore, no hesitation in advising the members of the D. R. A. to suspend their judgment and do nothing to excite prejudice against the rifle until it has been fully tried. Distrust is easy to create, most difficult to eradicate. I see no reason why it should not eventually turn out to be an excellent weapon."

So far about 46,000 rifles have been delivered to the Government, and in this connection it is proper to notice the significant statement made by the Minister of Militia from his place in the House of Commons:

"There is not a single rifle of the number which have been delivered that is not a serviceable rifle and is not fit and safe to use in the Canadian army if it were necessary to use it. I make this statement here and accept full responsibility for it. I make it upon the report which I hold of those who are competent to advise me as to matters of that kind. I shall read the particulars necessary to show that of those rifles which are not now serviceable, there is not one which cannot be made serviceable with a very slight expenditure. Yet we have this hon. gentleman trying to terrify the militia, trying to persuade the House that we have purchased rifles which are only fit to be placed on the scrap heap. I assure you there is not one word of truth in it."

Sir Frederick also pointed out that, unlike the Lee-Enfield, the Ross rifle is inspected in all its main parts, so that the parts are practically interchangeable, although where accuracy as fine as the five-thousandth part of an inch is required, it is scarcely possible to produce a rifle that will never fail to interchange with another of the same type.

Ever since the rifle was first issued it has been the object of the keenest criticism. In service, from time to time, points where improvement could be made have been noted and these improvements have been made, until now the Ross rifle is regarded by its friends as being the best military light arm in the world. Many times since its manufacture began in Canada it has been tested by committees of experts, and it has undergone the ordeal with credit and satisfaction. When it was proposed that this rifle be adopted by the Northwest Mounted Police, a commission consisting of J. H. McIllree, Superintendent Morris, and Inspector Gilpin Brown, were appointed to examine it and present a report. Their report was as follows:

"The Board proceeded to the range with Mr. Paddon, representing Sir Charles Ross, the inventor of the arm, and a number of shots were fired at the 200 and 600 yards range. Two rifles were submitted for trial, one long 28-inch barrel, and the other a shorter 25-inch barrel. 150 rounds were fired from the long rifle in ordinary practice, and the scores made

are shown. The barrel is the same as used in the Lee-Enfield and adopted by the English Government.

"The carbine was put out of action by the complete fracture of the shoe, at the point of the greatest pressure, showing weakness in this particular case. On examination by the armourer, he reported the factor was due to the shoe being made of cast instead of wrought steel.

"Two trials at rapid fire were made at 200 yards with a short rifle; time limit, two minutes. Mr. Paddon fired 32 shots within 32 minutes, scoring two centres, 10 magpies, and 18 outers, or a total of 30 hits out of 32 shots. This, he stated, was the best he had ever made.

"On the morning of the 10th instant a further test was made of the accuracy of shooting with a long rifle. The light was good, but the wind was strong and gusty. The shooting was good and the scores are appended. You, the Commissioner, tried the rapid firing game at 200 yards, and fired 30 shots in two minutes, scoring one bull, eight centres, six magpies, and 11 outers, a total of 26 hits out of 30 shots.

"From this we conclude that the method of loading is expeditious, and that the straight pull, working smoothly and rapidly, allowed the rifle to be fired continuously from the shoulder, without removing it and without disturbing the position of the rifle at the shoulder to any great extent.

"The Board is unanimous in its opinion that the rifle is very accurate.

"The Ross rifle is very much lighter than either a Mauser or Lee-Enfield, the weight being approximately:

Lee-Enfield	9 lbs. 4 oz.
Mauser	9 lbs. 12 oz.
Ross	7 lbs. 15 oz.

which is 11 oz. heavier than our Winchester Carbine, 7 lbs. 4 oz., so that, if adopted, no increase in weight would be made to the equipment.

"We are given to understand that the short rifle weighs only 7 lbs. 4 oz.

"To sum up, the Board is of the opinion that the strong points of the rifle submitted are:

1. Lightness.
2. Straight pull of bolt.
3. Ease of loading magazines.
4. Practical nature of cut-off.
5. Bolt being secured in shoe, and not as in Lee-Metford.
6. New parts and construction of bolt, and apparent strength of all.
7. The novel and efficient principal of the extractor.
8. Ease of stripping and re-assembling.
9. That the above can be done without tools, an empty cartridge case sufficing.
10. The duplicate arrangement of sear, whereby, if sear spring is broken the action can still be used.
11. The most complete absence of recoil when firing.
12. The woodwork of stock and forearm being in one continuous piece."

The changes and improvements in the Ross rifle so far are few compared with those that have been made in the Lee-Enfield, for instance. The Lee-Enfield Mark I. was issued in November, 1895; Lee-Enfield Mark I.* in 1898, about the end of the year. These are long rifles. There have been one or two marks of the long Lee-Enfield since. Then there was the Mark I. short Lee-Enfield, issued in 1903, and there have been two different marks since then to my knowledge, and I am told three or four more. That is, in the long and short Lee-Enfield, the official arm of the British service, we have ten or twelve distinctive issues and distinctive marks. The changes that have been made in some of these are shown in the official red book. In one change alone, that is, from Lee-Metford Mark I. to Lee-Metford Mark II., the first issued in January, 1892, and the sec-

ond in April, 1892, the changes made in the rifle, as tabulated, item by item, at pages 314 and 315 of the red book of the British army, are no fewer than one hundred and twenty-five in number. In other words, in that one change alone from the Lee-Enfield Mark I. star to the Lee-Enfield Mark II., there were more important changes twice over than have taken place in the Ross rifle from start to finish.

