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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 Great Britain and Ireland.

VOL. VIII.

OTTAWA, (CANADA,) TUESDAY, MARCH 19, 1874.

No. 10.

NEWS OF THE WEEK.

A despatch from Sir Garnet Wolseley dated 5th to 7th ult., says Coomassie has been captured and burnt. The King has fled, the British troops have commenced their return march unhindered.

Another despatch dated February 9th. says: "Ashansee messengers have just arrived, requesting a treaty of peace. I will remain with the native troops until the 13th to allow time for negotiations."

It is officially announced that the Duke of Edinburgh and his bride, accompanied by the Queen, will enter London on the 12th March.

A special to the *London Daily Telegraph* from Central Asia says that the Yamut Turkomans recently made an attack on the Russian fortifications. They were defeated, and while crossing the frozen river during their retreat, the ice broke, and large numbers were drowned. Gen. Kauffman is to return to Khiva in April.

It is said that the new British Parliament immediately after assembling will adjourn for a fortnight or three weeks. The Queen's speech will probably recommend a grant of money for the relief of the sufferers by famine in Bengal.

The Queen and her Ministers have sent despatches to Gen. Sir Garnet Wolseley congratulating him on his success.

Senor Serrano has been declared President of the Republic of Spain, and Senor Zabala, Minister of War, is appointed President of the Council of Ministers.

It is reported in Europe that the Chinese Government has notified the foreign Ministers at Peking that it cannot guarantee the safety of the lives of foreigners residing at Tientsin, and that the naval authorities have been requested to send war vessels to Tientsin to insure their protection.

The search of the Parliament Building which has been customary since the discovery of Guy Fawkes' plot, was made this morning before the assembling of the Lords and Commons.

The new Parliament assembled on day 5th of March. The opening proceedings in the Chamber of Peers were formal and uninteresting. In the House of Commons Mr. Henry Chaplin, (Conservative), proposed, and Lord Cavendish seconded a motion, that the Right Honorable Beuverie Brand, Speaker of the last House, be declared Speaker of the present House. After eulogistic speeches the motion was unanimously carried. Percy Herbert congratulated the Speaker in behalf of the absent Ministers

and Mr. Gladstone then tendered him the thanks of the Opposition. The swearing in of members then began. Mr. H. Stone was most warmly received by the Liberal members when he entered the Hall and took his seat on the front Opposition bench.

It is stated that if the application of Dr. Kenealy, counsel for the Tichborne claimant, for a new trial is refused, he will make an appeal to the House of Lords on behalf of his client. The morning journals approve the verdict given against the claimant.

A despatch has been received at the Indian Office from the Hon. George Campbell, Lieutenant Governor of Bengal, giving a most alarming report of the condition of the people in that Presidency. He says fully 1,070,000 persons are starving to death in the district affected by the famine, and that all the poorer classes are beginning to feel the want of food.

A despatch from Blackburn, Lancashire, brings intelligence of a terrific boiler explosion, causing a startling loss of life in that town to day. Twenty persons were instantaneously killed and thirty injured. Many of the wounded are very badly burnt, and it is believed some will die.

The bark Grace Darling went ashore on the Scottish coast, near Aberdeen, during the late gales, and became a wreck. The crew took to the rigging, but fifteen of them were washed off and drowned before help could be sent. Four men, belonging to the life saving station, who went to the rescue of the wrecked men, also lost their lives by the swamping of their boat.

Jean Luie, the Claimant's witness in the Tichborne case was to day fully committed for trial on the charge of perjury. Large crowds filled and surrounded the Court room in the expectation of seeing the Claimant himself on this occasion but the latter was not allowed to appear in the Court.

Andrew Bogle, an old negro servant of the Tichborne family, and one of the strongest witnesses for the Claimant, has become dangerously ill since the verdict rendered against Orton.

The insurgent force before of Nagasaki, has been totally defeated by the Government troops and has disappeared.

Serious rioting has occurred in Eastern Poland in consequence of the closing of the churches. At one place the disorder was so great that the military was called out and fired on the rioters, killing and wounding seventy persons.

The special correspondent of the *News* in India telegraphs that the villagers of Eastern Tirkoot are slowly starving to death, and the future in other districts looks terribly ominous.

Several hundred barrels of petroleum, supposed to have formed part of the cargo of a Philadelphia barque, have drifted ashore at Lowestoft, G. B.

A despatch had been received by the Carlist junta at Bayonne, reporting that Bilbao has surrendered to the Royalists. It is said that one church, several banks and seventeen private houses have been destroyed by the bombardment of the city.

The following intelligence is obtained from Carlist sources:—Don Carlos has announced that it is not his intention to impose a contribution upon the population of Bilbao when that place is taken. On his entrance into the city he will proceed to the Cathedral and be crowned King of Spain. He will swear to support the liberties of the people and will constitute the Government with General Elio as President of the Council. An appeal will be made to foreign powers to recognize the belligerency of the Carlists. He will declare Spaniards free from all allegiance to any other Government than his own. He will draw \$5,000,000 as a first instalment of a loan previously contracted.

At a recent meeting of the Italian Scientific Congress, held in Rome, two Neapolitan physicians submitted for examination a liquid preparation designed for stopping instantaneously the flow of blood from wounds of every description. A commission of physicians, according to the Roman *Fanfulla*, have been experimenting with it in the anatomical theatre of Santo Spirito, and have reported on it as one of the happiest of recent discoveries, and as particularly serviceable on the field of battle.

Despatches from Calcutta report that the distress among the famine-stricken people in Eastern Tierhoot is increasing. In one village alone eighteen persons have starved to death within the past four days. The number of applicants for employment on the Government relief works has increased from 15,000 to 30,000 within a week.

A telegraphic despatch was received at the War Office from General Moriones, stating that he has been unable to force the Carlists from their intrenchments before Bilbao, and that his own advanced line has been broken by the insurgents. He asks for reinforcements, and the appointment of his successor. He still occupies Somorostro, Oulton, Midon, Povena, and Milliquez. It is reported that Gen. Moriones's army has been defeated with a loss of 3,000 men killed and wounded.

The French Academy has postponed a contemplated reception to Emile Olivier because he persists in retaining in his inaugural an eulogy of Emperor Louis Napoleon.

MILITIA RE-ORGANIZATION.

To the Honorable

The Minister of Militia and Defence, &c., &c.

Sir,—At the risk of appearing intrusive, I venture to submit for your consideration a few remarks on the re-organization of the militia: believing that you will consider that the opinions of men who have for years been intimately connected with the existing organization, should have weight in your councils, and in their knowledge of the defects of the system, be able to administer intelligently towards its amelioration.

Without further preface, or attempting to place before you facts which have doubtless claimed your attention, as to the entire inadequacy, and consequent failure of the present system; I shall, with your permission, divide the subject into two heads:—

First. The deficiencies of the existing Militia organization, with suggestions as to the amendment of the Militia Law;

Second. The organization desirable under an amended Militia Law.

In order that the question of a Militia Service may be fairly considered, it is necessary that the constitutional basis for its establishment should be clearly defined. This I take to be:—"That every citizen, between certain ages, is liable to contribute towards the national defence, either by bearing arms himself, or, under certain conditions, by furnishing a substitute."

The conditions required for a sound constitutional force are:—

First. Equal conditions of service, recognizing the axiom that all are alike liable to share in the defence of their country.

Second. The recognition of the principle that every man not actually contributing his personal service during any one year should pay a tax in money which should bear proportion to his property.

The present volunteer organization does not fulfil these conditions, for four vital reasons:—

1st. Because the burden is distributed unequally: resting on the few who have sufficient loyalty to offer themselves for this service, and who at the same time contribute an equal share towards the national revenue as do those who avoid or refuse carrying arms.

2nd. Because an adequate force for the protection of the country cannot be raised as volunteers. The volunteer spirit is confined to few in comparison with the arms bearing population of the country. These few have, in many cases, served three or four times as long as they are required by law to do; and consequently have deprived the country, in case of need, of the services of two or three men who should have been trained in their stead.

3rd. Because, where the purely voluntary principle exists, the burden of raising and keeping together a corps, falls upon its officers; who, in order to maintain their corps numerically, are obliged to use conciliatory and popular measures; to the detriment of discipline, and derogation of their position as officers. This entails another evil, in the selection of officers, which must at present be guided by the influence rather than the efficiency of the man.

4th. Because the pay allowed to the men of the existing force is inadequate for a voluntary service. Were it the understood duty of the citizen, the question of pay would no longer present a difficulty.

In order to fulfil the first condition, we must have a *Service Militia* and not a *Volunteer Militia*, which exposes those who voluntarily serve to a burden of expense not shared by other members of the community—the *draft or ballot* where voluntary enlistment fails.

In support of the latter part of my proposition, I beg to adduce the following authorities:—

In the "Report of Commissioners on the best means of reorganizing the Militia of Canada," dated 1862, I find in section 48, "That the Active Force be raised either by 'voluntary enlistment,' by 'selection,' by 'ballot,' or by a combination of voluntary enlistment and the ballot." In section 53, "That men of the Regular Militia shall, at the expiration of their term of service in the Active Force, pass into the Reserve Force, and continue to be enrolled therein for a further period of three years."

In the Annual Report of 1865, Lieut. Colonels Powell and De Sloberry make use of the following language (page 16 No. 6):—

"In all parts of the country the spirit of the people inclines to the system of volunteering, in contradistinction to the draft, for purposes of military organization, drill and discipline; but difficulties incident to the carrying out of these volunteer organizations in the rural districts point to the conclusion that the only feasible and reliable means for conveying military instruction to the great mass of the people in the country must be through the organization of the *Service Militia*." In the Report for 1867, page 16, Lieut. Colonel Cassault says of the rural companies, "It is only by the untiring exertions of the officers that their companies are kept together after the first two or three years of experience."

In the same Report, page 18, Lieut. Colonel Macpherson says, "From my experience, and the conversations I have had with volunteer officers in the district, I am led to believe that the French Canadians, although as loyal and willing to defend their country as any other British subject, have no inclination for voluntary service; they appear to hold to the French system, which, when the Government thinks it necessary, orders the service of part of the male population, calling on the whole for an equal share of risks and actual service. They seem to think that when the country requires them, it will not call for volunteers, but will order a certain proportion of men for service; and were a compulsory military service introduced, I believe they would cheerfully perform their duties." Lieut. Colonel Acherley, on page 26, same Report, says, "The difficulty experienced by officers commanding companies, in 'recruiting' to their full strength, has been greatly felt, and is partly owing to the unwillingness of many employers to allow their men to join Volunteer Companies." In the Report for 1870, page 51, Col. Ross says, "The great majority of these officers (captains of companies), through whose exertions and instrumentality the force has been mainly sustained, seemed to be of opinion that, without recourse to the ballot, it would not be possible to keep their companies up to the proper strength under ordinary circumstances in the future, for although the men of Canada come forward readily when the country has to be defended, and there is any fighting to be done, still without such excitement very many withhold from joining the ranks of the Active Militia."

