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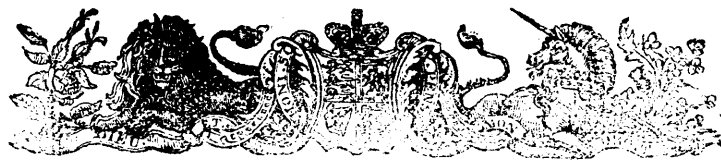
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The Volunteer Review

AND MILITARY AND NAVAL GAZETTE.

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

VOL. VII.

OTTAWA, (CANADA,) TUESDAY, MARCH 25, 1873.

No 12.

NEWS OF THE WEEK.

English advices are filled with details of the Ministerial crisis.

A serious riot between Englishmen and Irishmen occurred in Wolverhampton, a town of Staffordshire, twelve miles from Birmingham, on the 18th. At least 3,000 persons were engaged in the conflict. Fire-arms and knives were freely used, and there was much bloodshed, though no cases of fatal injury are reported. At last accounts order had been restored, and it was believed there would be no repetition of the rioting.

Mr. Gladstone and his colleagues were in consultation for four hours on the 18th. Nothing has yet transpired as to the result of their deliberations.

Three men arrested in Cork on the 18th on suspicion of being the parties who committed the frauds on the Bank of England, were released this morning, no evidence connecting them with the forgeries having been produced.

A despatch says general satisfaction is felt at Gladstone's resuming the leadership of the Government with the same members of the Ministry.

Mr. Gladstone proceeded to Windsor and submitted to the Queen the names of the incoming Cabinet.

The riot at Wolverhampton, was between the Englishmen and Irishmen employed on the coal mines in the vicinity of that town. The trouble has been brewing for some days and culminated on Tuesday in an open conflict.

The authorities have arrested over a hundred men who participated in the riot. A despatch from the scene of the disturbance this morning says there are indications of a renewal of hostilities.

The English miners threaten to strike unless the Irish employees are discharged. The shop-keepers of Wolverhampton, afraid of the rioting and depredations, are closing their places of business.

Advices from Kingston, Jamaica, state that Admiral Fairhaven, with a British fleet arrived there and will remain a fortnight.

The people of Turk's island have presented a memorial to the Legislative Council of Jamaica, praying that they be placed under the Government of Jamaica.

Gladstone announced in the House of Commons on Thursday that he had decided to remain in office with all his colleagues.

The new treaty between France and Germany, providing for the evacuation of the French Provinces, was signed on the 19th.

It is announced that Senor Bios will succeed Senor Alaga as Minister of Spain to France.

Pere Hyacinthe has begun to preach in Geneva with marked effect. His congregations are very large, and he is fast gaining adherents.

The Assembly ratified on Wednesday without a dissenting voice, the treaty signed on Saturday 15th between M. Thiers and Count Von Arnim, the German Ambassador, providing for the payment of the war indemnity and evacuation of French territory.

A despatch says confidence is being rapidly restored in the Government by the recent successes over the Carlists.

Threatening letters are said to have been received by English and French Ministers at Madrid from the Internationals.

The Porto Rico Abolition Bill was again under consideration in the National Assembly on the 18th March. An amendment offered by Senor Ruis, providing that the abolition of slavery on the island shall be gradual, was rejected.

From Lisbon it is reported that in the Assembly the Minister of Foreign Affairs announced that the Portuguese Consul has been instructed to demand immediate satisfaction of the Brazilian Government for the outrage to the Portuguese flag at Para.

The religious excitement in this city (Geneva) caused by the preaching of Father Hyacinthe, is increasing. The rev. gentleman is meeting with great success. The Ultramontanes are much exasperated.

Mr. Disraeli has declined to accept office. He waited on the Queen at Buckingham Palace this morning 19th to announce his decision, and explained to Her Majesty the reasons which impel him thereto. The Earl of Derby concurs with Disraeli in the conviction that the Conservatives cannot accept the responsibility of forming a Government at this time.

Mr. Gladstone had an interview with the Queen on the 19th inst. It is probable a further adjournment of Parliament will be asked for on Monday.

A special from London, dated March 14, says a rumour generally prevails in London that Disraeli has refused the premiership, but it is believed to be incorrect. The facts are simply that Disraeli respectfully indicated the difficulties he would have to confront if he assumed office, even if able to secure the aid of his supporters, considering the Parliamentary position of his opponents; and inasmuch as it is necessary for him to consult his friends, he has asked for delay. To-night 18th Lord Derby arrived from Paris, and had a long consultation with Disraeli. No decision was arrived at, however, nor will be until to-morrow. It is possible that Disraeli will refuse to accept office, but it is not probable. If he accepts he will probably finish up the business of the session by the end of June, and then dissolve the House. The Conservatives all over the country are very confident as to the result of the election.

A City of Mexico letter states that a despatch from Earl Grenville on behalf of the English Government, making demands for reimbursement for damages by Indian incursions upon British Honduras, has been received there. The Mexican Government had responded at length, saying that Mexico was always ready to adopt all measures in its power to repress depredations, but believes that the British Government will acknowledge that it would be unlawful to exact compensation from the Mexican Government for the crimes of a horde of savages who commit injuries alike upon both parties, and who are in reality enemies of both Governments.

ON THE BEST DETAIL FORMATION FOR THE NEW INFANTRY TACTICS.

BY J. H. A. MACDONALD.

Lieutenant Colonel Queen's Edinburgh, R. F. Brigade.

(Concluded from Page 122)

If this simple mode of formation and movement were adopted, all trouble in connection with fronts would be at an end. The supernumeraries would, when the company was turned about or halted after moving to the right or left, take post behind the company, which they could do at once by passing through the intervals. All counter-marching, and forming to the right and left about, would be got rid of. At present, if two companies are marching on markers, the one in the formation that used to be called "Right in front," may be able to march straight in, and "Halt front," while the other, which happens to be what used to be called "Left in front," must either form to the left or left about on reaching the marker, or must counter march before it can get in to position. By what is proposed, all such differences would be got out of the way. No matter which four were leading in marching on a marker the order would be precisely the same in all cases. The company would be marched on the marker, and the order would simply be "Halt—right" or "Halt—left," a manifest gain in all the three requisites of tactics—"simplicity, celerity, and convenience."

The wheel by touch, the most unnatural, cumbrous, and difficult of all manœuvres, in which men are made to do so artificial a thing as look one way and feel another, would also be got rid of, if a four deep formation with intervals were adopted. The men would invariably move up the shortest way, the guide on the named flank (when the wheel is not made from the halt) at once taking up the new direction according as the wheel is a quarter, a half, a three quarters, or an entire wheel, and moving on a short pace, the rest taking up the short pace as they come up, and the whole getting the word "Forward when all the company had come up." There would thus be no crowding of the pivot flanks of companies, and no loss of time, as there is by the present system of wheeling.* And the movement itself is not dependent for its execution upon the ground being even. A gorse bush not bigger than a lady's bouquet, or a hole only large enough to let in a rabbit, will destroy the best wheel that ever was got up by months of labour in a barrack yard under the present system.

The adoption of such a formation would also, besides saving time and labour in the execution of movements, confer a vast benefit on the soldier, by freeing him from the evils which have been already pointed out as attendant on crowding men together when undergoing fatigue. Each man would move perfectly freely, and have fresh air on either side of him. And instead of forbidding the swinging of the arm, it should be made the rule. Again, in route marching, when men must march long distances in a column of fours, they should march as far apart as the road will admit of. The best way would be that two of the strings of four should go along one side of the road, and

two along the other, the supernumeraries keeping in the middle, and any fast traffic requiring to pass either way going down the middle also. In this way, each man would have a good chance of fresh air, and the dust, instead of being confined inside the columns of fours, would to a great extent be dissipated outwards. At present, the rear centro men of fours run every risk of having a large quantity of dust forced into their mouths, nostrils and eyes. Then whenever there was a halt, the company should be marched off in reverse order to that in which it was marching before, so that each half of the company might in turn get the full benefit of any advantage one side of the road had over the other, such, for example, as shade from the sun by a hedge, or a firm footpath to walk on, or a breeze blowing from one side. All these things sound like trifles; but nothing is a trifle where endurance is called for; and there can be no doubt that in the past such things have not received the consideration they are entitled to.

The adoption of the four deep formation for all duties except a few for which it might be necessary to have the men brought up two deep, would greatly tend to simplify all the movements which are of any practical value. When moving in columns of companies, the width could be reduced to the extent of one half, without any change of formation. In wheeling a quarter column, the advantage of being in fours would be very great. And in forming square, there would be no need for different devices to enable the column to form square two deep or four deep. If the order was "Two deep," the second and fourth men would step up; if the order was "Four deep," the men would close into the centre when moving into square. In short, in every way, a battalion would be more flexible, without there being anything tending to relaxation of strict drill, which is so essential to the maintenance of steadiness and discipline. The change would consist in this that the system would be less cumbrous, and more what tactics framed for actual use ought to be; as distinguished from a system devised as if there was no place that troops could be marched over, where the individual men would meet with a greater obstruction than a bluebell or drisy.

When the matter is considered with care it is astonishing how few are the duties for which it is necessary that the men should be formed two deep, and how temporary is their nature. I think there are only three—inspection, some kinds of firing, and charging. All these are exceptional; and surely there is no need that men should be kept in a two deep formation as their normal position, and obliged constantly to be forming into fours to be moved about, and being brought back to "two deep," merely to be in the position suited for these purposes, when but a couple of steps are necessary to bring them into it at any moment. Inspection, which is preliminary and not an active part of duty in the field, may at once be thrown out of view, even if it were not quite as simple an operation for the second and fourth men to come up and form two deep, as it is for the rear rank at present to fall back to open order. Such as regards firing

*This is on the assumption that the present mode of wheeling several companies outwards is to be adhered to. But I think it is well worthy of consideration whether it could not be better to keep companies entire in forming square. The only excuse for the present mode is that it meets the case of there being an uneven number of companies in the battalion, but this does not really form a serious difficulty in the way of adopting the other mode.

if firing in skirmishing order be thrown out of view it may well be questioned whether there is any need for a two deep formation for firing at all. That a four deep formation (two ranks kneeling) is better for volleys than a two deep formation, may be asserted on the highest authority; and the Prussians, who seem to have studied this matter very carefully, are of the same opinion. Then as regards independent firing everyone knows that it will not do now to allow all the men to fire at once, but that, on the contrary, the firing must be restrained. Now, if there is to be such a mode of firing, and only alternate men are to be allowed to fire at the same time, it is far better that the men who are not firing should not be filling up spaces through which the enemy's shot might whistle harmlessly if they were empty. It would be much safer to make them stay in the four deep formation and lie down behind. They can be brought up to fire in their turn if needed, when those in front have expended several rounds. It is quite certain that men thus formed would suffer less loss than if they were formed two deep. Missiles passing through the space would be harmless, while in the case of those which took effect there would be many chances of deflection, or even stoppage, before they could reach these ranks. The greatcoat strapped on the back of a man in the front line is by no means a cover to be despised, while the six inches of cartouche pouch on either side of the waistbelt may often act the part of the lady's miniature, that, lying on a duellist's breast, turned aside his opponent's bullet. Even the rifles of the two front men may cause a shot to fly off harmless which would otherwise have reached the men behind them.

