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The Volunteer Review

AND MILITARY AND NAVAL GAZETTE.

A Journal Devoted to the Interests of the Military and Naval Forces of the Dominion of Canada.

VOL. X.

OTTAWA, (CANADA,) TUESDAY, APRIL 11, 1876.

No. 14.

The Volunteer Review

Published **EVERY TUESDAY MORNING**, at OTTAWA, Dominion of Canada, by DAWSON KERR, Proprietor, to whom all *Business Correspondences* should be addressed.

TERMS—TWO DOLLARS per annum, strictly in advance.

TO CORRESPONDENTS.

All Communications regarding the Militia or Volunteer movement, or for the Editorial Department, should be addressed to the Editor of THE VOLUNTEER REVIEW, Ottawa.

Communications intended for insertions should be written on one side of the paper only.

We cannot undertake to return rejected communications. Correspondents must invariably send us confidentially, their name and address.

All letters must be Post-paid, or they will not be taken out of the Post Office.

Adjutants and Officers of Corps throughout the Provinces are particularly requested to favor us regularly with weekly information concerning the movements and doings of their respective Corps, including the fixtures for drill, marching out, rifle practice, &c.

We shall feel obliged to such to forward all information of this kind as early as possible, so that it may reach us in time for publication.

TERMS OF ADVERTISING:

First insertion, measured by } 10cts. per line.
solid nonpareil type.

Subsequent insertions..... 5cts. " "

Professional Card six lines or under, \$6 per year; over six lines and under fifteen, \$10 per year.

A. Announcements or Notices of a personal or business nature, in the Editorial, Local or Correspondence columns, Twenty-Five Cents a line for the first insertion and 12½ Cents for each subsequent insertion.

A. Advertisements of Situations Wanted, Fifty Cents the first insertion, and Twenty-Five Cents each subsequent insertion.

Special arrangements of an advantageous character made with Merchants for the Year, Half Year or Quarter.

PROSPECTUS FOR 1876 OF THE "WITNESS."

THE friends of healthy literature have, by persevering diligence, placed the *Montreal Witness* in the very first rank of newspapers. The rapid growth of trashy reading, and of what is positively vile, stimulating good people to more earnest efforts than ever to fill every household with sound mental food. A clergyman has lately secured for the *Witness* hundreds of subscribers, and declares his intention to make this one of his first duties in his present and every future field of labor, as he holds that by no other means could he do so much for the future of a neighborhood as by placing good reading in every family.

Successive attacks upon the *Witness* during each of the past three years, culminating in what has been called "The Ban" of the Roman Catholic Bishop of Montreal although not otherwise desirable circumstances, have done but little to concentrate and intensify the zeal of the friends of Temperance and religious liberty in

favor of the *Witness*. Indeed, the fact that the last assault has been followed up for six months with the most untiring efforts to break down the paper on the part of the most powerful moral opposition that could be organized on earth, and has resulted in cutting us off from some, at least, of those Roman Catholic readers whose good will we formerly enjoyed and highly prized, give us perhaps, some claim on the kind offices of those who value free speech and freedom of religious belief. The actual diminution of the circulation of the *Daily Witness* is of course, comparatively small, amounting to about 500 out of 13,000, or less than four per cent., and does not affect us peculiarly, as we can still claim a circulation equal in volume to that of all the rest of the daily city press, probably the majority of our old Roman Catholic reading being such still.

The progress of the paper may be gathered approximately from the following figures:

	Cir. Daily.	Cir. Semi-Weekly	Cir. Tri-Weekly	Cir. Weekly
1871.	10,700	3,000	8,600	8,600
1872.	10,000	3,400	9,000	9,000
1873.	11,600	3,600	10,750	10,750
1874.	12,900	3,800	17,000	17,000
1875.	12,400	3,200	19,700	19,700

We have good reasons to be specially desirous to reach the whole country this winter, and have the *Witness* presented earnestly to the notice of every family. To this end we have determined to depart from the usual course of allowing our publications to commend themselves on their merits alone, and to inaugurate on a large scale a competitive effort on the part of all our subscribers to increase the subscription list. This competition will last during the month of October, and will be open to all. The list of prizes will be found below.

If this comes to any who are not familiar with the *Witness*, we may say that for twenty-nine years it has labored for the promotion of evangelical truth, and for the suppression of the liquor traffic. Our effort is to produce a *Christian Temperance Newspaper*, unattached to any political party or religious denomination, seeking only to witness fearlessly for the truth and against evil doing under all circumstances, and to keep its readers abreast with the news and the knowledge of the day. It devotes much space to Social, Agricultural and Sanitary matters, and is especially the paper for the home circle. It is freely embellished with engravings.

The *Weekly Witness* has been enlarged twice, and nearly doubled within four years, and is the very most that can be given for the price—\$1.10 per annum.

The *Montreal Witness* (Tri-Weekly), gives the news three times a week, and all the reading of the *Daily Witness* for \$2.00 per annum.

The *Daily Witness* is in every respect a first class daily containing much more reading matter than the papers which cost twice as much, for \$3.00 per an.

All of course, are post-paid by Publishers. Subscribers remitting new subscriptions beside their own are entitled to the following discounts on such subscriptions:

Daily Witness	50c.
Tri-Weekly	35c.
Weekly	25c.

PROSPECTUS FOR 1876 OF THE "CANADIAN MESSENGER."

THE PIONEER PAPER.

The *Messenger* is designed to supply the homes of the Sunday School scholars of America with family reading of the most useful and interesting sort at the lowest possible cost. It consists of eight pages of four columns each, and contains a Temperance department, a Scientific department, a Sanitary department, and an Agricultural department. Two pages are given to family reading, two to a large type for children, and

one to the Sunday School lessons of the International Series, and a children's column. The paper is magnificently illustrated. There has been a very rapid increase in its circulation during the past year, namely, from 15,000 to 25,000, and the ratio of increase rises so rapidly that the proprietors have sanguine hopes of doubling the latter figure before the end of next year. There has been, as a result of this prosperity, some improvement in the style of the paper, and it will, of course, be possible to introduce more and more improvements as circulation grows. Most of the growth of the *Messenger* has been by the voluntary recommendation of it by friends who have formed their own opinion of its worth, and by the introduction of it into Sunday Schools. Young correspondents say that their Sunday Schools are more interesting and better attended since it has been introduced.

The following are the prices of the *Messenger*—

1 copy	\$ 0 30
10 copies	2 50
25 copies	6 00
50 copies	11 50
100 copies	22 00
1,000 copies	200 00

Surplus copies for distribution as tracts, twelve dozen for \$1.

PROSPECTUS FOR 1876 OF THE "NEW DOMINION MONTHLY."

In general style and appearance the *Dominion* has, during the last few months, very considerably improved, and it is intended to improve on the present as much as the present is an improvement on the past, and the Magazine of next year will be read with an ease and pleasure greater than hitherto. When we say that these improvements are not to be marked by any change of price, we refer to the full price of \$1.50 per annum. Hitherto the *Dominion* has been clubbed with the "Weekly Witness" at \$1.00, which it will be simply impossible to continue now that one-fifth has been added to its bulk, along with better paper and printing. The *Dominion* is henceforth to be clubbed with the "Witness" at \$1.25, and is better worth its cost than ever before. Twenty-five cents, instead of fifty, will be the discount allowed to friends obtaining for us new subscribers at full rates. The inducements to subscribers being now put into the magazine itself. The object of the publishers of the *Dominion* is to develop a native Canadian literature, and very much has been accomplished in this way during its history of nine years. The age of the magazine being that of the Dominion of Canada. Those interested in the same object will not, we think, waste their efforts if they do what they can to make the magazine a pecuniary success, what we presume no magazine in Canada has ever yet been for any length of time.

LIST OF PRIZES.

- To the person sending the largest amount of money on or before 1st Nov., as payment in advance for our publications..... \$50.00
 - To the person sending 2nd largest amount 40 00
 - " " 3rd " 30 00
 - " " 4th " 20 00
 - " " 5th " 15 00
 - " " 6th " 10 00
 - " " 7th " 10 00
- Five prizes of \$5 each for the next largest amounts..... 20 0

JOHN DOUGALL & SON,
Publishers, Montreal.

THE BEST INVESTMENT!
AN INDUSTRIAL EXHIBITION BOND.

WHOLE BONDS, \$20 EACH.
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All Bonds participate in each Series drawing until redeemed.
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All the risk a purchaser runs is the loss of a portion of the interest.
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A Palace of Industry.

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If it draws less than \$5, Company will take it back as \$5 in the purchase of a whole bond of the Industrial Exhibition Co. of New York.

195,000. The DAILY and WEEKLY Editions of the **MONTREAL STAR**

have now (it is estimated) an audience of One Hundred and Ninety-five Thousand Readers, which makes them the most widely circulated and influential newspapers published in Canada.

BOYNTON'S PATENT LIGHTNING SAW.

\$500 CHALLENGE.

That it is the **FASTEST-CUTTING SAW** in the world.

In order to introduce my unrivalled Cross-Cut Saws to the Canadian market, I will send my best saws to any address at 37 cts. per foot for cash in advance for one month. This is one-half my list price. Perfect quality guaranteed. Agents wanted.

E. M. BOYNTON, 30 Beekman St., N. Y.

DR. WARNER'S SANITARY CORSET,

With Skirt-Supporter and Self-Adjusting Pads.



Patented Sept 28th, 1875.

Secures health and comfort of body, with grace and beauty of form.

We would particularly call attention to the following advantages:

1st. It affords a convenient and efficient support for the underclothing.

2d. The Self Adjusting Pads are the delight of every lady. They give elegance to the form, and are not in any way injurious or objectionable.

3d. It combines three garments in one—a corset, a skirt supporter, and self-adjusting pads—and yet costs no more than an ordinary corset. In ordering, give size of waist instead of number of corset usually worn.

Price in London Corset, \$2.00, Satteen, \$1.75, Misses' Corset, \$1.25, Children's Corset-waist with stocking supporter, \$1.50. Samples sent by mail, on receipt of price.

25 cts. will be allowed for this advertisement, if it is cut out and sent with the order. Great inducements to good Agents.

Address,

WARNER BROS., 783 Broadway, N. Y.

THE WEEKLY SUN.
1776. New York. 1876.

Eighteen hundred and seventy-six is the Centennial year. It is also the year in which an Opposition House of Representatives, the first since the war, will be in power at Washington; and the year of the twenty-third election of a President of the United States. All of these events are sure to be of great interest and importance, especially the two latter; and all of them and everything connected with them will be told and freshly reported and expounded in THE SUN.

The Opposition House of Representatives, taking up the line of inquiry opened years ago by THE SUN, will sternly and diligently investigate the corruptions and misdeeds of GRANT'S administration; and will, it is to be hoped lay the foundation for a new and better period in our national history. Of all this THE SUN will contain complete and accurate accounts, furnishing its readers with early and trustworthy information upon these absorbing topics.

The twenty-third Presidential election, with the preparations for it, will be memorable as deciding upon GRANT'S aspirations for a third term of power and plunder, and our more as deciding who shall be the candidate of the party of Reform and as electing that candidate. Concerning all these subjects, those who read THE SUN will have the constant means of being thoroughly informed.

THE WEEKLY SUN, which has attained a circulation of over eighty thousand copies, already

has its readers in every State and Territory, and we trust that the year 1876 will see their numbers doubled. It will continue to be a thorough newspaper. All the general news of the day will be found in it, condensed when unimportant, at full length when of moment; and always, we trust, treated in a clear, interesting and instructive manner.

It is our aim to make the WEEKLY SUN the best family newspaper in the world, and we shall continue to give in its columns a large amount of miscellaneous reading, such as stories, tales, poems, scientific intelligence and agricultural information, for which we are not able to make room in our daily edition. The agricultural department especially is one of its prominent features. The fashions are also regularly reported in its columns; and so are the markets of every kind.

The WEEKLY SUN, eight pages with fifty-six broad columns is only \$1.20 a year postage prepaid. As this price barely repays the cost of the paper, no discount can be made from this rate to clubs, agents, Postmasters, or anyone.

The DAILY SUN, a large four page newspaper of twenty-eight columns, gives all the news for two cents a copy. Subscriptions, postage prepaid, 55c. a month or \$8.50 a year. SUNDAY edition extra, \$1.10 per year. We have no travelling agents.

Address, THE SUN, New York City.

TASTELESS MEDICINES.

A prominent New York physician lately complained to DUNDAS DICK & CO. about their SANDALWOOD OIL CAPSULES, stating that sometimes they cured miraculously, but that a patient of his had taken them without effect. On being informed that several imitations were sold, he required and found his patient had not been taking DUNDAS DICK & CO'S.

What happened to this physician may have happened to others, and DUNDAS DICK & CO. take this method of protecting physicians, druggists and themselves, and preventing OIL OF SANDALWOOD from coming into disrepute.

PHYSICIANS who once prescribe the Capsules will continue to do so, for they contain the pure Oil in the best and cheapest form.

DUNDAS DICK & CO. secure their Oil of Sandalwood from all the Wholesale and Retail Druggists and Perfumers in the United States combined, and this is the sole reason why the pure Oil is sold cheaper in their Capsules than in any other form.

OIL OF SANDALWOOD is fast superseding every other remedy, sixty Capsules only being required to insure a safe and certain cure in six or eight days. From no other medicine can this result be had.

DUNDAS DICK & CO'S. SOFT CAPSULES solve the problem, long considered by eminent physicians, of how to avoid the nausea and disgust experienced in swallowing, which are well known to detract from, if not destroy, the good effects of many valuable remedies.

Soft Capsules are put up in tin-foil and neat boxes, thirty each, and are the only Capsules prescribed by physicians.

TASTELESS MEDICINES.—Castor Oil and many other nauseous medicines can be taken easily and safely in Dundas Dick & Co's Soft Capsules. No Taste. No Smell.