With these authorities—first, the enlightened consideration of the question by our leading statesmen, and officers of large experience in 1862, and latterly by the experience of the responsible heads of the Depart-

ment since 1865, borne out by the captains of companies "through whose exertions and instrumentality the force has been mainly sustained," down to the present time—the result of four Militia Bills has shown the futility of looking to a purely "volunteer" force as an adequate provision for the defence of the country.

Against the method of recruiting our Militia by ballot, it has been urged that such an innovation would inaugurate military despotism unsuited to the free institutions of this country, and dangerous to the liberties of its people. In a word, that the introduction of the ballot would be to introduce the Prussian system. That system is oppressive—first, in the conscription, which enforces three years' continuous service on a certain number drawn at hazard from the population, willing or unwilling; next, owing to its adverse effect upon the industry of the nation, from the indiscriminate drain upon its population in time of peace; and lastly, owing to the long period of military service required. That such a system, in its entirety, would be unsuited to the constitution of this country is undoubted; but why the ballot should be avoided as tending towards "Prussianization," I fail to see. We may fairly raise a Militia by ballot in time of peace, and for home service during a war; because it is just and right that every able-bodied man should be liable to service for the defence of his country when needed; but to go farther, and force a citizen to adopt a profession unsuited to, and distasteful to him, for a continuous service, is a decided violation of the right of the subject under our laws. Should we require a "Regular Army," therefore, the proper principle for its construction would be the voluntary basis; but where the principle sought to be observed is that of "equal rights to all, exclusive privileges to none," the burden of military service must be equalized to all classes of the community, and the "Ballot" as an adjunct to voluntary enlistment, and in preference to "conscription" or "selection," is the fairest way to distribute that burden.

The short period of service contemplated for the "balloted" man (three years) would prove a very slight draw-back in the pursuit of his ordinary avocations, while the advantage gained would be very great. The three years' period of service would familiarise him with drill, and enable him to receive the elements of discipline; during that time his attendance at drill, could be counted upon (or his absence punished), his course of rifle practice prescribed, and regulations for the care of his clothing and arms observed. With the volunteers these conditions are impossible. Any regulations or orders must be inoperative in a Force, the members of which, if punished for an infraction of orders, or breach of discipline, can resign in resentment to-morrow; and no officer, however zealous, can obtain efficiency in a corps the members of which are constantly shifting and changing. The greatest defect of the present system is, however, that it provides for no organized Reserve. The individual volunteer retiring from the Force, even if he completes his term of service, is lost to the military organization of the country; whereas, were 40,000 men to retire triennially into the Reserve, complete in organization and interior economy, they would, even after their legal period of service was past, be easily reassembled, should necessity call for their services. *Esprit de corps* would also assist to keep them together, and a veteran Reserve of hundreds of thousands would in a few years exist, without expense to the Government, and needing

only that arms should be put into their hands to render them available for the defence of the country.

That these matters have long secured the attention of the officers of the Volunteer Force of Canada, is proved by the following extract from a memorial presented to the Minister of Militia in June, 1868, and which was signed by fifty-nine field officers belonging to the Force in Ontario. —

"That the efficiency of the Force, taking into consideration the elements given by the present volunteer organization, would be promoted by constituting the volunteers the 'Regular Militia,' retaining all effective corps as representing the Militia of their respective counties, and applying to them the provisions of the existing Militia Law respecting the contemplated Regular and Reserve Militia, subject to such modifications as the circumstances of each case, local or otherwise, might require.

"Your memorialists respectfully submit that by these means would be gained :

"*First.*—The element of stability contemplated by the organization of the Regular Militia.

"*Second.*—That of simplicity, in having only one organization to deal with; and which would be capable of being extended so as to embrace the whole military resources of the country.

"*Third.*—That with the existence of the power of drafting (or balloting) in case of necessity, there would not be much difficulty in maintaining the Force on almost a purely voluntary basis."

The latter clause, though somewhat obscurely worded, implies that once the duty of bearing arms is recognised by the community as one in which there can be no avoidance, there would be no lack of volunteers. The objections of employers of labour could no longer impose a check on the military ardour of our young men; and the knowledge of impending ballot, would lead those reluctant to serve to act as recruiting sergeants, to keep companies and regiments full, in order that they themselves might avoid compulsory service.

The memorialists, in order to provide for the increased expenditure necessary for the support of an efficient Force, recommend that an annual tax for Militia purposes shall be levied from each man "liable for duty, but not actually serving in the Militia."

Upon these principles, based on the expressed opinions of statesmen, and of practical men who have long made the subject their study, I have no hesitation in expressing my conviction, that in the establishment of the Militia alone rests our opportunity for securing a sufficient, efficient, and satisfactory military organization in Canada.

The position I assume is, therefore, as follows:—

The people of Canada contribute annually a large sum for the maintenance of the National Defence. This sum is supposed to train, every three years, 40,000 men, so that in case of need they may be found efficient soldiers. I maintain, therefore, that the country has a right to expect, that at the expiration of every three years, 40,000 men shall be added to the Militia Reserve of the country; that these 40,000 men shall be qualified for military service if required; and that sufficient organization shall be retained amongst them to enable their assemblage at short notice. Under these conditions the country might be considered to have received a fair equivalent for its larger annual expenditure.

What is necessary, then, to achieve this end? So far as relates to the Militia Law, it is so essentially an elastic and permissive

one, that little requires to be changed save in doing away with the word "Volunteer;" to abolish the inequality of service which exists between the "volunteer" and "regular" Militia; to strike out the clause giving the privilege of leaving a corps on six months' notice, and that relating to the pay of officers; and the bill will then cover all the real requirements of the service. It would be further required to perfect the machinery for the completion of corps by the ballot; and the men having been thus obtained; the material for the structure of organization complete, the remainder is simply a matter of detail.

Taking the quota, as required by law, of 40,000 Militia, (who would form the first class, or "Service Militia,") as a basis for organization, I beg to offer, for your information, a few figures regarding the due proportion of the various arms into which they should be divided. For economical reasons, these proportions have been neglected hitherto; but as the organization tends towards perfection, it is necessary that the ordinary rule laid down for the Imperial service should be observed. Whilst we had garrisons of Her Majesty's troops, and a large proportion of field artillery amongst them, shifts could be made to furnish an army with its quota of cavalry and artillery; but now that we are thrown on our own resources, the existing deficiencies must be supplied.

The distribution that at present exists is as follows:—

Cavalry, 27 Troops, nominal strength,	1,666
Field Batteries, 10 (42 gun-) do	750
Garrison Artillery, 70 Batteries, do	4,108
Engineers, 4 Companies, do	232
Infantry and Rifles, 623 Cos., do	36,729
Naval, 3 Companies, do	174
Total	43,659

Taking the rules laid down in the Imperial service, the proportions should be as follows:—

Cavalry.—Hussars, 39 Troops, 2,271 officers and men	2,271
46 Troops, 2,702 officers and men...	4,973
Field Batteries, 17 (68 guns), or one gun to 600 men	1,700
Garrison Batteries; 50	5,000
Engineers, 17 Companies	1,700
Infantry, Rifles and Marine Companies	26,627
Total	40,000

This distribution is based upon the assumption that cavalry should be in the proportion of one-fifth of the infantry; artillery one gun to 600 men; garrison artillery, sufficient to man the walls of our defensible fortifications: two engineer companies to each district (or division in the field); and the balance, infantry and rifles.

To secure this proportion few changes are necessary. Retaining the 22 troops of Hussars at present organized, the addition of 17 troops would give each district from one to three squadrons, and troops of mounted rifles could be easily formed from existing infantry companies. Considering how easily this could be effected, and the natural disposition of the better class of young men in rural districts to prefer the mounted service, the suitability of Canadian horses for such work, and the immense value of mounted rifles in modern warfare, it is singular that this force has not been encouraged hitherto. According to regulation, these troops should consist of 55 officers and men.

The seven field batteries required should be raised by demi-batteries or divisions in rural districts. Hitherto they have been

confined to cities or larger towns, where it is difficult to procure horses, men suited for the heavy work of gunners, of sufficiently good horsemen for drivers. The location of a division or demi battery in a thriving village, the centre of a well-populated rural district, would prove a great stimulus to enlistment in the immediate vicinity, and be a matter of pride to the whole neighbourhood. The batteries would, of course, be united on proceeding into the brigade camps.

As our existing garrison batteries may be said to be infantry in artillery uniform, the 20 batteries existing over the quota required is not a question that needs consideration. It would be well, however, if in the future the duties and uniform should be made to correspond.

The formation of the 13 engineer companies, I look upon as a necessity. Their peculiar duties can be performed by no other arm; and in a country like our own, interlaced with railroads, dissected by unfordable streams, and abounding in defensible positions, the organized force of skilled artisans is indispensable. True, we have them in our ranks; but of what use is a workman without his tools; and though a Canadian woodsman can build a house with his axe and jack-knife, he could scarcely repair an engine, or mine a bridge with his bayonet. With them also, would rest the provision of intrenching tools for the use of the army, and the construction of the "Field Telegraph," so universally used in modern warfare. The establishment provided by the Act is insufficient; I have, therefore, fixed the strength of the companies at 100 officers and men, as in the Imperial service.

To effect these changes without materially interfering with the present battalion organization would be the desideratum. As, however, there are 78 independent companies, ranging from two to thirty two in the several military districts—many battalions having an uneven number of companies; many infantry and rifle companies anxious to change into mounted corps; and many, doubtless, who would be eager to join the field artillery—these matters only need careful consideration, judicious management, and a rigid apportionment of each arm to the several districts in equal proportions, to obviate all the difficulties that could arise in carrying out the required alterations.

The next and most important question is that of expense. Cavalry equipment costs eight times that of infantry. Saddlery is the chief item. Now, in making the suggestion I am about to make, I do not for one moment suppose the McClellan saddle is in any respect equal to our own, but they are serviceable, they are cheap, and they are easily manufactured and repaired. Why not buy these for our mounted rifles? They can be obtained, in quantities, for from \$3 to \$5 each, and by substituting a decent looking stirrup, and some slight alterations in the mode of placing the blankets, they would neither injure the horse's back nor the seat of the rider. A mounted rifleman, armed with a good rifle and revolvers; his McClellan saddle judiciously arranged; a stout halter bridle, with Pelham bit, reins strong enough to be used for picking or tying; his trousers tucked into serviceable knee boots, with hunting spurs strapped on, would, if rough-looking, prove a formidable enemy and a serviceable friend. His errand being to march on horseback and fight on foot, he should be encumbered with no useless trappings (sabres, for instance); his uniform should be of the plainest, and his accoutre-

ments of the lightest; a small service pouch, or ball bag, would contain his ammunition; his reserve being carried on his horse, from which he would never be long parted; his particular duty being sudden surprises, flank movements and skirmishing. I have dwelt upon the organization of mounted riflemen, as being, in my opinion, a description of cavalry best suited to the peculiar requirements of this country; and it has been frequently a matter of surprise to me that the matter has not received the consideration of our Adjutants-General.