If this formation were adopted, it would be better to increase quarter column distance from six to eight or ten paces, and indeed this will be necessary at any rate, if the now universal opinion that companies ought to be increased in size receives effect, as it is scarcely possible to doubt that it will.

I come now to the main point of the whole argument in favor of a general adoption of the four deep formation, namely its adaptability to the throwing out of skirmishers, support, and first reserve, in the best form for the upholding of tactical unity and the ensuring of a tactical refitting together of the different parts of a company, when reinforcement brings them together again. I propose then, that when the order is given to them to skirmish, the captains of the companies that are to skirmish shall, from the position of the "fours deep" order forward, as skirmishers, the front row of fours, the second row forming the support, and the two remaining rows the first reserve. (Use the word row, least I should mislead by using the word rank, although truly speaking the company in "fours deep" is just a company in four ranks). The support would be extended the same as the front line, and the two rows forming the reserve would be at their usual arm's-length interval. Thus the company unit, instead of being cut across into pieces, as is done if one section is sent to skirmish, another to support, and a half company kept in reserve is sliced lengthways, one slice being sent forward, the next slice which naturally fits on to it following, and the third slice being ready to be fitted on if required. Therefore when reinforcement takes place, it is a work of exact restoration—the men are coming up behind their own comrades. And if the first reserve is also pushed up into the fighting

* This matter was treated of at length in my proposals for the simplification of Infantry Drill published in 1867.

line, the result is that the company is once more complete, the men of each fours reunited, and the company a good line for an advance if that be thought expedient. May it not be that this is a better mode of making an advance than to bring a new line up to walk over the skirmishers? I am glad to know that in urging this I am following so high an authority as Sir Garnet Wolseley, who thinks that those who are up in the front must be kept to the front to the end. If this be sound, then I submit, that in no better way could an advance in line, or even a charge, be prepared for, than by pushing forward men in such a way as to complete the unit to which the men in the line of skirmishers belong, supplementing, if necessary, from the regimental reserve. Is not this better than the German idea of making a section which is skirmishing close in when support is sent forward? Is it not better to prevent the need for any such awkward and dangerous proceeding to restore the original tactical form, by arranging that reinforcement shall of itself be tactical restoration? The German plan is like cutting a log into lengths, and afterwards trying again to join them end to end, while that I propose is more like sawing it lengthways into planks, and afterwards laying them one to the other like a laminated beam. And here may be noticed in speaking of detail what was mentioned before; that there is need to be careful how anything is adopted from the Prussian tactics that has not been tested under adverse circumstances. Tactics which will only avail to win victories, and will not help to prevent disaster from becoming destruction, are essentially faulty. Now, nothing can be more certain than this that if retention and recovery of tactical unity are needful when troops are forced to fall back. If in falling back they can fall into their own places in the tactical unit from which they were sent out, they may soon rally and recover their lost ground; or even supposing that this be not possible, they are much more likely to make a comparatively safe and orderly retreat. One can hardly imagine a device more unsuited to the position of a force overweighted and obliged to retire, than this Prussian mode of recovering original tactical form. And if it be answered that, in retiring it would not be attempted, then the counter answer is plain, that the retreat will be worse organized than the advance, when the very opposite should be the case. It is possible that men pushing on to victory may not fail though being somewhat out of shape, whereas men retiring beaten must suffer more or less from being thrown adrift from their true position in the tactical body they belong to.

The skirmishers should be directly commanded by the captain, and he ought to have with him a large proportion of the supernumeraries. An officer should command the support. Each major should exercise a general supervision over one half of the companies which are in skirmishing order, the colonel supervising the whole, and making use of the regimental reserves as occasion may require.

In this way, only a fourth of each captain's command being extended, he would be able to attend to them efficiently, to work them forward by personal direction, and with little risk of blundering or of his being unable to prevent wavering, which is most contagious unless instantly checked. He would, in short, possess in the highest degree all those advantages of a concentrated command, instead of a long and attenuated one, which have been already noticed in speaking of the principles. Each rank captain,

major and colonel, would command a rectangular force, so to speak, as shown in the diagram, which represents a battalion of six companies, with four fighting companies and two in regimental reserve. The distances are not given with any exactitude, the sole object being to show how a captain commands a rectangle, each major a larger rectangle, and the colonel with a reserve in hand commands the entire force. Thus there is a regular and convenient division of command from front to rear.

As regards the support, I doubt very much whether it is advisable to keep it all at one distance from the fighting line. It would probably be better to work it in what may be called a short echelon of men. They would thus be at varying ranges as regards the enemy, and the leading men of the echelon being not very far from the skirmishers, orders could be easily conveyed. This however is a matter of detail of such importance that one would like to see experiments tried before expressing a decided opinion upon it. Therefore in the diagram the supports are represented in a straight line, as at present, only in extended order.

A Battalion of six companies of One Hundred Men each—Four companies extended, Two in Regimental Reserve.

SKIRMISHERS.

(Being first row of four deep extended.)

SUPPORTS.

(Being second row of four deep extended.)

FIRST RESERVE.

(Being the third and fourth rows of four deep)

REGIMENTAL RESERVE.

I might proceed now to argue at length in favour of my proposal giving elaborate and varied illustrations, but to do this fully would swell my essay far beyond a reasonable size, and probably put it outside the bounds of the reader's patience, while to do it only partially would be unsatisfactory. I prefer therefore to leave what I have said without elaboration, feeling sure that if I have succeeded in presenting the matter in such a form as to command the attention of those who are better informed and have professional experience in military matters, the question whether there is any value in the suggestions made will soon be satisfactorily settled.

Before concluding, however, there are one or two matters, not directly connected with the subject I have been treating of, but which still, it is hoped I may be excused for bringing under notice, having this opportunity. One of these is the question how the regimental supply of spare ammunition should be carried, I think it was demonstrated by what happened during the late Autumn Manœuvres that the present ammunition cart plan is totally unworkable. The fighting has to be carried on in ground where nothing on wheels can go, and it is just where the broken and fenced character of the ground makes cart traffic impossible that there is likely to be most need of an

extra supply of ammunition. (a) Besides this there seems to be no organization whatever to keep up a communication between the ammunition reserve and those who may require to use it; and the ammunition cart itself is arranged in such a way, that if it is disabled, or its driver or one of its horses killed, it would be very difficult to bring forward its contents at all. I would humbly suggest that the spare ammunition should be distributed on pack horses, the number being proportioned to the strength of the regiment (say one to every 100 or 200 men), and that three men should be attached to each pack horse, the ammunition being so arranged that it could be easily and rapidly carried forward when required. In this way, it could be kept in rear of the first reserve of the reserve of the companies that were engaged, and nothing less destructive than a stone wall or precipice need turn it off the straight line. (b)

The other matter I would like to notice is the way in which the soldier is loaded. Under the new system, where there must be rapid rushes from one cover to another, it is absolutely necessary that the soldier should be freed of all unnecessary weight, not merely to enable him to run well, but also to prevent the excessive exertion destroying his other qualities, lessening his shooting powers, wearing him out too soon, and also unfitting him for intelligently taking up and obeying orders. It was noticed often during the Manœuvres that men with full packs, after running some distance, had such fullness of blood in the head, and consequent rushing in the ears, that they were incapable of taking in orders at all, and quite unfit to aim or fire steadily. It cannot be doubted that every ounce of weight taken off will diminish the risk of such defects, and is well worthy of consideration whether many things now ordered to be carried by the soldier might not be put in the baggage waggons. The risk of waggons and men not meeting at night is a considerable risk, which can hardly be set against disadvantages resulting from permanently loading men so as to injure their working powers. At all events, let everything that can be dispensed with for a day or two be withdrawn from the kit—hacking, soap, pipeclay, combs, brushes, razors, and every other thing that may for campaigning purposes be considered as *de luxe*. Even as regards other and more necessary articles, if most of them were with the baggage, the men would be in no different position from that of officers now, who in the event of there being any hitch preventing the meeting of the corps and its waggons at night, have no change of clothing of any kind.

I now close this essay, thanking the reader who has got to the end of it for his patience, and in the hope that, at least here and there he has found something which has interested him on the great question to which it relates.

(a) This was very forcibly illustrated at the Battle of Witley, on September 9th, when the ammunition cart attached to the 3rd Provisional Battalion, owing to the nature of the ground, could not have been available to three-fourths of the battalion from the moment the fighting began.

(b) I was not aware when I wrote the above, that a plan similar to this had been tried in some parts of India, and found to work well.

Two ice boats from Ogdensburg have been cruising around a good deal of late, and they have made some very fast time. Mr. Wells left Brockville the other day in one, and made the distance between that town and Ogdensburg—some twelve miles—in ten minutes.

DOMINION OF CANADA.



MILITIA GENERAL ORDERS.

HEAD QUARTERS,

Ottawa, 21st March, 1873.

GENERAL ORDERS (5).

No. 1.

ACTIVE MILITIA.

Provisional Battalion of Infantry on service in Manitoba.

Errata, in No. 1 of G. O. (2), 14th February last, omit the words "from 15th December, 1872" in the place in which they occur in connection with the appointment of Ensign de Caszas.

PROVINCE OF ONTARIO.

Ottawa Brigade of Garrison Artillery.

To be Surgeon, from 6th September, 1872: Assistant Surgeon Henry Thomas Corbett, M. D., vice Alfred Codd, whose resignation is hereby accepted.

To be Assistant Surgeon, from 6th September, 1872.

Thomas B. Bently, Esquire, M. D., vice Corbett, promoted.

No. 6 Company, Markham.

To be Ensign:

Corporal Cicero Tomlinson, M. S., vice Reesor, promoted.