These were the only Capsules admitted to the last Paris Exposition.

Send for Circular to 33 Wooster street, N. Y.

Sold at all Drug Stores Here.

Price, Twenty five Cents.

NEWSPAPER ADVERTISING.

NINETY EIGHTH EDITION.

Containing a complete list of all the towns in the United States, the Territories and the Dominion of Canada, having a population greater than 5,000 according to the last census, together with the names of the newspapers having the largest local circulation in each of the places named. Also a catalogue of newspapers which are recommended to advertisers as giving greatest value in proportion to prices charged. Also, all newspapers in the United States and Canada printing over 5,000 copies each issue. Also, all the Religious, Agricultural, Scientific and Mechanical, Medical, Masonic, Juvenile, Educational, Commercial, Insurance, Real Estate, Law, Sporting, Musical, Fashion, and other special class journals; very complete lists. Together with a complete list of over 200 German papers printed in the United States. Also, an essay upon advertising many tables of rates, showing the cost of advertising in various newspapers, and everything which a beginner in advertising would like to know.

Address GEO. P. ROWELL & CO., 41 Park Row, New York



The Volunteer Review

AND MILITARY AND NAVAL GAZETTE.

A Journal Devoted to the Interests of the Military and Naval Forces of the Dominion of Canada.

VOL. X.

OTTAWA, (CANADA,) TUESDAY, APRIL 11, 1876.

No. 14

NEWS OF THE WEEK.

It will be seen by the following extract from the *Winnipeg Standard*, that the prospects of Manitoba are in no wise damped by the ravages of the grasshopper last year—or are emigrants deterred from going there—as quite a large number having left this neighbourhood within the last two months for that Province and British Columbia.

“Notwithstanding the plague which fell so heavily upon us last year, there were 500 home-stead entries, representing 80,000 acres, made in this Province in the ten months ending the 31st October last; during the same period pre-emption entries covering 60,000 acres were made, 15,000 acres were sold for cash, and 17,000 acres were disposed of under military bounty warrants.”

The Hon. Judge Taschereau has forwarded a bottle of flies to Dr. Lorne, of the Laval University, with a letter stating that a singular phenomenon occurred at River du Loup during a northeast tempest on Monday the 3rd. A shower of flies fell with the snow, covering a space of several acres, and millions of these insects were walking over the snow, without appearing able to fly. In shape they resemble the mosquito, but are somewhat larger.

The representatives in Senate and House of Commons of Manitoba have invited the Premier to pay their Province a visit during the coming summer which he is likely to comply with, if possible.

Mr. Cartwright has withdrawn the Insurance Bill. It will be reintroduced next session.

Mr. G. P. Drummond, of this city, has invented and completed a machine for exhibition at the American Centennial, which he claims will set and distribute from 12,000 to 15,000 type per hour. Application for patents has been made in England, France, Germany the United States and Canada.

Captain Kensington, R. A., and Captain Ridout, 90th Regiment, recently appointed to the staff of the Military College, have arrived at Kingston.

The Hamilton School Board has ordered negatives to be taken of the Central School, Collegiate Institute, Murray and Victoria streets schools, and forwarded with reports of the schools to the Philadelphia Exhibition.

Further experiments are to be made at Portsmouth with the air bag presented to the Admiralty by the Russian Government as a suggestion for raising the “Vanguard,” although there is now but faint hope of ever recovering that unfortunate ship.

The United States House Committee on Commerce voted to report adversely on the joint resolution requesting the President to appoint three commissioners to confer with other commissioners, to be authorized by Great Britain, to investigate and ascertain on what basis a treaty of reciprocal trade for the mutual benefit of the people of the United States and the Dominion of Canada can be negotiated.

The *Belfast News Letter* announces that Capt. J. B. Redoubt, 90th Light Infantry, has returned to Dublin to make arrangements for embarkation for Kingston and Ottawa, to take up the duties of Captain of Cadets of the Canadian Military College, for which he has been selected.

In the House of Lords last night April 4 the Earl of Shaftesbury offered his motion for an address to the Queen praying Her Majesty not to assume the title of Empress. He argued that that title was distasteful to the vast majority of the people, and made the point that after the recent argument of Mr. Disraeli the assumption of such a title would be an insult to the Czar. The Earl of Carnarvon opposed and Lord Selbourne supported the motion, which, after a long debate, was rejected by a vote of 137 to 91. The Royal Titles Bill then passed through the committee.

A commencement is to be at once made of the powerful broadside ship “Agamemnon,” which is to be built at Chatham. The new vessel is intended to be the most powerful armor-clad ship of her class yet constructed for the Royal Navy, a somewhat novel feature being introduced in her, as she is intended to carry her monster guns in what is described as a citadel on her upper deck.

The Duke of Cambridge has issued new regulations relative to musketry instruction. His Royal Highness points to the number of detached and employed men who have been exempted from musketry exercise, and has issued an imperative order that every soldier shall be trained annually.

Four powder magazines on Arsenal Hill Salt Lake city, exploded on the evening of 5th. Boulders fell crushing through the city, some falling a mile distant. Five persons were killed, and one woman died of fright. The damage to glass alone is \$50,000. Two boys went shooting this morning enough of the remains were found near the magazine to identify them. One of their hands was found clutching a duck. It is now supposed they had fired into the magazine, causing the explosion. It is stated that no men were at work on the magazine.

Advices from Bosnia assert that the insurrection which broke out in Bihacs District is in full headway along the Drina and North

Bosni n frontiers, and all the places between Magdine, Polje and Belrawatz have risen. Deputations of the insurgents have gone to Belgrade.

Russia has lost no time in considering how to turn her new possession, Saghalien, to a profitable account. A commission instituted at St. Petersburg recommends the construction of five steamers to ply between the southern shores of the Island of Saghalien, the Russian Pacific coast, and Shanghai. The fine seams of coal in the island will prove of inestimable value for steam purposes in the waters of the Japan Sea. Japan will probably have cause bitterly to regret that she ever exchanged these valuable deposits of coal for a few rocky islands, capable of nothing better than for breeding and dwelling places for sea otters. With respect to the steamers to be built, they will in all probability be so constructed as to be suitable for war purposes. These steamers will probably prove to be the nucleus of a Russian fleet, to be permanently employed in these waters.

The *Times'* special despatch from Alexandria says that the King of Abyssinia sent envoys to Egypt asking for peace, but afterward made impossible demands for a treaty of commerce before a treaty of peace was signed, and for the payment of the war expenses. The Egyptians are fortifying strong positions commanding the passes. They will garrison these, and withdraw the rest of their troops during the rainy season. It is suggested that a neutral territory be formed to prevent future warfare between Abyssinia and Egypt. It is reported that Prince Tigre has revolted, and is marching on Adown the capital of the State of Tigre. Many persons favor the plan of placing the late King Theodoros's son on the throne of Abyssinia under a guarantee.

The insurgent leaders have informed Baron Pedik of the conditions on which they will lay down their arms. Their terms include the withdrawal of all Turkish troops except six small garrisons, which shall be placed under the supervision of the Russian and Austrian inspectors. They also require the disarmament of the Mohammedans, and guarantees from their power.

A cable despatch says: In the House of Lords yesterday the Royal Titles Bill as received from the House of Commons passed third reading without a division after a brief debate.

The Earl of Derby, British Minister of Foreign Affairs, arrived in Paris on the 7th. The *Memorial Diplomatique* says a satisfactory solution of the question relative to Egypt will doubtless be arrived at during his sojourn in Paris.

Annual Report on the State of the Militia
for 1875.

(Continued from page 147.)

APPENDIX No. I.

MILITARY DISTRICT, NO. 2.

Old Fort, Toronto,
16th December, 1875.

SIR,—I have the honor to forward, for submission to the Major General Commanding, the enclosed Inspection Report of corps of the Active Militia, which have performed the annual drill for the year 1875 '76 in Militia District No. 2, in accordance with General Orders, dated Ottawa, 23rd April, 1875.

In submitting this report, I beg leave to lay before the Major General Commanding, the following memoranda in relation to the strength, and the manner in which the annual drill of the force, under my command was performed.

The authorized establishment of the Active Militia, in the District, consists of:—

Cavalry.

Governor General's Body Guard and 2nd Regiment—(7 Troops) 32 officers, 440 non-commissioned officers and men, horses 472.

Artillery.

3 Field Batteries, 18 officers, 225 non-commissioned officers and men, horses 195, guns 12. 3 Garrison Batteries, 9 officers, 165 non-commissioned officers.

Infantry.

15 Battalions; 1 Rifle Company at Sault Ste. Marie (the Rifle Company at the Saulte is in possession of two Mountain Rifled Guns) 461 officers, 6,380 non-commissioned officers and men, 68 horses, guns 2. Total officers 520, non-commissioned officers 7,210, horses 735, guns 14.

The force authorized to drill by General Order, 23rd April, 1875, is as follows:—

Cavalry.

Governor General's Body Guard and 2nd Regiment—(7 Troops) 24 officers, 336 non-commissioned officers and men, horses 360

Artillery.

3 Field Batteries, 18 officers, 225 non-commissioned officers and men, horses 183. 3 Garrison Batteries, 6 officers, 126 non-commissioned officers and men.

Infantry.

15 Battalions 1 Rifle Company, 348 officers, 4,914 non-commissioned officers and men, 68 horses. Total, officers 396, non-commissioned officers and men 5,601, horses 611.

The force which performed the annual drill for the year, is as undermentioned:—

Cavalry.

Governor General's Body Guard and 2nd Regiment—(7 Troops) 22 officers, 325 non-commissioned officers and men, 347 horses.

Artillery.

3 Field Batteries, 11 officers, 225 non-commissioned officers and men, 110 officers. 3 Garrison Batteries, 6 officers, 118 non-commissioned officers and men.

Infantry.

15 Battalions 293 officers, 4,617 non-commissioned officers and men, 68 horses.

Regimental Officers and N.-C. O. employed on the Brigade Staff, 9 officers, 8 non-commissioned officers, 7 horses. Total, 341 officers, 5,293 non-commissioned officers and men, 598 horses.

Recapitulation.

Establishment, 520 officers, 7,210 non-commissioned officers and men, 735 horses, 14 guns.

The force ordered to drill, 396 officers, 5,601 non-commissioned officers and men, 611 horses.

The force which performed annual drill, 341 officers, 5,293 non-commissioned officers and men, 598 horses.

There were three companies of infantry, two of which were not required to drill by an after General Order. Rating them at the authorized strength, they would show six officers and 118 non-commissioned officers and men in favour of the drilled force, thus approximating the latter force to within 49 officers and 196 non-commissioned officers and men, to that ordered to perform its annual drill.

The three Garrison Batteries—Toronto, Collingwood and St. Catharines—were assembled, by order, at the New Fort Barracks, Toronto, in order to perform their annual drill, and brigaded there.

These corps were assisted in the performance of their drill and duties by Lieut. Wilson, "A" Battery, who acted as Fort Adjutant; Sergts. Bramah and Baldoek, "A" Battery, as Instructors.

They rationed themselves in a satisfactory manner, receiving the allowance of 25 cents per man.

Before the termination of their drill, they were inspected by Lieut. Col. Irwin, Assistant Inspector of Artillery, accompanied by Lieut. Col. Denison, Brigade Major, who made a very favourable report of the efficiency of these corps.

It appears to me to be the most satisfactory manner in which these corps can perform their annual drill, deriving all the benefit of being placed in barracks, as well as the practical instruction of heavy gun drill—shot and shell practice.

The 10th Royals performed its annual drill at Toronto. This corps is much improved, both in *physique* and general appearance, when inspected by me. They mustered nearly in full strength, both officers and men. Although it is not a satisfactory manner to perform its drill at home, the general appearance of this corps was very creditable.

With the exception of this corps and the three corps previously mentioned, the remainder of the force performed the annual drill in two Brigade Camps of Instruction, formed at Niagara on the 1st, and at Holland Landing on the 22nd June last, respectively. Both camps were under my personal command.

CAMP NIAGARA.

Brigade Staff.

Superintendent of Drill, Lieut. Col. Denison, Brigade Major, Brigade Major, Lieut. Col. Vickers, Brigade Major, Camp Quarter-master, Major Moore, 13th Battalion, Supply Officer, Capt. Mason, 13th Battalion, Musketry Instructor, Capt. Johnston, Orderly Officer, Lieut. Jones, No. 5 Troop 2nd Regiment Cavalry; Officer in charge of Camp Police, Ensign Kerr, 13th Battalion.

The camp was composed of the following corps:—

2nd Regiment of Cavalry (5 Troops) 16 officers, 199 non-commissioned officers and men, 215 horses.

Hamilton Field Battery, 3 officers, 75 non-commissioned officers and men, 57 horses.

Welland Field Battery, 3 officers, 75 non-2nd Battalion Queen's Own Rifles 24 officers, 420 non-commissioned officers and men, 4 horses.

13th Battalion, 16 officers, 245 non-commissioned officers and men, 5 horses.

19th Battalion, 17 officers, 253 non-commissioned officers and men, 4 horses.

20th Battalion, 20 officers, 287 non-commissioned officers and men, 4 horses.

37th Battalion, 20 officers, 234 non-commissioned officers and men, 5 horses.

38th Battalion, 13 officers, 199 non-commissioned officers and men, 4 horses.

39th Battalion, 24 officers, 336 non-commissioned officers and men, 5 horses.

44th Battalion, 16 officers, 257 non-commissioned officers and men, 4 horses.

77th Battalion, 16 officers, 240 non-commissioned officers and men, 4 horses.

Brigade Staff, 8 officers, 5 non-commissioned officers, 3 horses. Total 196 officers, 2,876 non-commissioned officers and men, 374 horses.