Having thus provided for the constitution of the Force, the next question to which I propose to draw your attention is the provisions for their instruction, summarized briefly under the following heads viz:—

1st. Twenty-one days' paid drill—7 at company headquarters, 14 at brigade camps. The period of drill to be adjusted to the time most suitable to the occupations of the men. This would utilize the drill sheds, that are now comparatively useless.

2nd. Drill instruction by qualified instructors. A sergeant-major might be attached to each battalion at a fixed scale of pay, upon whom this work would devolve. The present payment of \$50 to captains of companies, most of whom are totally unqualified, is mere waste of money.

3rd. The storage of arms, accoutrements and clothing in the armouries provided for them, to be removed only at times of drill and target practice. The immense loss that accrues annually from neglect of these particulars is incredible, and volunteers can never be persuaded into the necessity for such a regulation.

4th. The provision of proper ranges, targets, &c., at the headquarters of each company, and their instruction in musketry by a qualified instructor.

5th. The issue of clothing regimentally, at the commencement of the three years' period of drill. To be worn by the militiaman to whom it is issued, and in case of his removal or death, or loss by accident, its substitution by a new suit issued to the recruit taking his place. It is not fair to ask recruits to take old uniforms. Of course, losses by carelessness, &c., to be repaid by the militiaman personally.

6th. Provision for the transport, rationing and pay of officers and men in brigade camps with suitable allowances for providing water, fuel and light, and a margin for unforeseen expenses.

By the present system of division into Military Districts, each under the command of a Deputy Adjutant General, and which are again subdivided into Brigade Divisions, each having its Brigade Major; a cumbersome system is obtained, useless in time of peace, and worse than useless in time of war. Apart from the anomaly of a Deputy Adjutant General commanding a Division in the field, is the more serious feature; that in case of war, the removal of the District Staff Officers (who alone possess the requisite knowledge for organizing the reserves, and forwarding them to the front) would leave no one behind them sufficiently familiar with the military resources of their districts to take their places. It is obvious, therefore, that, under any circumstances, the District Staff Officers should not command the Districts; but that the senior officers, not on the staff, should command Brigades and Divisions in the field, leaving the District Staff where it would be most usefully employed, in organizing and forwarding men and material to the front. For the purposes of annual drill these considerations are not

so important, although it is unquestionable that the organization required for purposes of war should be perfected in time of peace. With this view I should strongly advocate the grouping of regiments into brigades, under command of the senior qualified officer, to whom would be attached the usual staff. These officers would only be paid during the periods of annual drill; but their appointment would develop a staff organization, without which an army has been fitly described to be "a giant lying prostrate on the ground, who, though powerful in outward appearance, is destitute of bone and muscle, and is consequently incapable of action." Such Brigade Staffs, with a Deputy Adjutant-General for each arm of the service at Ottawa, and a District Paymaster and Storekeeper at each District headquarters, would render the staff organization more complete, and much less expensive, than at present. The same organization should prevail in the Reserve Militia, the senior officer being the channel of communication with headquarters at Ottawa, and in time of war furnishing to the Brigades from the Division the drafts necessary to fill up its quota in the field.

The important suggestions of General Sir James Lindsay, especially in so far as regards the appointment of a Major-General to command the Militia, and act as the chief military adviser of Government, are well worthy of the serious consideration of Government. Such an appointment would be of incalculable benefit to the Force, and would supply that medium between the civil and military branch of the Department of Militia and Defence that has long been required. This officer, with an efficient staff representing each arm of the service, at headquarters, would be able to hold direct communication with the Commandants of Districts, saving much time now lost in circumlocution, with the advantage of being intimately connected with his command. The outlying Provinces would doubtless require a resident Commandant, who would act as Deputy Inspector of Militia and Reserve Forces. There should be also at headquarters a Deputy Quartermaster General, having charge of all matters connected with the transport and camping of troops. He would also have under his control the military stores, drill sheds and rifles ranges, and attend to the provision of barracks accommodation when required. The buildings and lands turned over by the Imperial Government for military purposes should be under his supervision. His department should be thoroughly organized, and the most energetic and capable surveyor or engineer in each district appointed as Assistant Quartermaster-General. Under his supervision district maps should be compiled, embodying the latest topographical changes. The information could be obtained from township and country surveyors, to whom a small remuneration should be paid for the service. The question of expense, is however, a trifling matter in comparison with the immense importance of this work. The organization of District Commissariat Staffs, with capacity for extension in case of war, is also one of the needed innovations.

The organization of Division Staff, consisting of a Commandant, Assistant Adjutant General, Assistant Quartermaster-General, and Brigade Major, would furnish the only machinery by which the Militia could be adequately governed. These officers would receive no pay except on active service; but a small contingent allowance should be made to cover all expenses. This should be clearly laid down, and if the amount were exceeded (unless under very exceptional circumstances,

the loss should be borne by the Commandant.

To each regiment should be attached a competent trained drill instructor, who should, if possible, be the adjutant or sergeant-major of his corps, and act as regimental store keeper beside. This person should be paid directly from the department, although holding his position under the officer commanding the regiment. The present system of payment for drill instruction is simply throwing money away, one-half of the recipients being utterly unable to instruct a company.

A small contingent allowance should be made to officers commanding regiments, to provide for postage, stationery, and incidentals.

A provision should also be made for the repairs of arms and equipments, and for furnishing Kangoon oil to caretakers of armouries, and stock and tools to district armourers.

A very great drawback in the organization of the Brigade camps has been experienced in the fact that the company unit has been hastily assembled, hurriedly equipped, and imperfectly clothed. This is owing to the reason that, under the present system, men never don any uniform or shoulder a rifle from the time of one annual drill until the next year, unless at target practice. The drill shed erected at great expense to the country, have thus become virtually useless. To provide for the assembly of companies for drill during the winter months, it is proposed that pay at the rate of 25 cents per drill of three hours be allowed for seven drills on separate occasions. This would make attendance compulsory, and tend to greater coherence of the company unit, increasing *esprit de corps*, and preventing officers and men from forgetting what they had learned, in the long interval between the annual trainings. These drills would be superintended by the regimental drill instructor, who would be held responsible as to the numbers attending the muster, and that no man was returned for pay who was not actually present. Some such inducement is absolutely necessary in order to ensure a proper attendance at company drills. These companies would then be fitted for regimental duties, on marching into camp for the annual drill.

In carrying on the system of brigade camps inaugurated in 1871, a vital principle of organization is involved. Regimental camps are good, brigade camps are better, giving a more extended knowledge of military duty, and provoking a friendly emulation between regiments, in matters of dress, discipline and efficiency. It is a mistake, however, to carry the thing too far, and to allow a camp of instruction to degenerate into a military spectacle. For this reason very large camps are to be avoided, not only on account of the distances required in the concentration of troops, and consequent increased cost of transportation; but in the fact that there is too much holiday-making in the assemblage of large numbers of spectators, and the object of the drills are diverted to provide amusement, and not instruction.

Small camps, in central positions, within marching distance of at least two regimental headquarters, are much to be preferred. If, for the gratification of the public, it was considered desirable that a military spectacle should be afforded, the commandants of two brigades might arrange to march to a central position, and jointly hold a field day. Indeed, such autumn manoeuvres, on a small scale, would be productive of the best effect, inuring the men to marching, and

developing the character and resources of the staff.

It should be arranged that the Major-General commanding, or a Deputy Adjutant-General, should muster and inspect men and arms during the continuance of the camp.

A desirable feature of these camps would be the assemblage of all past military school cadets resident in the division, and not actually serving in the force, under officers to be named from their own ranks, and constituted into separate companies or battalions. An opportunity would thus be offered, that would be eagerly embraced by most, of keeping up knowledge acquired in the military schools, and which, from want of use, is liable to become forgotten.

Having thus sketched the head and body of the organization, I may be permitted to dwell upon some details that seem to be most desirable.

1st. District stores and suitable magazines, containing arms, ammunition, clothing and stores sufficient to equip at least twice the number of the Service and Reserve Militia. These stores to have efficient storekeepers and trained assistants, to care for the property of Government in time of peace, and to issue it intelligently in case of war.

2nd. Laboratories in each Province for the manufacture of ammunition for small arms, with a capacity for extension in case of war. By this means, and the return of old cartridge cases and ammunition boxes, an annual saving might be effected, and a plentiful supply of blank cartridges provided for blank firing—a much-needed exercise for raw troops.

3rd. The establishment of depot companies in each Province, to serve as storekeepers, workers in the laboratory, military school instructors; to repair and alter arms, mark at rifle ranges, and to furnish guards upon the stores and the forts and armaments belonging to the Dominion.

This would be simply an extension of A and B Batteries, as at present constituted, making them the Provincial Schools of Military Instruction; attaching a cavalry and infantry instructor to each, and giving a general, instead of technical, training to cadets who might enter. The extension of the short or long course principle to all, would enable the commandant to select such men as he deemed fit for a special training in the higher branches of the military art; and the schools would thus act as a Staff College for the Dominion. I need not point out the desirability of such instruction.

It will be urged against this scheme that it will entail an enormously increased expenditure. As an answer, I have prepared an estimate, which I beg to submit for your consideration, hoping that you will consider that facts justify my attempting figures. To provide for the expenditure would be most simple.

Taking the number of men liable to serve in the Militia at 700,000 (which is doubtless short of the mark), and deducting therefrom 40,000 active service militiamen and 40,000 reserve, leaves 620,000 men who are liable to pay for the defence of the country. Suppose we rate these at \$2 per head (the rate exacted for statute labour). It gives us \$1,240,000.

This would leave about \$250,000 to be drawn from the public chest for the Militia Service. This scheme, of course, involves the principle of direct taxation; but I know of no tax which would be so cheerfully submitted to or more willingly paid. It is no

more an interference with the principle than the present school tax, and in many cases would not be considered half so objectionable. The tax could be collected by municipal machinery, and the quota, paid by each Province, into the Dominion Treasury.

In conclusion, I would beg to submit for your consideration the advisability of caution in introducing changes into the present system, without consulting the constituents of the existing Force. For years we have had to battle with difficulties which have been imposed upon us by a want of consideration of the feelings and prejudices of the Force; and the advent of the present Administration has been hailed with joy by most volunteers, believing that an enlightened consideration would take the place of political indifference where the interests of the

Militia are concerned. It would be looked upon as an act of graceful courtesy to those who have done and suffered much in the cause of our national defence, if the Government were to summon a board of officers to consider the present position of the Militia, and to suggest practical plans for the amelioration of the evils under which it suffers.

