

8th. The number of horses in a field battery were reduced at a time of extreme depression below the limit necessary for even a peace establishment; 43 horses, of which the details are given at page 186 of the Militia Report for 1876, are the number that might now be sanctioned, as also 20 rounds common shell extra, for the instruction of men who are not marksmen, over and above the 80 rounds for competitive practice. It is almost impossible to find safe ranges at inland places such as Guelph and London. The transport should be allowed for the 16 competitors of these batteries to Toronto. It is not necessary to take either guns or horses. The cost, to say nothing of probable loss of life by a serious accident, that must occur sooner or later under the present arrangements, would be more than the cost of transport. But it would be preferable to brigade these corps together with other troops every alternate year, at Toronto and Niagara. Marching is a necessary and beneficial experience, but should not be deducted from the short period allowed for training. It is to be hoped the deductions practised last year will be discontinued.

9th. Paragraph 87, Militia Regulations, 1879, legislates against the possibility of a Field Artillery officer ever becoming a Lieut. Colonel. I earnestly beg that this unjust restriction be removed, and that all officers commanding batteries of Field Artillery, who have obtained first-class certificates at "A" or "B" Royal Schools of Gunnery, be accorded the substantive rank of Major, as in the Royal Artillery, and that after 7 years' efficient service in that rank, they be given the brevet rank of Lieut. Colonel in the militia. The importance of their command, the sacrifices entailed upon these gentlemen, and the qualifications required, will, I trust, commend themselves to the sense of justice of the Major-General commanding. The cost of this boon would have been \$64.80 for the current year, being the difference between pay of Captain and Major for 6 officers for 10 days, there being only 7 commanding officers of field batteries in the Dominion who could claim it; one of the number I have recommended to be retired. Lieut. Colonel Irwin reports favourably of the Field Artillery of the Province of Quebec generally. The details will be found in his Report, as those of the Maritime Provinces in the Report of Lieut. Colonel Price Lewes. I concur in their recommendations, except that, as before stated, I think the issue of boots and breeches for mounted men would be an expense not commensurate with the result.

FIELD BATTERIES.

In connection with the Governor General's prize for the most efficient Field Battery, I have used the following scale of credits as a standard of efficiency.

The selection of fighting positions was practically illustrated whenever the ground permitted, and the undermentioned questions on fighting tactics were put by me to the officers individually, without previous intimation. The officers of the first examined battery, did not, I feel assured, communicate them to others, as I put it to their own good feeling, as well as to their interest, not to inform rival competitive batteries.

Tactical Questions to Officers.

| | Full Credit. |
|---|-----------------|
| <i>Commanding Officer</i> .—1. Give in general terms the substance of the 19 practical rules laid down in the Canadian Field Artillery Manual for the guidance of Battery Commanders..... | 8 |
| <i>Senior Subaltern</i> .—2. Give an account of the salient Artillery action in any of the battles of the Franco-Prussian war that you can remember mentioned in Canadian Field Artillery Manual..... | 3 |
| <i>2nd Subaltern</i> .—3. What is the regular role assigned to Artillery and Infantry in the attack on villages, explain why, and give an instance quoted in the Canadian Field Artillery Manual..... | 3 |
| <i>Junior Subaltern</i> .—4. Quote in general terms the paragraph on "Fire Discipline," in Canadian Field Artillery Manual..... | 3 |

Scale of Credits.

| | |
|---|--------|
| Clothing and accoutrements..... | 8 |
| Guns, carriages and equipments..... | 8 |
| Horses..... | 8 |
| Harness and harnessing..... | 12 |
| Marching past, walk, trot, gallop..... | 12 |
| Standing gun drill and answers to questions on Artillery material by N. C. officers..... | 24 |
| Field manoeuvres..... | 16 |
| Selection of fighting positions and answers to questions from Field Artillery Manual on fighting tactics (by officers)..... | 24 |
| Each officer or man with S. G. Certificate, 1st to 4th class..... | 4 to 1 |
| Each member with an efficiency badge $\frac{1}{4}$ decimal..... | 25 |
| Sword drill with mounted officers and N. C. officers..... | 5 |
| Gun dismounting and disabled ordnance..... | 8 |
| Discipline (including camping details)..... | 10 |
| One-tenth ($\frac{1}{10}$ th) total score competitive practice. Actual selection of position on ground should such be available, 4 if no ground suitable, 4 to be divided in credit to four questions. | |

FIELD ARTILLERY.

Military District No. 1.—1st Provisional Brigade.

Commanded by Major A. H. Macdonald.

Adjutant, Lieutenant G. B. Hood.

Surgeon, Henry Howitt, M. D.

Vet. Surgeon, E. A. Grange (this officer is very attentive to his duties).

This brigade were encamped at Guelph. I inspected them as a Brigade on 27th September, on the 28th the batteries separately. The undermentioned officers were present, including Major A. H. Macdonald and Brigade Staff.

No. 1 Battery.

Captain, W. McNicoll, S. G.

1st Lieutenant, W. Bond, (Prov.)

2nd Lieutenant, J. Crowe, (Prov.)

No. 2 Battery.

Captain, D. McCrae, (Prov.)

1st Lieutenant, G. B. Hood, S. G.

2nd Lieutenant, A. Nicoll, (Prov.)

It will be seen that the Quebec Field Battery and No. 2, Ontario, of this brigade stand first in efficiency, according to the scale laid down for His Excellency's prizes. The Ontario Battery have not yet completed their target practice for want of a good range. Much has been written and said of late about over-praise of the militia, in the face of which I have no hesitation in awarding to Major Macdonald and his battery commanders unqualified praise for the efficiency and discipline of this brigade to an extent that can only be appreciated by a professional artillery officer, well acquainted with Canada, and the difficulties that beset the path of a militia officer in command. It is only necessary to give one instance. No. 2, the Ontario Field Battery, composed of most intelligent, enthusiastic young men, from the Guelph Agricultural College, organized upwards of two years ago by the energy of Capt. McCrae, are still without armament; they were obliged to train this year without guns, using wagons to make believe, when drilling with the brigade. Major Macdonald reported to me that he had applied in vain to be allowed the use of four 9-pr S.B. guns, and even offered to pay the cost of transport himself. A drill-shed is urgently required for the Ontario Field Battery.

No. 1, WELLINGTON FIELD BATTERY—Capt. W. Nicoll.

Scale of Credits.

| | |
|---|-------|
| Clothing and accoutrements | 7 |
| Guns, carriages and equipment..... | 6 |
| Horses..... | 6 |
| Harness and harnessing..... | 10 |
| Marching past, walk trot, gallop..... | 11 |
| Standing gun drill, and answers to questions on artillery material by non-commissioned officers..... | 23 |
| Field manoeuvres | 12 |
| Selection of fighting positions, and answers to questions from Field Artillery Manual on fighting tactics (by officers) | 20 |
| Each officer or man with S.G. certificate, 1st to 4th..... | 4 |
| Each man with an efficient badge ($\frac{1}{4}$)..... | 3 |
| Sword drill, mounted, officers and non-commissioned officers..... | 4 |
| Gun dismounting and disabled ordnance..... | 5 |
| Discipline (including camping details)..... | 10 |
| One-tenth (1-10) total score at competition practice..... | 43.2 |
| Figure of merit.—Total..... | 16.42 |

This Battery is composed of respectable farmers of good physique. The men own the horses.

No. 2, ONTARIO FIELD BATTERY.—Captain McCrae.

Scale of Credits.

| | |
|--|----|
| Clothing and accoutrements..... | 7 |
| Guns, carriages and equipment (borrowed from No. 1)..... | 6 |
| Horses | 8 |
| Harness and harnessing..... | 10 |
| Marching past, walk, trot, gallop..... | 11 |
| Standing gun drill, and answers to questions on artillery material by non-commissioned officers..... | 24 |
| Field manoeuvres..... | 14 |
| Selection of fighting positions, and answers to questions from Field Artillery Manual on fighting tactics (by officers)..... | 23 |
| Each officer or man with S.G. certificate, 1st to 4th..... | 9 |
| Each man with an efficiency badge ($\frac{1}{4}$)..... | 15 |
| Sword drill, with mounted officers and non-commissioned officers..... | 3 |
| Gun dismounting and disabled ordnance..... | 4 |
| Discipline (including camping details) | 10 |
| One-tenth ($\frac{1}{10}$) total score competitive practice..... | — |
| Total | — |

This battery owes its origin to the untiring energy of Captain McCrae, an excellent officer. The non-commissioned officers and men belong to the Guelph Agricultural College. They drill daily, are active, intelligent, well-educated young men, who obtained full credit for answers to questions on Artillery, not missing a single question. Their peculiar organization gives them a peculiar advantage, and the benefits of spreading good discipline and practical artillery knowledge among the future yeomen of Canada can scarcely be over-estimated.

The conduct of the brigade in camp was excellent. The routine, instruction and details were very satisfactorily carried out by Brigade Sergeant-Major Clarke, late Royal Artillery, and of "A" Battery Royal School of Gunnery. They have a good

band. The only point to be regretted in connection with the brigade is that more of the officers and men have not qualified at the School of Gunnery. The honorable position of an artillery officer is at least worth the sacrifice of three months study and the experience gained by regular duty.

LONDON FIELD BATTERY.

Encamped in Queen's Park, London.

Inspection 25th and 26th June.

Officers present:—

Major J. Peters, commanding.

Lieutenant, John F. Williams (late Royal Artillery).

Lieutenant, Wilfred H. Heath, S. G. (sick during part of inspection).

Lieutenant, John J. A. Hunt (Prov.)

Surgeon-Major, V. A. Brown.