The latest model of the Ross rifle is called Mark III. It is really Mark II., with the same sight as is used on the Lee-Enfield. As a matter of fact, it is adapted for any of the various sights, so that a marksman may change the sight if he sees fit. It is almost impossible to get a sight to please all marksmen, because some prefer one kind and others another kind. In the Ross rifle, Mark III., the difficulty has been overcome as far as possible by supplying the Lee-Enfield sight, with provision to change to any of the other standard sights when preferred.

According to a statement made in the House of Commons, the highest score ever made by any rifle in the world was made by Lieut. Mortimer with a Mark II. Ross rifle. Mortimer hit the target thirty-five times in one minute, and he made thirty-four hits in the same time with Mark III. These were all aimed shots. Wallingford is said to have made twenty-seven hits in one minute with the Lee-Enfield, and that is credited as being the highest record next to that made by Mortimer. The record for the Springfield rifle is said to be twenty-five.

Another record is that a Ross rifle fired 300 shots at Quebec and made 294 hits, aim fire, at target, 101 being bull's-eyes and that was done in 14 minutes and 11 seconds, a record which no two rifles together have ever approached before in the world, and half of them were single fire.

What is the record of the Canadian rifle? Mark I. was issued, and later some improvements were made in it. Mark II. came next, and certain changes were made from Mark I. to Mark II., but they did not turn out to be very advantageous. These were changed back again from Mark II. to Mark III. The old lever back sight has been abandoned, and a return has been made to the form presented in old Mark I. The thread attaching the barrel to the receiver in Mark II. has been abandoned and a return made to the thread in the old Mark I. This is the Whitworth thread. When Sir Charles Ross presented his rifle to the committee it had a double trigger action, a gathering pull and a final pull. That was in the rifle which he presented for adoption. The single pull has been abandoned and a return made to the double trigger pull as presented in the original rifle. Like the Lee-Enfield, the Ross rifle is made with either the long or short barrel, according to requirements. There is what is regarded as an absolutely perfect safety catch, which acts the moment the sear is released from the cocking piece bent, and insures its safe re-engagement. There have been some small changes, such as screws, bands and swivel straps, which are of no account. The difference between the Ross rifle and the Lee-Enfield rifle involves some important features, but most important is the one great principle of the straight pull; that is, only two motions, in loading and firing; simply pulling the bolt back and pressing it forward again, as against four motions in what is called the lever or rotary motion rifles. The two nations that use straight pull rifles are Austria and Switzerland. The other nations largely use the rotary motion. The Ross magazine differs materially from all other magazine rifles, being much more rapid. There are what may be called two types of magazine rifles, the clip and charger loader and the single cartridge loader. The cartridges are all placed in an iron fixture called a clip, and are put into the rifle and are

fired shot after shot. The charger type slides them all into the magazine at once. The second class, or slow loader, places cartridge after cartridge in the magazine. One class is a quick loader and the other a slow loader, as in the British rifle, where you load shot by shot. The Ross rifle differs from both in that by a lifter piece worked by the left hand you can depress the bed of the magazine and catch the cartridges all loose, throwing them into the rifle, and, by working the fingers on this lifter piece a couple of times, the cartridges are all placed in position so that it is not possible to have a jam unless the soldier is not sufficiently trained in the use of this lifter piece.

The intricate mechanism of a military rifle may be imagined when it is known that the Ross rifle contains almost 100 parts; but from the rigid tests to which it has already been subjected, it may be accepted as certain that the people of Canada have a highly creditable military weapon, if not the best light arm in the world.

It has taken Sir Charles Ross a good many years to perfect this weapon, but the faith that the Ross Rifle Company have in it may be judged from the fact that they will soon place on the market a sporting rifle that is calculated to meet all the requirements of a rifle for purposes of sport in Canada. It is made on the same general principles as the military weapon, but is much lighter and handsomer. It will be noted for its great penetrating power, accuracy, absence of recoil, with the special advantage of its rapid-firing mechanism.

Sir Charles Ross is much better known in Great Britain than in Canada, but he is naturally cosmopolitan, and therefore by this time he has become a thorough-going Canadian. He is a young man, little more than thirty, and, unlike the popular opinion respecting those of the Old Country aristocracy, he "does things." His education was obtained at Eton and Cambridge, at both of which places he was distinguished in various branches of athletics—sculling, throwing the hammer, putting the weight, etc. At Eton he was second captain of the boats, member of the shooting eight for four years (captain, three years), member of the college rifle volunteers (five years), and on leaving joined the 3rd Battalion, Seaforth Highlanders. He rowed for 3rd Trinity in the Visitors' Fours and for the Ladies' Plate at Henley, winning in the former, and he also rowed for Cambridge against Oxford.

Justice of the Peace and Deputy Lieutenant for Ross and Cromarty, he raised a battery in the South African War, served on Hutton's staff, and later took part in the organization of the Pretoria or South African Constabulary (four clasps).

Sir Charles Ross' list of patents on the rifle is quite formidable, beginning as far back as 1893. Among other honors in this connection, he received a special award of merit at the Paris Exposition and a gold medal at Earls Court, the only two exhibitions to which he contributed. The London *Times* commented on the rifle, saying that it would become the rifle of the future. Sir Charles Ross is one of the largest landowners in Great Britain, and the Ross family antedates the Bruces. Just six hundred years ago one of Robert Bruce's family married a Ross at Balnagown. Away back in the eleventh century the Ross of that day married the Robber Chief's only daughter. The dowry consisted of Strathoykel and Strathcarron, both of which are still owned by Sir Charles. The family history is full of romance and stirring episodes, but they must be left for another occasion.