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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. VIII.

OTTAWA, (CANADA,) TUESDAY, AUGUST 25, 1874.

No. 34

NEWS OF THE WEEK.

We hail with pleasure the re-appearance of our old friend the *Manitoban*, which was suspended immediately after the death of Mr. Cunningham, one of its proprietors. It is now solely under the management of Mr. Caldwell, the senior partner of the late firm, and is edited with considerable of ability. We clip the following paragraphs from its columns of the 8th inst.

"We are glad to learn that it is probable that the lands in the Settlement Belt on the Red and Assiniboine Rivers soon to be offered for sale, will be sold to the *actual settlers only*. This is good news for the country, if true, as no greater minor calamity could occur than the locking up of this, nearly half million acres, of the most valuable land in the North-West in the hands of speculators."

"We have been favored by a visit from Col Shaw, the gentleman who is engaged in promoting Scotch Emigration to Manitoba. Col. Shaw has arranged with the Dominion Government for 8 townships to be reserved for ten years on condition of his undertaking to settle 1,000 families upon it within that period. He expects to be able to bring 200 families out next spring. Experienced Canadians are to be engaged to overlook the colony. The members of it will be assisted on their passage out and provided with land, seed and implements on their arrival. They will be expected to repay the outlay in three years by a portion of the produce they are enabled to raise. We wish Col. Shaw every success in his design."

Hon Robert Leonard Hazen, Senator, died at St. John, N.B., on the 15th inst. Mr Hazen was nearly the last representative of the most distinguished of the old Loyalists families, whose history is identified with that of New Brunswick's early struggles.

The election of a representative of the Public School Teachers in the Council of Public Instruction, has resulted in the return of Goldwin Smith by a majority of 277.

The Ottawa mill owners held a meeting at the office of Levi Young Esq. on the 21st; and after taking into consideration the state of the trade, the scarcity of piling ground, and the desirability of not overstocking the lumber market, the principal depots of which are glutted, it was unanimously resolved to shut down the Chaudiere Mills on Saturday, 26th of September proximo.

A Boston merchant has information from San Francisco that 600 ships of 1,200 tons

each will be required to carry the surplus grain crop to Europe this season, and not more than 550 sail can yet be reckoned on for that purpose.

A Cheyenne half-breed from Powder River, reports that at a council of Cheyennes and Arapahoes it was decided to withdraw all the hostile parties from the vicinity of the railroad, and return to the Agency.

Lieut. General Sheridan discredits the reports of a battle between the Indians and General Custer. From his knowledge of the locality and of the Indians, he is confident that no such collision could have occurred. No official report has been received of any such affair.

The loss by the flood at Austin, Nevada, yesterday, caused by a cloud burst will amount to over \$100,000. The people were warned in time by a messenger on horse back and escaped to the hills. The deluge was about ten feet deep and it rushed down the cannon. No lives were lost.

An order has been issued by the Secretary of the U. S. Navy, abolishing the office of an executive officer of navy yards and providing an assignment to each yard of an officer not above the rank of commander who shall be senior aid to the commandant. It also provides there shall be attached to each Navy Yard, a Captain of the yard who shall be senior to all other line officers in the yard and in the absence of the commanding officer act as commander.

Special despatches from Washington say, on the authority of Secretary Fish, that there is no truth in the report of the proposed cession of Porto Rico to Germany.

The London *Gazette* of July 31st, informs us that the Queen has caused letters patent to be published under the great seal of the United Kingdom, constituting the settlements on the Gold Coast and of Lagos into a separate colony, to be called the Gold Coast Colony, and providing for the government thereof. Her Majesty has also been pleased to appoint Captain George Cumine Strachan Rae to be Governor and Commander-in-Chief of the Gold Coast Colony. Her Majesty has further been pleased to appoint Mr Charles Lees to be administrator of the government of the settlement of Lagos.

The Jersey islanders sent to London markets in two months this spring \$1,000,000 worth of new potatoes. The season's crop of this vegetable gives for the total area of the island \$35 an acre.

The Foreign Office has received information that the Spanish Republican troops have fired upon some officers of the British war ship 'Fly,' which is cruising off the north coast of Spain for the protection of British interests. None were wounded,

Commandant Gonzales, of the Magee outrage notoriety, and his accomplice Butles, have been tried by court martial and sentenced the former to five years penal servitude, and Butles to two years. The Sentence awaits the sanction of the Government.

The Chinese Government has given Japan ninety days to withdraw its troops from the Island of Formosa. In the meantime China is making extensive preparations for war with Japan, which it is generally believed will ensue.

General Lewal has concluded the investigation into the circumstances of the escape of marshal Bazaine. He reports that the majority of the guards are guilty of connivance and Bazaine simply left by the open door.

Ex-President Thiers has returned to Paris with his health completely restored.

Colonel Villette, the aid de camp of Marshal Bazaine, was examined. He denies all complicity in the escape. The rope story gains credence and several experiments have been made, and prove that the descent which Bazaine is reported to have made from the terrace was not difficult.

It is reported that Russia has a last consented to recognize the Spanish Republic.

The *Post* says the Brussels Congress abandoned the Russian programme. The delegates have transmitted for satisfaction to their respective Governments the resolutions adopted, which merely enlarge the humane provisions of the Geneva Convention.

Carlist advices report a second engagement at Otiya between the Moriones and the Dorregaray, in which the former was defeated with heavy loss and driven back to Torraga.

It is officially announced that three assaults of the Carlists on Aclanaige have been repulsed with a loss to the garrison of sixty killed and wounded.

President McMahon in his progress, through Brittany has arrived at Rennes.

Marshal Bazaine intends to go to England in a few days.

Marshal Bazaine has written a letter to the Minister of the Interior in which he says that neither Col, Villette nor any of the other prisoners now in custody are responsible for his escape from prison. He declares that he had no accomplices in the Fort or elsewhere except his wife and nephew. The Marshal describes how he eluded the surveillance of his jailor, and in conclusion says "resenting the humiliating prison regulations I felt justified in an attempt to recovery my liberty."

ANNUAL REPORT ON THE STATE OF
THE MILITIA FOR 1873.

APPENDIX No. 2

(Continued from Page 388.)

ON THE SUBJECT OF ISSUES OF LIGHT AND FUEL
FOR "A" AND "B" BATTERIES, SCHOOLS OF
GUNNERY.

KINGSTON, Dec. 19th, 1873.

Sir,—I have the honor to enclose here with the proceedings of two Boards of Officers, of which I was the President, assembled at Kingston, Toronto, Quebec, and Montreal, to report upon the issues of fuel and light and other supplies required for "A" and "B" Batteries, Schools of Gunnery, at those stations, under instructions contained in your letter dated Ottawa, October 27th, 1873.

In the present Reports of Proceedings, the Boards have confined their attention entirely to the supplies connected with heating and lighting barracks and quarters.

The Regulations and Orders for the Active Militia regulate satisfactorily the scale of rations of food (201) and forage (290), and as there have been as yet no complaints or difficulty with respect to these issues, when properly contracted for, the Boards have abstained from suggesting any change in the working of the present system, except so far as to recommend the employment of an officer in the capacity of supply or control officer, at Kingston and Quebec, to protect the interests of the department, as well as of the troops in their dealings with contractors.

The sweeping of chimnies, cleaning of stoves and pipes, washing of bedding, straw for bedding, and shoeing of horses, are all subjects of supply in the every day life of these Schools of Gunnery, or indeed of any body of troops permanently established; but as the present system of supply appears to be working well, the Boards await further instructions from head-quarters, if they are required to make special reports upon these services.

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

S. P. JARVIS Lt. Col.

President of Boards on Fuel, Light, &c.

The Acting Adjt. Gen. of Militia,
Ottawa.

REPORT OF BOARD ON "A" BATTERY, SCHOOL
OF GUNNERY, KINGSTON.

Proceedings of a Board of Officers, assembled by order of the Acting Adjutant General of Militia, dated Ottawa, October 27th 1873, for the purpose of examining and reporting upon the provision actually necessary to be made for the issue of fuel and light and other supplies at the Artillery Schools of Gunnery at Kingston and Quebec, and the detachments from the same at Toronto and St. Helen's Island, for officers and men of "A" and "B" Batteries.

A Board, consisting of the following officers, having assembled pursuant to order at Kingston, on the 30th October, 1873, proceeded to examine the buildings occupied by the head quarters of "A" Battery, School of Gunnery, at that station:

PRESIDENT.

Lieut.-Colonel S. P. Jarvis, C. M. G.,
D.A.G. Mil. Dist. No. 2.

MEMBERS.

Lieut.-Colonel Jackson, Acting D. A. G.,
Mil. Dist. No. 4.

Lt.-Col. Taylor, D. A. G., Mil. Dist. No. 1.

The Board found occupied in the Tête-du-pont Barracks at Kingston, the following rooms, viz.:

- 1 Commandant's quarters.
- 1 Field Officer's.
- 6 other Officers' quarters—one of whom is a married officer, occupying a detached residence, in the Dock Yard.
- 1 Officer's mess-room.
- 1 Officer's ante-room.
- 1 Officer's kitchen.
- 1 Sergeant's mess room.
- 8 Staff Sergeants' quarters.
- 8 passages.
- 6 barrack rooms—one of which is occupied by the Band, and also used for practice.
- 1 soldier's cook house.
- 2 hospital wards.
- 1 surgery.
- 1 ablution house.
- 6 detached forts and towers.
- 1 cell (sufficient for a large garrison).
- 1 Quartermaster's store.
- 3 offices (one Commandant's office, one Master Gunner's office, one orderly room).
- 1 lecture room.
- 2 drill rooms (being four barrack rooms with the partitions removed).
- 2 work shops.
- 1 reading room or library.
- 1 guard room.
- 1 "lock-up," or defaulter's room (off guard room).
- 1 harness room.
- 2 stables (one for officers' horses).
- 2 exterior lamps (one of which lights the Barrack gate, guard room, and entrance to the Barrack cells, and one at the officers' mess.

The detached forts and towers in charge of "A" Battery consist of Fort Henry, Fort Frederick, and four Martello Towers, for the care of which small detachments or caretakers are detailed. The two forts are on the mainland, and access to them is gained by good roads. Of the four Martello Towers, one called the Murney Tower, is at the Western limit of the city, on the main shore, commanding the entrance to the harbor from the Lake. A second called the Shoal Tower, is erected within a few yards of the Market Battery, in the centre of the city, and opposite the Town Hall and Market Place. Access to this tower is gained by means of a boat, provided by the Militia Department. A third in Fort Frederick, opposite the city, and is called Point Frederick Tower. The fourth is called Cedar Island Tower, and is erected on Cedar Island, beneath the guns of Fort Henry. Access to this tower is likewise gained by means of a boat, also provided by the Militia Department.

This tower, in conjunction with the others, commands the approach to the two forts by water, and also the channel of the St. Lawrence, on the Canadian side of Wolfe Island.

For the purpose of regulating the issues of fuel and light, the Board recommended that the year be divided in the following manner, both days inclusive in each period, as laid down in the Imperial Regulations for the issues of fuel and light, for Canada West, viz.:

Summer period.—From 7th May to 15th October, 162 days.

Winter period.—From 16th October to 30th November—16th March to 6th May. 98 days.
Mid winter period.—From 1st December to 15th March, 105 days.

The ration of fuel wood recommended is one inch running measure of an English cord, being eight feet long, four feet high, and four feet wide.

The ration of coal-oil recommended is one inch running measure of an English cord, being eight feet long, four feet high, and four feet wide.

The ration of coal-oil recommended is one fifth of a Canadian pint, to correspond with the one ounce of mould candles to a single ration, as laid down by Imperial Regulations and Scale of Issues.

One such ration of coal-oil is computed to burn for three hours in a single lamp with a burner of ordinary size.

The general scale of issue herein proposed is the same as established by Imperial Regulations in Canada, as far as the same apply to the occupation of the Barracks and other military buildings by the Schools of Gunnery.

As coal oil is dangerous in stables and other places containing combustible material the Board recommend that an equivalent in mould candles for stable lanterns be issued for such places, in lieu of the rations of coal oil allowed.

The scale of fuel and light for the Tête-du-pont Barracks and the detached forts and towers at Kingston, occupied by "A" Battery, is shewn on the tabulated form attached to this Report.

The Board are of opinion that of the four Martello Towers, two might be closed and not occupied at all by caretakers, viz. : the Murney Tower and the Shoal Tower. But as the Murney Tower contains a large quantity of Artillery stores, including powder for the guns, it would be necessary to remove them, if caretakers are not stationed permanently in them.

A recent By-law of the City Council of Kingston has desired all powder to be removed to the old Magazine at Point Frederick. Consequently the powder in the two Martello Towers mentioned above (Murney and Shoal Towers) will be subject to that By-law. And if the powder is removed, the other Artillery stores can also be removed from them.

There are two ditch towers at Fort Henry, for which allowances have occasionally been drawn, but the Board do not think it requisite to have them occupied, if properly secured. They being in charge of the commandant of the School of Gunnery, should be visited periodically by an officer under his command.

The Military Hospital outside of Fort Henry, is properly in charge of the Store Department, as one of the public buildings handed over to the Dominion by the Imperial Government. A caretaker from "A" Battery is now in occupation, and fuel and light are drawn by the School of Gunnery for this purpose. The Board do not recommend allowances for this building to be charged against "A" Battery School of Gunnery.

The officers' mess established in the Tête-du-pont Barracks having been provided with gas fixtures at considerable cost, and the Commandant of the School of Gunnery having represented to the Board that his mess has not drawn coal oil, as allowed by the regulations, for several months, but has consumed and is now consuming gas at the expense of the officers themselves, the Board think that so long as gas is burnt in this establishment, and coal oil is not drawn, an allowance of money equal to the value of their allowance in coal oil should be paid by the Militia Department to the mess, on condition that the officers continue to pay the Gas Company's bills.

At the same time, the Board are of opinion that the consumption of gas as a means of lighting Barracks is not likely to be an economical arrangement, and do not therefore recommend its general adoption.

In view of the increased and increasing price of fuel wood, the Board think that a more economical arrangement for heating the Barrack might be found, in substituting coal for wood as fuel, and self-feeding coal stoves in place of the old pattern wood stoves. Suitable coal stoves can be manufactured at Kingston, and probably at other places in Canada, for about \$22 a stove, and small stoves at less cost.

An apparatus for heating now buildings by steam would perhaps, be a still better arrangement, both as regards economy and comfort; but the old Barracks handed over to the Dominion by the Imperial Government, are not now adapted to this mode of heating, especially the casemated rooms in the Forts, and the expense of building furnaces and introducing pipes would be very great. Whereas, the exchange of coal stoves for wood stoves, as suggested, would merely be the removal of one kind of stove for another, and the old wood stoves might realize a good price if sold to people living in the country, who have always a supply of wood at their doors.

The Board calculate that one ton, or 2,000 lbs. of coal, would be equal to about one cord and three-quarters of wood, or 168 rations. Both coal and wood being of the best quality and hard; and in the event of the coal stoves being adopted, they would recommend an allowance of coal equivalent to the allowance of wood, as already recommended herein, which equivalent, in the opinion of the Board, should not exceed twelve pounds of best hard coal to the single ration, or one incl. running measure, of an English cord of wood.

This description of coal can now be purchased for \$7.50 a ton of 2,000 lbs., while the price of wood varies in the different parts of Canada from \$6 to \$8 a cord, with a probability that these prices will increase. And the Board consider that so large a saving in the purchasing of fuel would be effected in a single year by the substitution of coal for wood as a fuel issue to troops, that the cost of purchasing the coal stoves would be covered, and the Board also think that the buildings would be heated in a more uniform and satisfactory manner, and much labor saved to the men.

The Board are further of opinion that some permanent officer should be charged with the superintendence of the Government issues, whether of food, or equipment, or supplies of any kind, and would suggest that a District Quarter Master be appointed to Kingston and Quebec, the two head quarters of permanent corps. This officer could then act as a supply officer to the troops embodied for service in these garrisons, and be likewise available for the care of District Stores not under the immediate charge of the artillery.

He would also superintend the issue and receipt of camp equipage when required for service.

His salary would amount to a small percentage of the annual expenditure under these heads, and the saving effected, together with the better preservation of the public property, would amount to a large percentage on the losses annually sustained for want of necessary supervision.

S. P. JARVIS, Lt. Col., President.
W. H. JACKSON, Lt. Col. Act.
D. A. G., M. D. No. 4.
JOHN B. TAYLOR, Lt. Col.
D. A. G., M. D. No. 1.

TORONTO.

Nov. 1st. 1873.

The same Board having gone from Kingston to Toronto, assembled at the Militia Brigade Office in Toronto, on the 1st November. 1873.

They found occupied by a small detachment of "A" Battery, from Kingston, the following rooms, viz. :—

- 1 Sergeant's room,
 - 2 Soldiers' barrack rooms,
 - 1 Soldier's kitchen.
- } In the old Fort.
- 2 Carotakers' quarters, in the Stone Barracks.

At this particular time there were a number of recruits with this detachment awaiting orders to proceed to the School of Gunnery at Kingston, and a second barrack room was occupied; but as a rule, one barrack room is sufficient for the detachment, as recommended in the tabular form attached to this Report.

S. P. JARVIS, Lt. Col. President.
W. H. JACKSON, Lt. Col. Act.
D. A. G., M. D. No. 4.
JOHN B. TAYLOR, Lt. Col.
D. A. G., M. D. No. 4.

Kingston, December 12th, 1873.

REMARKS OF COMMANDANT OF "A" BATTERY ON REPORT OF BOARD.

SCHOOL OF GUNNERY, KINGSTON,
8th January, 1873.

Sir,—With reference to your letter of the 6th ult., relative to enclosed proceedings of a Board of Officers on fuel and light, &c., I have the honour to submit the following remarks on certain points at issue therein.

1. With reference to the opinion of the Board (page 5) relative to the closing of Murnoy and Shoal Towers. I quite agree as to the advisability of closing the latter, as from its position and comparative inaccessibility it can be made secure, and being visited frequently the stores, &c., could be kept in good order. I do not consider that the same remarks hold good with respect to Murney tower, which stands in a comparatively isolated position, and if left untenanted might at any time be entered. It has been always hitherto occupied by one or two married men of "A" battery, who perform their regular duty in barracks without inconvenience, and as I entirely fail to see the force of the argument that a By law of the City Council can in any way affect or influence the arrangements considered necessary to be made for the proper armament of these forts, by the proper authorities, I do not see any necessity for altering the existing arrangements.

2. With regard to the proposed substitution of coal stoves for the present box wood stoves, I would venture to suggest that before deciding permanently on the exact equivalent of rations, the experiment be made with the proposed stove—say in the officers' mess,

3. With regard to the scale of rations as shown in the tabulated form annexed to the report, I remark :

(1) No stoves appear for either the commandant's or officers' quarters, or for the sergeants' mess.

(2) Cells—Allowances recommended would not be sufficient with the present apparatus, which is arranged to warm the entire building.

(3.) An allowance of light would be required for the men's reading room in summer, say half ration each lamp.

(4.) No allowance appears to have been recommended for prisoners' rooms, (look up), for which a stove is required, and has been always.

(5) An allowance of light is required for use of the stable picquet lantern in summer, in case of accidents, &c.,—say quarter ration each lantern.

With the above exceptions, I concur with the opinions of the Board, but wish to remark that the "caretakers" mentioned in their proceedings and *bona-fide* members of "A" Battery and shewn on its effective strength, whilst in the case of those living in the hospital, on Cedar Island, and Fort Henry, they are unable to attend drill and receive instruction. I would therefore strongly recommend the advisability of placing careful, steady married pensioners in these positions, and in excess of the present establishment,

I have the honor to be, Sir,
Your obedient servant.
D. T. IRWIN, Major,
Commandant S. G.
(To be Continued.)

THE NEW 80 TON GUN.—This monster piece of ordnance will, when finished, be greater than twice the size of the largest gun in existence, and its destructive powers at fighting range equally proportionate. With a 16 inch projectile, weighing 1,650 lbs., and a maximum charge of 300 lbs. of powder, it will pierce the best iron plates 20 in. thick at 500 yards, 16 in. plates at 5,300 yards, and will pitch a 16 in. shell into a ship or fortress at a distance of 10,300 yards. The steel block forming the inner tube was the largest ever cast, weighing over twelve tons; was the largest forging ever produced at the Arsenal. The actual cost of this fearful engine of war will not fall far short of £8,500.

TURKISH ORDER FOR KRUPP GUNNERY.—By command of the Sultan, the *Levant Times* says the Grand Vizier has signed a contract with the local representatives of the Krupp foundry at Essen, ordering 200 field pieces for the Turkish army, with the corresponding gun carriages and other appurtenance complete. His Majesty will defray the cost of this order out of his private purse. The Grand Vizier has also signed a similar order for thirty of these field pieces, at the request of the Valide Sultana, the Sulaan's mother, who will herself defray the cost of this second order, her Highness having previously paid for twenty other pieces of Krupp artillery for the troops. The Valide Sultana makes it a condition that the thirty cannons she now orders shall be delivered within four months.

Alsace is this autumn to become the scene of grand field manoeuvres, in which the corps of an unusually large cavalry force is to form a prominent feature. The sham battle-field selected is the plain about Brumat. Germans in Alsace flatter themselves that the Emperor William will attend the manoeuvres in person, and the repairs of the prefecture in Strasburg, which is to serve as a temporary residence for the Imperial guest, are being hurried on on purpose. It appears, however, far from settled if the Emperor will really attend.

An ex-lieutenant of the Italian Army, discharged for marrying without permission of the War Minister, and reduced to the utmost poverty in consequence, has, says the *Gazette del Popolo*, murdered his wife and three children, after giving them a copiosific. As he was about to be arrested he cut his own throat.