29th "Waterloo" Battalion of Infantry.

Adverting to No. 1 of G. O. (13) 23rd May, 1872, read "vice Robert Campbell, who is hereby permitted to retire with the rank of Captain" instead of "vice Robert Campbell left limits.

*35th Battalion of Infantry, "The Simcoe Foresters."**No. 2 Company, Collingwood.*

To be Lieutenant, provisionally:

Adam R. Creelman, Gentleman, vice Hewson, resigned.

To be Ensign:

Sergeant William Hamilton, M. S., vice Clark, resigned.

No. 3 Company, Bradford

Captain John William Henry Wilson is hereby permitted to retire retaining rank.

No. 9 Company, Rosemont.

Lieut. James R. Henderson is hereby permitted to retire retaining rank.

LEAVE OF ABSENCE.

1st Lieutenant Fred. S. Woods, No. 6 Battery, Ottawa Brigade, G. A., for three months from 15th inst.

PROVINCE OF QUEBEC.

Quebec Squadron of Cavalry.

Quarter Master Moses Julien having served five years with the relative rank of Lieutenant, to have the Honorary rank of Captain from 21st December, 1871.

5th Battalion, Hochelaga Light Infantry.

To be Quarter Master:

Lieutenant John G. Seabold, V. B., vice Hercules Ellis who having the relative rank of Captain, is hereby permitted to retire with the Honorary rank of Captain.

Quebec Provisional Battalion of Infantry.

To be Major, in command:

Captain Victor de Lotbinière Laurin, M.S., from No. 2 Company, vice Taschereau transferred to Beauce Field Battery.

No. 2 Company, Ancienne Lorette.

To be Captain:

Lieutenant Louis Napoléon Laurin, M.S., vice V. de L. Laurin, promoted,

To be Lieutenant:

Ensign Jacques Robitaille, M.S., vice I.N. Laurin, promoted.

BREVET.

To be Majors:

Captain Robert Gardner, V.B., 6th Battalion, from 15th January, 1873.

Captain Arthur Evantuel, V.B., No. 6 Company, 9th Battalion, from 13th March 1873.

LEAVE OF ABSENCE.

Lieutenant Colonel Abbott, 11th Battalion, for three months from 1st instant, to enable him to proceed to Europe on private affairs.

PROVINCE OF NEW BRUNSWICK

BREVET.

To be Major:

Captain William Cunard, G. C., No. 3 Battery, N. B. Brigade of G. A., from 27th February, 1872.

PROVINCE OF NOVA SCOTIA.

1st Halifax Brigade of Garrison Artillery

To be 1st Lieutenant:

2nd Lieutenant Alfred William Brockley, Q. F. O., vice James H. Angevin, whose resignation is hereby accepted.

To be 2nd Lieutenants:

Corporal John A. Thompson, Q. F. O., vice Brockley, promoted.

Sergeant George H. Wilcox, provisionally vice W. M. D. Pearman, whose resignation is hereby accepted.

Major John Edward Albro, is hereby permitted to retire retaining his rank.

BREVET.

To be Major:

Captain William Barron, Q. F. O., 63rd Battalion, from 27th June, 1870.

GRAND TRUNK RAILWAY BRIGADE.

1st Brigade Garrison Artillery.

To be Assistant Surgeon.

Thomas Anderson Rodger, Esquire, vice Thomas George Roddick, whose resignation is hereby accepted,

MEMO.—No. 4 of General Order (19) 1st September, 1871, notifying the acceptance of the resignation of Captain Sigismund James Doran, is hereby amended by permitting Captain Doran to retire retaining his rank.

1st Battalion, Rifles.

To be Major:

Captain William Hurder, V.B., vice Clarke resigned.

To be Captain:

Captain and Adjutant Edward Ross Prendergast, V.B., from 1st Brigade G.A., vice George Gilman Bryant, who is hereby permitted to retire retaining rank.

To be Lieutenants:

Ensign Frederick French, V.B., vice Bailey, promoted.

Angus Russell, Gentleman, provisionally, vice John Wilson, left limits.

To be Ensign provisionally:

Arthur D. Ritchie, Gentleman, vice French promoted.

The resignation of Ensign William Robert Bell is hereby accepted.

By Command of His Excellency the

Governor General,

P. ROBERTSON-ROSS, Colonel,

Commanding the Militia of the

Dominion

and Adjutant-General.

ORIGIN OF TOLLS IN ENGLAND.

Tolls date back to the reign of Stephen, and had their origin, not by act of Parliament, but through an accident to his queen, Matilda, thus Matilda being on her way to the Abbey of Barking, where she frequently attended Mass, had to cross the River See at Bow Channelsey Brook and Barking Creek, which were all, at the same time, unbridged, indeed, these were the first streams spanned by bridges since the Roman rule. Matilda, in crossing Bow Creek, the River See, was capized and nearly drowned, but on arriving at Barking Abby she made a vow to build a bridge over each of the waters, and entrusted the Abbots of Barking with the work. The old *Chronicle* in alluding to Bow Bridge says: "It was a rare piece of work, the like of which had never before been seen in England, as it was arched like a bow." From this bow it took its name. In order to keep the bridges and highways in repair, Matilda granted to Abbot Pratt certain leaves per day, but he finding a great increase of travellers since the erection of the bridges, demanded a toll from the wayfarer according to his means, or the alternative, of a far less pleasant route, and a withdrawal of the Saint's protection. The Abbot found the letter an un-failing test of the travellers' pocket, and a polite way of levying blackmail to fill the Abbey coffers.

From the success which attended this tax on travellers the religious houses throughout the Kingdom adopted the plan, and though in the present day we look on tolls as ob-structive, we can but admit the building of bridges and opening up lines of communication in the then semi-barbarous times was fraught with immense benefit, and was the germ of that net-work of roads throughout England, which for good construction and usefulness are unequalled by any other country.

Bow Bridge was pulled down in 1833, as it much impeded traffic and the navigation of the River See. It was a grained Gothic structure, very massive and would have lasted many centuries more; the piers being worked so solid it was necessary to blast them. The present bridge is a plain granite structure.

REMITTANCES Received on Subscription to THE VOLUNTEER REVIEW up to Saturday, the 22nd inst.—

KINGSTON, Ont.—Gr.-master Geo. Thompson	\$2 00
STRAFORD, O.—Mr. Samuel Horner	3 00
(Per Captain L. J. Bland.)	
HALIFAX, N.S.—Mr. J. B. Gray	2 00
Major E. L. Coleman	2 00
Lieut. Mumford	2 00
Lieut. Mitchell	2 00
Lt.-Col. Pallister	2 00
Capt. Graham	2 00
Lieut. Ashmore	2 00
Gr.-master Hamilton	2 00
Major Anderson	2 00
Lieut. Pearman	2 00
Ens. Anguin	2 00
Capt. Heslein	2 00
Lieut.-Colonel G. Mitchell	2 00
Major C. J. Macdonald	2 00
Captain G. W. Hart	2 00
Captain C. H. Hepworth	2 00
Lieut.-Colonel Sawyer	2 00

The *Spener'sche Zeitung* gives a very complete report of a lecture recently delivered before the Scientific Association of Berlin, by Major Weinberger, of the general staff, on the siege of Strasbourg. The chief interest for those who have already a general knowledge of the circumstances lies naturally in the remarks made on the fruitless bombardment with which the formal siege was precluded. This, it will be remembered, was begun on the 23rd August and continued three days, being then suddenly abandoned in favor of regular approaches. Effectual bombardments, like those with which Kaméko took Thionville, Mezieres, and other minor fortresses, carry their own justification in the results; but it is difficult, even to German eyes, to excuse one which was so wholly ineffectual and so certainly irritating as that of Strasbourg. The responsibility has accordingly been sometimes thrown upon the artillery officers of the force, anxious to prove the value of their new projectiles; sometimes on the not very placable temper of the commander, General Werder, angered at the rejection of his summons. According to Major Weinberger, the attempt to reduce the city by the terrors of bursting shells and burning houses was a real one, and was only discontinued after the three days' trial, on finding that the obstinacy of the garrison and inhabitants was not thus to be overcome. This he states very expressly. But, unfortunately, the statement leaves the original question very much where it was before. For although in the time mentioned but a fraction of the buildings within the enceinte were destroyed, quite enough damage was done to show that if we within the power of the batteries thrown up to reach and overthrow every part of the city, successively, supposing only that German ammunition held out. The conduct of the troops and inhabitants, judged even from the very favorable view given of them in General Ulrich's own work, was by no means of such a high character as to lead to the belief that their endurance in this matter would have gone beyond very moderate limits, or that they ever had the intention of allowing themselves to be literally buried under the last ruins of the city. Hence we are brought back to the conclusion, long since arrived at by critics, which Major Weinberger's lectures cannot affect—that one of two serious faults is chargeable on General Werder and his staff. Either they began a bombardment with so inadequate a supply of ammunition as to make it a confessed failure; or they bombarded just enough of the city to cause permanent irritation for the future in the hearts of the inhabitants, and, having done this, held their hands. How serious the irritation produced by the abortive attempt is, very visitors to Strasbourg for the last eighteen months should be aware.

It is reported that Marshal MacMahon, acting under the orders of the President of the Republic, has come to the determination to mobilize the French army early in the spring, just to see how many troops can be got together in a given space of time.

MINNESOTA TREE PLANTING.

The Minnesota newspapers are calling upon the State Legislature not to adjourn without taking some action in the matter of appropriating a sum of money for the purchase of seed trees to be distributed to each town throughout the State. They especially urge that trees be planted on the prairies of the State, for the benefit of the farmers who fill up the broad stretch of land between the railroad and river, so that they may thus fence their roads and farms with forest trees. Already has this been done to some extent. The system has been adopted on all the lines of the St. Paul and Pacific Railroad, and already have many miles of trees been planted. The same course has been pursued by farmers in the neighborhood of Hutchinson, who have set out from 1,000 to 20,000 trees each.

The question of one year volunteers in the new French army having to pay 1,500 francs was brought before the Assembly the other day, says the *London Army and Navy Gazette*, when it was clearly shown that the expense to the State per man would not amount to more than half that sum. The government will therefore pocket some 750 francs for each volunteer. General de Cissey, not having much to say in explanation, merely asked the Chamber to adjourn the question just to see how matters worked, and it was adjourned accordingly. It is remarked that the volunteers have to pay the same sum as the military cadets at St. Cyr, and 500 francs a year for the maintenance of the Polytechnic. By this way it seems curious that the cadets of St. Cyr should pay 1,500 francs a year, and those of the Polytechnic only 1,000 francs, especially when it is considered that the latter school is in Paris, and must be more expensive than the establishment in the neighborhood of Versailles.