Veterinary Surgeon, James Tennet.

Scale of Credits.

| | |
|--|----|
| Clothing and accoutrements..... | 6 |
| Guns, carriages and equipment..... | 5 |
| Horses | 6 |
| Harness and harnessing | 11 |
| Marching past, walk, trot, galop | 10 |
| Standing gun drill, and answers to questions on artillery material, by non-commissioned officers..... | 20 |
| Field manoeuvres..... | 10 |
| Selection of fighting positions, and answers to questions from Field Artillery Manual on fighting tactics (by officers)..... | 15 |
| Each officer or man with S.G. certificate, 1st to 4th..... | 20 |
| Each man with an efficiency badge ($\frac{1}{4}$)..... | 0 |
| Sword drill with mounted officers and non-commissioned officers..... | 0 |
| Gun dismounting, and disabled ordnance | 3 |
| Discipline (including camping details)..... | 3 |
| One-tenth ($\frac{1}{10}$) total score at competitive practice..... | — |
| Figure of merit total..... | — |

NOTE.—Figure of merit cannot be assigned, as there has been no gun practice.

This battery was inspected at a disadvantage. The pressure of succeeding inspections obliged me to see them on the third day only of being in camp, which, perhaps, accounts to some extent for my not finding them up to the mark of my previous inspection, three years ago. Many of the old men had left. There were twenty recruits. There is no good range in the neighborhood, and an application to go to Port Stanley not being answered in time, the gun practice had to be put off for this year. The equipment is somewhat out of order, for which the commanding officer can scarcely be held responsible. The valises are worn out; said to have been twenty-four years in use. Nose bags being returned into store are not part of equipment of battery available for immediate use; guns not painted for eight years; no foot rests for the axle seats, by which defect men are liable to rupture; no range table plates. These points were reported by me three years ago, since which I have not inspected the battery. There is no magazine for field artillery, service ammunition in accordance with General Orders (23), Ottawa, 15th December, 1876. Three non-commissioned officers and two drivers have joined for a short course of instruction since the arrival of "B" Battery, R.S.G.

HAMILTON FIELD BATTERY.

Commanded by Captain William F. McMahon. Did not drill this year, stating as a reason the disallowance of pay for Sundays, and days coming and going to camp, which two days are the hardest on the men, pitching and breaking up camp, returning equipment, and marching to and from. It is to be regretted that this officer and his battery did not think fit to make the sacrifice made by their comrades of other batteries. It is a serious drawback for so complicated an arm as field artillery to remain two years without training, when the whole period of service is only three years. I trust some change will be made in the orders for next year. No officers or men have joined the School of Gunnery this season.

WELLAND CANAL FIELD BATTERY.

I inspected this battery at Port Colborne, on 16th September.

Officers present:—

Brevet Captain Frank King.

Lieutenant Albert W. Reavelly, S.G.

Lieutenant Benjamin Rooth (Prov.).

This battery is nominally commanded by Brevet Major Richard King, who is incapacitated by wounds received in action from performing the duties of his position. It is much to be regretted that the recommendations of Lieut.-Col. Irwin for the retirement of this officer, have not been carried out. I concur in his views, and hope that this gallant but physically incapable officer be retired with the rank of Lieut.-Colonel for his gallant services and sacrifices in the cause of his country, in accordance with paragraph 91, Regulations and Orders, 1879. He has, I believe, been granted a pecuniary compensation.

Scale of Credits.

| | |
|---|--------|
| Clothing and accoutrements..... | 6 |
| Guns, carriages and equipment | 8 |
| Horses | 7 |
| Harness and harnessing..... | 10 |
| Marching past, walk, trot, gallop..... | 11 |
| Standing gun drill, and answers to questions on artillery material by non commissioned officers..... | 21 |
| Field manœuvres..... | 14 |
| Selection of fighting positions, and answers to questions from Field Artillery Manual on fighting tactics (by officers) | 8 |
| Each officer or man with School of Gunnery certificate, 1st to 4th..... | 19 |
| Each man with an efficiency badge ($\frac{1}{2}$)..... | 1.75 |
| Sword drill with mounted officers and non-commissioned officers..... | 0 |
| Gun dismounting and disabled ordnance | 0 |
| Discipline (including camping details)..... | 9 |
| One-tenth (1-10th) total score at competitive practice | 47.3 |
| Figure of merit—Total..... | 161.78 |

Considering the disadvantages the battery labors under in having no drill-shed, great credit is due to its acting commanding officer. There is no suitable drill-shed for voluntary drills, though two acres of ground were given free by the County of Welland for this purpose, and \$700 were sanctioned in the Estimates for 1872. The money was not paid, and it is feared that the county will resume the grant of land, unless the drill shed is constructed. There is no proper armoury or magazine, and General Orders (23), Ottawa, 15th December, 1876, cannot be complied with. The protection of the Welland Canal renders this an important consideration. One sergeant has joined for a short course of instruction since the arrival of "B" Battery, R.S.G.

MOUNTAIN ARTILLERY.

The battery of Mountain Artillery at Sault Ste. Marie has never been inspected by an Artillery officer that I am aware of, nor any steps taken for its instruction, or to ascertain the state of its equipment. Two 7-pr. M.L.R. mountain guns.

TORONTO FIELD BATTERY.

Inspected, 14th September.

Officers present:

Brevet Major John Gray, Commanding.

Lieutenant Joseph H. Mead.

Surgeon McDonald.

Veterinary Surgeon Andrew Smith.

Scale of Credits.

| | |
|--|-------|
| Clothing and accoutrements..... | 5 |
| Guns, carriages and equipment..... | 6 |
| Horses..... | 7 |
| Harness and harnessing..... | 10 |
| Marching past, walk, trot, gallop..... | 9 |
| Standing gun drill, and answers to questions on artillery material by N.-C. officers..... | 22 |
| Field manœuvres..... | 10 |
| Selection of fighting positions, and answers to questions from Field Artillery manual on fighting tactics (by officers)..... | 20 |
| Each man with an efficiency badge ($\frac{1}{2}$)..... | 3 |
| Each officer or man with S. G. certificate, 1st to 4th..... | 12 |
| Sword drill with mounted officers and N.-C. officers..... | 0 |
| Gun dismounting and disabled ordnance..... | 6 |
| Discipline (including camping details)..... | 8 |
| One-tenth (1-10th) total score at competitive practice..... | 48.9 |
| Figure of merit—Total..... | 167.9 |

Major Gray is a good officer of long experience, and well seconded by his only subaltern, Lieut. Mead; but I did not find the battery as efficient as at my previous inspection four years ago. Two officers have retired from the battery, and many non-commissioned officers and men have left the district, but would probably return in case of emergency. This necessitated the band being placed in the gun detachments; some of the drivers were too young and undersized.

The clothing has been a long time in wear, and in consequence not in good order. This battery has to turn out to fire salutes at the opening and closing of the Provincial Legislature, which, as well as voluntary drills, wear out clothing. Four non-commissioned officers have joined for short course since arrival of "B" Battery, R.S.G.

DURHAM FIELD BATTERY.

Inspected on 23rd September; gun practice 24th. The following officers were present:—

Captain William Morton Graham, S.G., Commanding.

Lieutenant William McLean, jr., S.G.

Surgeon Thomas H. Brent, M.D.

Veterinary Surgeon J. S. Caesar, 3rd Regiment Cavalry.

Lieutenants Charles H. Brereton and J. Richardson were reported as absent without leave.

Scale of Credits.

| | |
|--|-------|
| Clothing and accoutrements..... | 3 |
| Guns, carriages and equipment..... | 4 |
| Horses..... | 5 |
| Harness and harnessing..... | 3 |
| Marching past, walk, trot, gallop..... | 3 |
| Standing gun drill, and answers to questions on artillery material by non-commissioned officers..... | 16 |
| Field manœuvres..... | 3 |
| Selection of fighting positions, and answers to questions from Field Artillery Manual on fighting tactics (by officers)..... | 0 |
| Each officer or man with School of Gunnery certificate, 1st to 4th..... | 14 |
| Each man with an efficiency badge ($\frac{1}{4}$)..... | 3.50 |
| Sword drill with mounted officers and non-commissioned officers..... | 0 |
| Gun dismounting and disabled ordnance..... | 6 |
| Discipline (including camping details)..... | 4 |
| One-tenth (1-10th) total score, competitive practice..... | 41.50 |

Figure of merit—Total106.

It may be seen that this battery stands lowest on the scale of credit for efficiency.

The surgeon reported a good deal of sickness in camp, aggravated by want of a medicine chest, none being supplied this year. I fail to see the economy of paying a doctor without appliances. Artillery is a service in which men are liable to serious accidents, irrespective of the light complaints due to camps. If the system of supplying medicine chests has been found extravagant, contingent bills could be furnished by the doctors with sick report, the doctors bringing their own instruments. The order to send men home, without previous medical treatment, when sick, could manifestly not be complied with in serious cases, such as last year, when a man's hand was blown away. The gun carriages require painting, which has not been done since their issue, and the wedges are falling out of the naves of the wheels. The harness is in bad repair, in some parts tied together with pieces of string.

I reported unfavorably of this battery at my last inspection of it, and regret that I find it as it was four years since.

KINGSTON FIELD BATTERY.