THE TACTICAL EMPLOYMENT OF MITRAILLEUSES.

Few probably of those who witnessed the display made by our small force of mounted artillery at Woolwich the other day were aware that the Monroch before whom defiled that much-admired Army had ready for the field at least four mitrailleuses for every gun we showed upon the Common.

Yet such is the case; without including the Army of the Caucasus, Russia will soon have an artillery amounting to 235 batteries of eight pieces, or a total of 1830 field-guns, besides forty-seven batteries of mitrailleuses. As each battery of mitrailleuse also consists of eight pieces, the total would be 376.

Most of the Great Powers have now introduced the mitrailleuse into their field armament, and we ourselves have done so experimentally. Though no organized battery of this weapon exists in England, we possess a few for trial, made by contract by Sir W. Armstrong and Co. This firm recently exhibited at Vienna a Gatling very similar to the Service one.

Several different natures of mitrailleuses are used, but before describing them we will enter into the more general and somewhat vexed questions as to how and where they should be employed.

The sole experience we have as to their utility in actual warfare is that gained from the Franco-German war. When that gigantic struggle commenced, France had about 200 mitrailleuses, equipped and organized for the field; much mystroy enveloped the new weapon, and most exaggerated reports of its powers were circulated amongst the French troops. Upon the German side, however, there were no machine guns, except two batteries of (so-called) revolver-cannon on the field system, belonging to the Bavarian Army, the German staff in consequence took every opportunity of decrying the mitrailleuse and of underrating the deadly effects of its fire.

From the contradictory reports received during the war, it was difficult for impartial observers to determine the true tactical value of this firearm. Fortunately, a committee of officers, with Colonel Wray, C. B., Royal Artillery, as president, had been appointed in August, 1870, to examine into the merits of various mitrailleuses. Having satisfied themselves that the Gatling was much the best of those submitted, this committee carried on exhaustive trials between that gun, a 9-pounder muzzle-loading rifled field piece, and six soldiers armed with the Service Martini-Henry Rifle, at ranges between 300 and 1200 yards. These trials took place at Shoeburyness on level ground and resulted in the Gatling giving by far the greatest number of hits at the ranges mentioned.

After the termination of the war of 1870-71, the committee further examined a number of officers who were present, on either side, with the contending armies in France. Evidence of the most interesting nature was given by many officers who had heard the deadly rattle of the mitrailleuses, and seen its effect on the field of battle. At Gravelotte, at Bazailles, and elsewhere, but more especially at Sedan, it was shown that they had done a terrible execution. Mr. Winn thus described an incident of the first named action:—

"It was about three o'clock that Malmison was taken by our (the German) troops, and it was on some Uhlans who tried to cut off the retreat of some Voltigeurs that the mitrailleuse so terribly vindicated its character for destruction. A squadron rode for-

ward with its usual pride and confidence, we heard the growl of this truly infernal machine; we saw an unwonted confusion in the Lancers' ranks; they wheeled and retired, leaving behind them thirty two horses and as many men. They had unwittingly crossed the fatal line of fire; and had they remained to rescue their comrades, three minutes would have sufficed to put them in the same helpless condition. We had gone forward to the extreme point of the glen, and with our glasses could plainly see the gunners as they placed the fatal plate in the hydra-mouthed cannon."

Space will only allow of our quoting this single instance out of the many given before the committee, but the evidence taken by them may be thus summed up:—French officers and those who witnessed the campaign from the French side were generally in favour of employing mitrailleuses in the field, while the Prussian staff disapproved of their use. Almost all the English officers, however, who were with the German armies considered that they would be a most useful adjunct to artillery, under some circumstances. The French mitrailleuse were heavy, requiring as many as six horses for draught, and were certainly inferior to our Gatling gun.

It seems pretty clear that mitrailleuses in small numbers may be advantageously added to our armament; but all authorities on the subject agree that their tactical use in the field should be restricted to defensive operations, that they should generally be entrenched, and be kept masked, as far as possible, from artillery fire. It is especially where the enemy must advance over a narrow front, at some critical moment, and the ground is tolerably level, that this weapon might afford invaluable support to infantry.

The report of Colonel Wray's Committee, as well as those made to the Governments by officers ordered to inquire into the question, points out that whatever the value of mitrailleuses, they should not for a moment be confounded with field-guns, properly so called, their functions being totally different; they should not be used to replace a single gun, but only be looked upon as an auxiliary. Against troops under cover of any sort the mitrailleuse is harmless; it could not damage the very weakest field-work.

As to organization for the field, it seems advisable that mitrailleuse batteries should be manned and horsed by the artillery to their own special arm. We find, however, that Austria attaches a battery of mitrailleuses to some of her Hungarian Militia Regiments; this arrangement is a bad one, for moving with infantry they would mutually hamper one another.

In France, Russia, and Spain we find mitrailleuse batteries forming part of the brigades of artillery; in Russia a brigade of field artillery consists of five batteries of guns each and one of the same number of mitrailleuses; each brigade of Spanish artillery also contains one mitrailleuse battery of six pieces, in addition to five batteries of field guns. Colonel Wray's Committee proposed batteries of twelve Gatlings for our own Service.

Should these weapons be employed in the field in future wars, it is probable they will be kept with the reserve artillery of the division or army corps, so as to be well in hand when the general commanding desires support for his infantry at critical periods of defensive operations.

The moral effect of a bursting shell is always great, but more especially so when

savage or semi-civilized enemies have to be encountered, while, as before mentioned, the mitrailleuse is innocuous where cover is available.

For mountain or bush warfare, therefore, this weapon does not appear so well fitted as a light shell gun. The Americans, indeed, have just ordered fifty Gatlings for use by their troops on the Indian frontier, but the rolling prairies of the Far West do not afford much cover. The Gatlings in question are suited for carriage by pack animals if necessary.

Our small British force on the coast of Africa was furnished with Gatlings, but they were found too cumbersome, and were not taken further than the Prah. The little steel gun of 200 pounds weight proved a more formidable weapon against the Ashantees.

Authorities of naval matters, both in England and America, seem to think that mitrailleuses might be very useful in ship's tops, and, under some circumstances, for boat operations. For boat service particularly their absence of recoil is in their favour, but should a landing be opposed by field artillery it is evident that boat guns must not be supplanted by them any more than field guns on shore.

There are, however, other purposes for which mitrailleuses seem eminently adapted, e. g.:—

For flank defence of fortresses, for service in advanced trenches to repulse sorties, and, on the side of the besieged again, to defend the "imminent deadly" breach. Want of recoil, lightness, and mobility all combine to fit them for such service when we consider the rapidity of their fire.

The American Secretary of State for War, after receiving the reports of several boards of officers, lately recommended to Congress that 292,600 dollars should be appropriated for the purchase of 209 Gatling guns, which were to be mounted in the short flanks of certain works, by the 1st July, 1874. Russia has also a number of mitrailleuses for her fortresses. For ourselves, Sir W. Armstrong and Co., have made a few Gatlings of 0.65 bore, for trial in the armament of our navy and coast defence. With the manufacturing capabilities at their command, our authorities have thought it well to make sure that we possess the best nature of mitrailleuse available before having large numbers made, and in this they have no doubt acted wisely.

Since the era of the Crimean war, numerous machine guns, some of very ingenious construction, have been brought to notice and inventors are still striving to perfect them further. Various plans have been adopted to attain rapidity of fire. In Sir J. Sout Lillo's rifle battery, proposed to be carried in the carriage, a number of rifle barrels were placed in the same horizontal plane in a rigid frame, each having a separate revolving chamber to hold twenty or thirty cartridges. We find a similar construction as to the position of the barrels in one of the latest inventions, viz., the Palmcrantz mitrailleuse, patented by a Swedish Engineer, and which is capable of delivering us many as 500 shots per minute. A model of this weapon was exhibited at Vienna. Others attempted to utilise the principle of revolver, a single barrel being fed by several chambers. As may easily be imagined, this plan was a failure, the barrel soon became red-hot if the fire was very rapid. The construction most used of late is that in which several rifle barrels are assembled round a common axis.

In the French mitrailleuse and in that of Christopher and Montigny (the Austrian Service weapon) the barrels, 25 and 37 in number respectively, are stationary and enclosed in a casing, so that, as to exterior, they much resemble a field gun. They are loaded by means of a cartridge plate which holds as many cartridges as there are barrels, and which is placed vertically into a slot behind them, much as the vent piece in an Armstrong gun. There is a firing arrangement in the breech behind the plate with a spring and striker for every cartridge. By means of a lever and screw the cartridge plate is jammed against breech ends of barrels, the cartridges pushed into these latter and then each barrel fired in quick succession or altogether as may be required. The cartridge plate has to be taken out and replaced by a new one on each discharge. These mitrailleuses can fire from 150 to 300 rounds per minute.

In the Gatling gun used by Russia, America, Turkey, &c., as well as by ourselves, a number of steel barrels secured to a central axis are made to revolve in a rigid frame work and brought in succession opposite a similar number of locks in the rear part of the frame so that certain of the barrels are always in process of loading, others are being fired or having the cartridge cases extracted. The feed is given by means of a drum or hopper from which the cartridges drop upon a carrier, and the locks, acted on by cams, move backwards and forwards as a crank is turned, pushing in the cartridges, firing, and extracting the empty cases in succession. An ingenious automatic arrangement gives any required lateral spread. Gatlings vary in construction, and the Nobel pattern (as improved by General Gorloff) used by Russia, differs in many details from our own. They can be fired at the rate of from 200 to 400 rounds per minute.

The greatest rapidity of fire as yet obtained from a mitrailleuse is that given by the Palmarantz invention, which, as before mentioned, can fire 500 rounds per minute. Some such rate of fire combined with great mobility is required, with the desideratum that the mechanism must be simple and not liable to damage or to get out of order.

When all these have been secured we shall doubtless hear more of this somewhat novel weapon.—*Broad Arrow.*

GUNS.

A lecture was given on Monday last at the Royal United Service Institution by Major J. P. Morgan, R. A., Assistant Superintendent of the Royal Gunpowder Manufactory, Waltham Abbey, on breech loading and muzzle loading guns. Admiral Sir Frederick Nicholson occupied the chair, and a large number of officers were present.