If such a course is taken, and any idea that I have originated commends itself to the judgment or yourself of your advisors, as practical and practicable, I shall feel that I have not addressed you in vain.

Apologizing for the length of this communication,

I have the honour to be,
Sir,

Your obedient servant.
CENTURION.

ESTIMATE FOR PROPOSED MILITIA EXPENDITURE.

1. Details of Salaries of Military Branch:		
1 Major-General, and Inspector of Militia Reserve Forces.....		\$5,000 00
1 Adjutant-General at headquarters.....		3,000 00
1 Quartermaster-General at do.....		2,000 00
1 Deputy Adjutant-General, Cavalry, at headquarters.....		2,000 00
1 do do Artillery, do.....		2,000 00
1 do do Engineers, do.....		2,000 00
1 do do Infantry, do.....		2,000 00
1 Assistant Adjutant-General do.....		1,000 00
1 Commandant and Deputy-Inspector, Militia Reserve, Nova Scotia.....		1,800 00
1 do do do New Brunswick.....		1,800 00
1 do do do & P. E. I.....		1,800 00
1 do do do Manitoba.....		1,800 00
1 do do do British Columbia.....		1,800 00
11 District Paymasters.....		13,200 00
11 " Storekeepers.....		600 00
Travelling and field Allowances, Contingencies, Headquarters Staff.....		4,000 00
Military Surveys and maps, Quartermaster-General's Department.....		1,000 00
		\$51,600 00
2. Division Staffs:		
Command money, postage, stationery, &c., for Commandants.....		6,000 00
Regimental Drill and Musketry Instructors and Storekeepers.....		27,600 00
Repairs of arms and equipments by District Armourers.....		5,000 00
		38,600 00
3. Annual Drill Pay, &c.:		
Pay of 15,000 officers and men in Brigade Camps for 11 days.....		500,000 00
" 40,000 at Company Headquarters for 7 days.....		70,000 00
Field and forage allowances for mounted officers.....		10,000 00
Stations and Hospital subsistence in Brigade Camps.....		15,000 00
Transport and marching money.....		25,000 00
Contingencies, prizes to best shots, and unforeseen expenses.....		25,000 00
Compensation for Injuries at Drill.....		5,000 00
		650,000 00
4. Ammunition.....		50,000 00
5. Clothing.....		100,000 00
6. Military stores and equipments.....		50,000 00
7. Public armouries and care of arms.....		10,000 00
8. Drill Sheds, Rifle Ranges, and Targets.....		10,000 00
9. Allowances to efficient Regiments for encouragement to Rifle practice, efficient bands and contingencies.....		27,000 00
10. Grants to Dominion and Provincial Rifle Associations.....		10,000 00
11. Care of Ordnance properties.....		10,000 00
12. Improved fire-arms and Ordnance.....		50,000 00
13. Contingencies and unforeseen expenses.....		50,000 00
		650,000 00
11. Pay and maintenance of 6 Depot Companies and Military Schools, one for each Province.....		300,000 00
15. Pay and maintenance of Gun-boats.....		10,000 00
		\$1,440,000 00

A terrible tragedy occurred on the Great Western Railway on Saturday night, the 28th Feb., resulting in the death of seven or eight passengers and the serious wounding of twelve or fifteen others.

The *Sarnia Express* train left London at 6.20 p. m., with several petroleum and baggage cars, and one coach crowded with passengers. About midway between that city and Komoka Station, an oil lamp in the water closet fell from where it was suspended to the floor, and was broken. In a moment the oil ignited, and the whole of the interior of the closet was on fire. Panic at once seized the passengers, and efforts were made to stifle the flames with the use of the cushions, but it was found useless. The great speed at which the train was going, reckoned at over thirty miles an hour, fanned the fire to such an extent that no hope was left but an immediate stoppage of the train; but there being no boll rope attached, no communication could be passed until Conductor Mitchell, at much personal risk

ran forward and gave the warning. By this time the fire had gained full sway, and the affrighted passengers were throwing themselves from the platform and out of the windows which they smashed for the purpose. In a few minutes the car was consumed, and those who could not escape were burned to a crisp.

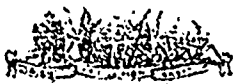
The *Globe* says, 500 Menonite families will come out by the Allan Line to settle in Manitoba. Twelve hundred families are going to Kansas and Dakota. Five hundred families from Russian Poland are not yet satisfactorily arranged for, but may find their way to Manitoba.

REMITTANCES Received on Subscription to THE VOLUNTEER REVIEW up to Saturday the 7th inst.

Embors' Ont.—Maj. Geo. Duncan, to Aug. '71. \$8.00
 Normanton, Ont.—Capt. Mitchell to Sept. '71. 6.00
 Strling, Ont.—Lt. R. J. Craig, Sept. 16, 1871... 2.00
 Stony Creek, Ont.—Capt. F. M. Carpenter, Feb. 1873 6.00

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The Volunteer Review,
 AND
 MILITARY AND NAVAL GAZETTE.

"If I should, unbought, our swords we draw,
To guard the Monarch, fence the Law."

OTTAWA, TUESDAY, MARCH 10, 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.

In this issue we republish a letter addressed to the MINISTER OF MILITIA AND DEFENCE on "Militia Reorganization," by our gallant and talented correspondent *Centurion*, in which the whole of the problems surrounding our Military service are ably and intelligently discussed. As the writer can claim the advantage of great personal experience, and as he is a thoroughly qualified soldier holding high rank in the Volunteer service of Canada, his opinions are worthy serious consideration and should carry all the weight accorded to matured and well considered conviction at this crisis of our Military organization, when the demand for vital changes is heard on all sides. On the part of the political economist—in order to lessen nominally at least the burden of taxation by the theorist—in order that his inventive faculties may have a chance at devising something more

perfect, and by the fanatical opponents of all armaments as a means towards its final abolition.

Placing its full value on the *brochure*, which we submit to our readers, as the production of a thoroughly clever and talented officer, we are not at all satisfied that the plan proposed would be a good substitute for our present organization, or that it could be practically worked under our social system.

Centurion places the basis of a constitutional on an axiom and its consequent problem—the Military duty owed the State by every individual—and equal conditions of services to all; and a proposition—that those who would desire to be exempted from Military service for any cause should contribute a money payment towards defraying the expense of the armament kept on foot.

Now, while it is evident the axiom of Military service due by the individual admits of no question, its application involves many problems; for instance, in the population of the country there are many physically incapable, many naturally incapable, and many who are rendering the State service in other capacities from which they cannot be spared. Having made all due allowance for those, it will be found that the number capable of rendering Military service to the country will not amount to more than five per cent of the whole population, or about 200,000 men, and of that number there are over 20 per cent or about 43,500 men enrolled in the Volunteer ranks; it is also evident that there has been filtered through those ranks at least three times their number since their first organization, so that another period of service would in all probability leave us in possession of a partially trained force equal to all our available fighting population, so that the principle embodied in the axiom has been fully developed by the "Militia law." From the condition shown above it would be impossible to make "equal conditions of service." *Centurion* surely does not mean to draft the incapable, the coward, the merchant, or the mechanic whose services even in warfare are far more valuable than they would be shouldering a rifle at the front, and as it is from their labour any Military force is, and must be maintained, it is hard to conceive what good could be effected by resorting to direct personal taxation to support one institution whose sole duty is to protect the State, and should in turn be maintained by it. Moreover, as the burden of taxation is unequal—that is the whole taxes of the country are paid by the Agricultural class—it is hard to conceive how they should be called upon to send *three-fourths* of the whole force to the field and tax themselves not only for its support, but for the short coming (as assumed) of all the rest of the population. In following out this problem of Military service to its logical conclusion, it will be found that the present "Militia law" has provided for every possible contingency but one, and that is the real

cause of all the trouble in the ranks of the Volunteer force. It is *Centurion's* fourth reason why the force is ineffective, and may be stated as he puts it—"Because the pay allowed to the men of the existing force is inadequate for a voluntary service"—and we fail to see how a levy *en masse* would better the condition. Men must live—and in order to do so must labour or have others labour for them. The soldier individually or *en masse* is in the latter condition; he is simply a consumer and must have others to labour for him; in other words, he must have *pay*. If it is equal to what he could earn in civil life the ranks will be kept always full. If not, there is no reason to believe he is a greater fool than his neighbours. A due consideration of this phase of political economy will satisfy any impartial critic that while the theory of the duty to the State is correct, the problems connected therewith are not easily solved.

We must then assume that the application of the draft is impracticable under ordinary conditions, and as it involves the whole of *Centurion's* theory, it follows that while his scheme founded thereon is very comprehensive & well as simple, it would be entirely inapplicable to our present circumstances which requires just such a system as the "Militia law" has developed—that every division of the Military force of the country should be complete in itself, because the force raised being purely for defensive purposes it was a necessity of the case whatever point was assailed its local Militia should be able to maintain its defence till succoured.

While heartily endorsing many of *Centurion's* views, we are compelled to differ from the principles he lays down. The "Militia Bill" is a law of development and requires time to mature its excellencies as well as exhibit its very few defects. Wholesale reorganization would prevent the growth of anything like stability as connected with our Military institutions; and those are of such a vital interest to the State as to preclude the possibility of tampering with them in any way. *Centurion* has, however, added another valuable page to our Military literature.

An article on Explosives from the *Broad Arrow* of 24 January, which appears in another page, refers to the following experiments made with *dynamite*, as a munition of war in Austria.

It is evident that the recently discovered explosive agents are not destined to supersede gunpowder in artillery or small arms but their value in siege operations, and as submarine mines is self evident.

It is known that one of the characteristics of gun cotton which contributes to its applicability to military purposes is that it may be freely brought under fire without fear of accidental explosion—that is to say a package of compressed gun cotton would not explode if struck by a rifle bullet. If the gun cotton were dry, the heat caused by the impact of the bullet would set it on

fire, and it would then merely burn away with more or less fierceness, according to the amount of gun-cotton in the package. But if the gun-cotton were damp, the impact of the bullet would have no more effect than it would have on wood, earth, or any like inert substance. In the case of nitro-glycerine compounds, however, exposure to musketry fire would be attended by far more serious results. Under these circumstances and at all ordinary infantry ranges, a package of dynamite or lithofracteur will explode with considerable violence.