Was inspected on the 30th June, having carried out gun practice the day previous. They were brigaded with the Gentlemen Cadets, and "B" Battery, R.S.G., on Dominion Day, in presence of the Minister of Militia. Their marching past at the walk, trot, and gallop, and the manner in which they occupied fighting positions taking advantage of ground, etc., was satisfactory and creditable to their commanding officer, Captain H. Wilmot. Their inspection was equally satisfactory. They availed themselves of the assistance of Sergeant Instructor A. Lyndon, "B" Battery, Royal School of Gunnery, during their training, with good results. The non-commissioned officers and men are a good class of farmers, of fine physique owning their horses; but Lt. Col. Irwin reports that they have not profited by the proximity of the Gunnery School as much as they might have done, a defect I hope to see remedied.

The following officers were present during the training and inspection:—

Captain Henry Wilmot, (Prov.)
1st Lieut. John Wilmot, S.G.
2nd Lieut. Peter G. Wilmot, S.G.
Surgeon Herbert J. Saunders, M.D.

Scale of Credits.

| | |
|---|-----|
| Clothing and accoutrements..... | 6 |
| Guns, carriages and equipment..... | 5 |
| Horses..... | 7 |
| Harness and harnessing..... | 11 |
| Marching past, walk, trot, gallop..... | 11 |
| Standing gun drill, and answers to questions on Artillery Material by non-commissioned officers..... | 20 |
| Field manœuvres..... | 11 |
| Selection of fighting positions and answers to questions from Field Artillery Manual on fighting tactics (by officers)..... | 20 |
| Each officer or man with S.G. certificate, 1st to 4th..... | 11 |
| Each man with an efficiency badge ($\frac{1}{4}$)..... | ... |
| Sword drill with mounted officers and non-commissioned officers..... | ... |
| Gun dismounting and disabled ordnance..... | 6 |
| Discipline (including camp details)..... | 8 |
| One-tenth (1-10th) total score, competitive practice..... | 50 |

Figure of merit—Total 166

1 non-commissioned officer, 1 driver and 1 trumpeter have joined for a short course since arrival of "B" Battery, R.G.S.

OTTAWA FIELD BATTERY.

As I was unable to attend myself, I directed Lieut.-Colonel Montizambert, "B" Battery, to inspect this battery, which he did on the 2nd July, 1880, assigning the scale of credits as under. The gun-practice was carried out on the 30th June, Lieut. Cole, (Long course), Royal School of Gunnery, acting as umpire.

Scale of Credits.

| | |
|--|------|
| Clothing and accoutrements..... | 7 |
| Guns, carriages and equipment..... | 5 |
| Horses..... | 6 |
| Harness and harnessing..... | 8 |
| Marching past, walk, trot, gallop..... | 11 |
| Standing gun drill and answers to questions on artillery material by non-commissioned officers..... | 20 |
| Field manœuvres..... | 13 |
| Selection of fighting positions and answers to questions from Field Artillery Manual on fighting tactics, (by officers)..... | 11 |
| Each officer or man with S. G. certificate, 1st to 4th..... | 11 |
| Each man with an efficiency badge ($\frac{1}{4}$)..... | 5.5 |
| Sword drill with mounted officers and non-commissioned officers..... | 4 |
| Gun dismounting and disabled ordnance..... | 8 |
| Discipline (including camping details)..... | 9 |
| One-tenth (1-10th) total score at competitive practice..... | 50.1 |

Figure of merit—Total..... 168.6

Officers present:—

Captain J. Stewart, (Prov.)
1st Lieutenant Louis W. P. Coutlée, S.G.
1st Lieutenant Thomas Evans, S.G.
Surgeon Thomas B. Bentley, M.D.
Veterinary-Surgeon James Harris.

The battery was drilled by the commanding officer and both subalterns; and the movements were well and steadily done.

Note by the Inspector of Artillery:—

As this battery is at headquarters, it should not be difficult to obtain three sets of non-commissioned officer appointments, by the usual requisitions; as also sponge heads. Up to date Captain Stewart has not thought fit to obey the instructions I sent him on this head.

As regards the state of the gun carriages, there should be no difficulty in obtaining payment of a contingent bill to cover painting and other petty repairs. Two non-commissioned officers have joined for short course of instruction since arrival of "B" Battery, Royal School of Gunnery.

GANANOQUE FIELD BATTERY.

Inspected 7th July, and gun practice on the 8th.

Officers present:—Brevet Major William McKenzie, S.G., Commanding; Lieutenants Charles Edwin Britton, George Gillies, J. M. Redmond, S.G., Surgeon E. H. Merrick, Veterinary Surgeon John Waldie.

Scale of Credits.

| | |
|---|------|
| Clothing and accoutrements | 5 |
| Guns, carriages and equipment..... | 4 |
| Horses..... | 5 |
| Harness and harnessing..... | 10 |
| Marching past, walk, trot, gallop..... | 9 |
| Standing gun drill and answer to questions on artillery material by non-commissioned officers..... | 16 |
| Field manoeuvres | 10 |
| Selection of fighting positions and answers to questions from Field Artillery Manual on fighting tactics (by officers)..... | 14 |
| Each officer or man with School of Gunnery certificate, 1st to 4th..... | 17 |
| Each man with an efficiency badge ($\frac{1}{4}$) | 6 |
| Sword drill with mounted officers and non-commissioned officers..... | 0 |
| Gun dismounting and disabled ordnance | 2 |
| Discipline (including camping details)..... | 7 |
| One-tenth (1-10th) total score at competitive practice..... | 47.8 |

Figure of merit—Total.....152.8

From my previous inspection of the battery, and knowledge of the zeal and ability of the officer commanding, I was surprised not to be able to give higher credits, but there appeared to be a misunderstanding as to the arrangements of equipment in marching order, defective tactical knowledge on the part of the subalterns (Lieut. Redmond was an honorable exception); and of artillery material, and elementary gunnery, on the part of the non-commissioned officers. One officer, one non-commissioned officer, and two drivers have joined for a short course since the arrival of "B" Battery, R. S. G.

QUEBEC FIELD BATTERY.

I inspected on the 25th of May, 1880.

Officers present:—

Captain Crawford Lindsay, S.G., Commanding
1st Lieutenant Charles P. Dean, S.G.
2nd Lieutenant Edward B. Garneau (Prov.)
Lieutenant Thibeaudeau (Acting.)
Veterinary Surgeon William B. Hall.

Lieutenant Thibeaudeau was unable to ride in consequence of an injury the day previous.

This battery performed their drill in barracks in the Citadel. The horses were picketed in the riding school, and they furnished a guard at the Chain Gate, the sentries of which were so smart, clean and alert, that it was difficult to distinguish between them and their old comrades of "B" Battery. I had every opportunity of noting their thorough and efficient instruction by Captain Crawford Lindsay, and the strict discipline he maintained. They were also inspected on Her Majesty's Birthday, and in taking part in the manoeuvres on the Plains of Abraham showed the skill of their commander, and their great aptitude in taking up fighting positions and driving over difficult ground.

It is to their credit that they have, since its formation, duly availed themselves of their proximity to the Royal School of Gunnery. Their former commanding officer Lieut.-Colonel Baby, being one of the first to join "B" Battery School of Gunnery. For the last nine years he spared neither his purse, nor his labor, in the maintenance of the corps. They were fully equipped with busbies, riding breeches, boots and spurs, in a great measure by his liberality, aided by his officers and the men themselves. The value of the following credits are enhanced when it is remembered that the non-commissioned officers and men of the corps are entirely composed of French-speaking Canadians. The principal books of instruction and the words of command used are not in their mother tongue.

| | |
|---|------|
| Clothing and accoutrements | 8 |
| Guns, carriages and equipment | 6 |
| Horses..... | 7 |
| Harness and harnessing..... | 10 |
| Marching past, walk, trot, gallop..... | 12 |
| Standing gun drill, and answers to questions on artillery material by non-commissioned officers | 22 |
| Field manoeuvres..... | 14 |
| Selection of fighting positions and answers to questions from Field Artillery Manual on fighting tactics (by officers)..... | 13 |
| Each officer or man with School of Gunnery certificate, 1st to 4th..... | 15 |
| Each man with an efficiency badge ($\frac{1}{4}$)..... | 5 |
| Sword drill with mounted officers and non-commissioned officers..... | 4 |
| Gun dismounting and disabled ordnance..... | 6 |
| Discipline (including camping details)..... | 10 |
| One tenth (1-10th) total score at competitive practice..... | 47.1 |

Figure of merit—Total..... 179.1

GARRISON ARTILLERY.

The garrison artillery generally, are in a very inefficient condition, especially in the Province of Ontario, where I found, as reported in detail, but one efficient garrison battery in ten. In the Province of Quebec they are better, being for the most part in brigades in the cities of Montreal and Quebec; where there are drill sheds, guns and stores to practice voluntary drills, shifting ordnance, &c.

The Montreal Brigade of Artillery, I found for years past in a very efficient condition, but of late dissensions among the officers, and a court of enquiry which has not been followed by any decisive action, has demoralized the corps. Lieutenant-Colonel Irwin does not report favorably, and reports on the insufficient knowledge of stores on the part of non-commissioned officers and men, with certificates from the branch school at Montreal. He points out the absence of models for instruction. He is doubtless aware of the difficulty of obtaining a money grant for such branch school, for which only a non-commissioned officer was allowed during winter months; also that the men being mechanics and the officers business men in the city, there was no

better means at hand of giving instruction than those adopted. His recommendation to form a camp of instruction on St. Helen's Island is, no doubt, a good one, if it is not found that officers and men will be unable to leave their business during the busy summer days, and only be able to go over to camp for evening drills; men weary with a hot day's work will scarcely have much energy left for artillery exercises with heavy guns.

The St. John's, Province of Quebec, Battery is not referred to in Lieutenant-Colonel Irwin's report. At my last inspection I found them in an unsatisfactory condition. It is an important strategic point, and numerous reports on the subject has been made, but no action taken.