Major Morgan on introducing the subject to the meeting quoted a speech of Professor Ferriars, who stated men supposed they could advance in philosophy by going forwards, whereas in reality they must go backwards, and get to the beginning of the case before they attempted to reach the end. Breech loading, he continued, was by no means a new idea, as such a system was tried in the sixteenth century, but it was shelved until recent years. On the continent breech loading guns had been adopted by Prussia and Russia, owing to the skill and perseverance of M. Krupp. Austria was undecided between the two systems, but was perhaps more favourable to the breech loading system, and France had a

breech loader of her own, which differed entirely from Krupp's. Captain Simpson, of the United States Navy, in his recent publication, entitled "Report on Naval Mission to Europe," stated that he believed breech loading would be a real benefit, and severely criticised the construction of the Woolwich gun, he however, referred to the harmless cracking of some of the steel hoops enclosing the tubes of the Vavasseur gun, as if when in trouble it could, like a crab, part with the limb innocuously. Many of its Krupp guns, according to a report by Major Haig, R. A., had burst, which accidents had been attributed to the want of the steel hoops in former construction, but if Captain Simpson reported so favourably on the Krupp gun, overlooking previous failures, surely similar and probable consideration ought to be granted to the Woolwich gun. Much strength had recently been added to the former guns by the principle of shrinking. The failures of the Woolwich gun might be accounted for by the fact that there was an elastic strength of twenty-five tons received by a tube which was intended both to resist initial compression, and to develop elasticity, instead of, as it should be, the former being received by a hard steel breech piece, and the latter by a soft tube. The structure of French heavy guns was originally good, in theory consisting of cast iron hooped with steel, but subsequently a steel tube, extending from the breech to a little in front of the trunnions, was added. The less cast iron there is in the walls of a gun the better, and for that reason he considered the Krupp construction was much superior to the French. After receding from authorities on the two systems, he said he thought it appeared to be undeniable that, other things being equal, muzzle loading guns were superior to breech loading in strength, safety, and cheapness. A system of his own, he urged, gave even greater advantages than muzzle loading guns. The principle consisted in the longitudinal pressure being received on a heavy and solid block of metal, which in reality forms nearly half the gun, and acts as an automatic breech piece. This retreated from the muzzle under the pressure of the explosion, and performed the recoil by itself instead of the whole gun doing so. The most fatal objection to the Armstrong and Krupp breech loading guns had hitherto been the lead coating on the projectiles, which gave great friction, and which on flying off an impact, reduced the power of penetration. In regard to windage and fuze, the former was best for scoring but it allowed of the use of a good muzzle loading time fuze, and because the Armstrong gun failed in this respect at Dartmoor, the experiments on that occasion were chiefly considered unfavourable to breech loading guns. In urging his own system, he stated that the greatest strain with a 1200 lb gun would not exceed 100 tons, instead of being at least 1000 tons in old guns firing at 150 elevation. He recommended that, although great strength had been obtained, it should not always be used, such a course being a great safeguard against the splitting of the tubes, to which the Woolwich guns were occasionally liable, and which would be a serious misfortune to ships carrying only two large guns. He was convinced that tuition in the subject of armament could never be complete until a satisfactory breech loading gun had been produced, and although many believed in his own principle, yet he could not complain of its yet failing to receive recognition, he himself spent fourteen years in believing and working it out.

Captain Nolan, R.A., received, in answer

to a question he put to the lecturer, that the muzzle loading system was used generally by the Powers who stood by England, including Norway, Turkey, and Egypt.

Colonel Chesney, R. E., considered the subject before them was made unnecessarily complicated owing to field guns being taken under the same head as naval guns. The Germans were satisfied with their guns because of the experience they had during the late war, and those present might remember how breech loading guns were at one time received in England, as how during the Chinese war they had utterly failed. During the war the Germans had at one time 23 guns disabled which was easily repaired, and neither cost more than thirty shillings in doing so. These were completely disabled in the field, and had to be taken to an arsenal at some distance.

Colonel Gordon, R. A., suggested that he did not think the whole system of breech loading should be condemned because it had failed at Dartmoor.

Major Stoney, R. A., would not own that breech loading guns must succeed because they triumphed over the French artillery during the late war. He considered that, although Major Morgan might be able to fire off the model before them with a few ounces of powder, yet when 150 lbs. of powder might be fired in a large gun, no one could say what the result would be. He called it a very cumbersome looking gun indeed.

Captain Nolan answered the lecturer that the loss of pressure in his system on explosion was only one per cent., and that the shot would leave the muzzle before the rear was opened.

Captain Scott remarked that because a principle succeeded in the case of field guns there was no reason why it should succeed with the large naval ordnance. In the Prussian ships which he had visited he found that a muzzle loading armament was preferred to breech loading guns. An official application had been sent by the German Government, but refused by our authorities for a supply of one or two of the Woolwich guns. Continual experiments had been carried out, during which he considered the great aim should have been to obtain the greatest initial velocity. The great defect in the Woolwich gun was the continual hammering of the shot against the muzzle, and the rush of gas through the vent tube.

Admiral Ryder mentioned the Prussians were obliged to protect their men from the escape of gas by fixing plates on the guns, and that the Russians at present made their guns on a principle similar to Krupp's.

Captain Selwyn, R. N., reminded the meeting that a fair trial had been held between two systems of ordnance, and the result had been in favor of the muzzle loading guns. Smoke was equally against the breech loading system. In the case of the heavier artillery, the weight of the breech block to be removed was very heavy and although materials could be easily and precisely made as desired in a factory, they could not always remain so when in use. He therefore considered that no value was to be received from the breech loading system whatever. Referring to the subject in relation to physics, he was convinced that a crystallised non yielding substance was much better for gun metal than a yielding matter, and looked forward to a time when guns would be cast in one piece, and thus counteract the weakness which is apt to exist in guns made up of several parts.

The Chairman then proposed and passed a vote of thanks to the lecturer, and the meeting terminated.—*Broad Arrow.*

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The Volunteer Review,
AND
MILITARY AND NAVAL GAZETTE.

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

OTTAWA, TUESDAY, AUGUST 25, 1874.

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.

LIEUT. J. B. VINTER, of Victoria, is our authorised Agent for Vancouver Island, British Columbia. As is also Captain H. V. EDMONDS for New Westminster and adjacent country.

We have to thank the Assistant Librarian of the Royal United Service Institution, T. D. SULLIVAN, Esq., for a copy of a most interesting and practical little pamphlet entitled "Measurement of Gun and Rifle Ranges from 100 to 3,750 yards; in a very Practical Essay, Rapid and accurate and in many cases by night with table and diagrams," by ROLLA ROTSE, Esq., late Major, 2nd Batt., R.V.

The scope of this valuable little *brochure* will be best understood from the author's introductory remarks, which are as follows: "Whether as regards accuracy and consequent efficiency of fire or economy of ammunition it would be difficult to overrate the importance of being able to measure distances in a manner practical and easy, rapid and accurate. As regards artillery fire the advantages of such a measurement will become still more important if

combined with the ability to effect the measurement before the guns are brought into position, and thus not only save valuable time but still more valuable lives from the absence of experience before firing commences and whilst the ranges are being ascertained. I propose to suggest a method by which all the advantages adverted to may be obtained in the most simple, rapid and inexpensive manner. 2—As regards the ascertainment of distances a most able article is given by Capt. NOLAN, R.A., in No. 57 (Vol. 14 p. 1) of the "Royal United Service Journal," and the plan he recommends has, to a certain extent, been adopted in the service; but his plan calls for complicated and expensive machinery which would not only encumber the guns and be liable to injury, but would require great nicety and coolness in the operations (made as they must be after the guns are brought into position and liable to the fire of the enemy) would be far from rapid in execution and would necessitate considerable previous study. 3—My plan requires no cumbersome or expensive machinery or any which would be liable to injury, would call for no greater nicety than could be given by the eye of a gunner, might be adopted without drawing the attraction of the enemy, would be very rapid in execution and would not necessitate a couple of hours previous study. The measurements would also be made before the guns are brought into position, and need not be confined to the distances of a single object, but within two minutes and probably less time the distance to a particular object—that to a nearer object in the same direction and the distance to two lateral objects—the one towards the observer's right and the other towards his left might be ascertained. Not only may those advantages be obtained without exposing a single gun, but in many cases the measurements may be made as readily by night as by day. 4—Having thus introduced the subject I will proceed to explain the details of the plan I propose for adoption after anticipating and meeting an objection which may be made as to its practical character. My plan is based on "Geometry" and not on "Trigonometry," and I am well aware that an objection is generally raised against measurement of distances by geometry, that the triangle on which the calculation is based is so small that the distance cannot be ascertained with sufficient accuracy. That objection applies with great force to the stadiometer used for the measurement of rifle ranges but does not apply to my plan, as under it the smaller triangle has a sufficient base to allow of accurate measurements even with very long ranges. At the range of 3,750 yards the base of the smaller triangle would be two feet and the covering line could be readily and accurately marked by the eye unassisted by a field glass. 5—The machinery required under the plan I am about to sug-

gest would be confined to four pieces of whiplcord string, each 50 yards long, with loops or small metal rings at the ends, five pieces of stout wire of the length of a foot or 18 inches each, a short measuring tape and a copy of the table afterwards given and for use under special circumstances as after mentioned, two pieces of similar string about four feet long, each having a small plummet at one end. For measurement *between* distant points, a sixth wire would be useful, *With the exception of the wires the whole of the machinery might be kept in a water proof bag not too large to get into a fairly sized pocket, and the wires although useful might as afterwards shown be dispensed with. The entire expense might amount to, but would not probably exceed, seven shillings. For distances not exceeding 1,200 or 1,250 yards or even occasionally for greater distances strings of the length of 25 yards might be used, and by having a small ring or tying a knot at the middle of the 50 yard strings, ten of those strings might be used for the measurements where the smaller base is adopted. The measurements might be made with the sides of 50 yards by two pieces of string; but some loss of time would be occasioned by the strings having to be shifted. Small arms, cleaning rods, or even laths or sticks might be used in place of the wires, but the latter would be preferable, and they could be so readily taken with a gun or otherwise, and their use would so much tend to facilitate the rapidity and insure the accuracy of the operations that it would be desirable to have them. 6—The principle of measurement I would propose for adoption is that based on the *rhombus*, and in order to show the rapidity and simplicity of the operations I will, before explaining how the results are calculated give a practical example premising that the wires serve the double purpose of fixing the strings in position and as directing points, for coverings and that consequently they must be placed vertically or upright."*

The illustration having reference to diagrams which we cannot copy, compels us to give the substance of the author's solution as follows: The principle is that of similar triangles with a common base and is to be found in euclid 6; 4—the whiplcord is to form on the ground a four sided figure, one side of which shall be in the line of the objective point; the lower side form the base; a line drawn from its extremity towards that point will intersect the opposite side of the figure at the point of intersection one of the wires should be placed—the triangles thus formed would have two sides of the figure—one a common base, the other a part of one of its sides and a proportionate part of a third side, included within itself—while the remainder of the third side and the fourth would form a similar triangle by the measurement of its base; a very simple calculation involving only multiplication and

division would be necessary to ascertain the length of the base to the objective point. It should be premised that a square will assure us well as a *rhombus* on the conditions of this very clever and practical method of determining distances, and that it is so simple as to involve no difficulty whatever in calculating or finding any distance within the range of artillery. The use of the shorter pieces of string is as plummets to set the wires vertical.

It is not necessary to follow the author into all his calculations and the details of the application of this very useful problem, but it undoubtedly reflects great credit on his good sense as well as clear appreciation of what would be necessary to put artillery in position rapidly as required by the exigencies of modern warfare.