Some interesting experiments on this point have lately been concluded in Austria, on the practice ground of Semering. The objects were to ascertain at what distance the impact of a rifle bullet would fail to explode dynamite, and to decide what precautions were necessary in the transport of this substance in the field. The rifle used was the Werndl, which fires a bullet of 313 grains with a charge of sixty two grains of powder. The experiments included a trial of dynamite, both in its plastic and frozen state, in comparison with gunpowder. About twenty-four ounces of dynamite were placed in a tin case, which in its turn was put into the centre compartment of a species of wooden limber box, the sides or partitions of which were protected with sheet iron of from $\frac{1}{2}$ to 3-16ths of an inch in thickness. At the same time, a tin containing about 10lb. of gunpowder was placed in a similar box protected by 1 20 inch iron. In the first trial, the rifle was fired with its full service charge at a distance of sixty paces. The muzzle velocity of the bullet was 1345 feet, which corresponds to that attained by our Martini-Henry rifle.

The results were as follows:—

The bullets perforated the boxes protected with 1-20 inch and $\frac{1}{2}$ inch iron, and passed through their contents. Neither the gunpowder nor the frozen dynamite was affected, but the plastic dynamite was invariably exploded. The bullets failed to perforate the box protected by the 3-16 inch iron, and when the case which held the dynamite was not in contact with the iron partition complete protection was afforded; when, however, the tin case which contained the dynamite touched the iron against which the bullet impinged, the mere indent or shock of the bullet caused the dynamite to explode.

The result showed that the dynamite could be completely protected provided the cases which contained it were plated with about 1-4 inch sheet iron. As, however, the weight of the transport wagon or cart, under these conditions, would be excessive, it was determined to continue the experiments with the view of ascertaining the destructive effect which might be expected from the accidental explosion of the ordinary field cart in which it was proposed to transport dynamite, and the distance at which a rifle bullet would determine the explosion. The cart was packed, as for service, with detonating caps, hand grenades, about 90lb of dynamite, and 70lb. of powder. As a measure of precaution, the explosion was effected from a distance by electricity. The cart was blown to fragments, and the debris covered a circular area of about 100 paces diameter, some of the pieces being hurled to 300 paces. It appeared, therefore, that this latter interval should extend, in a column on the march, between the rear company and the first wagon. To ascertain the distance at which a rifle bullet would explode dynamite cases containing this substance were fired with a Werndl rifle at 150 paces, but the charges were reduced to represent the velo-

city of the bullet fired with the full charge at distances of 3,000, 2,500, 1,500 and 1,000 paces. The dynamite was exposed to this fire (1) in its ordinary tin case, without other protection, and (2) enclosed as before in a wooden box (unarmoured). The results demonstrated that when the dynamite was simply shut up in tin cases the limit of explosion was between 2000 and 2,500 paces. If the tin cases were placed in wooden boxes the limits were between 1,000 and 1,500 paces. It is thought that the Austrian engineers treat this matter much too lightly:

“On pourra donc exposer, sans danger, la dynamite au feu de l'infanterie quand les distances seront supérieures, dans le premier cas, à 2,500 pas, et dans le deuxième, à 1,500 pas.”

Such is the conclusion they have arrived at, while at the same time they look forward to the employment of this explosive agent in great quantities in future wars.”

The following has been taken from *Broad Arrow* of 24th January, and exposes the so-called economy of the Gladstone Administration in a striking light:

The following letter appeared in the *Times* yesterday:—

“Sir,—Between one and two o'clock today was seen a small military detachment in uniform marching from Cannon Street to the Mansion House. A field officer, three other officers, and about eight non commissioned officers and men, were taking to their final resting place in St. Paul's Cathedral the old colors of the 57th Regiment—the West Middlesex—the ‘Diehards.’ They were cordially received by the Lord Mayor, and with equal cordiality at the Cathedral, where after a short impressive ceremony, the colours were placed on its walls. They were the colours of the Crimea, and especially of Inkerman. They were accompanied on this their last march by the condition that ‘no expense was thereby to be entailed on the public.’ As this detachment of honor passed from the Mansion House and along Cheapside, little did the rich and busy crowd think that the officers' private purses have saved to the country the railway fare from Woolwich, and thus added to our economical, if it had not quite to our military, credit.—Your obedient servant,

W. J. COBRINGTON.

“Edin Square, January, 22.”

We could not hope to better the comment of the *Pall Mall Gazette* on this incident:—“There is nothing like maintaining amongst our soldiery a sober enthusiasm for Queen and country; and by our own feelings, as we read of this apparently trifling, but truly significant little incident, we may judge of the sentiments which animated that small company of soldiers as they marched to the Cathedral—without parade; without ostentation; indeed, rather sneaking than marching—to place the colours that waved at Inkerman in their final resting place. Every heart beat high with the thought that although the dear flag was being carried through the streets as a pauper corpse is troited to the grave, the noblest principles of Government were vindicated in an almost pathetic manner; ‘no expense was thereby entailed on the public.’”

The use of armor plating in military construction is being nearly as universal as it has been in naval structures. But it would appear to have reached in the latter the stage

corresponding to the armour of the sixteenth century when opposed by the old-fashioned musket and match lock, that is it affords no defence, and is a burden too great to be carried.

The Germans mean to utilize it however, in covering their late acquisitions from France.

“An article in the *Cologne Gazette*, on ‘the new iron fortifications of Germany,’ says that the drilled cast iron gun stands and iron-clad revolving turrets which have since 1869 been completely tested in a series of experiments on the great artillery shooting grounds at Tegel will now be used for the new works to be begun in the German fortresses. Two of these turrets will maintain a secure communication between the forts of St. Quentin and St. Privat at Metz, and two of the flank works which will be attached to these forts, so as to command the valley of the Moselle and the Seille, will probably be made in the form of the gun stands referred to. All the iron for these fortifications can be cast on the spot of any required thickness, in foundries specially erected for the purpose. Each of the works will be constructed with a few huge plates, which will fit into one another by means of joints made in the casting. The gun stands made are each to hold one gun only, but a number of them may, if necessary, be placed side by side, and they may be connected so as to form single work. The embrasures are made so small as to prevent the entrance of any projectile fired at them, and the whole is protected by an earthwork with apertures to carry away the gas and diminish concussion. During the trials of 1869 seven shots from a 300-pounder (the 24 centimetre gun) hit the plate of a gun stand of this kind without disabling it for further use. The writer adds that there is good reason to believe that these iron fortifications would make the land and sea fortifications of Germany far superior to those of any other State.”

We insert with pleasure the Report of the Frontier Rifle Association, and are glad to find the military fire is still aglow and burns with as much ardour as ever it did. This fine battalion was always first in the field and the last to leave it, when the enemy showed himself near the *Lines*. The Battalion turned out 1,700 officers and men, for the Annual Drill last year, viz., 1,500 in Camp, and 200 at Company headquarters;—thus showing that a *bona fide* force can be easily kept together where it is most needed.

And this, we are happy to say, is not the only battalion that have shown creditable numbers during the past year at their annual drill.

And while on this subject, we have received several letters from officers of the Force who entertain the same idea that we do, that a strong force can be easily raised on the Volunteer principle, to meet all the requirements of the Militia Act, without resort to the Ballot. Here is one of them: “There is no doubt room for improvement in our Militia System, and I believe it will be improved by the present Government, but I agree with you, that a compulsory system will not work in this country—we do not need it. Increase the allowance for drill pay, and require a higher grade of efficiency for officers, and a good force can be kept up.”

CORRESPONDENCE.

The Editor does not hold himself responsible for
 a libelous expressions of opinion in communica-
 tions addressed to the VOLUNTEER REVIEW.

MITRAILLE.

(LETTER No. 5.)

Somewhat later in the month than usual I have just read the *Canadian Monthly* for February. The most valuable article in it is that on the "London and Canadian Press." This should be read by every Canadian, and ought to be taken to heart by every Canadian editor especially. At a time when the vulgarity, the unscrupulous falsehood, and the purient sensationalism of American newspapers are making the Press a byword of contemptuous disgust, and when there is far too much tendency to imitation, on this side the line, the truths enunciated in this paper are of inestimable value if only they obtain a sufficiently extended circulation.

I have been startled at the length to which some of my desultory communications have run, and fear I may have trespassed both on your space and on the patience of your readers. The only plea for toleration of them which I can raise, is the desire to set forth here and there some truth which I take not to be generally apprehended, or, out of love for Canada, to keep in view the highest standard in some point of national sentiment or manners.

With this view I will venture to quote a few passages from the article under consideration, trusting that their value and suggestiveness may compensate for a little additional length.

"The responsibility is great. To use power well has always been difficult, and it is morally certain that the Press, unless watched from within and without, will abuse its functions."

"It is incumbent on the people to influence the Press, by insisting that it shall appeal to the best that is in them. Any attempt to make capital out of their worst passions should be frowned down, as we should frown down a preacher who made his pulpit a perch for unclean discourse. The result of popular criticism in London has been to give the people a body of daily literature which, while making them acquainted with all that is transpiring around them, informs and instructs, teaching meanwhile, in no unworthy manner, the language of Addison and Macaulay.

"The every paper enrols itself under one banner or the other, it is not pledged to admire the gyrations of any party, nor to belaud the antics of any leader or leading politician, however low he may fall, or how ever unworthy the sources of his inspiration. It belongs to a cause, and not a party.

"The journalist in London does not re-

gard all the goose of his party as swans, nor all the humble bees as Hylbloom.

"A newspaper would not live a week in London which endorsed palpably corrupt, or outrageously blundering conduct. It is necessary therefore, even for commercial purposes, that independence should be maintained."

The above are almost random selections from a text of equal value throughout. The details of journalism entered into are very interesting. The writer does not shrink from pointing out the faults of the Canadian Press, justly taking that of London as the standard of comparison, and interspersed with not a little discriminating praise, occur, among others the following animadversions.

After saying—"To be provincial and petty seem to be linked as cause and effect, and mental breadth and dignity do not long survive the discussion of the affairs of Little Poddington. So we find scurrility, unfairness, carelessness as to fact and form in provincial journals in England as well as elsewhere." Mr. Davin 'deliberately' assigns to such papers as the *Globe* and *Mail*, a superiority over the best provincial papers in England. But then, as he says, "Toronto has many of the notes of a capital about it."

Then speaking of the Canadian Press generally—"There is a tendency to personality, a want of adequate respect for the sacredness of private life" &c., "with a power like the press having liberty to dog a man throughout all his relations, life would not be worth having." "We have seen things recorded in papers of all parties, which could never have been known had not the editor condescended to take information from some 'Bill o' Peep.'" The writer sums up clearly and distinctly the plain rules for comment on the conduct of public men.

Altogether, it is a most valuable article, and ought to be read by every one.

The rest of the number is not remarkable. Wilkie Collins' short story finishes, and we have the first instalment of a new novel which seems to promise well.

There is a critique from the contemporary Review, of one of Onida's novels "Tricolrin," which seems rather late in the day. The book has been published some years, and I suppose we have all formed our opinion of "Onida" long ago. The critique is, however, wholesome, and may guide to a correct appreciation of such writing some who might perhaps be carried away by its meretricious glare. If it were not that Mr. FitzJames Stephen's essay on "Parliamentary Government," would appear to be published in the Canadian with a view to elucidate its own views on the subject of party government, it might be said that there was a possibility of too much "Contemporary Reviews," and too little originality of contribution, and it is a singular piece of carelessness which can

permit a chapter of a story published in the January number, to reappear in that for February.