The annual budget presented in the National Assembly on the 17th, of M. Leon Say, Minister of Finance, shows a most gratifying condition of the public funds. There is now in two Treasury half of the sum of money due to Germany, and no loan will be required to complete the payment of the war indemnity at the date designated in the convention signed on the 15th inst., by M. Thiers and Count Von Arnim, the German Ambassador.

The manager of the *Happel* newspaper has been summoned to answer a charge violating the laws regulating the press.

The Pope gave an audience on the 17th inst, to one hundred Canadians who served in the Pontifical Zouaves. His Holiness congratulated his visitors upon their steadfast devotion to the Church.

CONTENTS OF No. 11, VOL. VII.

POETRY.—
The Departed 130

EDITORIAL.—
The Gunpowder Problem 126
Lieut.-Col Fletcher, S.F.G., on Mitrailleurs. 127
The Torpedo Boat 127
Steam on Canals 127
Reproduction of Plans 128
Launch of Crubling Vessels 128
The Drawing Room 128
The News of the Week 129
Reviews 129

CORRESPONDENCE.—
District of Bedford Rifle Association 129
Montreal—B. 129

SELECTIONS.—
On the Best Detail Formation for the New
Infantry Tactics 122
The Employment of Mitrailleurs, &c. 122
Infantry Tactics and the Order of Battle... 121
An Austrian Opinion of Prussian Tactics... 125
The Gunpowder Problem 126
Prussian Infantry Tactics 127
The Darlen Ship Canal 128
Colonization Roads..... 132

REMITTANCES..... 129



The Volunteer Review,

AND

MILITARY AND NAVAL GAZETTE.

"Unbrided, unbought, our swords we draw,
To guard the Monarch, fonce the Law."

OTTAWA, TUESDAY, MARCH 25, 1873.

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 in 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 another column will be found an article from the *Naval and Military Gazette* which certainly conveys no high opinion of the common sense of the rulers of Great Britain, inasmuch as with unlimited resources and a dense population they have suffered the military force and prestige of England to sink almost into contemptible insignificance.

English, Statesmen, soldiers as well as political military writers, appear to be haunted with the idea of the important part America, as they affectedly styled the

United States, is destined to play in European affairs. English imbecility and Whig treason created this political *Frankenstein monster* and the same qualities have and will make the phantom; for it is nothing more, a source of real danger.

There is no State or power in the world that so thoroughly understands the value of humbug as those Yankees, insignificant in a military or naval point of view, not equal in any sense to a fourth rate power by sheer impudence they have succeeded in impressing on the minds of the English people the most exaggerated idea of their importance and influence, and it argues little for the acuteness of English Statesmen that they have not yet, even after the crowning stupidity that produced the Treaty of Washington, discovered how vulgarly they had been cheated; one military journal with the clear knowledge of geography possessed by the average Englishman talks of the danger being passed of having "privateers from the Hudson let loose," on the commerce of England, with a feeling of relief highly amusing to those who have witnessed within less than ten years the total annihilation of the commercial marine of the power they so much dread by one ordinary passenger steamer, and our respected contemporary is not much more rational in the article under consideration.

The strategy of the coming contest will be determined without reference to England's naval power. It has been stated with pitiful iteration that Canada was the weak joint in the military harness of Great Britain, it is the plea of the ignorant, the cowardly, and the treacherous, and is just as false as all the other notions, founded on mere theory alone. It is not warranted by history, by fact or even by hypothesis, but it has the effect of paralyzing the action of the British people, confusing their councils, and diverting attention from what is England's real weakness—India. It is only necessary to refer to the fearful mutiny of the native army in 1857 as a proof of this fact, no event in the history of Great Britain tried her power or shook her prestige more severely, and with Russia on the Oxus what is to hinder a repetition of that event.

We have purposely refrained from noticing the probability of a contest with Prussia, because it is utterly impossible to permit it to occur without giving Russia the opportunity she has long sought; and as the cowardly imbecile action of the GLADSTONE Ministry in 1870 removed one barrier, it is evident she will trample down others if allowed to do so, therefore, if England is wise the *double event*, as sporting men say, should be forced; and in this connection we cannot understand our contemporary's pious ejaculation at the fact that the "crippled state of France preclude—thank God—all thought of another Crimea"!!—the world will have to thank the Whig-Radicals for the necessity which will compel a repetition of the scenes of

1854-55, as far as the fighting is concerned. And with all due deference to our contemporary's intelligence, the Crimea is precisely the strategic objective point in the contest for the preservation of India; with such a large number of Mahomedan subjects in India the preservation of the Empire of the chief of that faith would naturally tend to make this most dangerous section of the population loyal for the time being, and the only way to check the power of Russia in Central Asia is to combine against it, the forces of the "Khans between Turkistan and Cabool" by the double motive of fanaticism and interest, while that power's designs in Europe can be checked by compelling her to defend her possessions on her only maritime frontier on the Black Sea.

Prussia reckons her military force by hundreds of thousands; in order to keep her within her own boundaries something more than the mere bombardment of her sea coast towns will be an absolute necessity, and practically we have no faith in the effects produced by bombardments at a range of five miles, with a very powerful fleet, the most powerful and best found in the world. The operations in the Baltic in 1851-55 were not calculated to add laurels to the British name nor exalt its naval powers, but England must and can put double the number of men into the field if necessary.

The resources of Britain are much greater than those of Prussia as the military forces of the latter outnumber that of the former, and as money is the sinew of war, and according to our contemporary, England is practically safe from invasion; there is nothing to prevent that country from putting a million of men if necessary in the field.

It would be an easier operation and cheaper than the constant fear of a Prussian invasion, or the landing of Mr. VERNON HARRICOURT'S imaginary *thirty thousand* men on the English coast.

Mr. CARDWELL has been reforming the British Army out of existence under the plea of economy, and the Whig Radicals have added *ten million pounds* sterling per annum to the burdens of the people by that and other acts of imbecility. The British Army in India is practically of no more value to the Empire than the Garrison of Gibraltar, they simply hold the country and are incapable of offensive action. How it could enter the head of any Englishman, especially with pretension to military knowledge, that Russian power could be checked by such a force or means is a mystery known only to those who entertain such a preposterous idea. It is in Europe the contest must be decided, and the only ally England can reckon on in the contest is France. The true, bold, and honest policy is to let it at once be understood that England is arming for eventualities, that she will be able to give material aid in men, money,

and ships to France, not for revenge, but to rehabilitate herself, and that she means to take her place as the abtress of Europe.

Our contemporary has pointed out the simple and effective means to accomplish this by copying our military system, and therefore undesignedly paid the highest possible tribute to the genius, ability, and statesmanship of Sir G. A. CARTER, Bart., the Canadian Minister of Militia and Defence, to whose far-seeing perception and administrative skill its Legislative and Constitutional organization is due; it is especially adapted to the British race because it legally recognizes the political and social axiom that the duty of a soldier and service to the State is incumbent on every man capable of serving, while it leaves him free to choose whether such service is to be voluntarily rendered or legally enforced, there is neither compulsion or conscription implied nor contemplated. If England adopts it she may as easily and cheaply have 500,000 men at her command as 100,000, and will be respected accordingly.

We earnestly request the attention of the Government to the case in the following article copied from the *Manitoba Liberal* of the 27th February, not because we have the slightest sympathy with the evidently mischievous intention of the writer, but because we are aware that the soldiers on service at Fort Garry are receiving a rate of pay far below the value of their services, and there can be no necessity compelling the people of Canada to economise in providing for the conservation of order in the North-West. While the writer of the article states the case forcibly he indulges in the *suppression* *verbo* by holding back the fact that the Canadian soldiers in Garrison receive *forty cents per diem and rations*, a very important difference truly, and in addition will have the right to a considerable land grant, but all those advantages will not bring their pay to a par with the price of labor in the labor market of Winnipeg, and therefore the desertions can be easily accounted for. It is quite possible that the 40 cents per diem being almost a surplus in the hands of men with some leisure time may have induced indulgence in forty rod whiskey, and that a part at least of the difficulties under which the force labors may be referred to that aspect of the case. Under any circumstances the desertions are disgraceful to the patriotism of the Dominion soldiers and the cause must be removed at once.

It is to be hoped the commanding officers at Fort Garry will not take any steps to recover recreants who could so far forget their obligation and the duty owed to their Sovereign and their country as to desert their colors, but treat them in the way an old naval Captain under whom we had the honor to serve used to deal with troublesome or disreputable seamen, which was as follows:—If the men had been up for punishment twice

(flogging was in vogue in those days and would be serviceable now), on the third occasion the Captain appeared in full uniform, gratings were rigged and the culprits lashed and stripped, with the boatswain's mate at hand ready to begin, the articles of war would be read and after a pause while all stood awaiting the signal, the following address would invariably be spoken: "I never have had a man flogged, I am not going to begin now, you are a disgrace to the navy, to this ship, and the name of a seaman; there will be a shore boat alongside during the day heave your dunnage into her and leave, never see me again and don't you I shall never want to see you, cast the scoundrel loose, boatswain, and pipe down." The fellow went ashore as directed, had a Desertion placard opposite his name, but no officer or man from the ship would speak to, own or arrest him, and by this means the crew became purged of all bad characters; and our friends at Fort Garry may rest assured that if there is one bad character in the world more contemptible, despicable, or disreputable than another, it is the man who deserts his colors and refuses to fulfil his military obligation, but there is a scoundrel even more despicable, because he knows better, and more dangerous because the means at his disposal are greater, and that is the man who by word or pen seeks to instil into the mind of the soldier any idea that there is or can be any obligation more sacred than his duty.

There is no doubt a good deal of hardship in a soldier's life at Fort Garry, but it is precisely on that account soldiers were sent there; they have never been embodied to riot in luxury or live on the fat of the land; as the guardians of law, order, and international peace, they occupy the first place in the State, and should be paid for their services commensurately, while at the same time the lesson should be strictly inculcated that those services belonged to the nation and not to any faction or section without or within it. Under present circumstances it would not be too much of an advance to place the pay of the soldier at \$1 per diem and rations. It will be necessary for very obvious reasons to maintain a large force for some years in the North-West, care should be taken to select none but men of good character and the rate of pay indicated with the proportion of land grant at the expiration of each term of service for three years would furnish sufficient *raison de dire* to that class of young men whose military instincts would induce them to offer for a turn of military service, and the prospect of obtaining sufficient money to commence the life of a settler on the lands acquired as a reward therefor.