The above force moved into camp and went under canvas, without any difficulty, for twelve days' drill, on Tuesday, 1st June. The issue of rations on the following morning took place without any delay whatever. The machinery of the whole camp worked uncommonly well.

The drill of the few days of the first week, was confined exclusively by the three arms of the force (with the exception of the force daily detailed for the target practices at the rifle ranges) to that appertaining to each.

Carrying out the General Orders.

The officers commanding corps availed themselves of the facilities for drill on the fine open common, where there is plenty of room for each corps.

The camp was visited and inspected on the Monday following, the 7th inst., by the Hon. W. B. Vail, the Minister of Militia and Defence, accompanied by Lieut. Col. MacPherson, Accountant at Head Quarters, on which day the first brigade parade was formed, in honor of that Minister, who evidently showed and took the greatest interest in the force, as well as the working of the camp in all its details.

The Minister was good enough to express himself on parade as much pleased with the general appearance of the force, and the manner in which they moved on parade.

On Wednesday, the 9th June, Major General Selby Smyth, commanding the Militia, with his A. D. C., Captain the Hon. Miles Stapleton, visited and inspected the camp, with a brigade parade in the afternoon. On the following day, Thursday, the whole force was inspected by the Major General, when a brigade field day took place under the supervision of that officer. The Major General was good enough to state on parade his satisfaction with the force in camp, their movements in the field, as well as their appearance.

The muster of the force was very good, in fact every corps responding well to the General Order. The 2nd Battalion, Queen's Own Rifles, over its required quota; the 39th Battalion, every officer and man present.

The supply of rations was very good, and was well carried out by the respective contractors. There were no complaints. The cost of rations per man was 21 cents; the cost of forage per ration was 31½ cents. The general conduct and health of the men in camp were good.

The camp broke up on Saturday, the 12th, and the officers and men were duly mustered.

ed by the District Paymaster, Major Alger, in the presence of Lieut. Col. Denison, Drill Instructor. The two Field Batteries remained in camp, according to order, in order to finish their shot and shell practice. These batteries were inspected by Lieut. Col. Irwin, Assistant Inspector of Artillery.

CAMP, HOLLAND LANDING.

Brigade State.

Superintendent of Drill, Lieut. Col. Denison, Brevet Major; Brigade Major, Major Bligh, 35th Battalion; Supply Officer, Major Selby, 12th Battalion; Camp Quartermaster, Major Moore, 13th Battalion; Musketry Instructor, Captain White, 12th Battalion; Orderly Officer, Cornet Denison, Governor General's Body Guard; Officer in charge of Camp Police, Ensign Perritt, 31st Battalion. The camp was composed of the following corps:—

Governor General's Body Guard, 2 officers, 42 non commissioned officers and men, 44 horses.

2nd Regiment of Cavalry (2 Troops) 4 officers, 84 non commissioned officers and men, 88 horses.

Toronto Field Battery, 5 officers, 75 non commissioned officers and men, 55 horses.

12th Battalion, 23 officers, 335 non commissioned officers and men, 4 horses.

31st Battalion, 17 officers, 295 non commissioned officers and men, 4 horses.

34th Battalion, 16 officers, 287 non commissioned officers and men, 4 horses.

35th Battalion, 24 officers, 413 non commissioned officers and men, 4 horses.

36th Battalion, 18 officers, 362 non commissioned officers and men, 4 horses.

Brigade Staff, 8 officers, 6 non commissioned officers, 8 horses. Total, officers 117, non commissioned officers and men 1,899, horses 215.

The above force assembled and went under canvas on the 22nd June, for twelve days' drill.

The same routine of drill and duties and issue of rations was carried out in this camp which took place at Niagara. The muster of the different corps very good. General behaviour and health of the men, good. One or two cases of typhoid fever reported. Rations equally as good, and well supplied by contractors. Cost of rations per man, 10 cents; cost of the forage rations, 50 cents.

The camp was visited and inspected by Major General Selby Smyth, Commanding the Militia, accompanied by his A. D. C., Capt. the Hon. Miles Stapleton, on the 20th June. The force paraded in brigade on the afternoon of that day, when a field day took place in the presence of the Major General, at the termination of which he again expressed himself a favourable terms on the appearance of the whole force on parade, and the manner in which they moved in the field.

On the 1st July a brigade parade took place, in honor of Dominion Day, on which occasion a *feu de joie* was fired, with a few brigade movements. An immense concourse of people from all parts of the country, estimated at 10,000, assembled to see the troops. No accident occurred. The camp broke up on Saturday, the 3rd July. The force, having been duly mustered by the District Paymaster, Major Alger, and paid, then proceeded homewards.

Target Practice.

I beg leave to forward the enclosed reports of Capt. Johnston, Musketry Instructor at Niagara Camp (marked A), and Capt. White, 34th Battalion, Musketry Instructor

at the Camp at Holland Landing (marked B).

On reference to these reports it will be seen that at the

CAMP NIAGARA,

The brigade figure of merit was, 18-14. Best shooting Battalion, 20th Battalion, figure of merit 26-30.

Best shooting Troop, No. 1 Troop, 2nd Regiment, figure of merit 16-43.

Best shooting Company, No. 5 Company, 20th Battalion, figure of merit 33-40.

Best shot in Brigade, Color Sergt. Brady, 2nd Battalion, Queen's Own Rifles, 66 pts.

AT HOLLAND LANDING.

Brigade figure of merit 18-53. Best shooting Battalion, 35th Battalion, figure of merit 22-02.

Best shooting Troop, No. 3 Troop, 2nd Regiment, figure of merit 15-22.

Best shooting Company, No. 4 Company, 35th Battalion, figure of merit 28-00.

Best shot in Brigade, Corpl. Shaver, No. 7 Company, 31st Battalion, 63 pts.

Both the officers recommend a fewer number of rounds to be fired by the rank and file (20 rounds having been fired), or more time given, in order to afford instruction in the rifle practice.

The 600 yards range appears to be a most difficult range for young shots, especially if there is any wind blowing across the range. Young shots, as a rule, fire at the target without making any allowance for windage, &c., and as the time permitted is so very limited, the Instructor is unable to give that instruction at the ranges, which is necessary to make them fire with any precision or accuracy.

I would therefore respectfully suggest and recommend, that instead of 12 days, 16 days be allowed in camp, when two or three days could be devoted entirely to musketry instruction, however short it would do much good, preparing the men for the rifle ranges. When it is considered how important a branch of military drill is "the use of the rifle" without it, the amount of ammunition must necessarily be thrown away therefore ineffective. The extra time, if sanctioned, would well repay the expenditure.

Out of 12 days' drill allowed, there must be two days required for proceeding to and returning from the camp and one Sunday; and the day before the camp breaks up is generally required for receiving pay, arranging the camp equipage, &c. Four days are thus taken out of the twelve; leaving but eight days, even if the weather be fine, during which time, squad, company, battalion skirmishing and brigade drill, together with the target practice, must be all carried out. It really is marvelous for so short a time, how well the men do.

The four extra days would well repay, more especially, as all the expense of moving the force to and from the camp, camp equipage and stores of all kinds, is all incurred for eight days' drill. In a word, the men leave the camp just at the time when three or four days' extra drill would be valuable.

The Young Men's Christian Association established themselves at both camps, offering every inducement for the non commissioned officers and men of the camp to attend their tents, in the way of pens, ink, paper, and the full newspapers, free of all charge.

Every afternoon and evening religious services were held, at which large numbers of the force attended, who expressed themselves much gratified by the kind manner in which they were treated by this Association.

It gives me more than ordinary pleasure to be able to bring before the notice of the Major General commanding, not only the great attention, but ability displayed by the officers on the Staff of the Brigade Camp, in the discharge of their various duties.

I beg also to acknowledge the able assistance I have always derived from the officers belonging to the permanent Staff of the District.

I must not omit to mention the zealous exertions of officers commanding corps, in the performance of their duties, and in carrying out the annual drill of the year.

I have the honor to be, Sir,
Your obedient servant,

Wm. S. Durie,
Lt. Colonel,

Deputy Adjutant General,
Commanding Military District No. 2.

The Adjutant General
of Militia, Ottawa.

[A.]

STEWARTTOWN, Aug. 18th, 1875.

Sir,—I have the honor to submit herewith, the practice returns of the 2nd Brigade, performed at the Brigade Camp, Niagara, from June 1st to 12th, inclusive.

It will be seen that the figure of merit of the Queen's Own Rifles is very low; this is accountable to the shooting at 600 yards, which was struck off immediately after they had done firing, and also to the unfavorable state of the weather. A much higher average in the whole brigade might be expected, were it not that two thirds of the men at practice had never previously fired a shot with a rifle. The advisability of dropping the 600 yards range, under such circumstances, can easily be seen, and I am of opinion that better results would follow under a different system of rifle practice while in brigade.

It will be seen that 2,287 men had to put in the practice in the short space of eight days, and fire 20 rounds per man, to accomplish which no man can receive any instruction whatever, but must rather be hurried on so as to get through with the work. To remedy this, I would suggest that no more than 10 rounds per man be fired; five rounds at 400, and that a sergeant, who understands the most important points in rifle shooting, be appointed to each squad or company, whose duty it would be to stay at the firing point and instruct every man when in act of shooting, regarding position, holding rifle plumb, bringing the sights to the eye, pull of trigger, &c.; the sergeants to be under the charge of the Musketry Instructor, whose duty it would be to see that they were thoroughly posted in these particulars.

I have much pleasure in saying that otherwise, the practice of the brigade has been most satisfactory, and without the slightest accidents either to the markers or firing parties. This is due, no doubt, to the proper construction of the markers huts, and also to the diligence of the commanding officers.

Before closing this report, I desire to acknowledge the valuable assistance rendered by Staff Sergeant Dunsford, and also to thank the officers, non commissioned officers and men of the brigade, for the courtesy extended to me, and their willingness to assist me in the discharge of my duties.

I have the honor to be, Sir,
Your obedient servant,

J. JOHNSON,
Captain B. M. I.

To Lieut. Col. Durie,
Dep'y Acting Adj.-Gen. Militia, Toronto.

[B.]
WINTER, July 19, 1875.

Sir,—I have the honor to report, as Musketry Instructor to the brigade assembled at Holland Landing, June 22nd, that I carried out the orders in regard to target practice to the best of my ability in the limited time at my disposal.

The total number who completed the course was 1,405. The best shot this year, Corporal Shaver, No. 7, Company, 31st Battalion, who scored 63 out of a possible 80 points.

The best shooting battalion, the 35th Simcoe Foresters; figure of merit, 2292. Best shooting Company, No. 4 Company, 35th Battalion; figure of merit, 2800. I would say that the same company and battalion held the same post of honor last year.

The figure of merit and the best shots in each battalion and cavalry being—

12th York, figure of merit 1786. Best shot Bandsman Harstock, 59 pts.

31st Grey, figure of merit 1977. Best shot Corpl. Shaver, 63 pts.

34th Ontario, figure of merit 1757. Best shot Sergt. Major Chisholm, 53 pts.

35th Simcoe, figure of merit 2292. Best shot Sergt. S. A. Nilly, 57 pts.

36th Peel, figure of merit 2018. Best shot St. John, 52 pts.

Cavalry, 14 rounds, figure of merit 1260. Best shot Peter J. Boynton, 38 pts.

Figure of merit of the brigade—1853.

In comparison with last year I find a slight improvement. The reason I believe the men take so little interest in rifle shooting is the want of some badge or prize as an inducement or honor to strive for, as at present the men take little or no interest, and feel relieved when they can get rid of their ammunition.

I would suggest that fewer rounds be fired another year, as I believe more instructions can be imparted and real benefits derived from ten rounds being fired; as under the present system the men have to be hurried faster than is proper to get through with brigade in the short time allowed.

I cannot close this report without mentioning the efficient manner in which Sergeant Dunford performed his duties, and hope he will be employed in the same capacity another year.

It is my pleasing duty to report, that the course was gone through without a single accident to either marker or marksman.

In conclusion I beg to bring before your notice the fact that I was compelled on the two last days practice to keep the same markers in the butts from six o'clock, a.m. until seven o'clock, p.m.; which they did without complaint, and I hope before another camp that an additional allowance be again granted, or else it will be impossible to get good men for markers.

I remain, Sir,

Your most obedient servant,

JOSEPH WHITE, Capt.

Brigade Musketry Instructor.

To Lieut.-Col. Durie,
Deputy Adjutant General,
Military District No. 2.

MILITARY DISTRICT, No. 3

Deputy Adjutant General's Office,
Kingston, November 12, 1875

Sir.—In compliance with Militia General Orders (7) of April 23, 1875, I have the honor to transmit my Report of the Annual Drill of Military District No. 3, for submission to the Major General Commanding.

The Force of Active Militia in this District consists of the following Corps, namely:—

2 Regiments of Cavalry (7 Troops).

2 Field Batteries.

4 Garrison Batteries

10 Battalions of Infantry, (64 Companies).

The full nominal strength of the above Force under the Militia and Defence Act is:

Officers.	N. C. O. and Men.	Horses.
326	4285	591

The uniform establishment of Troops or Companies is 3 Officers and 55 N. C. O. and men, but this year the number allowed to receive drill pay was limited to 2 Officers and 42 N. C. O. and men per Troop or Company.

The Battalion Staff and the Field Battery establishment were unchanged.

Under this Regulation the number of Officers and men entitled to perform Annual Drill for pay in this District, was:—

7 Troops in two Regiments of Cavalry, 28 officers, 315 non commissioned officers and men, 343 horses.

Two Field Batteries, 10 officers, 150 non commissioned officers and men, 124 horses.

Four Garrison Batteries, 8 officers, 168 non commissioned officers and men.

64 Companies in 10 Battalions of Infantry, 208 officers, 2,688 non commissioned officers and men, 50 horses. Total 254 officers, 3,321 non commissioned officers and men, horses 517.