It is evident that practical rules, similar to those so beautifully and cleverly laid down in this case, are far more valuable than scientific problems worked out with mechanical precision requiring complicated instruments and calculations as well as manipulative skill of no common character exercised under trying circumstances, and necessarily confined to one or two men in each battery, while the system laid down by Major Rouse is adapted to the ordinary tactical instruction of the rank and file and can be exercised in comparative safety in the face of an enemy.

The whole operations including calculation need not occupy five minutes, and the latter would in many cases be effected mentally, or a measuring tape having the calculated distance on one side with feet and inches for the base on the other, might readily be supplied without involving extra cost.

It may be a matter of difficulty to get such a simple measure adopted in the Regular Service, but in Canada where we are tied down by no traditions it would be most desirable that our artillery should be trained to the knowledge of so simple a method, especially as there is no scientific or staff corps, or likely to be.

The close of the last meeting of the National Rifle Association at Wimbledon has suggested the reflection as to the actual utility or value of the competition carried on there annually. We have always been of opinion that those contests circumscribed by rules and carried out under conditions wholly dissimilar to actual warfare, were of little value indeed in forming soldiers; and the appearance of the competitive lists from year to year plainly prove that whatever value they may be to the professional rifle shooter they are of little or scarcely any utility to the mass of those who would be called to the force in the hour of danger. In our last issue we copied an article from the *London Daily News* in which no very exalted view is taken of the value of our rifle contests, but as this is wholly from an English

point of view, and probably prejudiced, we will confine ourselves to considering how far the Canadian Army have benefited by the manner in which practical instruction in the use of the rifle is carried on by our Dominion Rifle Association. The ostensible object of this institution is to train the population of the Dominion, and more especially the soldiers of the Active Force to the use of the rifle. It has been so far strictly conscientious in the discharge of its duties, but its short comings are to be traced to the fact that it is outside apart from and independent of military control; its competitions have been carried on at measured distances with all appliances for careful and deliberate shooting, such training might be effectual for competitive marksmen with valuable prizes in view, and a glance at the list of names sent annually to Wimbledon will show that the same team has with very little variation been selected from the outset; this distinction which ought to be the red ribbon of the Canadian Army has been confined to a certain class, because the principle of selection has not been adhered to, and also because there has been no military control in the matter. In order to make it of any value the principle on which the selection of the Dominion Team to Wimbledon should be selected ought to be—that those who have once competed should not be eligible again, and that the selection should be made from the best shots in each battalion, and that it should be made worth more than the mere honor or chance for each competitor; in other words, the rank and file should be compensated for the loss of time and officers should not be allowed to compete at all, but the command of the team should be the reward of efficiency—without repetition.

By these strictures we do not for a moment mean to imply that the association has not achieved all that could be expected of it; on the contrary, it has far exceeded the original intention of its projectors, and has been administered with most patriotic self-denying and praise worthy zeal, but all this is due in an especial manner to the gallant officer who has so worthily filled the office of President as well as to his assistants, and not the machinery of the association itself. In common with all institutions of the kind it has failed because its original design was too circumscribed. In order to make marksmen and soldiers it is necessary that the condition of actual warfare should be initiated as closely as possible, and instead of measured ranges the troops at competition should be trained at unknown distances for the double purpose of compelling the individual competitor to learn the art of judging distance and the use of his weapon under all conditions. Moreover, the site of the mimic warfare should be constantly changed. In point of utility those competitions should be a part of minor tactics carried out under the conditions of actual warfare.

There can be no fault found with the magnitude and disposition of the prizes, the public spirit of the country could easily increase them tenfold, but there ought to be an equivalent in the shape of increased efficiency and a greater desire to assume the militia duties which the State requires of every able-bodied man. These rifle associations are mere imitations of the old parish masters when our forefathers met armed with good yew bow and cloth yard shaft for special training and although there were *buttes* in every parish, for the purpose of initiating training peacefully, yet the "Roaring Shaft," or the practice of setting up marks at unknown distances, was that which proved the marksman understood his weapon and the test of his ability as a member of that light infantry that swept the heavy armed chivalry of Continental Europe like chaff before the wind in many a hard contested field. The tactical formation of that force has descended to us, and the British line is today as famous as the Grecian Phalanx, and much more likely to endure all changes if the men who form it are only trained like their ancestors to the use of their weapons. While it is still necessary to maintain the old fashioned method of firing at fixed buttes, our annual contests should be carried on over entire unmeasured or known ground, at objects not representing so many square feet but at others representing individual soldiers or groups, as the case may be. We hope that the Council of the Association will take into serious consideration their next year's programme, and sedulously study to adapt it to the purpose of bringing out a larger class of marksmen than our army has hitherto furnished, as it is high time the team which has rendered such good service should be allowed to retire on their laurels.

The tactical employment of the *mitrailleuse* has been a subject of much controversy since the close of the Franco Prussian contest. Our readers are aware of the opinions which have appeared in the *Volunteer Review* relative to its use, notwithstanding that it has been advocated by several scientific officers. We publish in this issue (Ordnance Memorandum, No. 17 of U. S. Army, being a report of a Board of Officers with the celebrated Gen. GILMORE, who commanded the besieging force at Charleston in 1864-5 as its President on "The Gatling Gun" said to be the best of those yet invented. The Report is taken from the *U. S. Army and Navy Journal* of 20th June, and also an article from *Broad Arrow* of 6th June, on "The Tactical Employment of the *Mitrailleuses*," so that every side of the question may be laid before our readers. The latter points out that the weapon is useless where there is cover, and we would add also where there is well served and properly manoeuvred artillery and as this latter weapon is most effective where there is no cover, the place of the *mitrailleuse* in civilized or even savage warfare appears to be nowhere. It may be possibly of some use on the plains in dealing with those Indians the United States find it so difficult to manage, but we know of no other position which it could be used with any particular advantage, as we are not believers in the ancient system of fortification.

RIFLE COMPETITION.

(Special to the Volunteer Review.)

PROVINCE OF QUEBEC RIFLE ASSOCIATION.

The sixth Annual Prize Meeting of this Association opened on Tuesday 11th inst. and has been continuing throughout the week.

The Ranges were as usual in very fine order; ten second and third class targets were used during the meeting and three first class.

The side system of markers butts is still retained and gives general satisfaction: the marking was very rapid and a general rule very accurately performed.

The platforms are all raised from the ground and made of wood, mats being used to cover them and add to the comfort of the competitors.

The total number of competitors was almost as large as last year and the distances from which they come is surprising. we find competitors from all parts of Canada, Ontario and New Brunswick as well as Quebec, besides several from the American Association of Creedmoor.

It is interesting to observe the steady improvement in shooting which these matches show, the high average in many of the competitions being quite remarkable. In a match at 500 yards, we find three men making 27 points out of a possible 28; in another at 600 yards, the first prize is carried off by 26 points out of a possible 28; at 400 yards no less than three men make 25 points, the highest possible. In the first match, where last year 48 points carried off the first prize, this year Ensign Wright scored 51 points of a possible 60, and was closely followed by two others each 50.

It is very satisfactory to find our Canadian Riflemen have attained such proficiency.

The weather was not very favorable for high scores, as the heat was intense at the beginning of the week, culminating in the great thunder storm on Wednesday night, and in the rest of the week the wind was very strong and perplexing.

we find however that the high average of former years has been kept up and in many cases surpassed: this progress we are glad to note.

It was also satisfactory to find the competitors were well pleased with the arrangements: it would be an advantage if the matches could be got through more rapidly, as five days is a long time to spend over one meeting in this country when the busy season is so short.

The presence of competitors from Creedmoor was a new feature in the meeting: we think they deserve credit for having come to test their skill among such a formidable set of competitors as gather at the Point St Charles Ranges. They expressed much admiration at the manner in which the Canadian Volunteers handle their rifles, and can now understand that their reputation is well deserved.

Two of these gentlemen have shown themselves to be no mean antagonists, and may well be considered first class shots.

This first visit may pave the way for a more frequent exchange of courtesies, and some of our men may find time to attend the Creedmoor meeting in the end of September.

Lt.-Col. Fletcher and the other executive officers were assiduous in their efforts to make the contest pass off pleasantly. A few of the Wimbledon Team were present, and we recognize some of their names in the prize list.

We see that "old" Wimbledon Targets were used at this meeting: we understand some difficulty was formed in the working of the "new" Wimbledon system, and as our country corps are not accustomed to the "new" system, it was considered best to adhere to the old plan.

The 5th Batt. have to be congratulated on winning the Battalion Cup; for six years they have contended for this honor and usually been one of the first three; at last they have succeeded with a fine exhibition of team shooting.

The Brydges challenge cup has been won this year by Ensign Wright, a well known crack shot of the 50th or 11th Huntingdon Borderers: this cup has previously been held by Thomas of 54th; Ferguson, 2nd Gt. Rifles; and Whitman, 60th: the winners will probably compete next year for final possession, and we may expect to see an interesting contest.

The annual meetings seem to produce so much cordiality amongst Volunteers that we are glad to find them so generally attended, and that at the same time there is so much progress made in skill and training.

The New Brunswick Volunteers were represented by Messrs. Johnson and Logie, and Ontario by the Metropolitan, Toronto, Hamilton, Kingston, and other Associations.

The Rifle season continues with the New Brunswick meeting in September, afterwards the Ontario Meeting at Toronto, and the Dominion meeting at Ottawa in middle of September, from all of which we hope to hear as good results. The following is the list of the scores:—

MATCH NO. 1, BRYDGES CUP—1st STAGE.

Table with 3 columns: No., Pts., Amt. Lists competitors like Ensign Wright, Pte Ferguson, etc. with their scores and amounts.

2ND STAGE.

Table with 3 columns: Name, Pts., Amt. Lists Capt Boyd, Sergt Baxter, Mr Stenhouse.

MATCH NO. 2—FRONTIER STAKES.

Table with 3 columns: Name, Pts., Amt. Lists Pte Wilson, Sergt Cruik, G A Goodhue, etc.

Table with 3 columns: Name, Pts., Amt. Lists Adj Kelly, Capt Thomas, Pte D Mitchell, etc.

MATCH NO. 3—CITY STAKES

Table with 3 columns: Name, Pts., Amt. Lists Lt Col Gildersleeve, Corp'l G. Copping, etc.

MATCH NO. 4—BATTALION MATCH.

Table with 3 columns: Name, Pts., Amt. Lists 54th Battalion, 1st Prince of Wales, etc.

INDIVIDUAL PRIZES.

Table with 3 columns: Name, Pts., Amt. Lists Pte J A Ferguson, Sergt Hawkins, etc.

THE BATTALION MATCH—INDIVIDUAL SCORES.

Table with 3 columns: Name, Pts., Amt. Lists Corp'l Black, Pte Blair, etc. Includes sub-totals and grand totals.

1 Pte MacLeod, P of W R.	40
2 Sergt Hill, "	44
3 " Larkin, "	42
4 " Porteous, "	37
5 " Wilson, "	41
	204

1 Pte Bronzon, V V R.	36
2 " Edwards, "	35
3 " Mulagan, "	39
4 Lt Andrews, "	45
5 " Campbell, "	45
	200

1 Sergt. Baxter, 8th Batt.	40
2 Lt Lesueur, "	40
3 Corp'l Mountain, "	20
4 Sergt Major Sutherland, 8th Batt.	40
5 " Hawkins, "	46
	186

1 Major Larni, Q C B.	12
2 Capt Genest, "	28
3 Sergt Allard, "	7
4 Bugler Brutel, "	33
5 Corp'l Dion, "	18
	98

1 Capt. Ivenson, G T A.	43
2 Sergt Major Clark, G T A.	46
3 " Imrie, "	33
4 " Syms, "	21
5 Corp'l Wilson, "	41
	184

1 Lt E. Mason, 3 R Batt.	31
2 Corp'l T Copping, 3 R Batt.	46
3 Capt G Sharpe, "	43
4 Corp'l G. Copping, "	43
5 Sergt Sharpe, "	39
	202

MATCH NO. 5—STADACONA STAKES.

No.	Pts.	Am't
1 Lt McNachtan, C G A.	28	\$25
2 Sergt Cruik, L R C.	28	20
3 Sergt Ormand, 13th Batt.	28	15
4 Lt Campbell, V V R.	27	10
5 Pte D Mitchell, 13th Batt.	27	10
6 " Edwards, 58th Batt.	27	6
7 Major Baynes, M G A.	27	6
8 Sergt Hill	27	6
9 Major Fraser, M G A.	26	6
10 Capt Wall, G R R.	26	6
11 Sergt McRobert, V R C.	26	5
12 " Daudiet, "	26	5
13 T Johnston, K R A	26	5
14 Ensign Vaughan, 60th Batt.	26	5
15 Sergt Mitchell, 13th Batt.	26	5
16 Sergt Major Clark, G T R.	26	4
17 Corp'l G Copping, 3 R Batt.	26	4
18 Pte Ferguson, G T R.	26	4
19 " Durling, 58th Batt.	26	4
20 Sergt Canter, 3 R Batt.	26	4

MATCH NO 6—ASSOCIATION.

1 Metropolitan, R C.	133	50
2 Stadacona, R C.	133	30
3 Toronto, R C.	127	20
4 50th Batt, R A.	119	15

Individual Prizes.

1 Sergt Sharpe, 3 R Batt.	34	25
2 Geo Yale, A R C, N Y.	33	20
3 Sergt Hawkins, 8th Batt.	32	15
4 Sergt Major Sancier, 18th Batt.	32	10
5 Sergt Wilson, G T A.	32	5
6 Col Gildersleeve, A R C, N Y.	32	5
7 R Kincardine, K R A	31	5
8 Lt Johnston, 71st Batt.	30	5
9 Pte Ross, 50th Batt.	30	5
10 Sergt Blackall, M G A.	29	5
11 Lt Whitman, 60th Batt.	29	5

12 Ensign Wright, 50th Batt.	29	5
13 Pte Bell, 10th Royals	29	5
14 Capt Macpherson, Guards	28	5
15 Sergt Ormand 13th Batt.	28	4
16 Lt Harris, O G	28	4
17 Pte Shaw, 54th Batt.	23	4
18 " Morrison, 13th Batt.	27	4
19 Mr Shephard, T R C.	27	4
20 Lt Col Worsley, B M, G F R.	27	4

ASSOCIATION MATCH—INDIVIDUAL SCORES.

No.	Points
1 Pte D Morrison, 13th Batt.	27
2 Ensign Adams, "	2
3 Sergt McRoberts, "	13
4 Pte Hilton, "	14
5 Sergt Mitchell, "	21
	83

1 Pte Ferguson, M R C.	15
2 Mr Stenhouse, "	21
3 Sergt Hill, "	22
4 Mr Ross, "	19
5 Lt Col Worsley, B M, M R C.	27
	104

1 Col H A Gildersleeve, A R C, N Y.	32
2 Lt Fulton, "	16
3 Col G W Wingate	12
4 Geo W Yale, "	33
5 A W Caulfield, "	15
	108

1 Sergt Shaw, 54th Batt.	12
2 Lt Col Hanning, "	20
3 Capt Thomas, "	24
4 " Boyd, "	19
5 Mr Cleaveland, "	19
	94

1 Sergt Turnbull, G T R.	14
2 Capt Wall, "	21
3 Adj. Kelly, "	18
4 Pte Ferguson	23
5 Ensign Tirhey	21
	95

District Bedford Association.

1 Ensign Vaughan	15
2 Lt Bullman	23
3 Mr Jamieson	24
4 Pte Ferguson	29
5 Ensign Tirhey	27
	118

1 Ensign Wright, F R A.	29
2 Pte Mills	19
3 Sergt McCartney	22
4 Pte Ross	30
5 Sergt Smith	19
	119

1 Lt Lesueur, 8th Batt.	22
2 Sergt Sutherland, 8th Batt.	14
3 Sergt Hawkins	32
4 Sergt Baxter	21
5 Corp'l McKane	13
	102

1 W M Baillie, K R A.	24
2 J G. Baillie	26
3 M Strachan	22
4 Robert Kincade K R A.	31
5 Thos Johnson	14
	117

1 Major Fraser, M G A.	27
2 Major Baynes	16
3 Sergt Blackall	29
4 Corp'l Stewart	17
5 Sergt Wilson	27
	116

1 Corp'l Black, 1st G F R	10
2 Corp'l Anthony	23
3 Pte May	17
4 Pte Blair	11
5 Pte Steele	21
	82

1 Capt Ivenson, G T A A.	16
2 Corp'l Wilson	32
3 Sergt Imrie	2
4 Sergt Syms	22
5 Pte Dado	16
	83

Association Match—Individual Scores.

1 Sergt Sharpe, 3 R B.	34
2 Corp'l G Copping, 3 R B	15
3 Lt Mason	13
4 Corp'l T Copping	17
5 Sergt Coutu	11
	80

MATCH NO 7—STANDING MATCH.

No.	Pts.	Am't
1 Sergt Shaw, 54th Batt.	24	\$25
2 Captain Esdaile, M R C.	23	20
3 Ensign Wright, 50th Batt.	23	15
4 Sergt Turnbull, G T R.	22	12
5 Capt Thomas, 54th Batt.	22	10
6 Lt Whitman, 60th Batt	22	5
7 Sergt Sutherland, Guards.	22	5
8 Captain Macpherson, Guards.	22	5
9 Sergt Ormand, 13th Batt.	22	5
10 Lt. Johnston, 71st Batt.	22	5
11 Pte D Mitchell 13th Batt.	21	5
12 Capt Ivenson, G T R.	21	5
13 Pte Mountain, 8th Batt.	21	5
14 Pte Mills, 50th Batt.	21	5
15 Mr Vandiet T R C.	21	5
16 Mr Gibson, T R C	21	4
17 Mr Little, T R C.	21	4
18 Pte Disher, 13th Batt.	21	4
19 Corp'l Stewart, M G A.	21	4
20 Mr Bell, T R C.	21	4

Aggregate Prizes—Snider.

1 Ensign Wright, 50th Batt.	30
2 Sergt Hawkins	20

MATCH NO. 8—STRANGERS' STAKES.

1 Lt Fulton, A R C, N Y.	28	\$30
2 A V Caulfield	26	25
3 W Cruik, T R C.	26	20
4 Sergt Ormand, 13th Batt.	26	15
5 Pte Disher	26	10
6 Sergt Mitchell	26	5
7 Ensign Goodhue, 58th Batt.	26	5
8 Lt Whitman, 60th Batt.	26	5
9 Major Cotton, A B.	25	5
10 Pte D Mitchell, 13th Batt.	25	5
11 Mr A S Field, A R C, N Y.	25	5
12 Ensign Tirhey, G T R.	25	5
13 Major Fraser, M G A.	24	5
14 J Stenhouse, M R C.	24	5
15 G O Goodhue	24	5
16 Mr Beu	24	4
17 Col Lamontagne	24	4
18 Pte McLeod, P of W R.	24	4
19 Qr Master Cleaveland	23	4
20 Pte Mills, 50th Batt.	23	4

MATCH NO. 9—THE LADIES CUP.

No.	Pts.	Am't
1 Mr Bell, T R C	55	\$40
2 Lieut Fulton, A R C, N Y	54	30
3 Sergeant Hill, P of W R.	52	20
4 Ensign Wright, 50th Batt.	51	15
5 Captain Thomas, 5th Batt.	51	10
6 Lieut Whitman, 60th Batt.	51	7
7 Sergeant Mitchell, 13th Batt.	51	7
8 Ensign Adam, do	50	7

ARMY ORGANIZATION.

(By General George B. McClellan.)

(Continued from page 396.)

THE ARMY CORPS.

In the German army this consists of two divisions of infantry, one division or brigade of cavalry, the corps artillery, a battalion of rifles, a battalion of pioneers, the trains, and administration. In time of peace the corps commander has only a general disciplinary control over the artillery, pioneers, and train belonging to it, the instruction of these special arms being regulated from

B. The 2nd Infantry Division.
4th Infantry Brigade. 3rd Infantry Brigade.
2 Regiments. 2 Regiments,
3 Pioneer Companies. 2 Regiments,
1 Cavalry Regiment.
1 Division Foot Artillery—21 guns.

2d Cavalry Brigade.
2 Regiments.

1 Ammunition Division.
1 Pontoon Train (when required by circumstances).

Total strength—25 battalions, 24 squadrons, 16 batteries, 9 ammunition columns, 3 pioneer companies, 11 trains, and the administration; or in round numbers, inclusive of the ponton train, 930 officers, 38,400 non-commissioned officers and men, 11,900 horses, 96 guns, and 960 wagons, divided as follows:

	Off's.	Men	Hors.	Guns.	Wag.
Each Infantry Division.....	350	15,000	1,900	21	140
The Cavalry Division.....	110	3,100	3,400	12	60
The Reserve Artillery.....	60	2,500	2,900	36	310
The Trains and Administration.....	40	2,200	1,600	..	260

The staff at the head quarters of an army corps is made up as follows: 1 general or lieutenant general commanding the corps, 1 field officer of the general staff corps as chief of the staff, and 1 other field officer and 2 captains of the general staff corps; 4 captains or lieutenants as aids-de-camp; 1 field officer of engineers, assisted by 1 captain and 1 lieutenant of the same arm; the staff of the artillery brigade; the staff of the train battalion; the administration. In addition there is with each army corps head quarters a detachment of mounted gens d'armes, consisting of 1 officer and 41 men. There are also for orderly and guard duty a head quarters guard consisting of 1 officer, 50 cavalry soldiers, and 52 infantry soldiers. Of the latter 1 officer, 18 cavalry soldiers, and 28 infantry soldiers are attached to the corps head quarters; 4 cavalry men and 8 infantry men to each division head quarters; 2 cavalry men to each brigade head quarters.

An army corps such as has just been described is really a small army complete in itself, numbering, when the ranks are full, about 36,000 combatants, perfectly prepared for any independent action commensurate with its force, able to move any where, and dependent upon the assistance of other army corps only when it encounters obstacles too great for its unaided strength.

According to recent legislation, the French army is permanently organized in nineteen army corps, i. e., eighteen for France, and one for Algeria. Each army corps consists of two divisions of infantry, one brigade of cavalry, one brigade of artillery, one battalion of engineer troops, a squadron of the military train, and a proper proportion of the staff and administrative services. The

Berlin in order to secure uniformity. In war, however, all the component parts of the army corps come under the direct and absolute control of its commanding general. In other words, during peace, considerations of economy, supplies, and facility of thorough and uniform instruction control; and frequently cause the different arms to be widely separated from each other; while in war tactical considerations are supreme, and draw the different arms close together under a single and absolute head, that they may afford and receive that prompt mutual support which is indispensable. The general principles of the formation of an army corps, and the usual distribution of its parts, will appear from the following table:

A. The 1st Infantry Division.
2d Infantry Brigade. 1st Infantry Brigade.
2 Regiments. 2 Regiments.
1 Rifle Battalion.
1 Cavalry Regiment.
1 Division Foot Artillery—24 guns.

C. Cavalry Division. 1st Cavalry Brigade.
2 Regiments.

D. Corps Reserve Artillery.
1 Division Foot Artillery.
1 to 2 Horse Battalions, consisting of from 6 to 12 guns.

E. Trains and Administration.

government proposed assigning three divisions of infantry to each corps, which would have made the corps about 50,000 strong; but after long discussions it was decided to form the corps as given above, so that they have an average strength of about 40,000, which under the French system, gives an effective force of about 32,000 combatants.

In Russia, also, the organization of army corps is permanent; they consist of three infantry divisions, one cavalry division, and one artillery division.

Within the last two years the Italians have adopted the permanent organization of army corps on the German system, and have reorganized the division, brigade, regiment, and battalion to correspond with the German.

In the war of 1866 the Austrians organized no divisions, but formed the army corps of four brigades, each consisting of two infantry regiments, one rifle battalion, one squadron of cavalry, and one battery of foot artillery. Since that time, however, they have reverted to the division organization.

It has sometimes occurred that cavalry corps consisting of two to three divisions, with a suitable amount of horse artillery, have been formed; but this is not the rule, and is done to meet special circumstances.

ARMIES.

Two or more army corps are united to form an army. The number of armies and the strength of each depend entirely upon the nature of the theatre of war, the proposed plan of campaign, the strength and arrangements of the enemy, etc., etc. For instance, in the war of 1866 the Austrians formed one army to oppose the Italians, and another, under Benedek, to operate against the Prussians. The latter divided into three armies that portion of their forces intended to act against the Austrians, and which was not far from equal in numbers to Benedek's army; while another army and various detachments operated against the Bavarians, Hanoverians, etc., etc. So in the French war of 1870-71 the Germans commenced the campaign in three armies acting conjointly against the French forces scattered from Thionville to Strasburg and Belfort. Later in the war they formed other armies as circumstances required. It is of course to be understood that when two or more armies are acting with a common object, there always is, or at least always should be, a generalissimo, or common

head, to direct the general movements of all, and that this directing spirit is close at hand in the field, and not in some distant capital. When an army corps forms part of an army it does not lose its identity, and its commander preserves his absolute and full control over everything within his corps, the general head quarters of the army, as well as that of "all the armies," confining themselves to giving general instructions and exercising a general supervision.

The command of an army corps such as we have described it is a task which evidently requires experience, ability, and military skill of a much higher order than that needed for the command of a simple division—qualities which it is not too easy to find in any army. It is evident also that the injurious effects of incompetency in the command of a corps would be much greater than in that of a division, and might quite readily involve the safety of the whole army. In very large armies the formation of army corps would appear to be indispensable, and it is equally imperative that in time of peace no efforts should be spared to provide a sufficient number of competent corps commanders. In armies of moderate size, say of from 75,000 to 80,000 men, the question of organizing corps must depend upon circumstances. If the army is to act, even for a time, on two lines, where the parts will be comparatively independent, and if the commanding general is so fortunate as to possess three or four subordinates of pre eminent ability and qualifications, it will usually be advisable to form army corps; but if among the division commanders there are none who clearly possess the requisite qualities for the command of a corps, it will be much better to organize the army in divisions, until the right men are found. The mistake of a division commander may often be rectified, but those of a corps commander are very apt to be fatal. In Europe the commanders of armies and of corps are not selected solely on account of seniority. It may be interesting to state here that under its present organization the field army of the German Empire consists of eighteen corps, including the guards, giving an effective strength of nearly 720,000 officers and men, and that the French field army also consists of eighteen corps giving a slightly greater effective strength on paper; but the great difference is that while the Germans can in a few days bring into the field the above number of disciplined troops, the French will be unable to do so for several years to come; that is to say, not until their new system has been in operation long enough to enable them to accumulate to the requisite reserves of trained troops.

THE RECRUITING OF ARMIES.

On the continent of Europe the ranks are filled by a more or less rigorous conscription. In England and the United States voluntary enlistment is the rule, and conscription, or draft, the exception. Experience has proved that, in modern times, with voluntary enlistment alone it is very difficult and expensive to fill the ranks of an army of any considerable size in time of peace, and quite impossible to accumulate the large reserves of trained soldiers required as soon as war is imminent. This system involves high pay and large bounties, and can, therefore, be employed only by wealthy nations with small armies. It presents, also, the serious disadvantage that in time of peace it does not bring the best material into the ranks. With regard to any particular country, it is clear that the form of government, the character of the people,

and its relations with neighboring powers must decide the method to be adopted for filling the army. Situated as the nations of continental Europe now are, they have no choice but to adopt a system of conscription, and the tendency now is toward the rigorous system of Germany. In Great Britain neither the form of government nor the habits of the people permit the establishment of conscription, although they meet with no little difficulty in maintaining the force required by their situation. We are so happily situated as not to require a large army in ordinary times, and, being separated by an ocean from the great military powers of the world, it is not probable, so long, as we remain united among ourselves, that we shall again require armies so large as to render a resort to conscription necessary. This condition of affairs is not the least of the favors that Providence has bestowed upon us. It would have been far otherwise had the war in which we were recently engaged resulted in the disruption of the Union and a division of the country between two great powers; for both sections must then have maintained large standing armies, and submitted to the many evils and sacrifices they entail. Any one who fully comprehends and appreciates the effects of the immense armaments of Europe upon every pursuit and condition of life must acknowledge that the great sacrifices made by the present generation in our country are more than compensated by the blessings which will follow their results through a long future.

In England the term of enlistment is for ten or twelve years. In the United States it is for five years in time of peace, while in war it has been our habit to enlist men for three years, or for the duration of the war. For our present purposes the various systems of conscription may all be classified under two heads: first the universal conscription, under which all able-bodied men are liable to and actually called upon to render military service during peace as well as war; second, the system under which only a portion of the able-bodied are called out by conscription, and under which those drawn are usually permitted to furnish substitutes.

Russia and Austria come under the second class, for in both the number of men to be drawn by lot each year from among those liable for duty is determined annually by a law or decree based upon the needs of the moment, and in both substitutes are allowed. In Russia the term of service is fifteen years, of which a portion is on leave of absence. In Austria the term is eight years with the active army and two years in the reserve; of the former period the infantry pass two years and three quarters with their regiments, the cavalry five years and a half, the special arms four years.

In France the manner of recruiting and the liability to service are now regulated by the law of July, 1872. Every Frenchman fit for service is liable for duty in the regular army or the reserves from the age of twenty to that of forty. Those who have been condemned to any ignominious or disgraceful punishment are excluded from serving in any capacity. Pupils at the Polytechnique and at the Forest schools are allowed to count at the time passed there, after they become liable for draft, as so much active service. There are other exceptions (not exemptions) in favor of professors in sundry institutions, and others that we have not space to enumerate. Volunteers for one year are also admitted, essentially as in the German army. Under the law all Frenchmen lia-

ble for duty belong to the active army for four years, to the territorial army for five years, and to the reserve of the territorial army for six years. As the total annual contingent of young men reaching the proper age is too great for the current needs of the active army and the financial resources of the country only about one half are drawn by lot for five years' service, while the remainder are to receive from six months to one year's instruction, and then return to their homes, subject to the call of the government. For the present year the second half has not been called out, and the regiments are generally so weak that it is more than doubtful whether the whole of the first half is really in service. Under the new law no substitutes are permitted, but re-enlistments are still allowed.

In Germany alone is the principle of the universal obligation of military service strictly carried out, and even there only since the reorganization of 1859 and 1860.

The members of reigning princely houses are exempt from this liability. Men who are physically incapable of serving as soldiers of the line are nevertheless held to perform such other duties as they are fit for, *e. g.* tailors and shoe makers, clerks, hospital attendants, etc., etc. Men who have been convicted of crimes are excluded from the service, as unfit to associate with honorable men.

Every German liable for military duty becomes a member of the standing army upon completing his twentieth year, and so continues for seven years. In peace he serves the first three years with the colors, and the remaining four on the reserve. For the next five years he belongs to the Landwehr, thus making his total service twelve years. No substitutes are permitted; re-enlistments are allowed.

While forming part of the reserve the German soldier is of course liable to be recalled to his regiment in the event of a mobilization of the army for any purpose; but with this exception he is only held to attend two annual manoeuvres, which can not exceed eight weeks each.

While belonging to the Landwehr the infantry soldier is only obliged to attend two manoeuvres, of from one to two weeks each, in special companies or battalions of Landwehr. The Landwehr men of the rifles, artillery, pioneers, and train are liable to the same service, but with regular troops of their own arm. The Landwehr cavalry are not called out for manoeuvres in time of peace.

In most of the Continental services during profound peace it is the practice to reduce the expenses of the army by giving a certain number of furloughs to infantry soldiers who have completed their instruction, but not yet finished their full term of service with the colors. In the German army the regular time for the discharge of the contingent of three years' service into the reserve, and for the new contingent to join their regiments, is the 1st of October of each year; but it is usual not to require the infantry men of the new contingent to report until the middle of December, and also to send the men of the third year to the reserve immediately upon the ending of the autumn manoeuvres, that is, about the middle of September. The effect of these two measures is to save the pay and rations of one third of the infantry for three months of each year. To effect a further saving, it has also been customary during the last few years to give temporary furloughs to men of the second year of service; this is done to the extent of five men in each company

At the International Congress to be held at Brussels, for settling the usages of war, the British representative, says *Punch*, will be instructed to press the following points: 1. No bombardment of London to take place while Parliament is sitting. 2. No battles to be fought on the D rby Day, the Oaks Day, or during Ascot, Goodwood, or Newmarket Races. 3. In case of invasion, Brighton, Weymouth, and Scarborough to be considered neutral territory. 4. Prisoners of war (being commissioned officers) to pay an entrance fee to the regimental messes of which they may be elected honorary members. 5. Regimental bands captured on the field of battle to be available at festivals held at the Royal Albert Hall or at the Crystal Palace, Sydenham. 6. Portrait medals of captured Generals to be permitted at Mme. Tussaud's Exhibition of Wax works, on the understanding that (a) some site other than that of the Chamber of Horrors be selected for the display; and (b) that a ticket of admission for the season be presented to each captured General inelligibly so exhibited. 7. Invading armies travelling by railway to pay at the rate of not less than £5 per mile per person. Return tickets (in Great Britain and Ireland) not to be guaranteed.

It is said, says the London *Army and of infantry*, and sixty four in each battalion of rifles. The class of "volunteers for one year" must not be passed over in silence. Young men of good education, who possess the means of providing for their equipment food, and clothing, are permitted to present themselves as volunteers for one year. If they pass the necessary examination, they are received as such, and serve for the time specified just as the other men, except that they receive a more rigorous and full instruction. If they pass the examination at the close of the year, they are free from further service with the colors in time of peace, and pass at once into the reserve. From this class many of the officers of the Landwehr are selected. If they fail to pass the examination at the expiration of the year, they lose the benefits of volunteering, and remain on the same footing with the other conscripts.

The effect of this system is to afford great relief to the classes engaged in the learned professions and in important manufacturing and commercial pursuits, while it at the same time provides a large number of capable officers for the Landwehr, and is of benefit to the army by infusing an additional element of great intelligence and respectability.

The Italians as well as the French have of late adopted the system of volunteers for one year.

Navy Gazette, that the committee which is engaged on the reorganization of the French Army has adopted a plan for improving the condition of non-commissioned officers, and such a measure is decidedly necessary. At present no inducements are held out to men to remain beyond the time they are bound to serve, and the consequence is that there are hardly any sergeants and Corporals capable of teaching recruits. According to the present law, a man who draws what is called a bad number is draughted into the Active Army, where he has to remain for five years. Supposing that after three years he becomes a sergeant, and that two years afterwards he withdraws from the Active Army, by whom is his place to be taken? It is evidently necessary to make the berth of a non-commissioned officer superior to what it is at present.

(Continued from Page 40.)

9 Lieut Harris, O G A	49
10 Mr. Stenhouse, M R C	49
11 Private Mitchell, 13th Batt.	48
12 Private Murison, do	48
13 Private Shaw, 54th Batt	48
14 Col. Gildersleeve, A R C, N Y	47
15 Private D Mitchell, 13th Batt	47
16 Sergt Major Stucier, 18th Batt	47
17 Mr. Cruit, T R C	47
18 Mr. Hilton, V R C	46
19 Sergeant Omand, 13th Batt	46
20 Private D'sher, 13th Batt	45

MATCH No. 10—SMALL BORE—CHAMPIONSHIP

No.	Pts.
1 Sergt S. uicier 18th Batt Metford	49
2 Pte D Mitchell 13th Batt	48
3 Mr Boll T R C Rigby	47
4 Lieut Whitman 60th Batt Metford	45
5 Pte T Mitchell 13th Batt	45
6 Lieut Harris O G A	44
7 Capt Thomas 54th Batt	43
8 Ensign Adams 13th Batt Rigby	43
9 Mr Cruit T R C Metford	42
10 Capt Boyd 54th Batt	42
11 Pte Murison 13th Batt	41
12 " Hilton V R C	40
13 Lieut Fulton A R C N Y Remington	39
14 Ensign Wright 50th Batt Metford	38
15 Mr Stenhouse M R C	37

MATCH No. 11—CONSOLATION.

No.	Pts.
1 Ensign Adam 13th Batt	36
2 " Goodhue 58th Batt	34
3 Sergt Halthy M G A	33
4 Pte Simcock G T R	33
5 Cunner Lambert O G A	32
6 Sergt Smith	32
7 Pte Loggie 71st Batt	21
8 G nner Morrison O G A	31
9 Sergt Balne	31
10 Gunner Morrison	31
11 Qr Master Cleveland	31
12 Gunner Finlayson M G A	31
13 Pte Black G T R	31
14 Capt Atkinson G T R	30
15 Major Aylmer, Staff	30
16 Capt McLaughlan G T R	30
17 Capt Larkin P W R	29
18 Sergt Brouse	29
19 Mr Strachan	28
20 Lt Bulman 79th Batt	28
21 Private McQuade P W R	27
22 J S Ferguson M R C	27
23 Bugler B utel 3 R Batt	27
24 Sergt Clark M G A	27
25 Private Thorburn G T R	27
27 Corp'l McKane 5th Batt	27
25 Pto Ross M R C	27
28 Sergt Blair G T R	27

(Special to the VOLUNTEER REVIEW)

THE 54TH BATTALION VOLUNTEER MILITIA.

The 54th (Lord Aylmer's Battalion Volunteer Militia) may well be proud of the five competitors they furnished for the Battalion match at Point St. Charles ranges, on the occasion of the annual meeting, on the 11th inst., of the Province of Quebec Rifle Association, this gallant corps having won the following prizes:—

Competition 1st.—Colonel B ydges challenge cup—Colonel Hanning, 5th prize; Capt. Thomas, 9th prize; Sergt. Shaw, 23rd prize—all in the first 40.

Frontier Stakes—Private Goodhue, 3rd prize; Capt. Boyd, 9th prize; Capt. Thomas, 12th prize.

The City Stakes.—Capt. Boyd, 3rd prize.

Battalion Match.—54th Battalion, 1st prize.

Association 2nd.—Sergt. Shaw, 17th prize. Th. Standing Match.—Sergt. Shaw, 1st prize, Capt. Thomas, 5th prize. The 54th since the formation of the Q. R. A. have held their own at the annual meetings, and in the Battalion matches have invariably won the 2nd, 3rd, and 4th prizes. Amongst the five competitors of the 54th this year, the following officers and non commissioned officers distinguished themselves at the great Wimbledon meeting in England, viz: Capt. Boyd, Capt. Thomas, and Sergt. Shaw.

UNITED STATES OFFICERS.

The undermentioned officers from New York attended the meeting of the Q. R. A. at Point St. Charles, viz:—Colonel Wingate, President of the N. Y. R. A.; Lieut. Colonel Gildersleeve, Secretary N. Y. R. A.; Lieut. Fulton, 12th Regt. National Guard, N. Y. Lieut. A. V. Canfield, jr., 22nd N. Y. Regt.; Lieut. G. W. Yale, Hartford Guards.

Amongst the above named gentlemen from the United States who have paid this friendly visit to their brother Riflemen of Canada, Lieut. Canfield was conspicuous as the winner of the "Remington Badge" at the Rifle Tournament Creedmoor, U.S. The badge in question is of elegant design consisting of a solid gold scroll with the words "Remington Badge" engraved thereon; from this scroll, two cross rifles are suspended by chains, the whole supporting a target ornament, surrounded with laurel leaves the bulls eye in this miniature target being a large diamond valued at two hundred dollars. This gentleman is a crack shot and is the recipient of many other prizes.

BRUCE RIFLE ASSOCIATION.

The match of the above association was held at Walkerton on the 10th and 11th inst. The prize being the silver badge given by the Ontario Rifle Association. Conditions—5 shots at each range, any position, 2 sights shots allowed at long ranges. The ranges in match No. 1 were 200, 500 and 600 yards. Match No 2, 300 and 500 yards. The shooting was not so good as has been made by some members of the club, which may be attributed to the excessive heat of both days. But taking into consideration that this is the first year any attempt has been made to introduce rifle shooting into the county the result may be looked upon as very satisfactory. We shall hope for something better in the future. The following is the score.

MATCH No. 1.		MATCH No. 2.	
200	500	300	500
James Rawson, ...	16 18 14	13 13-71	
T Naxon, ...	17 12 13	16 12-70	
Alexander Shaw, ...	18 13 11	14 15-69	
Joseph Craig, ...	13 12 11	12 17-65	
John Hunter, ...	13 16 4	8 15-56	
W. Richardson, ...	11 8 11	9 12-51	
R. Richardson, ...	15 15 6	6 5-4	
J. G. Cooper, ...	13 3 7	11 10-41	
W. A. Green, ...	12 4 9	11 6-42	
D. McDonald, ...	10 5 6	retired-21	

—Bruce Herald.

KINGSTON RIFLE ASSOCIATION.

The third annual prize meeting of this association will be held at Barriefield Ranges, commencing at 9 A.M. on Tuesday, August 25th, and following days. There are six matches in all— 1st match \$50 is offered; 2d match \$10; 3rd match \$50; 4th match \$50. 5th match \$75; 6th match \$10; in all \$345.

OYSTER BEDS OF CANADA.—Various parts of the Gulf of St. Lawrence were dredged last year with the view of determining the oyster beds of Canada. Further operations of the same kind will likely be carried on this year, when valuable information will likely be gleaned, and needful legislation based upon it for the purpose of preserving and promoting the bivalves. Mr. Whittes, who conducted the survey, thinks that the beds lie mainly in shallow water, say three fathoms, though found up to seven fathoms in depth. They are found in every river and tidal bay in Prince Edw rd. in Cape Breton, along Bras d'or lake and its tributaries; in New Brunswick along the entire coast and in Nova Scotia and several harbors on the Atlantic coast, as also in Picou harbor and Cassevere in Northumberland Strait, but they will not live in the bay of Fundy. Perhaps, because of the extraordinary tides. The present order in council preventing the raking of oyster beds from June to 1st September is deemed insufficient to protect the beds. It is considered desirable to reserve, as in France and Ireland, portions of each bed free from raking for a whole year, and beds newly planted should not be disturbed for two or three years.—Belleville Intelligencer.

At a meeting of the Permanent Committee of the National Assembly to-day, M. Chabaud la Tour, Minister of the Interior, in reply to an enquiry by a member of the Left, promised that the judicial proceedings in relation to the escape of Marshal Bazine should be vigorously prosecuted. He acknowledged that there had been a laxity in precautions against the escape of prisoners, but said the investigation instituted by the Government showed that the military authorities at the Fort were not compromised in the affair. He declined to give any further details of the investigation.

The small fortress of Marsal, which played a conspicuous part in the operations of the late Franco-German war, has been doomed to dismantlement. The destruction of the works will be effected—as in the case of Grandez—by a sham siege and undermining, in order to convey instruction to the Engineers of the South German Army Corps. The small adjoining forts of Hurrancourt and Orleans will be at the same time destroyed by dynamite and nitro-glycerine.

The Duke D'Azores, Minister of Foreign Affairs, stated in regard to the recognition of Spain that the Government was not anxious to act in accordance with the other powers, and would proceed in unison with the British Government which had communicated its views on the subject. No power had yet accomplished the act of recognition. The delay is caused by a question as to the exact form in which that question shall be taken. The members of the Extreme Right expressed disapproval of the conduct of Duke De Azores but a large majority of the Committee, including the Republican members, sustained his course.

The French Government has decided to raise a monument in Switzerland, not far from the Frouch frontier, to commemorate the fraternal conduct of the Swiss toward the French army during the Franco Prussian war.

The report that England, Germany and Italy have agreed to watch the Spanish coast is denied. Germany has not proposed intervention to Austria, but the latter is ready to join the other powers in an acknowledgment of Spanish Republic.