It is very evident, however, that the people and press of Manitoba owes as a duty to themselves and the rest of the Dominion that they should use every effort to induce the soldiers stationed amongst them to be

contented with their lot, remembering that there is no principle so thoroughly well established by experience than the fact that a bad soldier is the worst possible citizen. The following is the article referred to:—

"During the last few months numerous desertions have taken place from the members of the force stationed here. People naturally ask what is the cause of this? Is it for want of true patriotism or loyalty to the Queen that compels men to desert the flag of their country. We maintain it is neither the one or the other.

"It is a well known fact that neither officers or men of the Dominion Force here are paid what they ought to be, taking into consideration the high rate of living in this country, and the high price for necessaries. The pay of officers below the rank of staff would not average that of day laborers in this province, and the pay of non-commissioned officers and men does not equal that of servant girls in Winnipeg. What is 40 cents a day for a soldier's pay, and how far will it go in this town? Why, it is not equal to 10 cents a day in Ontario and Quebec. When men bind themselves to serve their country for three years, their country ought at least afford them a reasonable remuneration.

"We would urge on the Government at Ottawa the propriety of increasing the pay of the officers and men stationed here, and that those who wish to obtain their discharge should get it on the 1st of May. There will be no difficulty in supplying their places by others. This is the cheapest way the Government can do, as it saves the cost of taking these men back to Canada. We cannot help thinking that it must weigh hard upon the men to see themselves bound for the best three years of their life for what equals about 10 cents a day in other places, while their comrades out of the service are earning before their eyes from three to four dollars a day."

There is no subject connected with military organization so important as an efficient commissariat. "An army marches on its belly" is an axiom so thoroughly well known as to require no illustration, nor is it necessary to write an elaborate essay in proof of the fact that badly fed or half starved men will make spiritless as well as insignificant soldiers. We have repeatedly pointed out the necessity which existed for establishing the commissariat of the Canadian Army upon such a footing as would enable it to be worked for the sole and absolute benefit of the soldiers, and looking at the fact that they are not the "non-productive" or surplus class of our population but its bone and sinew, it is not only a matter of humanity to provide liberally for all their wants, but of policy to return the material to civil life in as good if not better condition than when the burthen of military duty was voluntarily undertaken.

Our correspondent L.M.XLIX has done good service by directing attention at this time to matters of importance connected with our efforts in the past to supply our troops, and as he writes with the authority of experience in every sense of the term, it is evident that the time has arrived when a

change in the mode and manners of victualing our troops must be faced as a problem admitting of only one solution.

We are personally cognizant of the fact, that great dissatisfaction has existed among the men of the rural battalions at the quality and quantity of the rations served out while in camp, and are also aware that a change must be effected. Although we cannot agree with our correspondent that the rations has had considerable effect in lessening the annual muster, as we are well satisfied that the slightest signs of *active* service, would fill the ranks at once; but we are quite of his opinion that the physique of our soldiers demand, and must have, a larger ratio of food in quantity and quality, than that needed by the soldiers of the Regular Army.

The climatic conditions of the country demand a greater amount of physical exertion from the class forming our soldiers than from the agricultural class of Great Britain, because the labours of the latter are extended over nearly twelve months, while here the same amount of exertion is compressed into six months, and as a consequence our people use and need more animal food than the same class at home.

It is within the recollection of our readers that the horses belonging to the expedition to Fort Garry in 1870, were nearly ruined at Thunder Bay, because the commanding officer placed them on the rations allowed to the horses of the Royal Artillery service, and it was not till the works were nearly suspended by the failure of animal power, that the stupid blunder was rectified. We hope our authorities will be wise in time, men will not wait to be starved, and we look with confidence to the issue of new regulations on the subject of the *commissariat*.

In our opinion the most satisfactory method would be to make the Supply, Regimental, the Lt. Colonel, Majors and Captains of companies, forming a board to accept the food contracts, while the Regimental Quartermaster, with the orderly sergeant of each company should attend to the distribution, and that a more generous bill of fare be provided, including ample allowance of fresh meat for three meals per diem, butter, cheese and molasses, and whatever the men need. In our own country there is no need to stint, in an enemies our soldiers must live as they can.

The *Canadian Illustrated News* of the 5th March contains a well executed portrait of the gallant and talented commandant of the Quebec School of Gunnery, with the following sketch of his family history and personal service:—

“Lieutenant Colonel THOMAS BLAND STRANGE, Inspector of Artillery, Canadian Army, and Commandant of the school of Gunnery, Quebec, is the son of Colonel STRANGE, and only brother of the late Brevet

Major ALEXANDER STRANGE, 2nd Battalion, 14th Regiment, who died June 11th, 1870, at sea while returning from service in Australia and New Zealand; and first cousin to Col. H. F. STRANGE, C.B., Royal Artillery. The subject of this sketch is now the sole surviving representative of an old military family, of Scottish origin, a branch of which settled in Ireland. In Dennistoun's *Memoirs of the family, the STRANGES of Balaskie* are mentioned in 1362 as gentlemen of ancient lineage and fair estate in the “Eastern neck or corner of Fife.” One of them fell in 1547 at the battle of Frankside or Pinkey, so called to Scottish Chivalry, and the son of the Chief of the family, commanded a Scotch regiment in the German War of the great GEORGE'S (since 1612-22). In 1745, one member of the family raised a company for the Hanoverian cause, while another, subsequently Sir ROBERT STRANGE (the celebrated artist engraver) fought at Culloden, in the body guard of Prince CHARLES. Sir THOMAS STRANGE who rose to eminence in the Indian service, and his sons distinguished in both services are the direct descendants of Sir Robert. For the last three generations every male member of this family have served in the British Army or Navy, Col. STRANGE entered the army in 1847. He served at Gibraltar, and in the West and East Indies. During the Indian mutiny he was present at Candahar, Satmapore, Fort Memshegunge, Lucknow, Koorsee, Nawabgunge, Seraingunge, the passage of the Gomtee, and Doudpore, and was highly spoken of by his superiors.

At Memshegunge, March 4th, 1858, Lieut. STRANGE, R. A. assisted by Captain MIDDLETON, 29th Regiment, and other officers, enabled the commanding officer R. A., to carry off two captured guns under a heavy matchlock fire from the loopholes. On the same day after the Engineer officer, Captain INNES, Bengal Engineers, (now V. C.) was severely wounded in the attempt; Lieut. STRANGE carried the powder bag to the gate of the interior retrenchment, and (with the assistance of Capt. Middleton, 29th Regiment) fired it. On March 26th, 1858, at the capture of Kaiser Bagh Lucknow, Colonel NAPIER now Lord NAPIER, Madala, Bengal Engineers, being Engineer directing the attack. Lt. STRANGE with assistance, endeavored to empty a powder magazine in the great square while the adjacent buildings were on fire, an explosion left that officer the sole survivor. On the 30th October, 1855, at Doudpore, Oude, while in command of eight division Q Field Battery, R. A. Captain STRANGE captured two guns and sixteen horses. From 1866 to 1871 Colonel STRANGE was Gunnery Instructor at the Repository Branch of the School of Gunnery Woolwich.”

During that year Colonel STRANGE'S services were secured for the Canadian Army, and he has laboured incessantly in the organization of the artillery arm of the ser-

vice. It gives us sincere pleasure to find the press of the country alive to the duty of keeping the services of distinguished soldiers like Colonel STRANGE before the public, not only as a distinguished scientist, but as a soldier who has seen hard and desperate service; and it reflects great credit on the administration of the militia department to select an officer of his standing, practical, knowledge and ability, for the important command he fills.

The gallant colonel is a ready writer on professional subjects, and highly popular with the officers and men under his command. Of such officers the Canadian army may well be proud.

The *Toronto Globe* in its issue of the 15th inst. has an article on “The Household troops” at Ottawa, every paragraph of which is a misstatement. It is not true that the Governor General's Foot Guards have any special privileges. The officers rank according to date of commission in their *respective ranks* with the officers of the Canadian army. The only privilege they claim, beyond the right of the line of infantry on service, is that they are under the direct control of the Adjutant General, as G. O. No. 16, of 7th June, 1872, specifies, viz:—

“The formation of a battalion of Foot Guards at Ottawa to be designated the Governor General's Foot Guards, is hereby authorized, to be raised by Major T. Ross. This corps is to be special and under the direct orders of the Adjutant General at Head Quarters and to have the same precedence and status in the Active Militia of the Dominion as is held by Her Majesty's Foot Guards in the Imperial Service.”

The captains are not Lieut. Colonels in the *Canadian Army* as the *Globe* says, nor could they either hold or claim rank with officers of that standing except by brevet, which none of them have received.

As it is entirely a local battalion for service at Head Quarters, there can be no exception taken to the class of gentlemen from whence the officers are selected, and altogether the *Globe* is again at the same tricks which brought disgrace on the garrison at Fort Garry two years ago.

The historical reminiscences are something less truthful than the *canard* about the Governor General's Foot Guards; this latter being intended to create dissatisfaction in the ranks of the Army, and the historiette to point out how English reformers dealt with peculiar privileges. In this case however, there is nothing can be reformed, except the information on which the *Globe* essayist founds his assertions.

CORRESPONDENCE.

The Editor does not hold himself responsible for the actual expressions of opinion or communications addressed to the VOLUNTEER REVIEW.

To the Editor of the VOLUNTEER REVIEW.