The numbers who have been mustered and paid up to the present date, are:—

7 Troops Cavalry, 27 officers 315 non commissioned officers and men, 342 horses.

2 Field Batteries with 8 guns, 10 officers, 153 non commissioned officers and men, 124 horses.

2 Garrison Batteries, 5 officers, 74 non commissioned officers and men.

8 Infantry Battalions, comprising 52 Companies, 156 officers, 2,127 non commissioned officers and men, 35 horses.

Brigade Staff in Camps, 14 officers, 21 non commissioned officers, 12 horses. Total 212 officers, 2,670 non commissioned officers and men 513 horses.

The corps which have not performed their drill this year, are:—

2 Garrison Batteries of Port Hope and Trenton,

2 Battalions of Infantry, viz:

16th Prince Edward. Lieut. Col. Walter Ross, M.P.,

49th Hastings. Lt. Col. James Brown, M.P.

No reason has been given by the above named Officers for the non performance of Drill by the Corps under their command.

The Cavalry, Field Batteries and Infantry were divided into two Brigades, and assembled in Camps of Exercise at Cobourg and Kingston, as follow: For 12 days. The Field Batteries for 16 days.

Cobourg Camp.

6th Brigade Division at Cobourg, on the 14th June, 1875.

3rd Provisional Regiment of Cavalry.
Durham Field Battery.

40th, 45th, 46th, and 57th Battalions.

Kingston Camp.

7th Brigade Division at Kingston, on the 21st June, 1875.

4th Provisional Regiment of Cavalry.
Kingston Field Battery.

14th, 15th, 47th, and 48th Battalions.

The field Batteries assembled on the 10th June and 17th June, respectively, joined the

Camps on their formation, and completed the Drill with the remainder of the Troops.

Garrison Batteries of Artillery whose Head Quarters were within 50 miles of Kingston were ordered to be drilled at that station, under the superintendence of the Commandant of the School of Gunnery.

The remaining batteries were permitted to drill under the same regulations as applied to Corps of Infantry.

The Napanee Garrison Battery, Captain Hooper commanding, came to Kingston on the 23rd August, 1875, and were provided with barrack accommodation at the School of Gunnery for 12 days.

The Cobourg Garrison Battery, Captain Dumble commanding, being more than 50 miles from Kingston, performed drill at their own Head Quarters on different days under the regulations applicable to City Battalions as regards pay and without allowance.

An order issued on the 27th September, 1875, prohibited further drill or pay from that date, in consequence of the money voted for drill being exhausted.

The Cobourg Garrison Battery had performed nine days' drill only up to that date and were paid accordingly. This Battery was inspected on the 12th October, 1875, at Cobourg by the Assistant Inspector of Artillery for Ontario, and the Brigade Major 6th Brigade Division.

The total strength of the Cobourg camp at muster, including the Brigade Staff, was 1,456 officers and men, and 184 horses. The cost of rations and forage was \$3,898.25 of which sum \$817.60 was for forage. The pay of officers and men amounted to \$17,546.75, making a total for pay and subsistence in this camp of \$21,446.

The total strength of the Kingston camp at muster, including the Brigade Staff, was 1,347 officers and men, and 269 horses. The cost of rations and forage was \$3,573.49, of which sum \$668.92 was for forage. The pay of officers and men amounted to \$16,563.49, making a total for pay and subsistence in this camp of \$20,136.98.

The Cobourg camp was under the command of Lieut. Colonel D'Arcy Boulton 3rd Provisional Regiment of Cavalry, with the following Staff, viz:

Commanding.—Lieut. Colonel D'Arcy, Boulton, 3rd Cavalry.

Brigade Major—Major H. Smith, Militia Staff.

Supply Officer.—Quartermaster Van Ingen, 40th Battalion.

Musketry Instructor.—Captain M. Johnston, 57th Battalion.

Camp Quartermaster.—Brevet Major J. McDermid, 46th Battalion.

Aide-de-Camp.—Lieut. R. A. Morrow, 3rd Cavalry.

Principal Medical Officer.—Surgeon H. B. Reed, M. D., 45th Battalion.

Camp Sergeant Major.—Sergeant Major Burke, 57th Battalion.

Provost Sergeant.—Sergeant Shea, 40th Battalion.

Supply Sergeant.—Sergeant M. Y. Calcutt, 57th Battalion.

Musketry Sergeant.—Not named.

Q. Master Sergeant.—Not named.

Hospital Sergeant.—Not named.

Brigade Bugler.—Bugler John McCallum.

Brigade Clerk.—Sergeant Major Polkinghorne, Cobourg Garrison Battery.

The Kingston Camp was to have been under the command of Lieutenant Colonel A. Campbell, 15th Argyll Light Infantry of Belleville, but owing to the illness of that officer at the last moment, I went into camp, with permission from Head Quarters, and took the command with the following Brigade Staff, viz:—

Commanding.—Lieut. Colonel S. P. Jarvis, Militia Staff.

Brigade Major.—Lieut. Colonel P. W. Worsley, Militia Staff.

Supply Officers.—Captain W. D. Gordon, 14th P. W. O. Rifles.

Musketry Instructor.—Captain James Byrne, 47th Battalion.

Camp Quartermaster.—Quartermaster Crozier, 15th Battalion Argyll Light Infantry.

Aide-de Camp.—Lieutenant J. F. Wilson, "A" Battery.

Principal Medical Officer.—Surgeon Bristol, 4th Cavalry.

Camp Sergeant Major.—Sergeant Major Charles Field, 14th P. W. O. Rifles.

Provost Sergeant.—Sergeant J. Rawson, 14th P. W. O. Rifles.

Supply Sergeant.—Sergeant Alex. Smith, 14th P. W. O. Rifles.

Musketry Sergeant.—Sergeant G. T. Salter, 14th P. W. O. Rifles.

Quartermaster Sergeant.—Color Sergeant Robert Glen, 48th Battalion.

Hospital Sergeant.—Sergeant J. F. Miller, 4th Cavalry.

Brigade Clerk.—Sergeant P. O'Conner, 14th P. W. O. Rifles.

Brigade Bugler.—Joseph Robinson, 47th Battalion.

Markers.—Seven men from the 14th and 47th Battalions in Camp.

The duties of the Camps were conducted with regularity and zeal on the part of all concerned.

The weather was most favourable; the supplies were good. The camp grounds were well chosen, and the Staff being carefully selected, all the machinery of a camp life worked smoothly.

Officers and men vied with each other in their exertions to master the details of drill and duties, as far as the limited time would permit.

The twelve days included the days of coming and going, one Sunday, and one field day for inspection and muster and pay. So that eight clear days only were available for regular work, a period much too short to be of material advantage for drill purpose, though sufficient to form the Squads, Troops or Companies and Battalions and inspect the property in their charge.

A small portion only of the force could receive practical instruction in mounting Guard and Piquet, but a very large proportion of both Camps performed Target practice with 15 rounds per man, at 200, 400 and 600 yards ranges.

The Report (A) of Lt. Col. Boulton, accompanies this report, as well as the reports (B) of the Medical Officers in charge and the Returns of Musketry practice, as furnished by the appointed Musketry Instructors.

I have the melancholy duty of reporting the death of the late Brigade Major Lt. Colonel W. P. Phillips on the 1st September, after a long and lingering illness.

His remains were interred on the 3rd September with Military honors. The "A" Battery furnished band, gun carriage, horses, and drivers, and the 14th P. W. O. Rifles in which corps Lt. Colonel Phillips, formerly had command of a company, formed the escort.

Owing to his illness at the time of the camps, and upon my application to Headquarters for the services of another officer to perform Brigade Major duties, Lt. Col. P. W. Worsley, Brigade Major of the Grand Trunk Brigade, was ordered to Kingston on that duty, and I have much pleasure in bringing to your notice the valuable assistance afforded by this officer, whose thorough knowledge of his profession, great regularity,

diligence, and good temper, contributed in no small degree to the successful termination of the Kingston Camp with perfect satisfaction to all concerned.

The other staff officers were also active in their respective duties. I would especially mention Captain Byrne 47th, the Musketry Instructor, and Captain Gordon 14th, the Supply officer, whose admirable arrangements and constant attention were very conspicuous.

I observe with satisfaction that Lieutenant Colonel Boulton expresses his gratitude to the Brigade Staff of the Cobourg Camp, as well as to the Officers and men of all ranks, in their ready co-operation, support, and cheerful obedience to orders.

During the Kingston Camp a friendly match was shot with the rifle by Officers of the 47th and 48th Battalions, 10 on each side, in which the 47th came off victors. Captain Byrne, 47th Battalion, the Camp Musketry Instructor, scoring 52 out of a possible 60. This was the highest score made in the District.

The 47th Frontenac Battalion also attained the highest figure of merit in the District at the Ranges, with 2808 points as figure of merit.

The health of the troops in both camps was excellent and no accidents of any consequence occurred to Officers or men, but two horses of the Picton Troop of Cavalry at the Kingston Camp were badly injured on the march, one by a sprain of the fetlock joint on a Railway crossing, and the other by a nail through the foot, both accidents causing serious lameness for the time being. The owners were promptly indemnified by a liberal gratuity from the Militia Department as soon as the cases were officially represented. Liberality on the part of the Government in such cases will bear good fruit.

In report (B) of the medical officers, it will be observed that a suggestion is offered by one of the Surgeons for some additional medicines in the field Pansers. It will also be noticed that a tent for a Field Hospital is required on all occasions of encampments.

It is hard on the other occupants of tents to have sick or injured comrades put into the same tents with them. The tents being always filled to their utmost capacity.

I have here to mention that Mr. John Creighton, the Warden of the Penitentiary, which is on the road to the Kingston Camp ground, kindly furnished a large quantity of quicklime for sanitary purposes. The horses and men under his orders delivered the lime within the Camps without charge, and although this may appear a slight service, the thanks of the Department, as well as of the Officers and men in Camps are due to Mr. Creighton for his prompt attention to our request.

The Veterinary Surgeons should also be furnished with appliances and medicines for the prompt treatment of sick or injured horses.

It is a matter for congratulation that the several bodies of Cavalry in this District have at length been formed into two Provisional Regiments with a full Staff. I still advocate the encouragement of this branch of the service. During the year 1874 two fine troops were disbanded. The 3rd Regiment has now but 3 troops and there is not a better locality in the Dominion for Cavalry than the Counties of Durham, Northumberland and Peterborough. The 4th Regiment has only 4 troops and could easily raise two more in the vicinity of Kingston.

Each Regiment should have at least 6 troops.

The first cost of Saddlery and Carabines is the chief expense.

It will be seen by the Supply Officers' Returns that the cost of forage during these camps has only been three dollars for each horse for the whole period of annual drill, and the average cost of each officer and man, including the payment of horses of the mounted portion, has been under fifteen dollars a head for the same period.

A body of mounted men, costing so little in time of peace, would be of untold value in time of war or internal disturbance, for outpost duty and to warn the Infantry and Artillery of the approach or whereabouts of the enemy.

Canada is not a close country with deep lanes, hedges, walls, dykes, where mounted men would be unable to move without break neck leaps or making long detours to avoid insurmountable obstacles. The fences are no obstacle to a body of Cavalry marching or scouting across country. Half a dozen men sent on ahead would lower fences faster than the main body would require to follow, and the same road would be open to them when retiring, at any pace, to the shelter afforded by hills.

The idea is gradually spreading that the old Cavalry man with sword and pistol must soon be replaced, or at any rate supplemented by the mounted Rifleman, who would form a screen far in advance of Infantry, and in their turn be well protected by the fire of Artillery more than a thousand yards in their rear.

It is a fact to be noted that the members of Cavalry in the two Camps were within one officer and one horse of the full number allowed to drill. No other arm was so fully represented in proportion.

Many young farmers who own horses would gladly enrol in Mounted Corps, when they are averse to joining the Infantry. If these men were encouraged to enrol themselves and their horses, the number of fine animals that would thus be secured for service, trained to sights and sounds of life in Camp, as well as fitted with saddlery and accustomed to move together or separately, to stand while their owners dismount to fire, and to lose the dangerous habit of kicking at each other in the ranks or when picketed, which all horses are liable to do when first brought in close contact with strangers of the same species, would more than compensate for the outlay and cost of subsisting them for a few days in the year.

The Infantry Battalions were generally made up of raw material. It is presumed that the men are enrolled for 3 years and sworn in. Such is stated to be the case, but it may be doubted whether there are not now many exceptions in the ranks of some of the Battalions. To go through every Battalion, man by man, after they reach Camp to ascertain whether they are all regularly enrolled according to law could still further reduce the time for drill and exercises, and unless the service can be made sufficiently attractive by extra remuneration, or by other means, to cause a rush for places in it, rather than by the importunity of officers to coax an inferior class of men to join their companies on any terms. I fear the active force, as now supposed to exist, will gradually melt away during peace time.

Two fine Battalions of Infantry in this District have failed to perform drill this year. No reason has yet been given, and I can only suppose that the men will not turn out even with such influential members as the Commanding Officers of the Prince Edward and Hastings Battalions. I do not think that compulsory service or the ballot in peace time will succeed in this country.

(To be Continued)

CORRESPONDENCE.

The Editor does not hold himself responsible for individual expressions of opinion in communications addressed to the VOLUNTEER REVIEW. The real name of the writer must invariably accompany each communication to insure insertion, but not necessarily for publication.

To the Editor of the VOLUNTEER REVIEW.