The project of assembling the newly-formed batteries of garrison artillery in the Citadel, Quebec, is also a good one, if the same business necessities do not interfere with its execution. Lieut.-Colonel Price Lewes reports on the deterioration of the New Brunswick Brigade of Garrison Artillery, for reasons apparently beyond his control which he points out in his report. It will, I trust, induce action on the part of the Department. The artillery defence of St. John is most important. It is satisfactory to find the Halifax Brigade of Garrison Artillery has much improved since the appointment of Lieut.-Col. Price Lewes. He has formed classes of voluntary instruction for officers and men; examination questions were supplied from Quebec Royal Gunnery School on artillery, fortification and military law, which were well answered under his supervision. The questions were of equal value to those ordinarily given at the Quebec Gunnery School, and as the theoretical instruction was given by himself, aided by the Adjutants in practical drills, it is a fair test of efficiency. At my last inspection, before they were handed over to Lieut.-Col. Price Lewes, I found them little better than bad blue-coated infantry. The results of the examinations and competitions in gun practice and gun shifting, under the auspices of the Dominion Artillery Association, show a very different state of affairs. Lieut.-Col. Price Lewes has further excited emulation, by giving prizes in addition to those given by the Dominion Artillery Association.

No. 2 Battery, Charlottetown, battery commanded by 1st Lieut. Irving, 1st Class "B" Battery, R.G.S., has shown, by carrying off the shifting ordnance prize from the militia of the whole Dominion (excepting the Gunnery Schools), what an almost isolated corps can do under an instructed and zealous officer.

To recapitulate shortly the necessities of the Garrison Artillery:—

1st. The abolition of the system of allowing garrison batteries to train only once in two years or less, according to the selection by lot. Maintaining artillery corps to drill once in two years is simply waste of money.

2nd. Those isolated corps in the Provinces of Ontario and Quebec that do not carry on voluntary drills, or cannot be assembled at Kingston or Quebec for training annually, should be disbanded, and the saving expended on corps that can be made efficient, according to the reports of the Inspectors of Artillery.

3rd. Captains of batteries performing twenty-five or more unpaid voluntary drills during the year, as laid down for Dominion Artillery Association efficiency badges, should be allowed to send in certified contingent bills, not to exceed \$20 for the first year, for the purchase of shifting ordnance stores, ropes, skids, rollers, scotches, and \$10 annually to keep up the supply, as long as they continue to perform the regulated number of voluntary drills, and satisfy the Inspectors of Artillery as to efficiency.

4th. The allowance of practice ammunition is not sufficient, having been placed at a minimum in a time of depression. Twenty more rounds solid shot per battery should be allowed for the instruction of the men who are not marksmen. There is a vast amount of S. B. ammunition, fast becoming obsolete; it would best be utilized in instruction.

5th. The conversion of the old guns into rifles, already commenced, will, it is hoped, be continued until a sufficient number are converted for issue to all important points where it is considered necessary to maintain garrison artillery, and to incur the expense of a covering earthwork, without which the guns and gunners are useless.

The cost of such a half-sunken battery for two guns and two mortars with expense magazine, the gorge closed with palisades, is estimated, in an ordinary soil, to be worth \$800. An officer of the Montreal Engineers, with first-class certificate from "B" Battery, Royal Gunnery School, offers to construct such a work for the sum specified.* I trust the expense of one such work will be sanctioned, if only as an experiment. It could be put into repair by the battery annually during training, if \$10 worth of entrenching tools were sanctioned, to be supplied and kept in the battery stores.

6th. A suit of serge uniform every three years might, with advantage, be supplied to corps performing voluntary drills during the year, on the system laid down by the Dominion Artillery Association for efficiency badges.

7th. It should be borne in mind that efficient garrison artillery corps are a most economical and useful arm, as they can be, and have been, marched to the frontier as infantry, in localities where they may not happen to be required at their guns. The Montreal Garrison Artillery did good service at "Trout River" as an infantry battalion. All such corps should, therefore, be supplied with ball bags for extra cartridges, in addition to the old pattern artillery pouch, which is too small. There are plenty in the militia stores, also old pattern knapsacks.

8th. The rule regarding qualification of officers, within twelve months of appointment, should be enforced. There is but one qualified commanding officer of a garrison battery in the whole Province of Ontario.

SARNIA BATTERY OF GARRISON ARTILLERY.

The Sarnia Garrison Artillery has not performed drill for two years. I was informed by the Deputy Adjutant-General, Military District No. 1, it was intended to turn it into an infantry company, but it remains on the militia list as a garrison battery.

ST. CATHARINES BATTERY GARRISON ARTILLERY—Capt. Wiley, S.G., Commanding.

The Deputy Adjutant-General of Military District No. 2, was good enough to inspect this battery for me, as the inspection of another battery in a different locality prevented my going to St. Catharines.

This battery is armed with two 18-pr. smooth-bore guns on travelling carriages. It occupies an important position, and should have modern guns. They could be converted into 20-pr. rifled, at a cost of about \$500 each gun. The present gun carriages would suit if in serviceable condition. The battery should then be placed on the same conditions as a field battery for drill. This last point was suggested by Lieut.-Colonel Irwin, and I concur.

The details of the inspection will be found in the report of Lieut.-Colonel Durie. They have not performed gun practice.

TORONTO BATTERY GARRISON ARTILLERY—Capt. Donald Gibson, Commanding.

He has been without subaltern officers for the last three years, perhaps longer. It is difficult to imagine that it is impossible to procure artillery officers in a city like Toronto, if Capt. Gibson seriously desired it. His own exertions, aided by Sergt. Swanson, late of "B" Battery, keep the battery in a fairly efficient condition, but, as previously reported, it could not be expected to bear any strain of duty without subaltern officers; moreover, Capt. Gibson spoke of retiring; it is hoped he will not take so unpatriotic a step until he has left the corps with which he has been intrusted, in competent hands; clothing and accoutrements in very good order; helmets have been provided at the expense of the battery; manual exercise fair, but the firing exercise has not been taught. I am surprised to find that in this, as in other instances, intelligent militia officers forget that an enemy is not affected by the

* Plans and specifications herewith submitted.

manual, but by the firing exercise. The company drill was indifferent, but as the time has been well employed in artillery instruction, I have less cause for comment, except that with an excellent drill shed there is every facility for voluntary evening drills of every kind.

The gun drill, mortar drill, and gyn drill, under the non-commissioned officers was very good, also the knotting and lashing, and answers to questions on ammunition. The gun practice was carried out under the Dominion Artillery Association rules, from the ruinous battery at Old Fort, Toronto, range officer, Captain Short, "B" Battery. The solid shot firing was good, but the shrapnel fuzes were unserviceable. They appeared to be properly bored, but every round except one burst at the muzzle of the gun. These fuzes bore the date 1864. They should have been condemned as unfit for issue. This battery has, through no fault of their own, lost their chance in the Dominion Artillery Association competition by the issue of bad fuzes.

COLLINGWOOD BATTERY OF GARRISON ARTILLERY.

Inspection and gun practice 26th July, under Dominion Artillery Association rules; range officer, Major Taschereau, "B" Battery. A gale of wind made it difficult to put out the target, but the practice was fair, considering the high wind, and defective condition of the gun handspikes and platform. Clothing, arms and accoutrements were in good order. Helmets had been provided by the liberality of the Town Council, who also paid half the cost of the magazine. Manual and company drill, indifferent; but it is useless to expect efficiency on such points from a corps who are only permitted to train for six days in two years. The gun drill, notwithstanding, fair; but there was very little knowledge of gunnery or material. Neither of the officers have certificates from the Gunnery School, and though Brevet Lt.-Colonel Hogg was attached to the Royal Artillery for instruction, there have been great changes in the long interval that has elapsed. It is to be hoped his son, 2nd Lieut. Hogg, will qualify. It has been recommended to break up the Collingwood Battery; but it would, in the event of hostilities, be an important base of supplies for the North-West. As the Town Council have shown themselves so patriotic, they might still further assist, if the Government would pay half the cost, \$800, of an earthen battery for a couple of guns and mortars, to command the harbour from Fisherman's Point against privateering craft. Such a battery would be not only efficient against unarmoured vessels, but would protect torpedoes, if it was found necessary at any time to put them down. 1 N.-C. officer has joined for a short course since arrival of "B" Battery, R.S.G.

COBOURG BATTERY, GARRISON ARTILLERY.

Inspected 13th July. Fair gun practice was carried out the same day, from 18 pr. S.B. on travelling carriage.

Officers present:—

Captain J. H. Dumble, (Prov.) Commanding.

1st Lieutenant McNaughton, (Prov.)

2nd Lieutenant Edward A. MacNachan, (Prov.)

This battery is an intelligent and respectable body of young men. All recruits. The late system of selection by lot, drilling once in two years being destructive to artillery efficiency. Manual and firing exercise, and company drill, good. Clothing accoutrements, and arms, in excellent order. Gun drill, on 18-pr. travelling carriage, and 24-pr. gun drill, good. Answers to questions satisfactory. They have been instructed on this point by the Commanding Officer, who, having been a civil engineer, has an advantage in point of education; he does not, however hold a certificate from School of Gunnery, and should qualify. The second Lieutenant has applied to join the Royal School of Gunnery this year. No permanent efficiency can, however, be attained by an artillery corps without voluntary drills, and there being no drill shed, or battery for guns, as previously recommended to be built, this battery should be ordered to Fort Henry, Kingston, for training

next summer. The arms are kept in the Town Hall of Cobourg. The shed for gun stores is very insecure, and there is no magazine. A gun platform is required for the 24-pounder. Cost, \$20.