Sir:—I have observed that your columns are always open to fair criticism, and as the remarks I am about to make, are offered in a friendly spirit, I trust you may deem them of sufficient importance for publication. The time is rapidly approaching, when the

volunteer force will again be called out to perform the Annual Drill for '73. I have therefore, determined to make a few remarks concerning the treatment the volunteers have received at the hands of the Government, during the past two years. During this time, the men have loudly complained of ill treatment from the Government. Perhaps, the most important of their complaints is the *grub* (if I may be allowed to use the expression.) Mr. Editor, it is a well known fact, that this has caused a great deal of dissatisfaction, and has been the means of causing our very best men to leave the force by the hundreds. Perhaps, it may not be out of place to mention a few facts concerning our living for the past two years while in camp at Annual Drill, 1871. Dry bread and coffee for breakfast, dry bread and tea for supper. During the 16 days drill, we were served out with *sour-batter's bread* no less than four days, making in all twelve meals on sour bread. 1872, dry bread and coffee for breakfast, dry bread and tea for supper. It was expected that the men would receive 2oz. of cheese for breakfast. This, Sir, was a complete sell; our allowance was always short, and on several occasions, the cheese not fit to be eaten, and several times we had to send it back to the Quartermaster, it not being fit to eat. Mr. Editor, I consider myself a judge of cheese, having been engaged for the past five years in manufacturing cheese, from the milk of 95 cows. I have also bought large quantities of cheese for the Montreal and English markets, and I say boldly, and without fear of successful contradiction, the cheese we were served out with, would not realize 5cts. per pound in the above named markets. The cheese was of very poor flavour, very badly pressed, oft times sour, and always badly damaged from the presence of large quantities of skippers. Now Sir, it cannot be expected that men with robust constitutions, accustomed to plenty of hard work, and consequently possessed of voracious appetites, can subsist on this miserable fare. If our Government wishes to see the volunteer movement a success, the sooner they allow the men plenty of good wholesome food, the better will it be for all parties concerned. I am aware the soldiers in the British Army have to subsist largely on dry bread, but Canadian volunteers are not British soldiers. Our volunteers are not composed of the street arabs of London, who are compelled to live a half starved life, neither are they composed of that class of men known in Canada as barroom loafers, or whiskey-suckers; on the contrary, I am proud to say that the force is composed mostly of respectable mechanics, and farmers sons in easy circumstances, all of whom are accustomed to eat three square meals every day, and it is a burning shame for the Government to bring out this class of men for 16 days hard drill, and allow them to work half starved, and pay them off with the paltry sum of 50cts. per day. Mr. Editor, this is quite "played out," and for proof of my assertion, I ask where are the men who composed the force at the time of the Fenian Raids, in '66 and '70, the ranks were full of them in 1860, but alas! they have left the force, and in many companies their places are still vacant; and

for proof, I have only to point to several battalions on parade at Annual Drill, for '71 and '72. If our Government wishes to make the volunteer movement a success, it is absolutely necessary that the men should receive plenty of good, wholesome food, *all they can eat*. It has been said by a military novice, that the rations supplied by Government are sufficient for all purposes, I deny this assertion. When our men assemble for the Annual Drill, they are in first class working trim, especially those that are engaged in agricultural pursuits; our force is largely composed of this class of men, and if we follow them through the months of spring, and witness their hurry and drive, from the break of day until dusk at night, in order to carry out the spring work in time for the Annual Drill, we need not be surprised to find these men possessing a voracious appetite, and it must not be forgotten that this class of men on their return home, have to buckle into hard work, and it is earnestly hoped that the Government will no longer allow the men to be reduced in health and strength, for the want of the common necessaries of life, while engaged in performing the Annual Drill. I have seen able bodied young men assemble for a drill in first class working trim, weighing 190 pounds, reduced 10½ pounds during the 16 days drill, this was owing to insufficiency of food, the heavy clothing, and the burning heat of the summer sun. I am not a croaker, I simply wish to show by the above statement, the necessity of supplying our men with plenty of good, wholesome food, and it is earnestly hoped that the Government will not crush the military pride and spirit of our volunteers, both officers and men, by compelling them to subsist on such miserable fare. Hoping Mr. Editor, you will not think I am occupying too much of your valuable space,

I am, Yours truly,
L. M. XLIX.

To the Editor of the VOLUNTEER REVIEW.

Sir—In my last letter I endeavoured to show the absurdity of some theorist's suggestion in reference to cavalry arms and equipment which appeared in the *United Service Magazine*, and was copied from that paper into the VOLUNTEER REVIEW. I see by the Review of the 4th inst., that the *United Service Magazine* is not the only military paper troubled with writers who know little or nothing about the subject of which they are writing, in fact the paragraph copied from the *Broad Arrow*, shows to a demonstration, that there must be want of asylum accommodation at home or that some people are allowed to run at large whose proper place would be in some institution of the kind. It would not be worth while to take up the space in so valuable a paper as the VOLUNTEER REVIEW to answer such ridiculous nonsense as the writer advocates, were it not that he refers to the report of the Quartermaster General's department of the United States Army, to show the wear and tear and consequent expense in keeping up the cavalry force. As a great many readers of that report, particularly those in England, do not understand the principle upon which the cavalry of the Federals are raised during the war. I wish to state for their information, the system upon which it was organized, and also the reason why so many horses were used up in so short a period. In the first place, then, the Federals did not see the necessity for cavalry until after the Battle of Bull's Run., and two or three other runs, in which they were outmanoeuvred and beaten, chiefly through the instrumentality of the

Southern horse. The Federals discovered when it was a little too late the necessity of cavalry in war. Indeed, so thoroughly convinced were they that where is in the commencement of the war a small force of about 1,500 men (the Rankin Lancers) were dropped as being too expensive for the service they could render; no less a number than eighty thousand men were reported as having been mounted before it was brought to a close. As soon as the Federals discovered that without cavalry success was impossible, contracts were at once given out for supplying the Government with cavalry horses, and Canada was visited by numerous American speculators as most people will remember. The class of horses in demand were those which could be purchased at prices ranging from forty-five to seventy-five dollars, whereas a good cavalry horse could not be purchased for less than double the highest price paid. No doubt the prices paid by the Government to the contractors were sufficient to pay for serviceable horses, but it must be borne in mind that Government contractors in the Model Republic do not work for small gain, besides, a consideration had to be made for Government inspectors. It was not long before the cavalry officers discovered how terribly those parasites were plundering the country, and on it being properly represented to the War Department, the Government inspectors were dismissed and the senior cavalry officer of each division became the inspector. Perhaps no better evidence could be given of the worthlessness of the horses for cavalry purposes which were being purchased, than the fact that as soon as cavalry officers became the inspectors not one sixth of the horses sent in by speculators would pass an inspection, although horses were in great demand at the time, and were consequently left on the speculator's hands, who sold them by auction in the different towns for what they would fetch for agricultural purposes. There is no doubt that the American Quartermaster General's report is correct, and the only wonder is that those poor brutes could last so long seeing that they were badly cured for, and in many cases out of ten were used up so as to be unfit for cavalry purposes before they were purchased for the public services. In conclusion, I would advise those who wish to know anything about durability of the cavalry horse, when on active service to try and get their information from a better organized force than that of the United States, where the horses for the most part were unfit for the service, and where the conscripts knew very little about the proper management of a horse even if good ones had been put in their charge.

From yours respectfully,
ROYAL DRAGOON.

MR. EDITOR—Can you give the Volunteer Force any information concerning the time when the matches of the New York National Rifle Association will take place, also the cost of living at the ordinary hotels per day, also if the Provincial or Dominion Rifle Associations intend to send a team to represent Canada at their annual matches? Please answer the above through the REVIEW.

LEWIS MARSH,
Winner of City of London Prize.

Since the formation of the National Rifle Association at New York, on 3rd September last as reported in Vol. Rev. Vol. VI. p. 467, we have heard nothing of the United States Wimbledon, nor do their military papers make any mention of the proceedings of the Association.—Ed. Vol. Rev.

FLOOD TIDE.

The fisher's wife looked from her door
Across the shining sand,
Her eyes against the level light,
Were shaded by her hand,
She heard like winds 'mid autumn leaves,
The bright waves lap the sand.

Undriven came the lowing cows
Along the winding way;
Her good man's boat against the wind
Was tacking up the bay;
She saw him stand, with rope in hand,
And cast the sheet away.

What was it on the lengthening shore
Her strained eyes sought in vain?
She stooped to turn the driving nets,
Then rose and gazed again,
"He waits behind the rock," she smiled,
"To greet his father fair!"

Yet while she spoke, his boat to land
Alone the fisher drew;
The breaking tide-waves flashing crest
Cut white across the blue,
And a brimless hat beside his feet,
The mocking waters threw.

THE EMPLOYMENT OF MITRAILLEURS DURING THE RECENT WAR, AND THEIR USE IN FUTURE WARS.

By Lieutenant Colonel H. C. Fletcher, Scots
Fusilier Guards.

(Continued from Page 123.)

EXTRACT FROM THE REPORT OF COLONEL WRAY'S
COMMITTEE.

"The results of the recent enquiry have fully satisfied the Committee of the expediency of introducing a certain proportion of these machine guns, to act as auxiliaries to the other arms of the service, and of the several designs which have been submitted for their consideration, including those that have been under trial, they are persuaded that the Gatling gun is the best adapted to meet all military requirements.

"To assist in defending such positions as villages, field entrenchments, &c., the Committee feel satisfied that the small Gatling would be found invaluable.

"For the defence of caponnières, for covering the approach to bridges or *têtes de pont*, for defending a breach, and for employment in advanced trenches or in field works, where economy of space is of the utmost importance, the same sized Gatling would unquestionably be a most effective weapon.

"For naval purposes, the small Gatling would apparently be well adapted for use in the tops of vessels of war, to clear the enemy's decks or open ports, while for gunboats that carry only one heavy gun, and for boat operations, the medium sized Gatling would be most effective in covering the landing of troops, or for service up close rivers.

"The Committee are also impressed with the effect produced by the medium sized Gatling, 0.65 inch calibre, at long ranges as compared with that of a field gun, but looking to the weight of ammunition required to produce this effect, and to the exceptional conditions under which the larger Gatling could be used with advantages in the field they are satisfied that a gun is far preferable at long ranges, and consequently they do not recommend the introduction of the larger description of Gatling for land service.

"In advocating the introduction of the small Gatling gun, the Committee wish it to be distinctly understood that they do not for a moment contemplate their supplanting or displacing a single field gun. The propor-

tions of which have been laid down by the best military authorities, as indispensable for an army in the field.

"The characteristics of the two weapons are essentially different. Except against an enemy in the open, the fire of a mitrailleuse is comparatively worthless, whereas artillery fire will search out an enemy from almost any position, whether covered by trees, brushwood, earthworks, or houses, and at distances far beyond the ranges of a mitrailleuse; but, in the open, at distances up to 1,200 yards, there is reason to believe that the latter will be found the more destructive owing to the rapidity and continuity of its fire."

This report resulted from an examination of the trials which were from time to time conducted in the year 1870 between the Gatling and the Montigny, and between these mitrailleurs as compared with infantry and artillery. The Committee which submitted it was composed of Colonel Wray, an artillery officer, as President; an officer of the Royal Navy; one from the Royal Engineers; three Artillery and one Infantry Officer. Thus, although preponderating in numbers, the artillery element was counterbalanced by representatives from other branches of the professions. The experiments clearly showed the deadly effect of the fire of the smaller Gatling at ranges up to 1,400 yards, whilst the larger and medium guns gave good results at ranges up to 2,070 yards.