SIR,—As a volunteer I desire to thank you for your able and valuable remarks as to duty of Adjutants, and also the injury they are very likely to inflict on the volunteer force if given too much power. There is no doubt Capt. Spillette would like permanent pay, and as he tells us in the second paragraph of what he is pleased to call "his system" for organizing Cavalry that a Drill Instructor should be granted a forage allowance for his horse, I do not doubt but what he would like that also. The horse he says would lessen the cost of travelling. I am rather inclined to think he is mistaken in this; but there is one thing certain he could give his horse exercise when not on military duty over those sixteen miles of road of which he tells us he is Assistant Engineer. That word "Engineer" has rather a high sound, but I suppose he is correct, because we are told in ancient history of the Elephants used in war, the quantity of men they carried, &c., besides the Engineer that ruled the beast, but the employment spoken of by Capt. Spillette were his time is so much taken up should be "Section Boss" in our day. I do not propose to say anything in defence of those sweeping charges against the District Staff and Officers of the 2nd Regiment of Cavalry made by Capt. Spillette; they, I presume, will attend to that, if they do not it goes to prove his (Spillette) statements correct, but I would remark that although General Smyth tells us in his Report that Troop Sergeant Major Spillette's position in the 9th Lancers is a sufficient guarantee for his knowledge in Regimental detail, his conduct goes decidedly to shew a very limited knowledge of his duty to his superior. I would also make a few remarks in reference to his system for organizing Cavalry—in paragraph 1st we are told that a troop should have one Captain, one Lieutenant, one Cornet, four Sergeants, four Corporals, one Farrier, one Trumpeter, and forty Privates; well this part of it at least did not originate with Capt. Spillette for it has been the usual number of officers and men long before Capt. Spillette came into existence, and is quite likely to continue in about the same proportion long after he goes out of it. Paragraph 2nd. Three troops to compose a Regiment, with necessary staff, &c., viz.: Consisting of a Lieutenant Colonel Major, Adjutant, Paymaster, Quartermaster, Surgeon, Assistant Surgeon, and Veterinary Surgeon; here it will be at once seen that we should have the same staff as we now have for Regiments of six and eight Troops, thus causing a useless and unnecessary expense.

Paragraph 3rd. We are to have only six consecutive day's drill; just think of all this expensive staff for six day's drill in a year, the balance being put in at the most convenient season at the discretion of the Captains, so the staff would not be wanted. Passing over paragraph 4, it being very little different as regards pay from the usual amount paid, we come to paragraph 5: To be clothed at the expence of the Province. I suppose the Dominion is meant, that is all very well, but the pattern to be of the uniform of the Imperial Hussars is anything but what is wanted amongst Canadian volunteers, for where there is no barrack accommodation to chrome-yellow the braided facings nothing can look dirtier, or worse than it does, as to each suit lasting five years the suggestion is simply ridiculous. The tunic might last five years, but it is a well known fact amongst Cavalry men at least, that overalls cannot last much more than half of that time, for wear caused by being jamed about by unbroken horses, and having to wear the same overalls in camp whilst cleaning horses, accoutrements, &c., they get worn out in little more than half the time as those used by Infantry.

I don't wish to take up any more of your valuable space in reference to this system, but would say that I fear the General has been slightly misled in reference to the author. It will be remembered that in 1862 a lot of Sergeants were sent out by the British Government as Instructors to the Canadian Volunteers, amongst them were some ten or a dozen from about as many Cavalry Regiments. Those Sergeants were given the temporary rank of Sergeant Majors, so as to make them senior to volunteers of similar rank, amongst those newly made Sergeant Majors was Adjutant Spillette so that his experience as a Sergeant Major of the 9th Lancers is very limited indeed. I have been informed that he served some eight or ten years in his Regiment. I am not certain on this point, but looking at "his system," the charges made against the officers of his Regiment, also the way in which those charges were made, I am at a loss to know how he served so long and yet knows so little.

Yours respectfully,
CANADIAN VOLUNTEER.

Discipline and Obedience vs. Tyranny.

To the Editor of the VOLUNTEER REVIEW.

SIR,—Being neither a writer nor lecturer of subjects generally, I do not presume to treat the above philosophically, but merely to give an idea so that the readers of your paper who, I believe, are for the most part volunteers may get some insight into, and not have that misrepresentation of the word discipline, as I believe is commonly understood.

St. Paul says: "All things should be done decently and in order." Under that head,

I believe, is included discipline, and obedience without which everything is in a chaotic and disorganized state.

The meaning of the word discipline is not literally understood I do not imagine among our volunteers; a disciplinarian is put down as a tyrant, or almost so, and excooding his authority.

I have seen tyrants who knew little or anything about discipline and *vice versa*; therefore, I mean to state that a disciplinarian is not necessarily a tyrant, as well as, a tyrant a disciplinarian.

In the military service "obedience" is the first duty of a soldier. From the Commander-in-Chief down to the junior Drummer in an army, all are under (or should be so) obedience. The whole machinery is worked upon a system, if any of the gear goes astray, probably the whole is affected.

Every other or man joining an armed force authorized by the Government of his country should know for what purpose he enters it; he should also understand the nature of it, and also weigh in his own mind whether he will be able to undergo all that should be required of him.

Every one is not possessed with the same temper, since some are what are generally termed in the army "fire-eaters," hasty in temper, irritable, &c., &c. No one is perfect in this world. If all men, whether in high or low position, would do to others, as they wish other should do to them, then discipline and obedience would go hand in hand and tyranny would be obsolete.

It is expressly stated that no officer should speak harshly or use irritating language to a non-commissioned officer or private. All orders should be given out in a proper manner, and those who are to execute the same are to do it firmly and business like.

No threats should be allowed, if the order is not obeyed, as it ought to be, or is out of place and unwarrantable, there is a law and justice for the offender as well as the aggrieved:

I have known officers and non-commissioned officers jump and swear, and threaten what they would do if such an order or command given was not immediately attended to, (a case perhaps where the offender of a non-commissioned officer would be put under arrest, or a private into the guard room) and punished as the offence should merit. After all nothing was done. In other instances some trivial offence was committed not worthy of punishment, but simply deserving a reprimand, &c., the unfortunate party was punished severely, lost heart and got disgusted with the service. I call this neither discipline nor tyranny, but a want of proper judgment on the part of the giver of the order, such conduct on the part of the commanding officers causing dissatisfaction and tending to mutiny.

Cases of severity for the non-performance of orders have taken place, especially in young battalions of the line and among vol-

unteers, the reasons for which were intended for examples and to deter others. It often happens that a little severity is needed; it is no use pampering to the whims and caprices of individuals.

Every one in the military service has a certain duty to perform. I maintain that performing the like at once in a cheerful manner and with alacrity is discipline and obedience combined.

Tyranny on the other hand is an excess of duty often caused by a superior having an antipathy to his inferior whenever the chance should occur, given him or a too great zeal exhibited by those in power for stretching the authority deputed to him too far.

Many soldiers have told me they would much rather serve under the strict and just commanding officer than the vacillating one who could never be depended upon.

Before I close I may state again that the whole machinery working harmoniously, and as one from the superior to the inferior with all orders executed smartly and cheerfully is discipline; the excess of which is tyranny. A disciplinarian is a person who sees all orders committed to him are performed with assiduity, and without favor, partiality, or affection to any one.

In addition, I wish to say something about saluting. Our volunteers, especially in country places, are mostly farmers, and hold the same status socially speaking. The officers of course hold certificates of fitness and are looked upon as officers and gentlemen, altho' in some instances, as far as this world's goods are concerned, are not as well off as the privates they command.

When the training takes place and the position of officers, non-commissioned officers, privates, &c., are defined, the saluting first of an inferior in rank to a superior is thought humiliating and not agreeing with the general view of equality as estimated in Canada. This is a great mistake, altho' the inferior has to give the salute first to the superior, the latter has to return it, and the rule for so doing holds good in both cases.

EX LINER.

To the Editor of the VOLUNTEER REVIEW.

DEAR SIR,—That paragraph in the able report of Major General Smyth which has just been submitted to the Canadian Parliament, speaking favorably of the efforts made by the small cavalry force of the Dominion to attain efficiency is so gratifying, and as one cannot be in several places at the same time, I venture to address you a few lines affecting reconnoitering and outpost duty.

I wish the Major General could say that all the minor details relating to these duties were understood by all ranks, and that all were so instructed as to be able to act with intelligence and a general understanding in the emergency of actual service, when there is no longer any time for minute explanations. Still as more men and horses can now be got than the Government are willing to

pay, much may be done by an improved established system on the part of Commanding officers of troops, who upon the re-enrollment of their corps should see, that no man is enlisted, who cannot take his horse cleverly over a fence, and be required to furnish himself with regulation long boots, spurs, and gloves.

In reference to clothing I am sorry that at Headquarters the importance of saving five shillings per suit, or a total of three hundred dollars per annum, should have outweighed the importance of Vedettes being concealed from the enemy as much as possible;—for no human means can be devised to conceal men equipped with brass or steel helmets, cuirasses, or lances with flags—and it is reasonable to suppose that no cavalry man in Canada will array himself in a dragoon's tunic with an hussar busby, unless he completes the fancy dress with sailor's trowsers.

To return to the subject of enlistment—to have a few practical civil engineers and two or three telegraph operators in each troop is very important; while every man should have a small parcel containing dynamite to destroy iron rails, and silver wire to repair telegraph lines; as at present carried by the German cavalry. Good trumpeters are indispensable, and a few experienced draughtsmen ought not to be overlooked.

In matters of equipment officers and non-commissioned officers should supply themselves with a map of their military district and a pocket compass—the former might also add a pocket telemeter and field glass, while the latter might have a small dark lantern attached to the belt—three or four men per troop ought also to carry a small axe attached to the saddle.

The normal condition of the Vedette is one of motionless vigilance and observation, and the transition from this state of rest to movement should be the signal—but it will be better to keep to the formation of double vedettes posted about thirty yards apart, the junior of the two conveying any information to the officer commanding the piquet, who will ride forward and verify the facts before giving the alarm; thus preventing needless scares; and also better suited to imperfectly instructed men in an enclosed country. Of course this does not apply to those vedettes or sentries who simply form connecting links in the chain and have no duties to perform than that of passing the signal.

The happy knack of posting men properly can only be learnt by practice; but all outpost work comes easily to any one who has a good eye for country; and notwithstanding few being accustomed to follow hounds in Canada, still the social instincts of the people are calculated to develop a good class of light cavalry soldiers.

So many works are now published giving all the details of outpost duties and patrolling that I will not attempt to go into them, but simply remind all ranks who will pro-

bably feel fresh and equal to any exertion at the commencement of their work, that it is a peculiarity of this service to generally require the greatest vigilance and activity towards the conclusion of a tour of duty, and to husband their energy for a final dash if required.

HUSSAR VEDETTE.

Junior Naval and Military Club,
Pall Mall, 13th March, 1876.

To the Editor of the VOLUNTEER REVIEW.

DEAR SIR,—I have just been examining the army list for this month, and it appears to me in these days when the whole defensive power of the Empire is being put into order—that the organization of the Cavalry arm in Canada wants a few touches from the able hand of that gallant officer Major General Smyth, who commands this portion of our auxiliary forces.

Might I venture to suggest a plan which will cost nothing—the first consideration I believe in the colony—and so far in accord with the social instincts of the people that it will develop this arm and bring it more into proportion to the other arms.

1st. Each military district to have its regiment of cavalry completed to eight (8) troops, the balance of the troops so required over and above the present active service troops to belong to the "Reserve Militia"—but to be the reserve militia troops of the regiment of their district.

2nd. Those military districts where the independent troops of the present active force have not been formed into regiments and numbered in accordance with said districts, to be so.

3rd. Some inducements should be given to those officers, non-commissioned officers and men upon retiring from the active service troops to go into the reserve ones.

Your obt' serv't,

WAR OFFICE.

Pall Mall, 20th March, 1876.


VOLUNTEER INSPECTIONS.—The following are the inspections by Colonel Villiers for this week:—

Monday —No. 4 Troop, 2nd Cav'y, St. Anns.
" —No. 4 Com'y 19 Batt., Beamsville.
Wednesday —No. 1 Troop 2nd Cavalry, St. Catharines.
" —Nos. 2, 3 and 5 Companies 19th Batt., St. Catharines.
" —Garrison Artillery, St. Catharines.
Thursday —No. 1 Com'y 19th Batt., Niagara.
" —No. 6 Troop 2nd Cav'y, Queenston
—*Hamilton Times*, 3rd April.

The largest armour plate ever made has just been produced at the Cyclops Works (Messrs. Cammel & Co.'s, Sheffield). The thickest made previously was 14 inches, but this plate was 22 inches thick. It is one of the several intended for two war vessels now constructing for the Italian Government. The plate, which weighs 35 tons, will be tested by a 100 ton gun. Each vessel will have two turrets, and each turret two guns. The plate was very successfully rolled. A number of military and naval authorities representing Rome and foreign governments, were present at the operation.

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The Volunteer Review,
AND
MILITARY AND NAVAL GAZETTE

"Unbribed, unbought, our swords we draw,
To guard the March, fence the Law."

OTTAWA, TUESDAY, APRIL 11, 1876.

TO CORRESPONDENTS.—Letters addressed to either the Editor or Publisher, as well as Communications intended for publication, must, invariably, be pre-paid. Correspondents will also bear in mind that one end of the envelope should be left open, and at the corner the words "Printer's Copy" written and a two or five cent stamp (according to the weight of the communication) placed thereon will pay the postage. No communication, however, will be inserted unless the writer's name is given, not necessarily for publication, but that we may know from whom it is sent.

WE have for the past nine years endeavored to furnish the Volunteer Force of Canada with a paper worthy of their support, but, we regret to say, have not met with that tangible encouragement which we confidently expected when we undertook the publication of a paper wholly devoted to their interests. We now appeal to their chivalry and ask each of our subscribers to procure another, or to a person sending us the names of four or five new subscribers and the money—will be entitled to receive one copy for the year *free*. A little exertion on the part of our friends would materially assist us, besides extending the usefulness of the paper among the Force—keeping them thoroughly posted in all the changes and improvements in the art of war so essential for a military man to know. Our ambition is to improve the *Volunteer Review* in every respect, so as to make it second to none. Will our friends help us to do it? Premiums will be given to those getting up the largest lists. The *Review* being the only military paper published in Canada, it ought to be liberally supported by the officers, non-commissioned officers, and men of each Battalion.