PORT HOPE BATTERY GARRISON ARTILLERY.

Inspected 13th September; practice same day from 32-pr. S.B., which was bad, and not to be wondered at, as the sights on the gun are incorrect. They could be rectified if it is considered worth the expense, of sending an ordnance armourer from "B" Battery. If it is worth maintaining a battery of officers and men, the cost of sighting a solitary gun might be sanctioned.

Officers present:—

Brevet-Major Forbes W. Guernsey, late of H. M. 45th Regiment.

2nd Lieutenant A. A. Adams (Prov.)

Clothing in good order, rifles not clean, no slings on the rifles, pouches not worn, Infantry drill bad, as the short time allowed had been wisely devoted to gun drill, which was good. Sergeant Instructor Howard, "B" Battery, Royal School of Gunnery, having been attached for their instruction, questions on ammunition fairly answered. But the officers themselves should qualify, as they are paid \$40 per annum to instruct, and so dispense with the necessity of extraneous aid.

The officer commanding reports that he summoned four men of the battery for non-attendance at drill, after being warned in accordance with the law. The case was dismissed by the magistrate, on the plea that the warning was not sufficient, though I saw the notice in the local paper, also placards in large print on walls, in the town. The case was reported to headquarters through Deputy Adjutant-General of district. There is a fine drill shed at Port Hope, with store rooms for each corps; the clothing of the artillery might with advantage be arranged in the same manner as that of the regiment commanded by Lieut.-Colonel Williams. As the battery seems to be composed of a class of men who will not drill voluntarily, and the magistrates will not apparently punish for non-attendance at paid drills, they should be ordered to train at Fort Henry, Kingston. If this cannot be carried out, the battery had better be disbanded.

NAPANEE BATTERY OF GARRISON ARTILLERY.

The only trace I could find of this battery during a non-official visit, was an old gun without sights. They were ordered to train last year, but did not, as reported by Deputy Adjutant-General of district. They had better be removed from the militia list, the saving so effected being expended in the training of batteries concentrated at Kingston for annual drill.

TRENTON BATTERY GARRISON ARTILLERY.

Was not drawn last year for drill; have not drilled this year, but have sent two sergeants and two gunners for instruction to Royal School of Gunnery, which looks as if they intended to drill at some future period, in which case they should be sent to Kingston. If this cannot be accomplished, it might be desirable to disband them.

PRESCOTT BATTERY OF GARRISON ARTILLERY.

Officers present:—

Capt. Patrick Caughlin, (Prov.) Commanding.

1st Lieut. Harlow G. Wiser, S.G.

This battery was inspected in the drill shed. Their armament as a garrison battery is peculiar, consisting of four 9-pr. guns, without horses or equipment. Garrison guns should be mounted in Wellington Fort for them. There are plenty at Kingston that could be sent at trifling cost.

Further, Fort Wellington should be armed with a 32-pounder and two 10-inch mortars, from Kingston, skids, and rope, for shifting ordinance, to enable voluntary drills to be carried out during the year. If this Battery cannot be made effective, a detachment from the Gunnery School, consisting of an Officer, and 25 non-commissioned officers and gunners, could be sent from Kingston to this most important post, but it would be necessary to increase the strength of B. Battery for this purpose.

QUEBEC AND LEVIS GARRISON ARTILLERY.

The five batteries were formed as a Provisional Brigade, under Major Hamel. Two batteries, Captain Roy and Captain Boulanger, under Lieutenant and Brevet-Major Fraser, "B" Battery, on Her Majesty's Birthday and manned the Citadel guns, 7-inch B.L.R. and 24-pr. S.B. He reports very favorably of their gun drill. The remainder, Major Hamel, Captain Vien and Captain Ruthven's batteries, acted as infantry, manning the Citadel works. The whole, except Captain Vien's battery, having previously marched past His Excellency and Her Royal Highness, on which occasion the arms, clothing and accoutrements, were in good order. The batteries provided helmets at their own expense, and maintain a band.

On the 31st May, I had a more minute inspection in the drill shed. The following officers and batteries were present:—

No. 1 Battery, Quebec.

Captain H. Roy, S.G.
Lieutenant J. D. Donaldson, "B" Battery.

No. 2 Battery.

Captain T. L. Boulanger, (Prov.)
1st Lieutenant A. Malouin (Prov.)

No. 1 Battery, Levis.

Major Charles T. Hamel, S.G.
1st Lieutenant S. A. Pitou (Prov.)

Arms of Captains Roy and Boulanger's batteries were dirty, having been given into the charge of the Store Department at Quebec, 24th May, and issued for parade on 31st. They were returned into store on account of the disturbed state of the city.

No. 1, Major Hamel's battery, having been kept at No. 2, Fort, Levis were clean and in good order. The accoutrements of all were clean. The clothing of all was in good order. Captain Roy complains that some suits of clothing were worn out by men of his battery going through courses of instruction at the Gunnery School. This evil has been met for the future by the issue of serge fatigue clothing to short course men at the Royal Gunnery School. Captain Roy also complains that his battery has been prevented from doing voluntary drill for the past two years, in consequence of the Brigade Major ordering his clothing into store, on the plea that voluntary drills would wear out the clothing. I should prefer well-drilled soldiers in shabby uniform to unworn clothing and untrained soldiers.

No. 2 Battery, Levis.

During my absence on duty, Lieut.-Col. Montizambert, "B" Battery, by my direction inspected Capt. Vien's Battery 27th May, at Artillery Park, Levis. He reports Capt. Vien, S.G. the only officer.

Owing to the battery being only lately raised, they had had no instruction in gun drill, and were merely inspected in company drill, and firing exercises, in which they were fairly proficient. Their clothing and accoutrements, were in excellent order; arms, long Snider, very clean.

The helmets of these batteries were provided by the men, at a cost of \$1.70 each, with the exception of Major Hamel's who furnished those of his battery at his own expense.

Gun Drill.

Four gun detachments were told off from Major Hamel's battery, and one from Capt. Roy's. The guns were worked in a satisfactory manner, which is in a great measure due, to many of the non-commissioned officers and gunners having gone through the Royal Gunnery School.

The answers to artillery questions by non-commissioned officers and men were also satisfactory.

Infantry Drill.

The brigade were drilled as a battalion, Major Hamel commanding, Lieutenant Donaldson, Acting Adjutant. Column movements, deployments, echelon movements, and the formation of company squares were fairly executed. Manual exercise under Major Hamel; firing exercise under Lieutenant Donaldson.

The band of 20 is composed of four men from each battery under the leadership of Trumpet-Major McKernon.

No. 3 Garrison Battery, Sillery.

1st Capt. the Hon. Charles E. S. Ruthven, late of H.M. Dragoon Guards.
Lieut. H. D. Morgan (Prov.)

Besides the inspection, 24th May, I instructed this battery previous to giving in their arms at the Citadel. Having been lately organized they were only instructed in manual and firing exercises and company drill. Capt. Ruthven overcame many obstructions in raising this battery.

VICTORIA GARRISON ARTILLERY.

Capt. C. T. Dupont, S.G., Commanding Officer, reports having drilled 14 days in camp. I have little doubt a satisfactory report will be made of them by the Deputy Adjutant-General of the District. There are some important deficiencies in small stores, some due to short issue, others to losses incurred by the breaking open of stores before the appointment of a caretaker from the Gunnery School. Capt. Dupont reports that the stores are now secure, and that the necessary boards of enquiry have been held, and requisitions have been sent in, hitherto without result. It is hoped the requisitions will soon be complied with. The articles can be procured on the spot by repayment, from the Imperial stores. After the expense incurred by the Dominion Government in building batteries, it is desirable that the few requisite small stores be made good, especially as the Imperial Government has supplied the guns, carriages, &c.

Capt. Dupont came a long distance to qualify at the Quebec Gunnery School, and gave up a portion of a well-earned leave of absence. He should not be utterly discouraged in his patriotic and important efforts.

Capt. Pittendrigh, commanding the Seymour battery at New Westminster, is also working against discouragements. His gun carriages are rotten, and his late Quarter-Master Sergeant retained forcible possession of the stores. If these points have been attended to since my last year's report, I should be glad to have these remarks erased from the present one. It was recommended that carriages should be constructed on the spot, or got from the Imperial dock-yard at Esquimalt.

Capt. Tatlow, late R.G.S., has been assisting Capt. Dupont with voluntary classes of instruction, but I have not been favoured with returns of the results.

T. B. STRANGE, Lt.-Colonel,
Inspector of Artillery.

INSPECTION REPORT BY LIEUT.-COLONEL D. T. IRWIN, INSPECTOR
OF ARTILLERY, PROVINCE OF QUEBEC.

RICHMOND FIELD BATTERY.

Inspected at camp, near Sherbrooke, on the 2nd July, 1880.

Brevet Major Hon. H. Aylmer.

1st Lieutenant Beattie.

2nd Lieutenant Williams.

Surgeon Vicat.

Guns, carriages and equipment—the latter incomplete in many respects; the carriages have been repaired and painted since last inspection; harness, indifferent; clothing and accoutrements in fairly good order.

Horses, good, but apparently undersized.

Marching past at a walk and trot, good.

Gun drill, good, but very little general knowledge of ammunition or gunnery was shown.

Field manoeuvres of an elementary nature were fairly well performed.

This battery appeared at a disadvantage this year in point of numbers. Major Aylmer had arranged to have his annual drill later on in the season, but receiving orders to attend the brigade camp formed at Sherbrooke, a large number of his men were unable to attend drill; he reports that the march from battery headquarters at Richmond to Sherbrooke, over heavy roads with only four horses to each gun, was very severe on the former, and that no means of transport were provided for the dismounted men of the battery.