There is one more paper from the "Contemporary" wisely noticed by the "Canadian"—that of Dr. Carpenter, on the Psychology of Belief. It may not be of a character altogether satisfactory to those who believe in plenary inspiration, but it would be unwise out of deference to orthodoxy, to bar the door to the utterances of science.

If there be one concomitant of Republicanism as developed in the States, which the world will a few years hence learn to appreciate at its inestimable value, and to be thankful for accordingly, it is the assertion of that perfect freedom of individual thought and action which has begotten a religious equality and tolerance, scarcely as yet understood in any other country. Yet so prone is human nature to intolerance and bigotry, so delightful is it to the self-dubbed social reformer, to ram his one crude idea, *noles volens* down the throats of his fellow men, that he eagerly seizes the opportunity afforded by any inflated and exaggerated popular sentiment to enforce his convictions on others, regardless alike of decency and justice. In this persecuting spirit, as virulent now in the service of cant as in the case of Torquemada, the women of Ohio (ladies—as the obsequious Press calls them—save the mark!) are just now it appears violating decorum, charity and justice, in behalf of their "total abstinence" croquet, and at the expense of men whose capital has been invested in their liquor business. The Germans seem to be the only ones who have the pluck to resist the proceedings of these viragos, whose antics, if they were not so mischievous, would only excite disgust and ridicule.

There is a paragraph going the rounds of the Press which, it is difficult to fancy can originate otherwise than in the brain of one of those eads who think it a fine thing to ferret out a scandal, be it ever so small, or even a mooted question, if it seem to give promise of discord, in court circles. It is said that there is a question of precedence at the English court, as between the Duchess of Edingburgh and the Princess Louise, and that the Queen and the Emperor take the sides of their respective children. The statement cannot but be absurd. The Grand Duchess, as the only, and therefore eldest daughter of an Emperor, must certainly take precedence of the youngest daughter of a Queen, even irrespective of her being the wife of the latter Princess' elder brother, the princess not gaining any status by her own marriage.

FRANK-TRECVR.

For the REVIEW.

The Volunteers of the Frontier Brigade, having had practical proof of the value of the weapon Government has placed in their hands, and of the necessity of being skilled

in its use, are determined to keep up their practice in rifle shooting, and to attain greater proficiency than ever as marksmen. The success and efficiency of the Rifle Association in the Brigade Division, testify to the excellent spirit that exists amongst the officers and men of the several corps, and to the encouragement given them by their friends outside of the Force. Two of the Associations held their Annual Meetings lately, they were well attended, and the financial statements of both showed a balance on hand. The first was the Frontier Rifle Association held at Franklin Centre, County of Huntington, on the 10th February. The Officers elected for the ensuing year were—

President,—Lieut. Colonel Fletcher, C.M.G.; Vice Presidents,—Lieutenant Colonels Rogers and Reid; Majors McNaughton and McFee; Revds. Mr. Masson and Patterson; Majors Breadner and Johnson; Julius Sriver, Esq., M.P., Major Saunders, M.P.E. Secretary-Treasurer, Lt. Col. MacFichten, C.M.G. Ormstown was selected as the place for the next annual matches to be held in the latter end of June. This Association enters upon its twelfth year with increased vigor, and good prospects of a successful prize meeting.

The other,—the District of Bedford Rifle Association, held its seventh annual meeting at West Shefford, County of Shefford, on the 24th February. The office bearers elected were as follows:—

Patron—Hon. L. S. Huntington, M.P.; Vice Patrons—Lt. Col. A. B. Foster, Senator; Hon. Judge Dunkin

President.—Major Angraald, Shefford Field Battery

Vice Presidents,—Lt. Col. Miller, 79th Batt. Lieut. Col. Hall, 52nd Batt.; Lt. Col. Rowe, 60th; S. H. C. Miner, Esq.; N. Pettes, M.P.; W. Donahue, Esq., M.P.; H. Foster, Esq.; G. B. Baker, Esq.; W. W. Lynch, Esq., M.P.; Majors Manson, 52nd, and Gilmour, 60th; Dr. Gibson, 60th; Dr. Hamilton, 52nd; Dr. Brigham, 60th; Major Cox, 79th; Capt. Asa Westover.

Secretary Treasurer—Lt. Col. Fletcher.

The several committees were appointed and it was decided to hold the next annual matches at Knowlton, sometime in September. A good prize list was adopted. Several special prizes were offered, and the next matches bid fair to be the best yet held by the Association.

Both of these Associations, together with another in the Brigade, the "Richelieu," affiliate with the Provincial and the Dominion Associations, and the members feel it a privilege to be allowed to do so. The proceedings of, and the work done by the Dominion and Provincial Associations, meets with the hearty approval and support of the officers and members of the Frontier Brigade Associations. "May the shadow of the Dominion and Provincial never grow less."

To the Editor of the VOLUNTEER REVIEW.

Sir,—As it seems to be the general impression, that some changes will be made in our existing Militia Law, I will, with your permission, offer a few remarks connected therewith.

1. I do not think the present Militia organization a failure, when worked by competent officers, it only needs greater encouragement to officers and men and a few amendments suggested by experience.

2. The primary object is to raise the men. I see no other method, without involving greater difficulties, than voluntary enlistment. For this to be successful an increase of pay must be given to the non-commissioned officers and men. The officers should at all times when on duty, receive their regular army pay and allowances, the non-commissioned officers pay in proportion to their rank, and the rank and file seventy-five cents a day, and rations. This I think would be successful in filling up the Corps to their full establishment. Should it fail, after two or three years trial, some other plan must be adopted.

3. The Annual Drill to be at Battalion or Brigade Camps for not less than sixteen days in the month of June.

4. If the force is to be maintained by voluntary enlistment, the present allowances to commanding officers of corps, must certainly not be lessened, but, if possible, increased.

5. None of the present allowances, for efficient bands, and to affiliated Rifle Associations must be discontinued, as they have been most acceptable to the force.

6. There should be a permanent Staff officer to each Regt., whether Adj., or Sergt.-Major. The former I should prefer. Who should reside at Head Quarters, in charge of all Battalion property. Make quarterly inspection, (in addition to those of the Brigade Major) of the arms and armories of the several companies, and report thereon, should be present at each company's target practice as musketry instructor—and generally under the orders of the Lieutenant Colonel—attend to all matters connected with the drill and discipline of the Regiment, receiving therefor, a sufficient annual allowance from the Government. These appointments might be gradually filled, as thoroughly reliable, zealous, and competent men could be found, or educated at the training schools as proposed by Lt. Col. Fletcher.

7. I do not think in time of peace, at all events just now, any important change need be made in the present Staff of the Force—possibly a Staff Officer at Head Quarters, for the Cavalry, and another for the Artillery, might be advantageous.

8. I heartily endorse Lt. Col. Fletcher's remarks at p. 11, of his pamphlet on the present system of promotion in the Active Militia, "It is a most serious mistake, and one that requires immediate remedy."

Yours &c. N.

To the Editor of the VOLUNTEER REVIEW.

Sir,—As our "Militia System" seems to be agitating the minds of the Volunteers at the present time, it is to be hoped that the Government will give it their consideration during the coming Session. In the first place we have not got the right sort of officers in command by any means. I think the Government would do well to make every man holding a commission attend a "Military School" and qualify himself for the position he holds, and compel such parties as are unwilling to comply, to relinquish their commissions. This is the only safe and sure way to become efficient. If the officers are incapable, you must likewise expect that the men are *idem*. I have seen officers in command of Battalions and Companies giving the "Present" from the "Order," and on the men refusing to comply they would become indignant and order the men an extra half hour's drill, all on account of their own ignorance. I can venture to say that we have officers in command of Battalions in New Brunswick that could not put a company through the "Firing Exercise" if they got the City of "Ottawa" for doing it. I don't mean to say (Mr. Editor) that we have not got men that can do it, for we certainly have them in abundance, in the ranks, and out of it. But you know that appointments go by favor and not by merit, which is, in a great measure, the means of making the service so unpopular. Some people say what good is the Military School, "I never see any of the cadets" appointed to a position in the Militia?

Whenever that question is put forward (as a friend of the Force) I make myself scarce, for it is the whole truth, and I can't stay, and conscientiously say nay.

BISMARCK.

Enniskillen, Feb. 24, 1874.

TO CORRESPONDENTS.—We are obliged to postpone the communications of "Old Soldier" till our next, owing to the length of "Centurion's" letter, as well as some editorial and Review notices.

While we are hastening to add iron shield to our vast sea board works at Gibraltar, Portsmouth, and Plymouth, says the *Pall Mall Gazette*, the first use of this new material for fortification made by the Germans is at Metz. It is being specially applied in the first place to the great St. Privat outwork, a fort not in any way connected with the field of Gravelotte, but traced out and left in a merely inchoate state by the French due south of the city. Here it is intended to use iron plates for the flanking batteries which sweep the valleys of the Moselle and Seille, while two iron turrets to the rear are to command the approach to Fort St. Quentin on the other side of the former river. The work is on the principle tested at Tegal some time ago, where single shields, each for one heavy gun, are alternated with high earthen ramparts, so that a plate being struck out of its place will not affect the use of the work seriously. It is proposed to apply this system hereafter to the protection of the mouths of the chief German tidal rivers.

PATIENCE.

Why are we so impatient of delay,
Longing forever for the time to be?
For thus we live to-morrow in to-day,
Yea, sad to-morrow we may never see

We are too hasty; are not reconciled
To let kind nature do her work alone;
We plant our seed, and like a foolish child,
We dig it up to see if it has grown.

The good that is to be we covet now;
We cannot wait for the appointed hour.
Before the fruit is ripe, we pluck the bough
And seize the bud that folds away the flower.

When midnight darkness reigns we do not see
That the sad night is mother of the morn;
We cannot think our own sharp agony
May be the birth-pang of a joy unborn

Into the dust we see our idols cast,
And cry that death has triumphed, "He is cold!"
We do not trust the promise, that the left
Of all our enemies shall be destroyed!

With rest almost in sight the spirit faints,
And heart and flesh grow weary at the last,
Our feet would walk the city of the saints,
Even before the silent gate is passed.

Teach us to wait until Thou shalt appear—
To know that all Thy ways and times are just,
Thou seest that we do believe and fear,
Lord, make us also to believe and trust.

THE ASHANTEE WAR.

THE LATEST CORRESPONDENCE.

MANSU, Jan. 3.

News has just arrived that Ashantee messengers have arrived at the Prah, and that General Wolseley has refused to see them, saying that he will only treat with the King.