From a comparison of a series of eleven trials of the small size Gatling, of the 9-pounder muzzle loading field gun firing sharpshooter, and of the Martini-Henry rifle fired by six guardsmen, at ranges from 300 to 1,200 yards, and under various conditions in regard to time and known and unknown distances, I find that the Gatling made 2,650 hits, the 9 pounder muzzle loader 1,620 hits, and the Martini-Henry 718 hits, i.e., the Gatling was about 3½ times and the 9 pounder 2½ times more effective than the Martini-Henry in the hands of six soldiers, a result I would venture to term satisfactory as regards infantry fire. Not that I mean to affirm that this comparison is a true measure of the efficiency of the 9-pounder and Gatling as compared to that of fourteen infantry, and that of a Gatling was not more deadly than the fire of twenty-two infantry, and to measure their efficiency in the field by this standard would lead to very erroneous conclusions. Each arm I contend has its own duty to perform, and there are moments in battles when no field gun or Gatling would counterbalance the absence of even a section of infantry, as there are times when a single shell from a 9 pounder, or volley from a Gatling, would be worth more than the presence of a battalion.

Notwithstanding these trials, the opponents to the mitrailleuse, whilst admitting its exceptional deadly fire, maintained that its introduction into modern armaments was a retrograde step. They alleged that only a certain proportion of guns laid down broadly as 2½ per 1,000 infantry and cavalry, could accompany an army in the field. That an increase in the number would unduly augment the impediments, would block up the line of march, and would probably be found impracticable to manage in action. Consequently, as it would be undesirable (taking the views of the Committee) to diminish the field artillery, the addition to this arm of mitrailleuse batteries would unduly add to the wheeled transport, and prove an incumbrance to an army from the increase in the number of horses which would require feeding. Supposing modern warfare should per-

mit of an addition to the number of wheeled armaments, the opponents of the mitrailleuse consider that the artillery should be increased rather than be supplemented by machine guns, as although in experimental practice at the shorter ranges, the Gatlings have proved more deadly than any description of shot or shell when fired against representation of troops in the open, yet that the field guns has by far the longer range, and has greater scope in its powers being useful against entrenchments as well as against men. They affirm that field guns will be able to destroy the mitrailleurs whenever they venture to show themselves, and that no hail of rifle bullets can equal in moral effect the fire of shell from artillery. They also say that the range of the field guns can be more easily tested by trial shots than the range of the Gatling.

Such, given shortly, are the opinions of those who oppose the introduction of the mitrailleurs into the military service.

Its modified acceptance by the Navy does not appear to have provoked so much opposition. The report of the Naval Committee assembled in 1868 at Washington confirms the opinion expressed by Colonel Wray's Committee, of which Captain Foley, R. N., was one of the members. The report as quoted by Mr. Gatling, states as follows:—"The American Naval Officers consider it serviceable as an auxiliary arm for special service, to be used from top gallant fore-castle, poop deck, and tops of vessels of war and in boat operations against an enemy, either in passing open land works or clearing breaches and other proposed places for landing from boats, &c. If opposing infantry and cavalry it has no known superior, its great merit consists in its accuracy within the limits of its range; the certainty, and if need be, rapidity of fire, with the additional merit of only requiring three persons to load direct, and fire each piece, when suitably mounted, afloat or ashore." It has also been suggested that the Gatling will be found useful in firing into the ports of vessels of war attempting to pass forts, which owing to the narrowness of the channel, they may be forced to approach within close range.

Whatever opinions may have been held on these weapons, their practical employment in war should be the true test by which to judge of their efficiency, provided that the arms themselves are good and their proper use understood. Until the recent campaign in France, no opportunity occurred of testing their presumed merits. Machine guns, somewhat resembling the Gatling, were indeed exhibited to General McClellan during the campaign before Richmond in 1862; they were called somewhat contemptuously *coffee grinders*, and were not brought to the front. The army already possessed an undue proportion of artillery, and the wooded country in which its battles were fought was not favourable to the use of this description of gun, supposing its mechanism to have been sufficiently perfected. Consequently the machine guns remained untested, and were not subsequently brought into use during the later campaigns of the American war, (1) neither were they employed either the Danish or Prusso-Austrian wars, and it remained for the French War Department to ensure to them their first practical trial.

Partly from a belief in their merits, partly to raise the morale of the troops and to counterbalance the prestige of the Prussian

(1) A weapon with twenty-five barrels, resembling the mitrailleuse, was employed in 1857 in the attack on Fort Wagner.

Army, fresh from its victories over Austria, the French military authorities unduly exalted the advantages of the mysterious engine hidden in their arsenals. Terrible stories of its destructive powers were allowed to leak out, and every method was taken to rouse the confidence of the troops in the new weapon which was to revolutionize war. On the 1st of July, 1870, the Army was provided with 190 mitrailleurs.

At the first skirmish, viz., the affair before Saarbrück, the mitrailleuse was brought to the front and shared with the Prince Imperial the honours of this short-lived success. The events that followed were so awful, and the defeats of the French Army succeeded each other so rapidly, that opportunity did not offer of examining critically the employment of any particular arm. Now and then, among the many accounts of these battles, anecdotes of the mitrailleurs are narrated, sometimes mentioning them derisively, at others alluding to the deadly effects of their fire, and summing up with the enumeration of the numbers captured at the successive surrender of the French armies.

Feeling the importance of investigating the truth of the many statements which were put forth on this important question, Colonel Wray's Committee decided on taking evidence from Officers who had been witnesses of some of the engagements, although unfortunately, owing to the veto put upon the presence of English Officers with either army during the earlier campaigns, little direct information on the employment of the mitrailleurs previous to the battle of Sedan could be obtained. The evidence therefore, relates principally to the later actions fought on the Loire. Time will admit of but a short summary of what was given before the Committee, but should any one desire still further to investigate the subject, he has only to read the evidence in full. The effect of the French mitrailleurs (for, excepting in one Bavarian corps, none were brought into the field by the Germans) was witnessed by several of our Officers on different occasions, and has been alluded to by more than one writer on the war.

Thus Colonel Rustow speaks of a mitrailleuse battery of Douay's division being in action for a short time at the battle of Weissenberg, when its ammunition waggon was struck by a Prussian shell and blown up, wounding so many of the gunners that it was forced to withdraw, not however (if one may judge from the accounts of those who have inspected the field of battle), before it had inflicted heavy loss on the advancing infantry.

In a book entitled "From Sedan to Saarbrück" by an Artillery Officer, the effect of the fire of six mitrailleurs at the battle before Sedan is thus narrated. The guns were entrenched, and played with deadly effect on the Prussians who attempted to cross a valley intervening between them and some rising ground about 900 yards distant. The author writes, "that the numerous Prussian graves on the slope of the Mamelon attest the severe loss they suffered, and," he adds, in this solitary instance the effects of the mitrailleurs were confessedly superior to any which could have been inflicted by common shell." He further quotes the opinion of a Prussian Officer given to him personally, which appears to be in accordance with that of the generality of the German Officers during the War. This Officer admitted that the effect of the mitrailleuse against solid masses was good; but he considered them comparatively harmless against troops in line, under which circum-

stances their action might be likened to a charge of unscattered swan shot, merely riddling two or three men. It is fair to say that this defect in the French mitrailleuse has been remedied in the Gatling, in which the traversing arrangement permits of a wide sweep of the shots during the very process of firing.

Mr. Winn thus describes the effect of the mitrailleurs on a body of cavalry at the battle of Gravelotte:—"It was about 3 o'clock that M. d'Almaison was taken by our" (meaning the German) "troops, and it was on some Uhans, who tried to cut off the retreat of some Voltiguers from it, that the mitrailleuse so terribly vindicated its character for destruction. A squadron rode forward with its usual pride and confidence; we heard the growl of this truly infernal machine; we saw an unwonted confusion in the Lancers' ranks; they wheeled, and retired, leaving behind them 32 horses and many men. They had unwittingly crossed the fatal line of fire; and had they waited to rescue their comrades, three minutes would have sufficed to the French artillerymen to put them in the same helpless condition. We had gone forward to the extreme point on our side of the glen, and with our glasses could plainly see the gunners as they placed the fatal plato in the hydra mouthed cannon.

Colonel Fielding attached great value to the mitrailleuse, and instanced the effects produced on a Prussian column of infantry at the second battle of Beaugency, where clear gaps were cut through one of its angles. The same effect, he thinks, could not have been produced by infantry, as the time necessarily spent in deployment would have given warning to the approaching column. "He looked upon the proper use of mitrailleurs to be as representing a certain number of infantry, for which there is not room on the ground, suddenly placed forward at the proper moment at a decisive point to bring a crushing fire upon the enemy." He also prefers placing them in defensive positions "where the front is restricted, and where it is necessary while keeping up a proper amount of fire to the front, to economise space.

On three different occasions Colonel Reilly, C.B., R.A., saw the mitrailleurs used against troops who were taking advantages of the undulations of the ground to obtain cover, and on none of these occasions did he notice the loss inflicted by them to have been great. On the other hand, although the mitrailleurs were standing in the open, exposed to the fire of the Prussian artillery for four and a half hours, no injury was done to them by shot or shell. At Beaume la Rolande the French did good service in street fighting with the mitrailleurs, but on the whole, Colonel Reilly evidently considered that artillery would have been more efficient, and that the extra wheeled transport entailed by this description of armament, did more harm than good to the French Armies. He also states the Prussian Officers were greatly opposed to incumbering infantry regiments with mitrailleurs, even supposing they were introduced into their service.

Captain C. E. Brackenbury, R. A., who was present with the Army of Prince Frederick Charles, narrates that upon the only occasions when he witnessed any serious effect from the mitrailleurs, three of them succeeded in stopping the advance of the German troops who had hitherto faced the fire of the artillery. These three mitrailleurs were subsequently captured by skirmishers detached from the main body, who took them in flank. He considers their fire to be

superior to that of infantry, because an infantryman has nerves, which will probably be disturbed when he is exposed to fire, whereas the machine has none.