The general appearance of the battery on parade was good, and considering the very short time available for actual drill, its general efficiency was very creditable.

MONTREAL FIELD BATTERY.

Inspected at camp, Montreal, on the 21st August, 1880.

Brevet Lieut.-Col. Stevenson.

Brevet Captain Oswald.

Lieutenant Green.

Surgeon Fenwick, and Vet. Surgeon McEachran, absent with leave from inspection.

Guns, carriages and equipment in good order.

Harness, clean and well fitted.

Clothing and accoutrements, very neat, clean and in good order.

Horses, very good.

Marching past, good.

Gun drill, very good; the answers to my questions on ammunition and gunnery showed that the men had received careful instruction.

Field manoeuvres, much better than at last inspection, and I was glad to observe that the subaltern officers had evidently taken considerable pains to acquire a knowledge of their special duties.

The annual gun practice of this battery was carried on at the Island of Orleans, Quebec, in September, a squad of sixteen competitors having been brought from Montreal by Lt.-Col. Stevenson and Capt. Oswald. The firing was remarkably good and the score very high.

During their annual drill this battery had the services of a sergeant instructor from "A" Battery.

The general efficiency of this battery reflects much credit upon the exertions of the commanding officer, and the attention paid by him to keeping up voluntary drills.

SHEFFORD FIELD BATTERY.

Inspected at camp, near Granby, on 1st September, 1880.

Brevet Lieut.-Colonel Amyrauld.

1st Lieut. Kay.

1st Lieut. Neil.

2nd Lieut. Mitchell.

Surgeon Gilmour.

Vet. Surgeon Vittie.

Gun carriages and equipment in good order.

Harness, well fitted, but not kept quite as clean as might be.

Horses, generally undersized, but apparently very active.

Clothing and accoutrements, in good order, but not very clean.

Marching past, fair.

Gun drill and answers to questions on ammunition and gunnery, very good.

Field manoeuvres, under Brevet Lt.-Colonel Amyrauld and the subaltern officers, were very well performed, and the driving generally was exceptionally good.

The competitive gun practice took place the following morning at a very good land range near camp, but the shooting was indifferent.

All the officers, and a number of the N.-C. officers and men of this battery have attended the Quebec School of Gunnery, and in consequence the general efficiency of the battery is very good. But it is to be regretted that no arrangements can be made for voluntary drills, as the battery have a very good gun-shed at Granby, where it would not seem impossible to arrange for occasional drills and lectures.

QUEBEC GARRISON ARTILLEY.

The batteries composing this corps were inspected previous to my arrival at Quebec. I, however, superintended the competitive gun practice of the batteries commanded by Captains Roy, Boulanger and Ruthven, at the Island of Orleans. The competitors were fairly well drilled, and the shooting was generally good. I hope, however, that in future it may be arranged that these and the Levis batteries go through their annual drill at the Citadel, and perform their annual gun practice at the same time, when possibly a better selection of marksmen may be made and all the officers may be able to attend.

MONTREAL BRIGADE GARRISON ARTILLERY.

Inspected at Montreal on the 27th November.

The brigade, consisting of six batteries, under the command of Lieut.-Colonel Torrance Fraser, paraded on the Champ de Mars, and were inspected by batteries, with the exception of No. 3 Battery. The strength of the batteries on parade did not average more than half the establishment.

The general appearance of the men was very good, and the arms, accoutrements and clothing were in very good order. The issue, however, of three different patterns of great coats deteriorated from the general uniformity.

As an infantry battalion the brigade marched past in column and quarter-column and at the double, formed line, column, deployed, changed front, advanced in echelon, and formed company squares; these movements being creditably performed under the command of Lieut.-Colonel Fraser.

The manual exercise was very well, and the firing exercises fairly well performed under Lieutenant W. Trotter, the acting Adjutant of the brigade.

The brigade were then marched to the drill sheds, mustered by the Deputy Adjutant-General, Lieut.-Colonel Fletcher, and performed the following artillery drills:—

No. 1 Battery—Captain Geo. Forbes.

One detachment, standing gun drill, not very well performed, and no knowledge of ammunition or artillery.

No. 2 Battery—Capt. H. McAllan.

Gyn drill, good.

No. 3 Battery—Captain Laurie and Lieut. Levin.

Two detachments at standing gun drill and at shifting ordnance. Drill fairly well done, but very little knowledge of stores or ammunition.

No. 4 Battery—Lieut. F. Whitley.

One detachment, standing gun drill, fair.

No. 5 Battery—Lieut. Cole.

Shifting ordnance, only indifferently well performed.

No. 6 Battery—Lieut. Birks.

Gun drill, not inspected.

The general result of this inspection I do not consider as being very satisfactory. So far as the general appearance of physique of the men is concerned, there is little to be desired, but the great deficiencies in the strength of the batteries, both as regards officers and men, must be considered as most detrimental to the general efficiency of the brigade.

So far as infantry exercises are concerned, the brigade appears to have been carefully drilled; but I was much disappointed in the evident ignorance of the non-commissioned officers in all that relates to artillery subjects, such as the projectiles, charges and fuzes, &c., of the guns they were drilling at, &c.

This must be, in a good measure, accounted for by the absence of suitable appliances in the shape of models, stores, &c., and also is, I consider, due to the absence of thoroughly qualified instructors; for although a considerable number of non-commissioned officers and men have received certificates from the branch school at Montreal, yet their instruction only seems to have been thorough in the details of drills.

The want of a suitable drill shed is very much felt, the present accommodation being very insufficient.

I hope that it may be found possible to arrange for the annual drill of this brigade next year in camp at St. Helen's Island. Gun practice could then be carried on, and systematic and careful instruction could more easily be undertaken than under present arrangements, by which the men are crowded together in a small drill shed.

The brigade have an efficient fife and drum band, the men comprising it being enrolled in the different batteries.

REPORT ON GASPÉ BATTERY OF GARRISON ARTILLERY UNDER COMMAND OF MAJOR SLOUS, INSPECTED BY LIEUT.-COLONEL COTTON, "A" BATTERY, ON THE 12TH AND 13TH OCTOBER, 1880.

CITADEL, QUEBEC,
16th November, 1880.

SIR,—I have the honor to report that, in accordance with your instructions, I proceeded on the 8th October to Gaspé, for the purpose of inspecting the Gaspé Garrison Battery under command of Brevet Major Slous.

There were present on parade: 2 officers, Major Slous and Lieut. Carter, 2 sergeants, 1 bugler and 32 gunners.

On the morning of the 12th, the battery commenced their annual competitive practice, making a high score. The target and bannerols were laid out on a water range in the harbor at an estimated distance of 1,200 yards.

After the gun practice I inspected the men at garrison gun drill. Two gun detachments only had been well drilled. They performed all the exercises very well indeed, in a smart and confident manner, and were well posted in their duties. The short time allotted for annual training to the garrison batteries renders it almost impossible to drill all the men in gun as well as in infantry drill. However, men enough of this battery were trained to serve its two guns in an efficient manner at any time.

On the afternoon of the 12th, I inspected the battery in company drill. The marching past, manual and firing exercise and different company movements were very fairly performed, and considering the limited period of instruction, reflected credit alike on both officers and men. With one or two exceptions, the non-commissioned officers and men were of fine physique and well qualified for the duties of garrison artillerymen.

The rifles, accoutrements and clothing were new (forage caps excepted) and in very good order. The battery are entitled to a new issue of forage caps, the present ones having been six years in wear.

On the 13th I inspected the armoury and magazine. The arms, accoutrements, &c., &c., had been returned on completion of the drill, and were in good order, in all respects, and no deficiencies. I would desire here to call your attention to the fact that the armoury is in an isolated position about a mile from the more thickly populated portion of the village. The magazine is convenient to the battery, but it is only of rough construction at the best, and liable to be damp in wet weather. It is surrounded with trees, and in case of fire, would be exposed to danger. The battery is situated on a point having a complete command of the harbor and of the entrance to the Rivers York and Dartmouth. The two (2) 24-pr. smooth-bore guns, of which the armament consists, are mounted on cast-iron carriages. The guns have a command of about 25 feet above high-water, but the lateral range of the guns is limited, owing to the thickness of bush by which they are surrounded. It would appear to be advisable for the Government to acquire possession of the piece of land on which the battery is situated and have it cleared. The magazine requires re-building and protecting.

The gun platforms are in poor condition. One gave way completely towards the termination of the gun practice and is now unserviceable.

There are no percussion fuzes on charge.

Four screws for the sights are broken and deficient.

There is no reserve of S. A. ammunition.

No wood tangent scales on charge.

I have the honor to be, Sir,

Your obedient servant,

(Signed) W. H. COTTON,

The Inspector of Artillery,
Quebec.

Captain and Brevet Lieut.-Colonel,
Commanding "A" Battery

General Remarks.

1. With reference to the above reports of inspections, I have to remark that none of the three field batteries reported upon wished to compete for the Governor-General's prize to be awarded this year to the most efficient field battery. The reasons alleged were various and conflicting, the most important, however, being that it was not to be expected that field batteries recruited from country districts with few, if any, facilities for voluntary drills, could compete in drill with city corps. This objection is apparent enough and cannot well be obviated so long as the period for annual drill is so very limited.

2. I have again to bring forward my previous recommendations as to the following subjects, viz. :—

Increase in the period allowed for annual drill.

Cloth trousers with straps, or pantaloons and high boots, to be issued to all mounted non-commissioned officers and men of field batteries.

That six horses per gun may be allowed for field batteries instead of four as at present.

3. The subject of field battery equipment requires attention in order that the guns, carriages, ammunition, saddlery and harness, and numerous small stores may be kept complete and in good order. Each field battery is at present provided with a store ledger, a copy of which should be sent at the end of each year, through the Inspector of Artillery, to headquarters, together with requisitions for all articles required to complete equipment. At present it frequently happens that requisitions are only sent in a few days before the annual drill commences, and the articles demanded cannot be supplied in time for the latter.

4. Sufficient attention does not seem to be paid by battery officers to camping details, as a general rule. I noticed much slovenliness in and about the tents of the N.-C. officers and men, and this seems to account in a great measure for the excessive wear and tear of uniform at annual drill.

It would be very advantageous if the "Regulations for Encampments," 1875 as published in the Annual Report for 1876, were more strictly adhered to.

D. T. IRWIN, Lieut.-Colonel,
Inspector of Artillery.

INSPECTION Parade State, Quebec, 1st December, 1880.

| CORPS. | Officers. | N.-C. Officers and Men. | Horses. | CERTIFICATES. | | | | | | Recruits. | REMARKS. |
|-----------------------------------|-----------|-------------------------|---------|---------------|------------|------------|------------|------------------|-------------|-----------|----------|
| | | | | 1st Class. | 2nd Class. | 3rd Class. | 4th Class. | Military School. | Attendance. | | |
| Field Battery Establishment | 6 | 75 | 28 | | | | | | | | |
| Richmond Field Battery | 4 | 42 | 29 | 1 | | | 7 | | | | |
| Montreal do | 5 | 74 | 28 | 1 | 6 | 2 | 5 | 2 | | | 4 |
| Shefford do | 6 | 72 | 29 | 3 | 1 | 10 | | | | | 19 |
| Garrison Battery Establishment... | 3 | 42 | | | | | | | | | |
| Gaspé Battery | 2 | 35 | | | | | | | | | |
| Montreal Brigade: | | | | | | | | | | | |
| No. 1 Battery | 1 | 18 | | | | | | | | | |
| No. 2 do | 1 | 26 | | | | | | | | | |
| No. 3 do | 2 | 32 | | | | | | | | | |
| No. 4 do | 1 | 19 | | 2 | 13 | 1 | 23 | | | | 47 |
| No. 5 do | 1 | 23 | | | | | | | | | |
| No. 6 do | 1 | 14 | | | | | | | | | |
| Staff | 2 | 23 | | | | | | | | | |

Under examination
for certificates, 3.
Including 18 bands-
men.

FORTS AND ARMAMENTS.

Toronto.

The local boards held annually report very fully on the condition of forts, barracks, and military buildings; it will therefore be only necessary for me to report in general terms on those I have inspected this year, and of which I have received reports.

The forts and military buildings at Toronto are in a very dilapidated state. The general order forming "A" and "B" Batteries provided for an officer and a detachment from "A" Battery for the fort at Toronto, but I believe the small establishment at Kingston (which seems to have been decided upon without much knowledge of the duties that would be required of it) rendered it impracticable to keep a detachment at Toronto, as it was found impracticable to keep a detachment from the Quebec Battery, as a guard to the stores on St. Helen's Island.

Kingston.

Fort Henry is in fair condition, considering it was not occupied by "A" Battery, which rendered extensive repairs necessary. Empty casemates rapidly ruin in this severe climate. Considerable repairs were executed in putting Nicholson pavement on the roof, but the cheapest and only means of preserving casemates in this climate is a shingle roof, such as has been put over a considerable portion of the Citadel of Quebec. The towers at Kingston being roofed and occupied are in very good order. I see Lieut.-Col. Irwin concurs in my recommendation of twenty-five artificers being attached to the battery at Quebec for pointing masonry and petty repairs. A larger force of the same description would be required at Kingston, as they should be utilized to throw up earthworks, and assist generally in the practical training of the gentlemen cadets. The advantage of having a military supervisor of work done by the Board of Works in repairing fortifications has been, I believe, proved in the employment by the Department of Public Works of Lieut. Imlah, attached to "B" Battery, who was detached for this duty to Quebec from Kingston. He also superintended the construction of heavy gun carriages by the artificers of "B" Battery at Quebec to my entire satisfaction, the manufacture being cheaper than importation.

The wooden traversing platforms in the advance battery, Fort Henry, are, with the exception of the 56-pr., so faulty in construction that the rear support is in front of the centre of gravity of the gun and carriage, when it recoils with the service charge. The result I anticipated occurred when practising from these guns, they upset themselves by their own recoil with the first round. I obviated accident or damage by previously withdrawing the gun detachments and firing with a double lanyard. I would recommend that these defective platforms in the advance battery, Fort Henry, which are quite unserviceable from their radically wrong construction, which no system of compressors could rectify, be replaced by serviceable ones with the usual raised racers to carry four of the 10 $\frac{3}{4}$ -prs. being converted in Montreal, and that the 56-pr. mounted in the salient be also converted. The terreplein in rear of the advanced battery could not be defiladed from the lake, but the men working the guns would be sufficiently covered by the existing parapet if the glacis were raised a few feet in front to protect the masonry of the latter, and traverses constructed. It is a mistake to suppose every fortress useless, that is not invulnerable to monster modern guns. Such have never yet been brought into torpedo studded waters, but torpedoes in return require a few accurate rifle guns of ordinary calibre such as our $\frac{3}{4}$ -prs. to prevent these being dredged up, or counter exploded, a service that must be performed by light craft. Fort Henry would be a secure "point d'appui" for construction and the safety of stores in sudden emergency. There is considerable bomb-proof accommodation; the only way to preserve which in this climate (without inordinate expense) is to put a shingle roof on the casemates, as before stated. Such a roof forms a drill shed in winter as well as a protection for the gun carriages and stores.

It already exists on the towers, which are consequently in excellent preservation, but, singular to report, are so placed as to prevent the guns being run back either for firing or drill. Raising the rods a few inches at the central point where they meet would obviate this. I would recommend a couple of the 32-prs. on Cedar Island tower being replaced by two $\frac{64}{2}$ -prs., otherwise gunboats might shell Fort Henry and Kingston from the shelter of the island. Fort Frederick, a "fleur-deau" and without exposed masonry, should be re-armed with four $\frac{64}{2}$ -prs. They would, with the 7-inch B.L.R., serve for the instruction of the gentlemen cadets, as well as of the Gunnery School, while the tower top would form an excellent gun drill shed in winter, if the little arrangement was made as previously suggested. The embrasures of Fort Frederick are in a ruinous condition.

Gaspé Basin Battery, Province of Quebec.

Lieut.-Col. Cotton, "A" Battery, reports on this work and recommended the screen of trees being cut down. I cannot concur in these remarks. They were purposely left standing to form a masked battery such as was very generally used by the Prussians in 1870. The lines of fire are sufficient for ordinary gun practice, and the skillful axemen of Major Slous' Battery would, in a few minutes, clear extra lines of fire if required, the fallen trees forming abatis.

The magazine I do not think I have seen, but suppose it was the best temporary structure that could be made for the money. If it were excavated and covered with earth as it would be on service, there would be no danger of fire, and its whereabouts would be very effectually concealed from an enemy by the trees.

It might be desirable to purchase the ground as recommended, if money is forthcoming, and to construct a more suitable magazine, clearing a wider space round it.

The excavated magazines, which are a necessity on service, and in which powder is only left for a few hours during actual fighting, are very difficult to drain, and are not suitable to the storage of powder in peace time.

The Atlantic Seaboard.

There are a few guns with garrison gunners attached, but no protection for guns and men, under which circumstances neither one nor the other would be of any use, as at Chatham and Digby, details have been given in previous annual reports.

On the harbors of Charlottetown, St. Andrew's and Sydney there are ruinous works with garrison artillery attached.

St. John, New Brunswick.

The fortifications at St. John, N.B., are in an unsatisfactory condition, Fort Dufferin especially, but as that fort does not command the main entrance to the harbor it is not of such importance as Partridge Island, which, as pointed out in my first report on the subject, commands both channels. I trust the two 7-in. B.L.R. Palliser guns, being manufactured by Gilbert & Sons at Montreal, will be mounted there, and the two 68-prs. and 8-in. converted into 80-pr. or 100-pr. B.L.R.

British Columbia.

The details of armament, etc., I recommended in my report on British Columbia, are in the hands of the Department.

Palliser Gun Conversion.

The reports of successful experiments with a breech loading gun for Canada, lately carried out by Sir William Palliser in England, I am thankful to say, justify my

recommendations to the Canadian Government of this, I believe, the best and cheapest construction of gun for her service.

The action of Sir John Adye, Surveyor-General, of Ordnance, in ordering the construction of experimental breech-loaders as well as the appointment of a heavy gun committee, who will by their decision, I believe, show that my recommendations have placed Canada in the van as regards the new direction artillery is taking. In making these remarks, I trust I may not be understood to claim any part of the inventions that belong to Sir William Palliser, or to ignore the fact that their adoption in Canada was due to the persistent pressure exerted by Lieut.-Gen. Sir Selby Smyth at headquarters. As others have expressed the opinion that I should rather have recommended the purchase in England of heavier and more costly guns of an already approved pattern, I feel it right to give my reasons.

1st. I believe the restricted vote for military purposes would not have permitted expenditure for such a purpose, Canada being too poor a country to commence the purchase of monster guns, which I believe, except for coast defences in certain positions, will eventually give place to a system of torpedo defence, protected by lighter and less expensive guns. St. John, N.B., and Esquimalt, British Columbia, are perhaps the only points where such heavy guns may be required to keep ironclads from shelling the dockyards and town from beyond the reasonable limits of a torpedo system.