I forgot to say in my description of Dunquah that one of its curiosities is an enormous tree, sacred to some god of the country. This tree the Ashantees cut down in the summer, when they destroyed the village, in order to show the Fantees that the Ashantee gods had conquered their gods. But when the Africans not only subdue, but occupy, a foreign land, they endeavour to make friends with the local deities, and for that purpose spare the lives of the fetishmen or priests. In East Africa, according to a Portuguese traveller, Gamitto, the priests always accompany the natives in war, and lead them in the battle-field; but the warriors on either side never kill those holy men (except by accident), for fear that the gods should avenge their death.

When I came near to Mansu I heard rifle-shots and tumultuous cries, and was informed by my interpreter that there was "a bust up in a tree." I alighted, and found a crowd of about three hundred natives all looking up at a brown animal, about the size of a cat, which was lying on a bough at the top of a gigantic tree. One of the natives had an Enfield rifle, with which he was shooting at the animal. He did not put the stock to his shoulder, but put the gun out at arm's length, and really it was wonderful what good shots he made. However, he could not hit the mark, and I took the Enfield. The first shot made it stir, and its movements, resembling those of the sloth, make me suppose it is that animal called "the slow-going lemur." The second shot brought it down, whereupon the crowd broke out into loud exclamations, and seemed as grateful as if I had killed a goat-eating leopard or a venomous snake. By country law the game belongs to the gun, not to the gunner, so I paid two shillings for the specimen, and have prepared the skin for scientific perusal on my return.

Mansu is the capital of the Province Assin; it was destroyed by the Ashantees, and on its ruins Major Home, R.E., constructed a fort. It is an important depot, being the half-way station to the Prah.

PRAUSC, Jan. 8.

I arrived at the banks of the Prah on January 5. When I first saw Prahus (in the beginning of December) all was wilderness.

Through the depths of the forest rushed a dark and troubled stream. A sombro silence prevailed. Dead bodies of Ashantees lay by the bank of the river, and camp huts, thatched with withered leaves, filled up the space where once an Assin village had been. On the other side could be seen the canoes in which the army had been ferried across; there camp huts had been built, and there also a multitude of vultures showed that corpses strewed the water side. The Assin scouts who had guided us to this melancholy spot set fire to the camp; and soon red flames, gleaming through clouds of smoke, heightened the sense of destruction and death already imparted to the mind.

But now the place has been transformed. The bush has been cleared over a vast area. A town of huts has sprung up. More European gentlemen than usually inhabit Cape Coast Castle are living at Prahus, in cottages made of the palm. Two hundred and fifty seamen and marines are marched out every morning and evening to work on the Ashantee side, where the bridge head is to be protected by a clearing and redan. Hundreds of axemen may be heard hewing down trees; hundreds of fires are consuming piles of rubbish, or the standing bush, now being dried to tinder by the Harmattan wind from the Sahara. There are blacksmiths' forges and carpenters' shops. The bridge was made, on American cribs, in two days by Major Home, R.E., the Prah being at that place sixty-three yards wide and ten feet deep, with a current of three miles an hour. But the river loses strength and depth every day, and, it is supposed, will soon be fordable. The natural beauties of the scene have been enhanced by the human element; light and movement were required to set off by contrast the sublime tranquillity of the primeval forest covered banks. Alone in the bush one is apt to be oppressed by its monotony and gloom; but now the lover of Nature can obtain an exquisite delight by leaving the noisy camp and plunging into an ocean of deep green shade and solitude.

As soon as General Wolseley arrived at the Prah an Ashantee messenger wearing a gold breast plate. The badge of his office, and attended by ten persons, made his appearance. He brought a letter from the King, and wished to deliver it to the General himself, but was told that Sir Garnet would only treat personally with the King. The purport of the letter is known; it is written in quite the Ashantee style. This King, who is keeping white men in captivity, declares that he has no quarrel with the white man, and wishes to know why his General was attacked at Fassowah. Some allusion, I hear, was made to the unsuccessful nature of that attack, to the hammock and stores which were then captured by the Ashantees. As the whole of the letter has not been made public, it is probably defiant or insulting in its character. Sir Garnet, in reply, sends his *ultimatum*—this is the second *ultimatum*, and no doubt there will be a third—and the messengers were sent back on the 6th. On the 4th a strange incident occurred. The Gatling was fired before them, and one of the King's people apparently took fright. He declared the white men intended to kill them, and though laughed at by his companions, persisted in his fears. In the middle of the night a shot alarmed the camp, and it was found that

this man had shot himself upon his bed, pointing the muzzle to his head and pulling the trigger with his toe. The Ashantees received permission to bury him on their own side of the river, and carried the body across in a coffin of wickerwork. Each threw a handful of earth upon the coffin as it was laid in the grave. One of them said that only cowards committed suicide; and I thought the deceased was a coward. He must have meant that only cowards committed suicide from fear of being killed; for, as I have mentioned in previous letters, suicide under disgrace is accounted honourable in Ashantee, as is shown by the proverb, "Death is better than shame." Sir John Lubbock in one of his excellent works asserts that savages do not commit suicide. Among savages of the lowest type, such as the Australians and the Hottentots, it is possible that the practice is unknown; but in West Africa, and especially upon the Gold Coast, it is common enough. Capital execution is sometimes carried out by suicide, and women will often hang themselves when barren or crossed in love.

The terms which Sir Garnet offers or dictates to the King as the price of peace have not been made known; and as I presume a visit to Coomassie will be one of the conditions, it is not probable that the King and his nobles will tamely give in, for they must know that the presence of white troops in Coomassie will for ever destroy the Ashantee power by destroying its prestige. Something also, I imagine, will be said in the matter of gold dust; and this metal the King is not likely to make over except in the last extremity.

The returning messenger saw something on the other side of the river, which could not have afforded them much satisfaction. They were marched over the newly finished bridge, and presently overtook the Naval Brigade (commanded by Captain Blake, R. N.), which had been marched over as a feint. At a place called Attobiasu, they found Major Russell, with more than 500 men and several European officers. They had made a clearing and were building huts. This march is a genuine affair. Major Russell has received orders to scout and survey up to the Adansi Hills, the frontier of Ashantee proper. Further on still, at Essiaman, a village inhabited by Ashantees, they found the natives driven out, and Lieutenant Lord Gifford and Lieutenant Hart, with a party of scouts (picked men.) in possession. The natives had fired upon them, and wounded one man. He was hit by five slugs. They killed an Ashantee in return and captured two women, whom they afterwards set free. As a woman hereabouts will fetch as much as a cow, this style of making war must appear very wasteful to the natives.

The territory (about 40 miles broad) lying between the Prah and the Adansi Hills was formerly inhabited by the Assins, who were subjects of Ashantee; but being oppressed by their Royal master, they migrated across the Prah. The country is now but thinly peopled, and therefore it is probable that the road might be extended, and that fortified posts might be established half way from the Prah to Coomassie without opposition. But, unhappily, there is an obstacle to onward movements of this kind. The Control has broken down. There is a famine of transport. The 1st and 2nd West India Regiments, and Colonel Wood's Regiment have been converted into carriers. The Rifle Brigade has been brought to a halt at Barraco, six miles from this camp. The 42nd Regiment has been halted at Mansu. The

23rd Regiment has been re-embarked. I hope and believe that these delays will not culminate into disaster; but they are already too serious to be passed-over without notice and comment. The all important question of transport has been neglected from the first. It was known that the Gold Coast had no beasts of burden, that all food for the army would have to be carried by natives, and that these natives must also be fed from their loads. It was known that they were indolent and timid, equally prone to run away from danger and work. Is it not, therefore, obvious that with the regiments which were held in readiness at home a sure means of transport should have been also prepared, that the troops might always be able to advance, and Coomassie carried by a dash? The Gold Coast is an elephant country; elephants might have been imported. Mules and horses die on the Gold Coast, but they would have lived long enough to carry many loads to the Prah. But in order to make success mathematically certain coolies should have been supplied from our other tropical possessions.

This expedition is African travelling on a grand scale, and every African traveller knows that transport is the problem which he has to solve. He avoids, if he can, employing the natives of the country through which he has to travel, as they can always run away. But it often happens that only the natives of the country can be obtained. He then uses every precaution to keep them in his service; he attends to their just complaints; he takes care that they are well housed and fed; and, if he uses coercive measures, he takes care that they shall be of a kind which will not merely irritate or frighten, but which will be of a decisive character. Kroomen are the only good labourers upon the Coast, and it was ascertained so early as October that Kroomen in large numbers were not to be obtained. At the same time, it had become evident that our native allies were worthless as fighting men. It would have been in any case a dangerous experiment to trust the transport of this expedition to Fantees; but, if it were decided not to apply for elephants, mules, and coolies from abroad, and to have no bearers but these timid and indolent people, the experiment should, at all events, have been made with system and care. In the first place, however, the native allies were not disarmed and converted into carriers nearly so soon as they should have been. At a time when bearers were urgently needed I saw thousands of Denkeras lying on their backs in a camp beyond Mansu. Secondly, when these people were disarmed, it was done in a loose and slovenly manner. The Chiefs are not summoned to a Durbar; no special arrangements were made. They should have been promised a liberal bounty for all the men that carried loads, and threatened with a fine for those that ran away. The men themselves should have been punctually paid and properly fed, and also regularly organized. Something of this has been done since the arrival of the European regiments; but that was rather late, and carriers still run away in crowds. It is sometimes maintained that they do not run away on account of real grievances, but because they are afraid to cross the Prah. Well, has it not always been known that these people dread the very name of Ashantee? Could it not have been foreseen that they would run away if they could?

We are hopeful, however, that Sir Garnet Wolseley possess that fertility of resource and power of reducing obstacles which will always atone, and more than atone, for past oversights and errors.

EXPLOSIVES.

It is now some time since we directed the attention of our professional readers to this subject, although in our frequent remarks on torpedoes we have incidentally touched upon the various explosive compounds used in the construction of those terrible instruments of modern warfare. In our present remarks we simply wish to bring before our readers what has been accomplished, in improving, if not perfecting the now well known explosives, as an introduction to the recent interesting experiments made in the Austrian Service with dynamite.