"Last night, on going into Committee of Supply, the member for Hackney called attention to the state of our military forces, and moved that in the opinion of the House, the present condition of the British Army is most unsatisfactory and its cost extravagant; that our present practice of retaining men in barracks for home service longer than is necessary to make them efficient and thorough soldiers is vicious and immoral; and that, having regard to the efficient defence of the country, it is inexpedient to maintain two rival paid forces in the United Kingdom. To this motion General Stute moved as an amendment that the admirable regimental discipline carried out in the barracks of the

United Kingdom has tended to reform the intemperate and immoral habits of any bad characters who may have been occasionally recruited for the Army; and that in this country, where military service is entirely voluntary, the fact of having varied descriptions of forces such as the Regular Army, Militia, Volunteers, and Yeomanry Cavalry, tends to utilize for military service a larger proportion of the population than would otherwise be found available. In the course of his remarks Mr. Holmes stigmatized as scandalous and immoral the practice of keeping soldiers in barracks for any length of time, declared the Militia to be useless and detrimental to the regular army, and propounded a notable scheme for not sending any soldiers abroad in time of peace unless they volunteered and selected their station. We shall be able next week to consider this extraordinary motion more at length."

The foregoing paragraph from *Broad Arrow*, of 26th February, shews what difference of opinion exists in Great Britain as to the value of retaining its "Regular Army" at home; the member for Hackney is right respecting the inexpediency of keeping up "rival forces" to perform the duties of a simpler organization. The defence of Britain, if invasion is possible, must rest on her whole population.

Metropolitan Rifle Association.

The annual meeting of this Association was held on Wednesday evening in the room over the store of Mr. Roos, tobacconist Sparks street, which was kindly placed at the service of the members of the Association by Mr. Roos.

The meeting was organized by calling Capt. MacPHERSON to the chair, who requested the Secretary, Mr. NEWBY, to read the report, which is as follows:—

Gentlemen, the Committee on presenting their annual report of the affairs of the Association have much pleasure in calling your attention to the renewed interest shown in it, as evinced by the large subscription list. The Government made its usual grant of \$150, the Corporation of the city gave \$100, and our worthy President, Mr. Allan Gilmour, most generously doubled his accustomed yearly subscription, making it \$100. Numerous other gentlemen also subscribed liberally. The Hon. W. B. Vail, Minister of Militia and Defence, kindly consented to become Patron of the Association. The total receipts from all sources amounted to \$854.35, and disbursements to \$836.99, leaving a balance of \$17.36 in hand. The members will perhaps remember that when the Secretary presented his last annual report he showed a deficit of \$42.50, which the management of this year had to meet. The annual prize meeting was held at the Rideau range on the 24th and 25th days of August, and it brought 41 competitors to the ground for the opening match. The total number of entries during the meeting was 222, the average per match 37, and the most in any one match 46. \$605 was given in cash prizes, besides the Civil Service epergne, a cup presented by Mr. Barber, and the medals of the national Rifle Association and Ontario Rifle Association. The weather during the matches was all that could have been desired, and nothing occurred in any way to mar the pleasantness of the meeting, universally

agreed to have been a most successful one. We affiliated with the Ontario Rifle Association, but not with the Dominion, the committee thinking that the funds would scarcely admit it, and really no adequate return is made for the large sum (\$20) necessary to do so."

After the adoption of the report a vote of thanks was passed to the retiring officers, especially to the Secretary Treasurer, for the trouble they had taken in the interests of the Association during the past year.

It was then moved by Mr. Cotton, seconded by Mr. Sutherland, that the thanks of the Association are due and are hereby tendered to Mr. Allan Gilmour, Hon. W. B. Vail, Hon. James Skead, Hon. John Hamilton, Messrs. Pattee, McLeod, Stuart, and the numerous other gentlemen who subscribed so liberally to the funds of the Association. Carried.

The election of officers for the ensuing year was then proceeded with and resulted as follows:—President, Mr. Allan Gilmour; 1st Vice President, Mr. Barber; 2nd, Mr. Pattee; Secretary Treasurer, Mr. A. Cotton; Assistant Secretary, Mr. F. Clayton. Committee of Management: Messrs. W. P. Lett, H. Walters, R. Graburn, F. Newby and E. D. Sutherland.

After a vote of thanks to Mr. Roos for the use of his room the meeting adjourned.

Parliamentary.

OTTAWA, April 4,

The House went into Committee of Supply, and passed the following items:

Contingencies and general services not otherwise provided for, including assistance to Rifle Associations and bands of efficient corps, \$50,000.

Targets, re-vote, \$2,000.

Drill Sheds and Rifle Ranges, \$10,000.

Military College, 26,000.

Military Stores, \$40,000.

Public Amories, care of arms, &c., \$52,000.

April 6th.

On the motion of Mr. Cartwright the House went into Committee of Supply.

On the item of \$29,400 for salaries of military branch and district staffs.

Mr. Bowell had hoped that in this branch of the service, which was over-stocked, a decrease in the number of officers would have been made. The apparent decrease in this item was owing to the reduction in supplies and not to a reduction in the number of officers. He considered that this was economizing in the wrong place. A large number of these officers were mere sinecures, and actually deducted from the efficiency of the force. He quoted from Adjutant General Smyth's report, in which he (Smyth) expressed the same opinions. The speaker proceeded to advocate the recruiting of the volunteer force with young able-bodied men, and he considered they should be officered with men who had attained to a certain rank in the regular army.

Mr. Mackenzie said the policy of the Government was not to fill any vacancy in the militia staff until it was one half its present proportions. With regard to the employment of Canadians as the higher officers, it was intended to do so as soon as the Military School offered the material to make the appointments from that institution. Such officers would also be given priority in regard to engineering positions in the Public Works Department. By this means it was hoped to have a body of thoroughly trained officers

APRIL 11, 1876.]

who could be called upon should any emergency arise, and to secure the skeleton of a force so far as the higher officers were concerned. The object of the Government was that while not having a standing army, they would have material from which a really efficient army might be created in a short time and placed in the field. A defect in our force at the time of the Fenian raid was the want of knowledge of field movements on the part of our officers, but this defect had been remedied.

Mr. McKay Wright said that under the present existing laws Canadians were practically shut out from the higher offices in our militia. He denied that an English officer of the line was the best commander of Canadian militia, who were not mere machines.

Mr. Vail said the necessity of a volunteer force was apparent from the fact that it had been called out this year, in three of the Provinces to assist the civil authorities.

After remarks by several others the item was carried.

The item of \$28,500, salaries of Brigade Majors, passed.

On the item of drill pay and all other incidental expenses connected with the drill and training of militia, \$125,000.

Mr. Kirkpatrick would like to know whether the volunteer force was to be called out for drill next season. He himself would approve of discontinuing the battalion drill of county companies.

Hon. Mr. Mackenzie could not tell whether the city or county companies, or either, would be called out. It was not possible to give any details at present. He admitted that it was necessary to maintain a military force to preserve internal order, but he did not think we required a very extensive one. He was not in favor of military schools, but he had no doubt that if the course of training was so arranged as to fit graduates for other positions in life it would prove of good service.

Mr. Ross (Middlesex) considered a large expense in maintaining the militia was unnecessary.

Mr. Orton suggested that a volunteer, after having served five years, should receive a medal and a grant of land in the Northwest.

Hon. Mr. Mitchell was not satisfied with the explanations of the Premier. He presumed that the Ministry had based this appropriation upon some minute calculation, and they should submit their reasons for asking this vote to the House. He would like to know whether the money was to be expended in brigade drill or company drill, and whether the whole force or part of the force was to be called out? When the former Government was in power they were always required to furnish this information, and he did not think it was right to refuse such information at present.

Hon. Mr. Vail said the Government had not decided how they would drill the volunteers this year. The item passed.

The Indians of the Dominion.

The introduction by the Minister of the Interior of his measure for regulating the relations between the Dominion Government and its Indian subjects leads us to consider who, where, and in what condition the people are who are affected by its provisions.

The total number of Indians in the Dominion is returned as 97,970. Of these 15,000 (roughly speaking) are in Ontario; 11,000 in Quebec; 25,000 in Manitoba and

the North West Territories; 5,000 in Rupert's Land, and 31,000 in British Columbia; Nova Scotia and New Brunswick each containing less than 2,000, while Prince Edward Island only returns 302. These figures, especially those relating to the unsettled and semi-nomadic tribes of the North West, can only be taken as somewhat approximating to the truth. With regard to these latter no attempt can be made to compare their present with their past numbers, for all such statistics must necessarily be of little value. But in the more settled Provinces some approach to accuracy may be reasonably looked for; and so we find that among the Ontario tribes the increase during the past year is noted as 200, and the decrease as 42; in Quebec, the increase is 22, and the decrease 128; in Nova Scotia, increase 16, and decrease 4; in New Brunswick, increase 24, decrease 35. If these figures are of any value at all, they seem to indicate that the aboriginal race is slowly, very slowly, dying out, although under favorable circumstances the progress of decay seems to be arrested, and in some cases the population is on the increase. At all events, the rate of decrease is less than it is usually assumed to be—a fact of which those most conversant with the Indians have long been aware. Turning to the provisions made by the State for their education we find that 3,921 children are reported as having been in attendance at school during the past year. Ontario returns 1,762 scholars. British Columbia comes next with 1,159; Quebec 441; Manitoba does well to show 480 scholars; Nova Scotia has 79; Prince Edward Island sends no returns from its one school; and New Brunswick returns no schools at all—a fact that does it little credit.

Setting aside the North West and the Pacific Coast, about which no satisfactory statistics are at hand, we find that in the five Provinces just enumerated, the value of improvements made by Indians on their reserves is estimated at \$1,200,000, and their personal property at nearly half a million of dollars. Their stock totals up 13,000 head of all sorts. The Ontario tribes alone are credited with having raised last year 36,000 bushels of corn, 42,000 of wheat, and 75,000 of oats, and with having sold fish and furs to the value of \$14,000, while the result of sugar making, baskets, &c., is returned as \$41,000. On the whole the evidence afforded, even by dry statistical tables, of the progress made by Indians when properly looked after and placed in a position to improve themselves, is very satisfactory. Many of us, of course, know from other sources how great the progress of the aborigines towards civilization has been in several instances, and many, too, know to their cost how many disappointments, attend exertions made on behalf of those who have been for many years totally neglected, if not debased, by the white occupiers of their country. The circumstances, indeed, must be peculiarly favourable under which an adult Indian can be reclaimed from a wild life and settled down as a plodding agriculturist. Many of them do not and will not take to farming. You may present them with ploughs, and seed, and harrows, but in many instances all will be thrown away. There is, in fact, too much sameness of idea in the good intentions with which philanthropists approach the Indians, among them, as amongst all other people, there are diversities of habit, of inclination, and of capability. Some will take to ploughing; but others are naturally suited for fishing, others for lumbering, and so on. A considerable number have no small taste for carving; and we should like to see more attention given to encouraging

among them the working in wood for which they seem to have a natural genius.

In the Far West the Indian policy of Canada has been as different in tone as in result from that adopted by the United States. In no boastful spirit we may affirm that ours has been as successful and honest as theirs has been disastrous and corrupt. Of the immense benefit conferred upon the Indians by the establishment of the North West Mounted Police evidence can readily be gleaned from General Smyth's report of his journey from ocean to ocean. The force has given a fatal blow to the whiskey traders of the North West, and under that name may be grouped all the lawless blackguardism which for the last few years has made continuous raids upon British territory from its safe base of operations across the border. The Indian tribes who are fortunate enough to live under the British flag know well enough that, to the utmost of the Government's ability, peace, security, and temperance are guaranteed to them; and for these blessings they are not ungrateful. Among the wandering and semi-civilized races with whom Canada has now to deal in the North West, we must not expect to perceive too rapid an advance towards settled habits; but we may safely predict that from amongst the Indians of Ontario and the other Eastern Provinces many of the aborigines will soon take advantage of the new scheme of enfranchisement and cease, in the eye of the law, to be "Indians."

The Admiralty.

On the order for going into Committee of Supply, Mr. Bentinck called attention to the practice of placing at the head of the Admiralty civilians who, from their antecedents, could not be conversant with the business of the Department. The practice, he contended, led to jobbing and disastor, and he asked the House to affirm a resolution to the effect that it was "detrimental to the interests of the service." The motion was seconded by Mr. Monk, but opposed by Mr. Disraeli, who argued that there were no duties devolving upon the First Lord which any public man in the position of a Cabinet Minister would not be competent to discharge, with the exception of such purely professional questions as the arming and plating of ships, the appointment of naval commanders, and the delicate and important subject of promotion. These were invariably referred to the naval members of the board, though the First Lord had the ultimate decision, without which their councils might possibly end in anarchy. The right hon. gentleman then cited the opinions of several high authorities in favour of the existing practice, including Sir J. Graham, Admiral Sir G. Cockburn, Admiral Lord J. Hay, the Duke of Somerset, Lord Halifax, and Sir John Barrow, and reminded the House of the fact that from 1782 to the general peace in 1815 the entire series of English naval victories had been achieved under naval administrations headed by civilians. It appeared to him, then, that the House would be taking a very rash step if it adopted the proposal before it. The House then divided, and negatived Mr. Bentinck's motion by 261 to 18.

REVIEWS.

The *New Dominion Monthly* for April is received. The following are the contents:—A Trip to the Sugaries; Jesuism (continued); Sailors' Songs; Ellie's Desire; Tecumseh Hall (continued). &c. John Douglass & Son, publishers, Montreal; price \$1.50 per annum.

DO THIS IN REMEMBRANCE OF ME.

When the Paschal evening fell
Deep in Kedron's hallowed dell,
When around the festal board
Sate the Apostles with their Lord,
Then his parting word he said,
Blessed the cup and brake the bread—
"This when'er ye do or see,
Evermore remember Me."

Years have passed; in every clime,
Changing with the changing time,
Varying through a thousand forms,
Torn by factions, rocked by storms,
Still the sacred table spread,
Flowing cup and broken bread,
With that parting word agree,
Drink and eat—remember Me."

When, thro' all the scenes of life,
Hearths of peace and fields of strife,
Friends or foes together meet,
Now to part and now to greet,
Let those holy tokens tell
Of that sad and sweet farewell,
And, in mingled grief or glee,
Whisper still, "Remember Me."

When diverging creeds shall learn
Toward their central source to turn;
When contending churches tire
Of the earthquake, wind, and fire;
Here let strife and clamor cease
At that still, small voice of peace—
"May they all united be
In the Father and in Me."

When as rolls the sacred year,
Each fresh note of love we hear;
When the Babe, the Youth, the Man,
Full of grace divine we scan;
When the mournful way tread,
Where for us His blood He shed;
When on Easter morn we tell
How He conquered Death and Hell;
When we watch his spirit thro
Heaven and earth transform anew;
Then with quickened sense we see
Why he said "Remember Me."

When in this Thanksgiving feast
We would give to God our best,
From the treasures of His might
Seeking life and love and light;
Then, O friend of human kind,
Make us true and firm of mind,
Pure of heart, in spirit free—
Thus may we remember Thee

Literary and Scientific.

CAPT. WICKSTEED'S LECTURE ON "THE RIFLE."

(From the Free Press.)

(Continued from Page 153.)

For projectiles fired in the northern hemisphere—When firing from north to south deflection is to west; when firing from south to north deflection is to west; when firing from west to east deflection is to south; when firing from east to west deflection is to north; so that the deviation is in all cases to the right in the northern hemisphere. It must also be observed that in firing from west to east the range is increased, and from east to west the range is decreased, but in firing due north or south the range is not altered.

2nd. Deviation of projectiles fired from S. B. guns. The principal causes for these deviations are: (1) Windage; (2) the imperfect form and roughness of surface of the shot; (3) eccentricity of projectile, arising from a want of homogeneity.

1. Windage causes irregularity in the flight of a projectile, from the fact of the elastic gas acting in the first instance on the upper portion of the projectile, and driving it against the bottom of the bore; the shot reacts at the same time that it is impelled forward by the charge, and strikes the upper surface of the bore some distance down, and so on by a succession of rebounds, until it leaves the bore in an accidental direction and with a rotatory motion depending chiefly on the position of the last impact against the bore.

Thus should the last impact of a (concentric) shot, when fired from a gun, be upon

the right hand side of the bore, the shot will have a tendency to deflect to the left, while at the same time a rotation will be given to it the effect of this rotation will, however, cause the ball during its flight to bear off gradually to the right, so that the deflection will not be to the left, but to the right, in less the range be short.

Cause 2. Shot cannot be cast with perfectly smooth surfaces, consequently a certain amount of unequal friction arises between these surfaces and the atmosphere.

Cause 3. Rotation is also occasioned by the eccentricity of the spherical shot, which is thus explained: The shot being supposed to fit the gun, the force of the powder may be said to act equally on its hinder part, the direction of the force being through the centre of the bullet. Should the centre of gravity of a shot not coincide with the centre of the figure the shot is termed eccentric, and is found to deviate in its trajectory according to the position of the centre of gravity when the ball is placed in the bore of the gun. Should the line joining the centre of gravity and the centre of the figure of a projectile be not parallel to the axis of the bore, the charge of powder will act upon a larger surface on one side of the centre of gravity than on the other, so that there will be a rotation from the lightest to the heaviest side.

The effect of the rotation originating from windage, or from the eccentricity of the projectile, is explained by Robins, who states, "this whirling motion of the bullet occasions it to strike the air obliquely, and thereby produces a resistance which is oblique to the track of the bullet, and consequently perpetually deflects it from its course." The side of the bullet which moves forward experiences an increased resistance, and the opposite side, which retreats, experiences a less resistance than it would do if it received no rotation. The consequence naturally is, that the bullet is deflected in the direction of the least resistance, or in the direction to which the leading surface of the bullet spins, which will be in the opposite direction to the deflection caused by the rebound of the bullet from its last impact on leaving the bore. Robins illustrated this deviation by suspending a wooden ball $4\frac{1}{2}$ inches in diameter to the ceiling by a double string 8 or nine feet long. The ball was turned round and the string twisted; when left to itself the ball rotated from the untwisting of the string; if drawn considerably from the perpendicular, it vibrated steadily at first in the same vertical plane in which it began to move; but by the untwisting of the string, it acquired, after a short time, a sufficient degree of rotation, and began to deflect to the right or left of its proper track. This appeared to be entirely owing to the resistance being greater on one part of the leading surface of the globe than the other.

Another experiment of Robins' to elucidate the deflection caused by the rotation of a projectile round an axis not coincident with its line of flight, was as follows: He took a gun barrel and bent it (about four inches from the muzzle) the left, at an angle of 3° or 4° , he then fired it with a loose ball, through two thin paper screens, at a wall: the first screen was fifty feet from the barrel, the second fifty feet behind the first, and the wall two hundred feet behind the second screen, and three hundred feet from the barrel: he found that in the first screen the bullet had struck $1\frac{1}{2}$ inches to the left of the centre of it; in the second screen about three inches to the left; but on the wall the mark of the bullet was found considerably to the right, about 14 inches.

The bullet, fired when the barrel was bent, described a doubly curved line, one curve being caused by gravity, and the other by the resistance of the air to the rotation of the bullet; for in passing out of the barrel the bullet naturally sliding against the right side a rotation from the left to the right was imparted to it, and the air resisting the rotation would cause this gradual bearing off to the right.

Professor Magnus, of Berlin, demonstrated the unequal resistance of the air on the front of a rotating spherical bullet; the projectile was stationary, and a strong current of air directed upon it; it being assumed that the relative pressures upon the projectile are the same whether it is made to move with a certain velocity through the air, or whether a current of air is impelled with the same velocity against the projectile.

A brass cylinder, $1\frac{1}{2}$ inches diameter, and four inches high, on a vertical axis, represented the projectile; this was made to rotate by machinery. A rotatory fan, with a nozzle five inches wide and $\frac{3}{4}$ inch deep, delivered the current of air. Two light vanes were placed on each side of the cylinder, so that the pivots were equidistant from the mouth of the blower, and from a vertical plane passing the centre of the current and the axis of the cylinder. When the blower was put in action the vanes placed themselves in the direction of the current, as shown by the continuous lines; but when in addition to the current of air produced by the blower, the cylinder was made to rotate with a certain velocity, the vane, on that side of the cylinder which moved in the same direction as the current, approached the cylinder, while on the contrary side, the vane receded, as shown by the dotted lines. It followed that on the former side there was a diminished, and on the latter a decreased pressure, compared with that which existed when the cylinder was at rest.

PRINCIPLES OF RIFLING.

For a long time the deviations observed in shot were not attributed to their eccentricity. When it became known that eccentricity was the cause of the resistance of the air, producing such great deviations in the firing, every effort was put forth to make the projectiles as concentric as possible, with the view of increasing the accuracy of fire. It was not until quite recently that this very eccentricity was made use of to increase the accuracy and range of projectiles, and it was found that the accuracy and range could even be further increased by magnifying what had hitherto been regarded as the cause of the evils, viz., the distance between the centre of gravity and figure.

As a corollary of what I have stated, when a ball has been made as nearly spherical as it can; when the distribution of metal within such ball has been so effected that the centres of sphericity and of gravity correspond as near as can be; no further aid to correct flight can be imparted to the ball itself. Care in respect of the piece from which it is fired, so that the bore may be smooth and nearly fitting to the ball, contribute something more; and a chamber, or patent breeching, by means of which the gunpowder charge is lighted; well opposite the centre of the ball, may also help to achieve such correctness of flight, as a spheroid, or "ball" properly so-called, projected from a non-rifled gun is susceptible.

Before going further, it will be well here to observe, that the only form that is at all compatible with correctness of flight from a "non-polar" weapon is the spherical form.

The subject of polar weapons does not admit, perhaps, of being conveniently introduced and explained than through the medium of a boy's peg-top.

If a peg-top were given to any person accompanied by the request that he would drop it from the window of an upper floor in such wise that the peg end should strike the ground first, how might this be done?

A peg top is, when simply thrown from the hand or let drop, not a "polar" projectile. It might strike on the peg or it might strike on the very reverse aspect; or, in short, on any aspect. How can it be polarised?

Firstly—something might be attached to it, which, by offering resistance to the air, should act like a parachute, or a vane; thus, virtually, though not absolutely, rendering the part of the top furthest away from the peg end the lightest part. Thus, one long straight feather might be stuck into a hole drilled into the upper part, thus converting the top into an arrow; or several feathers might be stuck laterally into the top, thus converting it into a shuttle cock; or, finally, instead of imparting a virtual lightness to the upper end of the top by means of the aerial resistance of feathers, we might attach a simple stick to it, thus rendering it a compound projectile, absolutely heavier at one end than at the other.

Now, if the reader will for the instant exclude rifle bullets he will not fail to perceive that all other polar projectiles, ancient no less than modern, acquire their polarity by variations, more or less closely followed, of the expedients represented above. As for the first, it converts the top, almost literally, into an arrow. As to the last, it is at once the type of the javelin in all its varieties, and of the Congreve rocket.

But the simplest means of insuring impact between the peg of the top and the ground, would consist in projecting it from the hand in the ordinary way that peg tops are protected; that is to say, having a spinning movement imparted to it by the unwinding of a cord.

No person ever yet saw a peg top standing upon its peg otherwise than when in motion. Yet, if a top were accurately formed that its absolute centre of gravity existed in its geometrical axis, it assuredly would stand on its peg, if accurately set down upon it, even though not in motion. This fact has never been accomplished, and never will be, seeing that a top so absolutely correct in its parts as we have assumed, cannot come from the hands of man. But the ease with which a top when spinning stand on its peg, show how completely the spinning motion of the top counterbalances the unequal distribution of its parts. Not only will a peg top fly spinning through the air, peg foremost, if thus launched to begin with, but it will continue to stand on the peg after reaching the ground, until the rotatory motion decreases below a certain limit.

Directing our attention now to ascertain the reason of this, the explanation is obvious. A peg-top is a thing of unequally distributed weight, and unequally distributed shape; in other words, it lacks symmetry. Fashioned with all possible correctness, some one side will always be heavier than some other side. But the effect of rapid rotation is virtually to so make up and distribute real inequalities, that the result is virtual equality. In other words, all rotating bodies tend to keep the same position of their axis in space.

Whatever the form of the bullet, spherical or elongated, its path is described by the centre of gravity. In *vacuo*, no rotation

would be necessary: the existence of a medium, through which projectiles of any form must pass, is the sole cause of their upsetting, or deviating from their true path.

All projectiles (except those fired from rifled barrels of sufficient pitch) in consequence of the resistance they meet with from the air when they are eccentric, spherical, elongated, (and they are always one or the other) rotate naturally the former round an accidental axis, passing through the centre of gravity, and the latter round the short axis, also passing through the centre of gravity. As we have seen, however, the rotation to correct the flight of the projectile should be round an axis coincident with its initial direction, or the tangent to its trajectory. Any rotation, in any other direction, acts as a disturbing force, and causes irregularities.

By a successful introduction of the rifle system the chief causes of deviation are very greatly diminished. The object of rifling the bore of a musket barrel is to give the projectile a rotatory motion on an axis, parallel to that of the bore, or coincident with that of fire. The most perfect form for rotation is that of the disc, for when rotation is round any axis but the shortest, the constant tendency is to return to this. But the disc, in consequence of the great retardation it would experience, would be useless as a projectile. Spherical balls were fired from the rifled arms first introduced, but it was soon found that elongated projectiles could be successfully employed with these pieces; and, as so many advantages were secured by the adoption of the elongated forms for bullets, the use of spherical projectiles has been discontinued except for smooth bored guns. Elongated projectiles cannot be used with advantage if fired from smooth bored guns, for the pressure of the air acting unequally upon them when they have left the bore, they soon turn over in their flight and accuracy of fire is then lost.

The object of rifling is to give such a rotation to the projectile as to ensure its stability for the longest ranges. That rotation does give stability is well known from the top, but more especially from the gyroscope. The weaker the rotation the less the stability, and *vice versa*; the longer the bullet the less the stability, and consequently the greater the rotation required. If the rotation becomes weak at any part of the range, the bullet will wobble, perhaps turn over, and deviation must ensue.

The rifle gun is an ingenious contrivance for converting the unbalanced and irregular motion of fire-arm projectiles into one predetermined and regular, by imparting, in fact, a spinning-top to like motion to the bullet, and thus ensuring its continuance in a vertical trajectory curve. It is strange, however, that although the rifle principle is founded on the idea of a spinning top, yet, until very lately, the spinning motion was imparted to a spherical bullet merely, and not to projectiles fashioned like a top. The general aspect in which a rifle differs from a common gun is this:—Whereas the latter has a smooth cylindrical bore, the former has a bore not so smooth, but cut into grooves or indentations. This is the sole peculiarity a first glance will disclose, but if the observer unscrews the breeching of a rifle and looks through the barrel the grooves in question will not be found to proceed from breech to muzzle in lines parallel to the axis of the piece, but to take the path of a spiral. Now it is evident that a bullet or plug of lead, closely wedged into a barrel of this kind, and made to pass along the bore, must (except a sudden and extraordinary degree of violence be applied) fol-

low in its course the direction of the spiral and if propelled through the barrel by the force of gunpowder, must fly through the air in a spinning or top like manner. This is the effect of the rifle gun, and this is the mode of flight of a rifle ball.

The rotatory motion given to an elongated projectile round its longer axis in passing through the bore of a rifled piece, imparts stability to this axis, thereby preventing the projectile from turning over, and causing it to proceed in the desired direction with but little deviation.

Three different ways of giving the requisite rotatory motion to a projectile suggest themselves: (1) By mechanical means inside the bore of the gun; (2) by the action of the gas (from the gunpowder) upon the shot inside the bore; (3) by the pressure of the air upon the projectile after it has left the bore.

In order to obtain rotation by the two latter methods, the projectile is provided with wings, spiral grooves (either round the exterior surface or running through the metal), or other contrivances for the gas inside the bore, or the air during flight, to act upon; but by none of these have satisfactory results been obtained in practice, and it is not therefore necessary to describe them.

We may consider the different methods of giving rotation in the bores of rifled guns.

Great numbers of rifled guns with projectiles to correspond have been proposed, but most of the systems of rifling that have been adopted by any service, or tried on the practice ground, may be divided into the following classes:—

(1) Muzzle or breech loading guns having projectiles of hard metal, fitting the peculiar form of the bore mechanically.

(2) Muzzle or breech loading guns having projectiles with studs or ribs to fit the grooves.

(3) Muzzle loading guns with projectiles of soft metal which is expanded or upset by the gas in the bore.

(4) Breech loading guns with projectiles of soft metal larger in diameter than the bore, but which is compressed by the gas into the form of the bore.

In order to secure accuracy of fire, it is essential that the axis of the projectile should correspond with that of the bore of the gun; for, otherwise, the axis of rotation will be variable, and the deflection of the projectile uncertain.

The velocity of rotation varies with both the charge and twist of the grooves.

The velocity of rotation required by a projectile will depend chiefly upon the initial velocity, the form, and density, and distribution of the material of the shot, and also upon the position of its centre of gravity. As the initial velocity of a shot is increased, so will the resistance of the air tending to upset the projectile be greater.

Long projectiles require a more rapid rotatory motion than short ones of equal weight; for the resultant of the resistance of the air, which pressing in front of the centre of gravity of an elongated shot and below the point, tends to give the projectile a rotation round its shorter axis, acts with a greater leverage as the length of the shot is increased.

Upon the position of the centre of gravity. If the centre of gravity of a shot is very far forward, the hinder part of the shot would be pressed upwards, if the velocity of rotation be very low, so that the axis might correspond very nearly during flight with a tangent to the trajectory.

If this case (with a very low velocity of rotation) an irregular motion of the axis will generally result from the opposite

tendencies of the forces which act upon the shot, the air endeavoring to press up the hind part of the shot, while the rotatory motion resists any change in the direction of the longer axis. With the centre of gravity in this position, there is little fear of the shot turning over even with a low velocity of rotation, but in order that the axis might be stable, a rapid rotatory motion must be given to prevent any wobbling motion which might arise from the cause explained above. Should the centre of gravity be situated near the base, a very high velocity of rotation is requisite to compel the shot to proceed point first.

3rd. Deviations of elongated projectiles. An elongated shot fired from a rifled gun is subject to a peculiar deviation termed (from the French) deviation, and sometimes called drift. It is found in practice that elongated projectiles fired from rifled guns giving a right handed rotation, always deviate to the right, and in the few cases tried with guns giving a left handed rotation, the deviation is to the left.

Various explanations have been given to account for the deviations from rifled guns: Firstly—a shot rotating rapidly and at the same time falling in the air, will experience a greater pressure underneath than above, and will therefore roll as it were upon the denser air below. Secondly (probably the correct explanation)—If a projectile having a right handed rotation, be fired with a high velocity, the resultant of the air and resistance which would tend to raise the point if the projectile be not rotating, will, from what can be observed with the gyroscope, give the point a lateral movement to the right. As this lateral movement proceeds, so will the resultant act more and more to the left of the vertical plane passing through the longer axis of the projectile, and therefore, as in the gyroscope, the point will soon begin to drop,—effects being afterwards successfully produced similar to those which would be caused by a pressure acting gradually round the pointed end. In fact there is very little doubt but that the longer axis of such elongated projectile does not remain parallel to its primary direction, when the velocity is high enough to create considerable resistance, but the point of the shot will first move to the right, then downwards still keeping to the right, then to the left, and so on, describing a portion of the circle the continuance of the motion depending upon the time of flight and the velocity maintained. As the velocity becomes low the circular motion of the point will gradually cease; but in practice during the few seconds in the flight, which generally elapse, as the velocity is pretty high throughout, there is probably sufficient time and pressure not only to throw the point to the right, but to bring it down on the trajectory and even below it. In whichever direction the axis is twisted from the plane of fire, the resistance of the air passing through the centre of gravity will cause the bullet to deviate in the same direction.

From the fact of the rotation imparted to a projectile giving its longer axis stability, it was at first almost universally admitted that this axis remained during flight parallel to its primary direction, and this idea appeared to be borne out by the assertions, that the holes made in targets by elongated projectiles were generally elliptical and not circular, and that the lower and hinder part of the shot must have touched the ground first. These holes in targets are, however, seldom elliptical; also the instances of shot being flattened behind are rare, and this flattening may probably be produced by the

ground, when the point of the shot is rising from the graze. The axis of a shot would remain parallel to the primary direction if the projectile was opposed by only a very slight resistance; but the enormous force exerted by the air against a shot moving with a high velocity must produce some motion of the point, unless the force acted directly upon the point, and through the long axis, which it cannot do in ordinary cases. Neither do I, however, maintain the notion that the longer axis of an elongated shot remains during flight continually tangent to the trajectory, for this cannot possibly be correct except in the case of the shot having its centre of gravity, as in an arrow or rocket, very near the fore end. Practically, however, on account of the drooping of the point, the longer axis may throughout a considerable portion of the time of flight approximate very nearly to a tangent with the trajectory.

The results of experiments are, however, sufficient to establish the following facts: (1) That elongated projectiles with rounded or pointed heads deflect to the right at ordinary ranges, when fired with right handed rotation. (2) That similar projectiles, fired with left handed rotation, deflect to the left. (3) That the deviation of cylindrical or flat headed projectiles is in the opposite direction to that of projectiles with rounded or pointed heads fired with similar rotation.

CONCLUSION.

To conclude—"Whatever State," says the clear headed Robins, writing a hundred and thirty years ago, "shall thoroughly comprehend the nature and advantages of rifle pieces, and having facilitated and completed their construction, shall introduce into their armies their general use, with a dexterity in the management of them, will by this means acquire a superiority which will almost equal anything that has been done at any time by the particular excellence of any one kind of arms, and will perhaps fall but little short of the wonderful effects which histories relate to have been formerly produced by the first invention of firearms."

"The nation," that says a writer of the present day, "that takes thoroughly to the rifle is impregnable."

The national impregnability, which means national independence, there are three military requisites; the first, the weapon that shoots far; the second, the half pike, or short spear, for the close thrust; the third, the union of these two into a single weapon:—that weapon is the rifle. The rifle, with its bayonet, which no man can handle like the British soldier, is, in fact, a symbol of the national union which made a United Kingdom out of two independent monarchies. The bow was the national weapon of England, the spear the national weapon of Scotland; the two combined make the bayoneted firearm, or rifle, which the boys of Ireland have ever used with resistless effect in Britain's battles.

God save the Queen of Canada and Empress of India.

At the conclusion of the lecture, the chairman made a few remarks, after which a vote of thanks was passed to the lecturer and the audience dispersed.

The Royal Title Bill and the Colonies.

Yielding to the manifest wish of the House, as indicated by Mr. Samuelson's hostile notice of motion, the Prime Minister, on March 10, rescinded the addition which will be made to the Sovereign's official style so soon as the Royal Titles Bill has become law. Her Ma-

esty will then be, "Victoria, by the Grace of God, of the United Kingdom of Great Britain and Ireland Queen, Defender of the Faith, and Empress of India." In the course of his speech Mr. Disraeli remarked:—"I know it may be said, for it was said, in the recent debate, and urged strongly by the right hon gentleman the member for Bradford, that all this amplification of her Majesty's style was not treating with consideration the colonies. I cannot in any way agree with that. No one honours more than myself the colonial empire of England. No one is more anxious to maintain it. No one regrets more than myself that opportunities have been lost of identifying the colonies with the Royal House of England. But we are dealing now with another subject, and one essentially different from the colonial condition. The condition of India and the condition of the colonies have no similarity. In the colonies you have, first, a fluctuating population. The man who is a member of Parliament one year in Melbourne may the next year be member of Parliament in Westminster. A colonist who finds a nugget or fleeces a thousand flocks makes a fortune, returns to England, buys an estate, becomes a magistrate, and represents Her Majesty; he becomes High Sheriff, he has a magnificent house near Hyde Park, he goes to Court to levees, to drawing rooms; he has an opportunity of pledging his troth personally to his Sovereign. He is in frequent and direct communication with that Sovereign; but that is not the case with India. The condition of Colonial society is also of a very fluctuating character. It political and social elements change. I remember twenty years ago a very distinguished statesman who would willingly have seen the Dukedom of Canada; but the Dukedom of Canada does not exist. It is called the Dominion of Canada. There is no similarity between the situation of our Colonial fellow subjects in India. Our Colonists are English. They come and go. They go over to the Colonies to make fortunes to invest in England. The mutual interests are ramified, intense, complicated, and keen; and they have constant opportunities of improving and enlarging the relations which exist between them and their countrymen in the metropolis. Their relations to the Sovereign are admitted. They satisfy them—they are proud of those relations—they are invested with titles by the Queen; they return to their country, and they are what they were when they left it." (Loud cheers.)

The London correspondent of the *Glasgow Herald* writes:—"On good authority I learn that the Queen herself, and at the instigation of the Duke of Edinburgh, suggested the Royal Titles Bill which is provoking so much lively opposition on the part of the liberals, and so much grumbling in the ranks of the Ministerialists. Mr. Disraeli himself, though he undertook to bring it forward, could not affect an enthusiasm he was far from feeling; whilst in the midst of the Cabinet itself more than one member expressed his dislike to the proposal. The Duke of Edinburgh, who looks forward to the time when he shall have taken up his abode at Saxe Cobourg, does not wish to find himself placed at a disadvantage when in the society of other princelings and kinglets, and sees in the combined flourish of "Your Royal and Imperial Highness's consolation for the loss of the prestige which has been monopolized of late years by Prussia alone. With such a high sounding title moreover, he will be able to restore to his wife the distinctive appellation which she lost when marrying a Prince who himself has been content with the smaller half."

Telegraphic communication is now established between Winnipeg, Pelly and Battle River, over 500 miles.

No less than 14 000 rockets were taken out with the Serapis for pyrotechnic purposes during the stay of His Royal Highness the Prince of Wales in India; but the fleet said to have nearly exhausted its store, and several thousands more have been manufactured in the Royal Laboratory, and will be transmitted to Bombay with all despatch.

Broad Arrow, Jan. 15, mentions a curious fact about the new Russian iron-clads called Popovkas, referring to the volume of Punch for 1847-48, page 233. It there finds pictured a small fleet of such circular ships cruising in the Channel, and in the letterpress this form of ship is recommended (ironically, no doubt) to the consideration of the Admiralty as an improvement on the form of ships the government were then building.

The war in the Malay peninsula between the British and some of the native chiefs came to a practical termination on March 20, by the surrender of the Rajah Ismail at Penang. By what circumstances the surrender was brought about is not yet known, but it is thought that he must have been blockaded. The direct object of the British in their military operations in Perak has been to punish the natives for murdering Mr Birch, the English Resident, and three out of his nine murderers are now in custody, besides Datu Sagor, the chief who was present when the murder was committed. In the war, Sir William Jervois has been assisted by the good will and co-operation of many of the Malay chiefs, who have not sympathized with the Rajah Ismail and his party.

An official testing of the merits of the "Makaroff" safety mat' for stopping leaks in vessels took place on the 13th inst., at Keyham. This new contrivance was sent down to Devonport by the Admiralty a short time since to be reported upon. The trial came off at the inner caisson, at the entrance to the south basin, and at low water the water was allowed to flow out of the lock, the outer caisson being raised for that purpose. In the inner caisson about twelve feet down is a sluice, about eighteen inches square, that passes through the caisson, and at that aperture the mat was tried. Some pigs of ballast, with blocks attached, were lowered to the bottom close to the caisson, and through those blocks ropes were rove, and made fast to the two lower corners of the mat to haul it down over the aperture. The valve of the sluice was then opened full; but from the great rush of water through, the men failed in hauling the mat over the aperture. The valve was then half closed, and the mat secured over the hole. The leak was not then fully stopped; but the leakage was not more than a ship's pumps could have cleared. This test could hardly, however, be said to be fair, for in a ship the ropes attached to the lower end could have been passed under the bottom and up the opposite side of the vessel, and the mat brought opposite the hole before it was hauled close to the side; but on the other hand, in an actual collision, there would be no valve, to have reduced the inrush of water. The mat appeared to be too stiff, as when it was over

the aperture and confined there by the pressure of water, its edges were forced off from the side of the caisson, and such a defect in an actual case of necessity with a ship passing through the water would be likely to spoil, all, for the water would get between the ship and the mat, and the mat would be soon lost.

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REFERENCES.—By kind permission we refer to the following: Franklin S. Lane, Louisville, Ind., \$13,000; Miss Hattie Barker, Charleston, S. C., \$1000; Mrs. Louisa T. Burke, Saint Paul, Minn., \$7,000; Samuel V. Raymond, Boston, \$5,500; Eugene P. Brackett, Pittsburg, Wash., \$300; Miss Annie Oswood, New Orleans, \$5,000; Linory L. Pratt, Columbus, Mo., \$7,000.

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