2nd. The cumbrous ironclad of the present day will be extinct before Canada is wealthy enough to enter upon the possession of such a fleet, therefore I did not consider the question of guns for their armament need be entertained, but that by converting an old cast iron 68 pounder, 8 inch, 56, 32 and 24 pounders into long breech loaders on the Palliser system, we would, with the money vote at our command, have a sufficiency of guns, with a few 7-inch especially constructed either to arm our fleet of ocean steamers as an auxiliary to the British navy for the protection of our commerce, or to put on our lake and river defences; guns of such a weight being easily transportable to any entrenchment that might be improvised to stay the advance of an invading army, until Great Britain or winter came to our aid.* I trust, therefore, that the Major-General commanding will concur in my views, and recommend for the current year a sum to be devoted to the construction and conversion of guns at least equal to that voted last year, which was to supply two 7 inch B.L.R., and ten converted $\frac{64}{2}$ -pounders with carriages; the platforms for the 7 inch were, however, omitted in last year's estimate, which, I trust, will be rectified in the current year.

I regret that I cannot report definitely the progress of the gun construction being done by Messrs Gilbert & Sons, at the Canada Engine Works, Montreal, as it was intimated to me that I should not incur the expense of visiting these works. I have not done so since, except once at the very urgent request of Sir William Palliser, who, though he has given up to the Government of Canada the pecuniary advantages that he could derive from his royalty on the manufacture on his patent, nevertheless takes a deep interest in its success. I append a drawing of Sir William Palliser's B.L. gun experimented upon for Canada, also an extract from the *United Service Gazette*, with an account of the experiments, which might be of interest to the members of Parliament who may be called upon to vote for the expenditure, if it is considered desirable to continue the manufacture or conversion of guns in Canada:—

SIR WILLIAM PALLISER'S EXPERIMENTS.

On Monday last a few officers, including Captain Cyprian Bridge, R.N., on the part of the Admiralty, and Major C. H. F. Ellis, R.A., on the part of the War Office, assembled at Erith to witness some novel and useful experiments in gunnery conducted by Sir William Palliser at the proof grounds of Messrs. Easton and Anderson,

* In forwarding this Report I beg strongly to recommend this suggestion. R. G. A. Luard, Major-General.

adjoining their extensive engineering works at Erith. The gun, which was a 64 pr. naval 71-cwt. gun of the Palliser type, had, we were informed, been previously fired nine times doubly loaded in the presence of a number of officers and engineers interested in the testing of guns to destruction. On the completion of this programme without injury, the gun was sent into the works and converted into a breech-loader on the plan presented to the Ordnance Select Committee by Sir William Palliser in 1863, and recorded with the drawings and model on September 18, minute 9908-9959. The principle will be best understood by our readers if we say that the gun is closed with a screw plug at the breech, almost exactly the same as the plug in the large Service wrought-iron guns, with this exception that the plug is movable. It has a gas check on its inner face, and is fitted in a screw collar, which again is attached to a hinge on the right side of the breech of the gun; on unscrewing the breech plug the gas check retires into a hood in the collar, and is thus protected from blows in action. It is stated that a 9-inch 250 lb. shot, if struck against a gas check in loading a gun would probably render it unserviceable, and, that therefore all gas checks should be protected on being withdrawn from the gun. When screwed home the breech closure does not appear to require any locking, as four rounds were fired from the gun loaded as a muzzle loader and without opening the breech. We were informed that this is due to the desire of the Canadian authorities that their breech-loaders should be made so as to act as muzzle-loaders, as it was found that in winter the breech-action sometimes freezes. On one occasion during a night alarm, a Service 110-pr. B. L. rifled gun was found to be useless, as the breech action was frozen hard, and the lead-coated shot, of course, could not be put down the muzzle.

The gun inspected on Monday was in the open facing a mound of earth, and mounted on a wooden carriage and slide, the latter at a sharp incline. The design of this gun is to guide Canadian manufacture, as that country has adopted the Palliser system as cheap and of easy construction, within the means of their engineers; and as also possessing a remarkable capacity for being fired doubly loaded without bursting, which was quite unprecedented. The Canadians have just completed a number of converted guns, and are at work on two formidable 7-inch B.L. Palliser guns of 27 calibres. We subjoin a drawing of one of these guns with the 7-inch doubly loaded gun as fired a few months since, in order that our readers may compare the two. The obvious inference from an inspection of these drawings is that, if the light gun can stand such double charges, the heavier gun of the same calibre will be strong and serviceable, and do credit to Canadian enterprise.

On inspecting the gun, Sir William drew attention to his central fire apparatus. It consists of a rod of steel, about one inch in diameter; it is as long as the breech-plug, and is fitted with a capsule, containing powder at one end and two handles at the other; it is readily thrust into its place in the breech-plug, and half a turn of the wrist fixes it. Then can be seen the brass ring between the handles; on pulling this a pin comes out to which the ring is attached, and a sharp click announces that the gun is on full cock, and then the pin, lifted with a spiral spring, is ready to descend on to the cap and little magazine (which is now close up to the powder charge in the gun) on the word of command to "fire."

The violence of the discharges suggested that, although the powder charges were 10 lbs. each, the whole detonated from the action of the small magazine and large copper cap. This cannot be positively ascertained until a few pressure gauges can be obtained. These have been applied for to the War Office, and will be employed without loss of time when received. After each discharge the central fire apparatus was seized by Mr. List, the manager of Messrs. Easton and Anderson's works, and it was seen that he gave a half turn to the two handles, withdrew the steel rod containing the central fire pin, and at once inserted the nozzle of a steam hose attached to a neighboring portable engine; the steam being turned on the smoke was blown out of the muzzle with a puff, and the gun perfectly cleaned inside in about eight seconds. *No sponging was therefore required.*

In turret ships and casemates the smoke issuing from large guns on opening the breech is a very serious nuisance to the gunners, and this simple invention of Sir William Palliser's is designed to do away with the inconvenience.

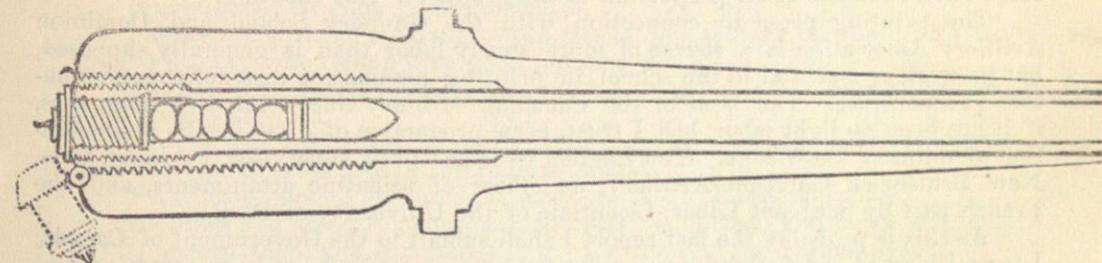
It would be interesting to see if sponging could not be avoided with our large muzzle-loaders by the use of the Palliser steam jet; like all good inventions it is simple and cheap.

The breech action acted very well; the thread on the screw plug differs from the French system in being complete instead of interrupted, and is therefore manifestly so much the stronger. Their system was proposed after Sir William had laid his plans before our Ordnance Select Committee, and had deposited his model at Woolwich, and Sir William was heard to declare on Monday that the French have to employ a key or lock to keep the plug in before each round; without this precaution their plugs are wont to shoot out at the rear at every round fired. And this reminds us that two 12-inch French guns have lately blown out their breeches. It seems a pity to run after a French system when an admittedly better one is to be found at home. The Canadians have avoided this blunder it would appear, so that their patriotic exertions to arm themselves become doubly interesting.

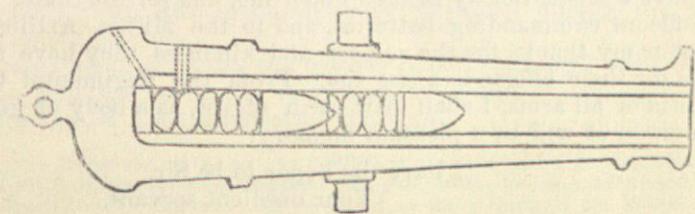
Before leaving the ground the officers inspected a small steel-faced-plate which had been fired at by Sir William with small new pattern Palliser shot in comparison with the old pattern; the result was very remarkable, but we shall reserve our remarks on these for the forthcoming trial, the War Office having ordered twenty trial projectiles to be made at once."—*United Service Gazette, Nov. 13.*

The *Engineer* also has an interesting article, and sums up thus:—

"In conclusion, the following points may be noticed with regard to Palliser's breech-loading gun: It combines the tappet-ring system of closing the breech joint with the principal features of the breech-closing arrangement, subsequently designated the French system—that is to say, the screw-carrier pivoting on a vertical hinge fixed on one side of the breech. This, besides being a convenient arrangement, has the merit of being singularly well adapted to purposes of conversion, as exemplified in the very gun under trial. A very short length at the breech end is required for the screw, while the carrier hinge plate is readily attached to the breech of any gun. A general designation, such as 'Woolwich' or 'French,' is very convenient, because it gives no encouragement to any inventor's claims. Officers would doubtless be held responsible for connecting the names of individuals with designs adopted in the service, unless fully authorized to do so. Nevertheless, it is much to be regretted if on this account injustice is done, and an English idea becomes labelled with a designation calculated to disconnect it with its real origin.



Canadian B. L. Palliser Rifled Gun.



LIGHT 7-INCH PALLISER GUN, AS FIRED DOUBLY-LOADED LAST SUMMER.