Captain Hozier formed opinions similar to those of Captain Brackenbury. He saw mitrailleurs employed in the sorties from Paris and at Le Mans, where the supports of a line of skirmishers, suffered from their fire; the skirmishers, however, advancing beneath them, and avoiding their direct discharge, closed in, and captured them. By this method the mitrailleuse batteries were usually taken, their infantry supports retiring and leaving the guns to their fate. On the whole, Captain Hozier concurs in the opinion of the Prussian Officers with whom he conversed, that for field service the horses and men necessary for the mitrailleurs could be better employed with artillery, but that for entrenched positions, for narrow roads, and for the ditches of fortresses they were and would be most valuable. Prince Frederick Charles expressed a preference for 12 or 13 infantry soldiers instead of a mitrailleuse, as they would be less liable to be destroyed by a bursting shell, and their fire would be more accurate.

Captain Gurdon, R. N., who witnessed the later campaigns on the French side, entertains a high opinion of the efficiency of the mitrailleuse fire. He saw them employed against infantry columns, and on one occasion against field batteries, which were compelled to retire, owing to a loss of horses. He considers them quite indispensable in warfare at the present day, but does not agree with the French in their method of employing them. They are adapted, he believes, for defence rather than for attack and are especially suited for protecting gorges or defiles, and for street fighting. The French mitrailleurs he considers to have been too heavy, as four horses were required for the gun alone. The weight of the guns or rather their increased charges, seem to have given range, as, according to Captain Gurdon, they were most efficient at from 1,000 to 2,300 yards.

(To be continued.)

THE PRESENT POWER OF ENGLAND.

(From the Naval and Military Gazette.)

Through the fierce, protracted, and deeply interesting discussions which not so long ago occupied pre-eminently the public mind, on the subject of the possibility of an invasion of this country, it seems strange that no one discovered, or at any rate noticed, the utterly powerless condition into which we ourselves have fallen in the event of the necessity arising for British troops to invade some foreign land. With the Alabama and San Juan difficulties but just settled, and the Khiva question assuming daily more extensive proportions, this military lassitude is but ill-fitting us, especially when we call to mind the fact that our Navy has, since the introduction of armor-plating assumed a superiority over those of other countries, which is unparalleled in history. France, America, Spain, Holland, and Turkey, have all, at one time or another, threatened our naval supremacy, and have savagely contended with us for it too, while now we have little hesitation in asserting that the combined squadrons of all the above-mentioned powers would be just a match for our own magnificent fleet. In inverse ratio our Army has decreased in strength—we will not say efficiency—before the gigantic armaments of

Europe; our men have the best rifle, the lightest knapsack, and most comfortable uniform, but they are in numbers but a decimal of any of the Military Empires, and here lies our weakness for the improvements and advances made in the theory and practice of war, mechanical and strategical, have tended to decrease the effectiveness of small bodies of well equipped men, and to render the use of gigantic masses of inferiorly armed and often less courageous troops, the more prominent feature of modern operations. In fact war can be carried on now upon such a scale as to throw armies of less than a certain magnitude completely out of the field. To make matters, if anything, a little worse, the Colonies are all more or less self-supporting, troops in India being lost for home service of any sort, for a term of some twelve years; so that we can, by a glance at the Army List, tell to a man the exact number available for the protection of our shores against the "proud invader." But, as we before stated, the great power of our Navy warrants a belief that the "invader" would never be allowed to leave his own shores, which being the case, any further war must naturally resolve itself into the necessarily very limited operations of our fleets upon an enemy's coast; for, providing that enemy be not America, his commerce will require but little attention.

To illustrate fully our meaning, we will make use of the most popular or generally received and understood hypothesis—a war with Prussia. The strength of the North Germany Navy is as follows: Monitors, two; frigates (iron clad) four; corvettes, eight; despatch boats (side wheel), five; gunboats (first class, of three guns), seven; gunboats (of the second class, one gun) fourteen. The incapacity—we have almost said inability—of such a fleet to contend with our own is evident, though doubtless it could annoy us considerably by sudden raids upon that of our cruisers who ventured too near some point of concentration; the Dutch coast offers every facility for this species of "fight and fly," especially when perfect familiarity with all the shoals and banks has been acquired by long practice and careful personal study. With Heligoland for a coal station, a very strict blockade of the whole coast could of course be kept up—how strict the American war furnish plenty of illustrations—and Prussia must suffer *at first* from this cause considerably as her internal resources are as yet sparsely developed, and her manufactories and dock yards few and far between. Many coast towns, some of them important, would suffer from bombardment or requisition; among those on the North Sea we may name Emden, Cuxhaven, and Tönning, as open to these dangers, though Bremen and Hamburg are exempt from actual destruction so long as proper precautions are taken to obstruct their respective approaches. Wilhelmshaven we will not notice, as the works are in an unfinished state, and probably the fleet would confine themselves to the Baltic shore. Kiel, Oldenburg, Stralsund, Bergen, Rugen, Walde, Dantzic, and even Königsberg, may be mentioned as liable to the terrible ordeal of rifled shells, pitched into them from ships almost out of sight. That the 7-inch, 6½-ton R. M. L. gun can fling its shell, containing a bursting charge of 5lbs. 4oz., a distance of nearly five miles, and that the 7-inch gun is one of the smallest in use on board our iron clads, proves the practicability of the above. But, let not the idea that burning a number of coast towns concludes a war, take possession of our reader's mind, but, the list of towns we have given with

the simple word "burnt," after them, would signify a loss of hundreds of Millions to Prussia, and ruin to thousands of private families and individuals, which would perhaps bring the enemy to terms. But, on the other hand, should Prussia determine to carry on the war indefinitely, we must cease to be actively aggressive after the first two years, while our blockaders would be subject to all the petty annoyance of batteries on the coast, fixed torpedoes and torpedo boats. Experience would gradually teach us how to avoid or obviate all these dangers, but the war itself would become of far less importance or interest than was felt in the operations of the Federal squadrons off the coast of South Carolina between '63 and '65. The long dreary crawling about for a year or more with the bare chance of picking up a prize, and still less probable contingency of being smashed by a rebel ram, would be exciting work as compared with the blockade of a comparatively small coast line by a larger fleet, and with no chance of an action.

If Russia chose to be firm about Khiva, and expressed her intention of doing whatsoever she pleases wherever she likes, our predicament would be exactly what we have above sketched. The railways and improved organization of Russia's Army, combined with the crippled state of France, preclude—think God!—all thoughts of another Crimea. So that, as in the previous hypothesis, the war would be wholly and solely a naval one so far as we were concerned. Torpedoes and fortifications might render it difficult to destroy over a certain amount of property and stores, and even supposing we could spread death and petroleum along the entire Black Sea Coast, it would in no way prevent Russia ringing loose around Baku, as often for as long, and with as many men as she pleases. A glance at the map will show how impossible any Anglo-Indian demonstration against her would be, not only on account of the distance, but owing to the little idiosyncrasies of the numerous Khans and Kings who flourish between Turkistan and Cabool.

What is true of Russia and Prussia is true of every European country to a greater or less extent. England, a nation without any army, cannot make war on a power that counts its troops by hundreds of thousands. Statesmen do here and there recognize this fact, and at the end of some lengthy speech or pamphlet there comes, like the hollow ramblings of a far distant storm, a crisp, short sentence grimly foreshadowing that inevitable remedy for all our woes *Compulsory Service!* Nothing can be, we are aware, more distasteful to the "free born Briton" than this, and far be it from us to advance this theory upon the same basis as it is practised upon the continent. What we have in our mind's eye is a system which has been found to work in our largest and most loyal colony, Canada. We have it on the authority of distinguished officers serving in that country at the time of the first and most formidable Fenian Raid, that over two hundred thousand Canadian Militia turned out, fully equipped and ready to march in *twenty-four hours*. The advantages of such an organization can be readily seen: the whole standing Army of 100,000 men would be available for foreign service while the Militia guarded our shores, not nearly so much time would be required to be given up by individuals, as the Volunteer service requires, and is freely received by thousands who would cry out aloud for fire and revolution if obliged to serve for two weeks in

the year. We fully appreciate the value of the Volunteer Forces. The patriotic spirit which animated the early promoters of the movement, and which now is the bond which keeps them together, is something to be proud of indeed, but such organisations cannot be expected to stand the strain of real war. If—though Heaven forbid—their ranks should thin before the enemy, thousands would no doubt, rush to fill them, but what thousands? Men who had never held a rifle in their lives, who, despite their pluck would fall out helpless on the first forced march, and who would lose their heads under fire, and throw whole divisions into disorder simply from their want of experience and discipline. A fortnight's drill every year would do no one any harm, in fact, it might be highly beneficial to the "dwellers in cities," whose professions chain them to town. The new depot centres offer every facility for the perfect and easy working of such a system, against which no truly patriotic and thinking man can raise an objection.

As things stand now we are fast sinking into a second rate power, for though our money is supreme, it is by a military standard that they judge on the Continent; with four or five million Militia at home, and 100,000 horse, foot and artillery, to act as a sort of flying squadron, we should be again, undoubtedly, the first power in the world. However "bloated" the armaments of foreign countries may be, they could rarely, at the very utmost, bring ten to one against the forces above mentioned; in Mr. Vernon Harcourt's lecture and elsewhere, between thirty and fifty thousand has been always taken as the probable force of an invading army. Therefore we conclude, that if we had a hundred thousand men free at our command, not a nation in Europe but would look upon us with respect.

INTERIOR OF THE LATE WOOLWICH INFANT.

The report of the Inspector of Ordnance upon the state of the interior of the first 35-ton muzzle loading rifled gun built for the Devastation, after thirty-eight horizontal discharges from its 12 inch bore, is illustrated in *Ira* with an excellent diagram, in which a section of the inner portion is shown to scale. The positions of the 700lbs. powder charge—1st, in its seat; 2nd, registering the greatest pressure; and 3rd, with the rear studs coming into "driving" bearing eight inches in advance of their seat. This latter point corresponds nearly with that at which the front studs hammer at starting. With shorter powder charges these several positions of the shot would be nearer the chamber. The longitudinal positions of the four cracks, four fissures, and the deep roughness or erosion caused by the escaping gases, are shown, and that of the greatest enlargement of the bore. The nature of these injuries would be hardly visible on so small a scale, and the vertical positions could not be shown in a section. Two of the cracks were on the lower side of the bore, all the other injuries on the upper side, and their centres were three and a-half to four feet from the place where the greatest powder pressure occurred, but coincided with the point where the front studs hammer and the rear studs come into "driving" bearing. The gun is being rebuilt at a cost of about £700 or £800.