It is comparatively of but recent date that gunpowder has ceased to occupy its former exclusive position as an explosive agent. Gun-cotton, one of its earliest rivals, has for some years competed with it as an explosive, but owing to the delicacy with which it was necessary to handle this compound it has never seriously jeopardised the status of gunpowder. Indeed, in ordinary warfare the latter has always been able to hold its own. Thanks, however, to the improvements effected in modern science we have at last succeeded in rendering gun cotton far more serviceable. As many of our readers are no doubt aware, this latter explosive is manufactured by steeping cotton wool or fibre in a mixture of nitric and sulphuric acids. This does not effect the cotton in appearance, but its qualities are altered in other respects, for we find the same quality of cotton is considerably increased in weight, caused in great measure by the cotton parting with a quantity of water and absorbing in its place the elements of nitric acid. In this manner the cotton becomes impregnated with a large amount of oxygen, which, on the application of heat, is ready to form gaseous compounds with the carbon already existing in the cotton. Under the Able process the explosive substance thus formed possesses three characteristics rendering it peculiarly fitted for military engineering operations. In the first place we find that cotton thus prepared, when in a wet condition, is non explosive; secondly, this same wet or moistened gun-cotton is rendered immediately and powerfully explosive by the detonation of a small portion of dry cotton in contact with the wet; thirdly, it may be brought under fire without fear of accidental explosion. We shall, no doubt, hear shortly of its effect in actual warfare, as we learn the Ashantee expedition is supplied with this explosive, to be used in connection with military engineering services.

We next come to nitro-glycerine, an explosive oil somewhat analogous to gun-cotton. This compound is produced by the action of nitric and sulphuric acids on glycerine. The chief drawback in this substance, is its extremely treacherous nature. M. Noble in his valuable researches and experiments, in endeavouring to obviate this serious drawback, discovered the important fact that its explosive power was not reduced, but increased by mixing liquids with solid substances in themselves thoroughly innocuous. This led to the production of the next explosive we propose considering, viz., dynamite, which quite turns the tables, as we find it one of the safest at the same time most powerful and convenient explosives applicable either to industrial or military purposes. Dynamite, we learn, from good authority, is made by mixing nitro-glycerine with a porous earth, known in German as "Kieselgühr." "The earth absorbs the oil, and the result is a plastic, putty-like substance of a brick dust colour, containing

about 75 per cent. of nitro-glycerine, and 25 per cent. of absorbent earth." The British Dynamite Company, occupying extensive works at Ardeer, near Glasgow, are the manufacturers of this preparation in this country. They make two descriptions. No. 1, the ordinary "Kieselgühr" article, which, as we have stated, contains about 75 per cent. of nitro-glycerine; and a cheaper quality No. 2, containing about 20 per cent. of nitro-glycerine mixed with nitrate of potash and powdered charcoal. We next come to lithofracteur, which is practically dynamite under another name, being compounded of nitro-glycerine, sand, earth, powdered coal, sulphur, sawdust, and nitrate of soda, or nitrate of barite. Another explosive compound, which, however, has never been brought into general use, is one that was brought under our notice some years since, and which at first attracted considerable attention in scientific circles. The chief characteristic—so far as we could judge, for the matter was kept a strict secret—was the safety with which it could be manipulated, owing to the fact of its being manufactured in separate parts, which were only united at the moment when required for use. Separate, it was non explosive; its parts united, it formed a powerful explosive. It was tried in blasting rocks, and for other purposes in which gun-cotton and other similar materials were in use, and with fair success. But in further experiments it did not seem to offer sufficient guarantees for its success—at least, such as would justify the formation of a company that was ready to undertake its production had it been more satisfactory in its results.

On a future occasion we propose bringing before our readers some most interesting details relative to the recent Austrian experiments.

TORPEDO ACCIDENT.

During the progress of some experiments with Whitehead's fish torpedo at the Royal Arsenal, Woolwich, on Saturday morning last, a sad accident occurred which caused the death of one man and inflicted serious, if not fatal, injuries on four others. The experiments were being made on the banks of the canal in the Royal Arsenal, having been commenced on Thursday last, and it appears that one of these torpedoes was being prepared for lowering into the water on a trolly or truck in the shed constructed over the canal for the purpose, when suddenly the air vessel at the end of the machine gave way with a loud report, something like the discharge of a gun. The torpedo, which is about 8ft. long and made of steel, was completely shattered. The largest portion of the torpedo remained in the shed, together with most of the smaller pieces, but the end piece, which contained the motive power, about 3ft. in length, was blown a distance of forty-three yards into the timber field adjoining. At the time of the accident there were nine men employed at the canal upon these experiments, which were under the direction of Mr. Thomas E. Miller, chief engineer, Royal Navy, a member of the torpedo committee. He was in the shed at the time. Edward Baker, who was killed on the spot, was engaged turning the handle of the screw propeller, while William Fishenden was occupied in oiling the machine according to the orders of Mr. Miller, who was standing next him. The other men were in various parts of the shed. Fishenden is the most injured of all the survivors, and how Mr. Miller escaped unharmed

ed is a mystery; three others were more or less injured. The poor fellow who was killed was blown out into the air, his left leg being torn off and carried by part of the torpedo into the Royal Artillery Department timber field, a distance of about fifty yards. The torpedo had on Friday last been discharged three times in the canal with a pressure in the air chamber of 1000lb. on the square inch, the same as it was charged with at the time of the accident. The whole which are supplied by contract, are constructed of the best material, and no means are neglected to test them fully before being used, the contractor being bound to submit each one to a test of 1100lb. to the square inch, which on being received at the Royal Laboratory Department of the Royal Arsenal is further increased to 1200lb. to the inch. The tests are applied by water instead of air, so that in case the machine should give way the explosion would pass harmless. The accident is believed to have been caused by some flaw in the construction of the case, which had up to the present trial been able to withstand the great pressure brought to bear upon it, but after each discharge he came weaker, until it at length gave way. Another supposition is that after being discharged in its course along the canal it might have come in contact with a bulk of timber or some other obstacle, and so received some injury which caused the accident. Soon after the accident Colonel Milward C.B., Royal Artillery, the superintendent of the Royal Laboratory Department, and other officials, were on the spot, and the injured men were conveyed without loss of time to the Royal Arsenal Infirmary, where on their arrival ample arrangements had been made by Surgeon-Major W. P. Ward and Surgeon Maunsell, of the Royal Arsenal, and Mr. Graydon, the dispenser, to mitigate as far as possible the sufferings of the men. The arrangements made for prompt attention to the sufferers were perfect, but such accidents as these, which occasionally occur in an establishment of such magnitude as the Royal Arsenal, prove the necessity for better accommodation being provided for their comfort, the building used as the ward being far too small for the reception of such a sudden influx of patients at one time. In order to find sufficient beds for them, Mr. Inspector Dodsworth, of the Royal Arsenal Police, who a short time since met with a severe accident at the Royal Arsenal railway station, had to be removed to his own residence. Information has been forwarded to the corner in order that an inquiry may be made into the affair. The building in which the accident occurred was much damaged, the roof being partly destroyed and part of the sides blown out; the track on which the torpedo rested, which was constructed in the most substantial manner, was broken, the stout blocks on each side being wrenched off the frame of the truck. The fish torpedo is about 15in. in diameter at the centre, and tapers off to a point at each end; at the tail end there is a three bladed screw propeller, worked by an engine inside the body, and a four bladed rudder to steer it in the direction it is intended to go. It is, so far as it is known, constructed in three parts; the head contains the rocket, which, being charged with gun-cotton when required for actual service, is fired by concussion with the enemy's ship, and intended to blow up the vessel. The tail end is a chamber which holds the compressed air to work the engine, and in the middle portion is placed the engine, with a pair of cylinders. They are intended to be discharged from a tube in the bows of a ship, but at the canal in the

Royal Arsenal the tube is fixed in a frame, by which it is lowered about five feet under water, with the torpedo inside. The torpedo is then expelled by means of a piston, and as it passes out of the tube a tripper catching against a stud puts in action the propelling power. When discharged the torpedoes, generally speaking, go straight to the mark intended to be struck at a speed of about ten miles an hour.

DOMINION OF CANADA.



MILITIA GENERAL ORDERS.

HEAD QUARTERS.

Ottawa, 6th March, 1874.

GENERAL ORDERS (5).

No. 1.

ACTIVE MILITIA.

SCHOOLS OF GUNNERY.

Adverting to Nos. 8 and 9 of General Orders (24) 20th October, 1871, officers and non-commissioned officers who have been selected for an additional nine months or "Long Course" of instruction, after having completed their three months or "Short Course" of instruction, and obtained First or Second Class "Short Course" Gunnery Certificates, will be entitled to Certificates having a higher qualification designated First and Second Class "Long Course" Gunnery Certificates, on the completion of their "Long Course," and provided they are found qualified in the additional subjects of instruction.

The words "Long Course" or "Short Course," as the case may be, will, in future, be written or printed conspicuously on the face and endorsement of all certificates issued.

PROVINCE OF ONTARIO.

47th "Frontenac" Battalion of Infantry.

No. 7 Company, Harrowsmith.

To be Captain:

Ensign Allen Carscadden, M. S., vice Joyner.

PROVINCE OF QUEBEC.

7th Battalion of Artillery and School of Gunnery, Quebec.

Master Gunner J. B. Donaldson, R. A.,

doing duty as Master Gunner, at the School of Gunnery, Quebec, is entitled to seniority in position and takes rank before all the non-commissioned officers on the establishment of, or attached to, the school.

PROVINCE OF NOVA SCOTIA.

78th "Colchester and Hants" or "Highlanders" Battalion of Infantry.

No. 1 Company Truro.

A Company of Infantry is hereby authorized at Truro, in the County of Colchester, to be No. 1 Company, 78th Battalion, to replace the former No. 1 Company, Truro:

To be Captain, provisionally:

Henry Taylor Lawrence, Esquire.

To be Lieutenant, provisionally:

Edmund Alexander Cock, gentlemen.

To be Ensign, provisionally:

William Barton Wilson, gentlemen.

CONFIRMATION OF RANK.

Major William Bingham, commanding the Victoria Provisional Battalion of Infantry, having served as a non-commissioned officer in Her Majesty's Regular Army, is hereby confirmed in his rank from date of promotion: 15 October 1871.

By Command of His Excellency the Governor General:

WALKER POWELL, Lieut Col.

Acting Adj. General of Militia, Canada.

The German park of siege artillery will according to the new regulations, consist of 400 pieces of ordnance, namely, 40 bronze 9 centimetre guns, 120 bronze 12 centimetre guns, 20 short cast steel 15 centimetre guns, 40 long 15 centimetre guns of cast steel with forged iron hoops, 40 bronze rifled 21 centimetre mortars, and 40 bronze smoothbore 15 centimetre mortars. It is expected to be complete as early as next March. A number of short 21 centimetre guns and 25 centimetre hooped mortars will be added shortly. The species of cannon upon which most reliance is placed is the 15 centimetre gun, a new type of ordnance which is supposed to be unequalled in truthness of aim and for firing breaches. For this reason the number of such pieces in the siege park will doubtless be still further augmented. The fact that this has not yet been done is accounted for by the requirements of the same arm for defensive purposes at fortified places.

Lieut. Governor Archibald on the 5th promoted Capt. John Cook, of the brigantine *Annie Brown*, of Wolfville, N. S. with a chronometer, awarded by the President of the United States for his humane services in saving the shipwrecked crew of schooner *Raceneray* at sea: