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Vol. I. No. 5.

QUEBEC, 1st JUNE, 1880.

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Military Celebration of the Queen's birthday at Quebec.

11th of September 1759, more than a century has rolled away, since that eventful night, when the gallant generals Wolfe and Montcalm who fell in all their pride of might, gave to us the key of our future greatness and opened the gates of an unknown fertile vastness, to the hardy sons of ancient Britain, who were to rise into a mighty people grateful for the willing sacrifices a parent made, to provide future homes for her children, and happy in the knowledge, that the bonds of union which unite the distant shores of their lands, are woven into a fabric of imperishable texture.

Circumstances in our lives recall days of the past, and the events of the history of our country stand out more clearly in review, when the light of reflection is made, by passing circumstances, to beat fiercely upon a ground made famous by the deeds of our forefathers.

Let us then for a moment reflect in turning our eyes towards this parade of the Militia of our Dominion, upon so glorious a day, and upon a famous ground, that, at this

moment, there is sitting at home, "A Royal Commission," for the purpose of considering a plan, to reunite that once great power of Great Britain, which now lies scattered throughout the four quarters of the globe, so that by linking the arms of England and her Colonies together into one mighty force, the trade Commerce and happiness of the sons of "Greater Britain," may continue to flourish to the end of time, and it is to be sincerely hoped, that by the returning 24th of May, Canada will be able to boast of an Imperial reserve to take part in the celebration of the next "Queen's birthday."

The past review and sham fight, which were held upon the celebrated Plains of Abraham, and under the very ramparts of the "Key of the Dominion," welcoming in the commencement of another happy year, in the life of Her Most Gracious Majesty The Queen, was fortunate in the presence of His Excellency our Governor General and their Royal Highnesses the Princess Louise and Prince Leopold.

Space does not permit us to give a detailed account of the evolutions performed or to criticise the bearing or efficiency of the troops engaged, this we will do in our next; under the heading of:—"Tactical lessons suggested by the past sham fight,"—all we can say here is, that every corps and regiment

vied with each other to carry off the palm, and so successful were they in their efforts, that those present on the staff, who have had vast experience in military affairs, affirmed that many could not be surpassed by regular troops, and the Marquis of Lorne, in a happy speech complimented the whole to this effect, whilst all agree that, it was the most successful and brilliant military pageant, that, has ever been witnessed in the Dominion of Canada.

The Force taking part in the Sham Fight numbering about 2900 of all arms, was commanded and composed as follows.—

DEFENSIVE FORCE.

Divisional Commander,
Lieutenant-Colonel Duchesnay, D.A.G.
Brigade Major,
Lieutenant-Colonel Lamontagne,
Aide, Lieutenant-Colonel Colfer, 61st Battalion.
Commanding Scarlet Brigade,
Lieutenant-Colonel Martin, 6th Fusiliers.
Commanding Rifle Brigade,
Lieutenant-Colonel Bond, 3rd Victoria Rifles.

COMPOSITION OF FORCE.

Cavalry, one troop Queen's Own Canadian Hussars, Lieutenant Colonel Turnbull.
Field Artillery, B Battery, two guns, Captain Short.
Garrison Artillery Brigade, four batteries, Major Fraser, B B, C A.
5th Royal Scots, Lieutenant-Colonel Crawford.
6th Fusiliers, Lieutenant-Colonel Martin.
1st Prince of Wales, Lieutenant-Colonel Whitehead.
3rd Victoria Rifles, Lieutenant-Colonel Bond.
65th Mount Royal Rifles, Lieutenant-Colonel Outmet.

ATTACKING FORCE.

Divisional Command.
Lieutenant-Colonel T B. Strange, R A
Aide, Major Hobert, "B" Battery.
Commanding Light Brigade.
Lieutenant-Colonel Montizambert.
Brigade Major,
Lieutenant Imlah, Halifax Field Battery.
Commanding Heavy Brigade,
Lt.-Col. Maunsell, D.A.G.
Brigade Major.
Lieutenant Pennofather, 8th Cavalry.

Composition of Force.

Cavalry, half troop, Q. O. C. H. Lt.-Col. Gray
Field Artillery, Quebec Field Battery, Captain C. Lindsay.
Battalion Garrison Artillery, B. B., R. S. G., Major Taschereau.
5th Royal Rifles, Lieutenant-Colonel Alleyn.
8th Voltigeurs, Lieutenant-Colonel J. B. Amyot.
62nd Battalion St. John Infantry, Major Likely.
Also about 20 of Montreal High School Cadets.
The whole force was under the immediate command of Lieutenant-General Sir Selby Smyth, K. C. M. G.,

MEDICAL ATTENDANCE.

Two ambulance stations provided with medicines and surgical appliances were established on the grounds covered by the review and sham fight; both were distinguished by Geneva flags. No. 1 station was on the Plains under charge of a surgeon, and No. 2 in the Laboratory at the foot of the Citadel Glacis.

Defence of Greater Britain.

"The Fable of the Bundle of Sticks,"—what one of us when a child, has not learned, in the nursery, the standing maxim of every day life, conveyed so clearly, in this simple tale, yet true to its inmost depth? "Union is strength," and history is a mosaic of events which depicts in the most glaring colours, the rise and fall of nations through this single cause alone.

There was a time when the arms of England hurled back with fury the imperious aggression of her foes, who had yet to learn the practical lesson taught by this wise apophthegm. All this has, however, now been changed, and whilst foreign nations have concentrated their fighting power into one moveable mass, so as to enable them to strike rapid and weighty blows, Britain, on the other hand, through the exigencies of an ever-increasing overcrowded population, has been obliged to break assunder the bands of strength, and scatter her saplings to the uttermost ends of the world, there to build up other and weaker Britains,

Patriotism and science has done much to weave new and extended bands, knitting ties of almost lasting endurance; though imperishable as they be, the strongest bough may yet be snapped, if egotistical partizans bid for a hollow popularity at the expense of a national welfare.

"The Colonies," merely outlying territories of England, have received, and are receiving, from her shores "the bone and sinew of the nation," weakening internally and breaking into scattered fragments that power which once ruled the world. If, then, Britain is to maintain a supremacy, or even hold her ground in the councils of growing empires, one common interest must be the future bond of strength, reuniting us all, otherwise these off-shoots of the mother-land drifting away blindly, through their own short-sightedness, may some day be met and crushed in detail by a power which has learned to value the teachings of our fable, leaving their parent to, afterwards, share the same fate.

It is some years since an eminent Frenchman, who, after visiting our Universities, expressed his astonishment, upon his return to his native country, that England should send so many of her sons to study for a profession in which the prizes were so few and so hard to win, and when the greater majority, after spending the best days of their youth in the attempt, would have at last to go out into the world, unsuccessful and disappointed men. The answer was that it is characteristic of the spirit of the English "emulation," with them, whenever there is a race to be run, the prize of which brings honour, the field, at the starting point, is always sure to be large. The days of brute strength have passed away; war has become a deep science, a life study, and it is absurd to expect men to spend years of time and money in acquiring a knowledge of the profession of arms, when such labour and experience bring neither worth or position. The heart of military service becomes as water when it feels there is no reality in the work, and discipline ceases to be noble, when party spirit paralyzes the authority and councils of its chief. If England and the Colonies are to look to the Colonial Militia for help, as an auxiliary to the Imperial arm in the event of war, the service must be made real and earnest, affording officers an opportunity of winning their way to positions in the Imperial service through their own ability by fair and open competition, which at present is not the case, so that, officers who take an interest in the military profession, may have something to work, something to aim for, and here by "emulation," raise the whole efficiency of our force, linking the services, together, by the closest of ties. The proposal for an Imperial Colonial reserve, as advocated in Lieut. General Sir Selby Smyth's Militia Report for the past year, and suggested in a lecture delivered at the Royal United Service Institution, on "The Military Aspect of Canada," by Lt.-Col. Strange, R.A., Dominion Inspector of Artillery, offers all that is desired and which, if carried out, would give such an impetus of spirit in the work of defence, that the arms of United and Greater Britain might bid defiance to the rest of the world.

The Pall Mall Budget of the 7th ult., referring to this subject, says:—"The Royal Commission appointed to inquire into the question of the defence of our outlying territories contain men of both parties, and delegates are now on their way home to represent colonial opinions on this subject. It would be nothing short of a national misfortune if the opportunity were lost of putting this important business on a proper footing. As matters stand there is positively no arrangement whatever for joint protection—ports are left unprotected, coaling stations unsupplied, important strategical positions unconnected by telegraph, and the land and sea forces of the various colonies are unorganized. One member of this important commission is now Secretary at War, another is Civil Lord of the Admiralty. Is it too much to expect that the new Liberal Government will sanction arrangements which will relieve us once for all from anxiety on this head? By presenting more completely than their predecessors the commercial interests of the country, they must see clearly that the

...rity of our country depends upon preparation being made good time to meet any emergency. The colonists shewed early that they were ready and eager to bear their share of danger at a time war seemed almost certain; there is no reason to suppose that they are not equally ready to enter upon a reasonable agreement for the apportionment of the expense of adequate preparations in time of peace. It would be a triumph for a Liberal Administration, some of whose members have been accused of disregard of the greater concerns of the country, if they succeeded in putting beyond the limit of discussion the organizations of 'Imperial defence.'

In the present politically unsettled state of the world, the importance of this subject cannot be overstated, the "thin red line of Britain," no matter what its valour may be, pales before the enormous armies of continental Europe, and the recent policy of Russia in purchasing and equipping fast gun boats in continental and American ports, for the purpose of letting them loose, like "blood hounds," in the event of war, to prey upon our mercantile navy, and intercept our "highways on the water"—which blockading our commercial routes and harbours, would send consternation throughout the length and breadth of England's possessions—should carry serious thoughts into the minds of our rulers at Ottawa.

Among the many military organizers whose attentions are being bestowed upon the urgent problem of the hour, none, perhaps, have rendered so great a service to, or are more entitled to the sincere thanks of our Empire than Captain J. C. R. Colomb, who in placing before England and her Colonies a practical solution of this momentous question in his book entitled "The Defence of Great and Greater Britain," takes rank as a benefactor to his native land.

For the purpose of reviewing Capt. Colomb's book in our next, with remarks bearing upon the military service of our own Domi-

Militia Items.

The first great drama and last spectacle on the Plains of Abraham, divided by an interval of over a century of time, has served to mind the wonderful improvements that have taken place in the construction of modern weapons of war, and with it a total revolution in the movements and disposition of fighting armies. No longer could a regiment of Fraser Highlanders throw down their arms and drive back, with their bayonets fixed to their rifles, the defending forces through the gates of the city, rather would it appear that a defending army judiciously equipped, properly armed and entrenched, could bid defiance to a host of assailants. The long range of rifled guns, the rapidity, accuracy and efficacy of their fire, would annihilate bodies of men in close formation, and render the new system of evolutions in extended order an absolute necessity. Field artillery must be met by field artillery, and the deadly fire from this silenced cre infantry dare venture to shew themselves in the open, whilst machine guns are almost sure to play an important part in any future battle. The lessons learned from the retrospect of the past continental campaigns shew clearly the deep science the "art of war" has become, and it is to be sincerely hoped that the Volunteers will carry back to their homes the practical scientific instruction taught by the past, and which, if taken to heart, is sure to prove a united and lasting benefit to the efficiency of our colonial army.

The Queen's Own Canadian Hussars, commanded by Colonel Forsyth, consisting of two troops, "A" and "B," have been actively commanded by Colonels Turnbull and Gray, and have been undergoing their annual course of training at the Citadel, Quebec, during the past month. The efficiency of this cavalry regiment, which reflects the great credit upon our service, entails the thanks of the authorities upon Lieut.-Colonel Turnbull for the manner in which he has lavished both time and money in bringing them to such a state of perfection.

—Circumstances in this world are generally compensating. The dire consternation which seized the Quebec civic authorities, sending the volunteer regiments under arms, in the expectation that it would be necessary to call upon them to quell apparent labor riots, must have proved highly beneficial, in a military point of view, and to the men themselves, for not only were both officers and men called upon to perform all the ordinary regimental duty and barrack work of a regular garrison during several days, but the Commandant of the Royal School of Gunnery, Lt.-Col. Strange, R.A., taking advantage of the various battalions being brigaded together, put the whole through an extended series of brigade drill, in close and extended formation on the Plains of Abraham, and the soldierly bearing and smart manner in which the evolutions were performed by the 8th and 9th Battalions cannot be too highly praised.

—Some remarks appeared in a recent issue of the *Toronto Mail*, emanating from the heated imagination of its Quebec correspondent, respecting the refusal of the 8th and 9th Battalions of Quebec Rifles to deposit their arms in the Citadel Armory during the late labor commotion. The statement was directly contrary to the facts; nothing could exceed the cheerfulness with which the men complied with the order, knowing it to be sheer madness, in the then state of affairs, to leave rifles scattered about in all directions. It is a pity that sensational correspondents do not take a little more trouble to learn the truth.

—The Quebec Field Battery, Captain Crawford Lindsay, Lieutenants Deau, Garneau and Thibaudeau, were quartered at the Citadel, Quebec, during the past month, undergoing their annual training. The Battery was inspected by Lt.-Col. Strange, R.A., D.I.A., on the parade ground at the Citadel, on the afternoon of the 25th ult., in the presence of His Excellency the Marquis of Lorne. The corps went through a series of field evolutions; dismounting, mounting and working ordnance, walking and trotting past, and a practical examination connected with the stores, equipment and working of a field battery. Upon the conclusion the inspecting officer expressed himself greatly pleased with the high state of efficiency this excellent Battery had arrived at. On the 26th ult., the men went through their annual firing competition at the Island of Orleans, for the Dominion Artillery Association prizes, sixteen men firing five rounds each, three common and two shrapnel. The practice was excellent, the target, being blown into pieces. On the 27th ult., the corps was again inspected by the Lieutenant-Governor on the Esplanade. The Battery then walked and trotted past to the music of "B" Battery band. Several movements were also performed in the most satisfactory manner. His Honor then presented badges to the following successful competitors:—Sergeant Marcheterre, Gunner Letarte, Gunner Martel, Bombardier Moisan, Sergeant Gronier, and Drivers Letarte and Drolet. His Honor addressed the men congratulating them upon the splendid appearance they had made, and stating that he "saw in their faces the spirit of the old volunteer veterans of 1812, and a proof that the chivalry of the French race had not died out on this continent." He added, he felt sure that "B" Battery, who were regular troops, and who, in his opinion, could not be excelled by any soldiers in the world, would feel proud, in the event of active service, to go into action side by side with them. This battery is to be congratulated upon the high state of efficiency it has attained, and the smart appearance of the men, due to the untiring energy of Capt. Lindsay. Lt.-Col. Baby, lately commanding this Battery, generously presented the whole of the men with cap lines and chains for their busbies.

—The 49th Battalion will go into camp on the 24th of June, but whether at Bowmanville or Kingston is not yet known.

—The Princess Louise Dragoon Guards will go into camp on the 19th of June, and the Ottawa Field Battery a few days after. The former will camp at Stewarton, and the Battery on the Montreal Road.

—The Wimbledon team will sail for England on the 19th of June, and the Ottawa contingent will leave on the 18th. Capt. Todd, of the G.G.F.G., has been induced to reconsider his determination and take his place in the team.

—On the 25th of June next, all the volunteer companies within seventy miles of London, Ont., will assemble in that city and go into camp at the Queen's Park. A grand review will take place in London on Dominion Day.

—His Excellency the Marquis of Lorne and H.R.H. the Princess Louise arrived in Quebec on the 20th ult., and took up their residence in the Citadel. They were met at the station by a guard of honor from "B" Battery, commanded by Lt.-Col. Montizambert and Major Hebert, also by Lt.-Col. Strange, R.A., and Capt. Short, C.A., and were escorted from thence to the Citadel by the Queen's Own Canadian Hussars, under the command of Lt.-Colonel J. F. Turnbull.

—The cheerful discipline displayed by all ranks of the Volunteers who were quartered in the Citadel, during the ship-labor disturbance, and the alacrity with which the men obeyed the summons to arms, speaks volumes for Canada's Militia. Hurried at a moment's notice into barracks, the majority being totally unprovided with the ordinary utensils and appointments which form a soldier's kit, might have tried the temper of veterans; but all discomfort appeared utterly forgotten in the anxiety to do their duty.

—A company of the 10th Royals, Toronto, together with the band, have been invited to Louisville, Ky., by the Kentucky State Agricultural and Mechanical Association, during the exhibition of the Association, which will commence on the 30th August and end on the 5th of September next. During the exhibition, General Jos. E. Johnston will review the State troops, who will muster by order of His Honor Dr. Blackburn, Governor of the State, and it is desired that Col. Shaw, the gallant commander of the 10th, and staff participate in the review. A special train will be provided to convey the Toronto Volunteers from that city to Louisville, if permission is granted them to go. The matter is at present under the consideration of the Minister of Militia.

NOTE—Officers of the Militia are requested to kindly forward to the Editor, for insertion in this column, any information respecting their own regiments which they think might be of interest to their brother officers.

—Whatever schemes of Army reduction may be in the breasts of the War Office officials, it is to be hoped that the Cavalry and Artillery will not be tampered with. Infantry you may create in a few weeks, five years' staff officers at will in a few minutes, Victoria Cross men at discretion, but a battery of Artillery or a squadron of Cavalry are not to be improvised. Mr. Gladstone having made friends with Austria, should now turn round and say, "Childers, hands off the Artillery and Cavalry."—*Broad Arrow*. We should say hands on, and do some little for these all powerful arms of the service,

The Utilization of Colonial Forces Imperial Defence.

Continued.

It is not impossible, although perhaps improbable, that Australia might be called upon to assist Canada. Practically British Columbia is more accessible from Australia by sea than the inhabited interior of Canada by land, if means of transport through the United States was denied to us. For a military expedition to cross the great plains and the Rocky Mountains to traverse the wilds of British Columbia to reach Esquimoutz or Nanaimo, would be the work of months. For a similar expedition to reach the same point from New South Wales, Queensland, or New Zealand, would only be a voyage of weeks. But, with a male population of nearly 35,000, British Columbia should be able to hold its own without outside assistance were arms and stores furnished.

And this latter sentence leads to the most serious consideration of all. If war were to break out immediately, in what position should we be in Canada as regards arms and stores?

Of field guns we have—

- 6 6-pr. Armstrong guns at Halifax.
- 2 7-pr. M.L.R.
- 60 9-pr. M.L.R.
- 73 3-, 6-, 9-, and 18 pr. smooth-bore.
- 15 12- and 24-pr. howitzers.

Of garrison guns we have—

- 423 12-, 18-, 24-, 32-, 56-, 68-pr. smooth-bore.
- 10 7-inch B.L.
- 4 7-inch M.L.
- 26 8-inch S.B.
- 21 64-32 Palliser guns converted.

Of naval guns—

- 102 carronades, 12-, 18-, 24-, 32-, 68-pr.

Of battery howitzers and mortars—

- 22 5½- and 8-inch howitzers.
- 53 8-, 10-, and 13-inch mortars.

Or a total of all kinds of 895.

The total quantity of powder in store for these guns is 108 lbs., or an average of about 30 rounds per gun.

We have a reserve of 21,000 Snider Enfield rifles, and 4000 in the hands of the active militia. For these we have 7,692,390 ball cartridges, or 126 rounds per rifle. Besides these, there are 2,100 Martini-Henry rifles, and 400,060 cartridge, or 221 rounds per rifle.

Of shot and shell we have about 200 rounds for each viceable gun.

Thus it will be seen that we have—

- 68 serviceable rifled field guns.
- 21 serviceable rifled garrison guns, with, say 200 rounds per gun.

62,100 rifles, with an average of 125 rounds per rifle to arm a coast-line of 1,000 miles, and a militia 700 strong.

The rule in the Imperial service (see "Soldier's Pocket-Book," page 47) is that, when on service the proportion of ammunition is calculated at 600 rounds per gun, small arms ammunition at 1,000 rounds per man of infantry, 500 of cavalry, and 250 for other corps.

We have tents for 40,000 men, and blankets for half that number.

Of course the above figures do not include the Imperial stores at Halifax and Bermuda, which are doubtless well supplied so far as the wants of their garrisons are concerned,

Table showing available numbers of 1st and 2nd Class Militiamen in Canada, and Numbers of Active Militia Enrolled and Drilled.

Name of Province.	Total male population according to census of 1871.	1st Class Militia according to enumeration in 1873, between 18 and 30.	2nd Class Militia, according to enumeration in 1873, between 30 and 45.	Total unmarried or widowers without children between the ages of 18 and 45 years.	Quota of Active Militia authorized under scheme of distribution in 1870.	Number of active militia, authorized to perform annual drill in 1873.
Ontario	828,690	115,325	18,211	231,738	18,070	9,214
Quebec	596,011	69,020	9,053	78,453	14,382	6,583
New Brunswick	145,888	22,969	1,302	27,271	3,201	1,594
Nova Scotia	193,792	30,241	5,706	35,917	4,281	1,925
Prince Edward Island (1877)	48,363	8,240	1,396	9,636	supplementary	317
Manitoba (1877)	29,280	3,043	981	4,029	Militia	180
British Columbia (1877)	33,240	2,981	1,113	4,124	Acts.	140
Total	1,875,194	251,821	40,792	302,860	45,000	19,569

Militia Report.

It needs only further to draw attention to the Canadian Pacific Railway and the impolicy of removing British naval protection from Vancouver Island. The people of British Columbia are very loyal, and desire to remain closely connected with England, from whom they derive their origin, but they feel that their interests have been sometimes neglected, and there is no knowing how they might act if they found themselves free to act according to their interests.

The large supplies of eastern produce required by Canada would be carried by this route and help to develop trade in a community who draw their manufactures from England, instead of, as now, going through and helping to build up American interests.

Lieut.-Colonel Strange was appointed upon this commission, being the senior, and an officer of acknowledged high professional attainments very desirous to be so employed. It was desirable that both Dominion Inspectors of Artillery should know the defences and the sea coasts of Vancouver and British Columbia. Lt.-Col. Irwin, an excellent young officer of much promise, had already made a long and fatiguing journey across the continent. The manner in which his duty was performed last year having called for my approbation and justified my representing his able report in that sense to the Government and to the Colonial and War Ministers.

In the early part of last year I had the honor to draw attention to the defenceless state of the Atlantic coasts and seaports of the Dominion.

I therefore concur with Lieut.-Colonel Strange, that it is important in view of economy to utilize the large stock of smooth bore guns owned by the Government, amounting to some 400 in all, and to order the conversion of twenty 32-pounders of 56 cwt., to 61-pounder rifled guns, and two 68-pounder and eight 8-inch to 80-pounders and 61-pounders, respectively. As the 61-pounder rifled guns are only available to resist boat attack and to arm steamers for coast service, as well as to arm batteries on the rivers, it is strongly recommended that 12 9-inch long B. L. rifle guns on the Palliser principle be constructed to mount on the harbors of the Atlantic coast. This gun would be about eight tons weight, and throw a projectile of about 200 pounds, capable of piercing heavy armour.

The important question of manufacturing rifled guns and projectiles in Canada, taken in connection with the proposed cartridge factory, the adoption of home-made gunpowder, the making up of military clothing and equipment, with other strides of advance in self-reliant military progress, appears of so much consequence just now, that I am induced to give prominence to the subject. Much of the information has been obtained by correspondence with Sir William Palliser himself, who it may be remembered has generously bestowed on Canada a seven and an eight-inch rifled gun, now at Quebec, and he is, I believe, manufacturing a nine-inch gun as a present, which was offered and accepted by the Dominion Government about two years ago.

The successful attempt to manufacture rifled guns in Canada has been justly mentioned in the English press as "an event of imperial importance," for a nation which depends upon the supply of such weapons from a source 3,000 miles distant must always be in a more or less dependent position.

The ordnance required for coast defence are as the smallest calibre, seven-inch eight and half ton guns and 80 pound rifles, both of which can be made in Canada without difficulty. The 90 pound gun might be the converted eight-inch 65 cwt. gun, as represented in the Appendix, and has a length of bore of 25 calibres, the same length as the Krupp gun, which gave high velocities with charges of mild powder, and consequent low pressures.

In considering the means available at every little outlay for the defence of the coast, it should be remembered that Canada has a good supply of cast iron mortars. It has been under consideration to convert those to rifled mortars for the defence of harbors. An engraving in Appendix No. 9 shows the 8-inch service mortar converted to a 6.3-inch rifled mortar to fire the 61-pounder or 90 pound

shell. The advantages of rifled mortar batteries are that they are concealed from the view of an enemy, and their fire can be directed by signal by the artillery officer commanding.

The batteries being distributed in the most suitable position the harbor to be defended marked out in zones, diagram in Appendix No. 8, and a supply of powder charges made up to reach each zone, would enable the officer commanding the artillery concentrate, by signal, a vertical rain of shell fire on the ship an enemy entering the zones to bombard the town. The descent of one shell descending upon the deck of a ship would be so great that only the most dashing and adventurous sailors would remain exposed for any length of time. Admiral Gran lately ran the "Huscar" within 600 yards of the batteries of Antofagasta, which were armed with the best European rifled guns, one of them a 10-pounder. The "Huscar" lay with her bow to the town and she was shelled, suffering no damage. It would have been impossible for her to have remained an hour under the fire of 30 6.3 rifled mortar at a range of 600 yards, on which they had frequently practised. Yet these rifled mortars altogether would hardly cost more than the 80-pounder, dismounted at the first round with its wretched iron carriage and slides.

The idea is illustrated in the drawing in diagram Appendix 9. On a declaration of war, the officer commanding the artillery could mark out the harbour in his charge roughly into zones or sections with buoys, each section, say 600 yards square, the powder charges to reach each section from the various rifled mortar batteries could thus be prepared. The charges should be kept in separate canisters in the magazines, each canister being marked with the letter of its section; a few rounds from each rifled mortar, which should be able to traverse each section would determine the range of section, and a little practice might be made concentrating the fire of 30 rifled mortars on sections selected and telegraphed by the artillery officer from a central position.

On the approach of the enemy's fleet, and should the leading steamer continue her course towards section A shown in the drawing, the officer could telegraph to load for another concentrate on section B, the steamer moving through the water of ten miles an hour takes ten minutes to 350 yards, so that all would be ready by the time she reached the position of letter B, when at the signal "fire," a vertical shower of 30 shells would descend into that section, and the same would send another shower upon her into section C.

It would require skill and judgment on the part of the artillery officer commanding to continue this practice during the bombardment, or to decide whether it would be more advantageous the independent firing of the mortar batteries under their own officers. In either case the buoying of the harbour would be an advantage, and this could be done with casks colored for zone and anchors. An enemy would, no doubt, try to remove buoys by boats at night, but they could be kept off by launches armed with Gatling guns.

It should be remembered that the subject of numerous batteries of cheap rifled mortars is probably insignificant in the eyes of those who manufacture ponderous rifled ordnance, which costs large sums of money, giving large profits, and therefore little no mention is made of them in Europe; but it must not be forgotten that Germany, with her usual forethought and prudence, discovered their value, and numerous rifled mortars now in German service constitute not the least powerful portion of her armament.

Russia would also appear to be alive to the use of vertical fire. The late Consul at Sebastopol was in that port when a small steam steamer returned, having just escaped capture by a Russian iron-clad of superior speed and heavy armament of 12 ton guns. This steamer had been struck by a 24-inch 250 pound shell almost every portion of her hull except the engine room, the men and some officers had been killed and wounded, in fact the steamer was almost a wreck; nevertheless she escaped, and was taken by Captain Harford, late of Her Majesty's 65th Regiment, and Consul at Sebastopol, that her escape was solely due to vertical fire from the mortar battery. It appeared she had 6 guns and that her armament consisted of six smooth-bore mortars, three in her bow and three in her stern. When the iron-clad gave chase she rapidly overhauled the Russian steamer, and in all the time and making great havoc among the crew; although two of the mortars were dismounted, the iron-clad continued the fire at the huge iron-clad within 600 yards. The Russian captain told the Consul he was about to give up as hopeless when one of the 6-inch shells fell upon the deck and burst near the funnel. A jet of steam issued from the ship after the explosion, confusion appeared among the crew, the steam ceased, her engines stopped. Soon she stopped, sheared off to some port, and the Russian escaped. No better illustration could be given of the value of vertical fire.

Converted rifled mortars are very cheap, and it is certain would be very formidable in sufficient number. Six mortar batteries of five rifled mortars each, as shown in the drawing, their fire directed by signal, would be a cheap and useful armament to the batteries of rifled guns. The efficiency of the rifled mortar would depend very much upon the number employed, so that the chances of a lucky shell might be increased. Combined with efficiency is what Canada seeks, especially the work can be done in her own shops. Sir William Palliser's marks on ordnance are annexed to the drawings in Appendix No. 9.

A converted rifle mortar on the Palliser plan has been fired with success at Shoeburyness. The success of the idea has thus been established: the shells all descended point to point. The mortar was a 13-inch smooth bore, and is converted to a rifle, firing the service projectiles of that weight. A great advantage is in the use of the service projectile of the rifled mortar can be no confusion of stores. Thus the 13-inch smooth bore mortar converts into a 9-inch rifled mortar, the 10-inch 7-inch, and the 8-inch smooth bore into the 6.3-inch mortar. The weight of the shell for the 9-inch rifled mortar is 250 lbs. 7-inch, 120 lbs. and of the 6.3-inch, 61 lbs., or 90 lbs. Messrs. Gilbert & Son could cast mortar bars for conversion those in store are finished. The proper mixture would be three strong grey pig, and one-third white iron. This gives a strong "mottled" iron suitable for gun castings. No doubt, it is a surprise that advantage should not have been taken in England of this cheap and vast supply of formidable mortar when converted, but it must be remembered that the eyes were not dropped because it was a bad one, but because all the votes were devoted to the manufacture of Woolwich guns.

NOTE, ED.—Major Palliser proposes rifled mortars, fired at a fixed elevation (45°) with varying charges, similar to the present system of smooth bore.

Rifled mortars were first introduced to notice in the late Franco-Prussian war, and are weapons which are likely to play an important part in any future campaign, both for firing heavy common shell with large bursting charges, (probably gun cotton), and also vertical Shrapnel shells. The weapons with which the latter would be used should more properly be called "rifled howitzers." As it is, however, evident that a large amount of the explosive force is expended in overcoming the friction of the studs against the sides of the grooves, and in imparting to the projectile the necessary rotatory motion, the amount of which increases with increased velocities of the projectile and sharpness of twist in the grooves of the gun, it becomes apparent that to impart to shells fired from a rifled mortar at a fixed elevation with varying charges to suit different ranges, and consequently with different initial velocities, the proper amount of velocity of rotation necessary to keep the longer axis of the shot parallel with its trajectory, that the twist of the rifling should also vary proportionally to the charges used, or else there will be a range at which the projectile having expended its motion of rotation, at the highest point of its line of flight, will, in descending, turn over on its shorter axis, thereby rendering the firing inaccurate, and the percussion fuzes uncertain of effect.

The better means in our opinion is to fire fixed charges with elevations varying according to the ranges required.

Military Items.

—So little is known of the real state or strength of the Chinese army, that great interest is attached to a lecture of Captain Gill, R.E., on the subject before the United Service Institution recently.

The organization of the Chinese forces is most peculiar. The "Banner Army," which most nearly approaches to European notions of what an army should be, consists of about 275,000 officers and men, no more than 50,000 of whom could be said to be effective.

Then there is the force of the "Green Standard," which has the responsibilities of the police force generally, and, in addition, mans the navy of the seaboard provinces. The men are strictly kept to their own provinces, and the force in each province amounts to about 34,500 men. Of Chinese soldiers generally, Captain Gill observes that if properly trained, properly led by officers in whom they have confidence, they would certainly furnish material for admirable soldiers—which, at present, they certainly are not, being, according to all accounts, a compound of cowardice and ferocity.

—A despatch from Wellington, New Zealand, states that the Regent General, the Marquis of Normanby, who is the Governor appointed by the Crown, has decided upon ordering from England a number of torpedo boats for the torpedo corps which is to be organized for the protection of the colony. This is understood to be simply a precautionary measure, as no danger from attack by sea threatens the colony. But within the past ten or twelve years, New Zealand has prospered and become much more desirable than formerly as a possession for any power, and it was concluded by the Governor, with the consent of the General Assembly of the colony, that further harbor defence was needed in case of the breaking out of war between England and other maritime powers. The argument was that New Zealand was situated too far from Great Britain to expect aid from her at short notice, and that the colony is an additional disadvantage in case of an attack, by being divided into three islands, from fifteen to eighteen miles apart. It has Auckland and other excellent ports, the most of which are now not protected in any way against the approach of armed vessels.

—A comprehensive bill for regulating the militia force of the United States was reported by the Militia Committee of the House on April the 7th. The following are briefly its principal features:—Every able-bodied male citizen between the ages of eighteen and forty-five years is to be enrolled as available for militia duty. All of these, regularly organized under State laws in military corps, are to belong to the "National Guard," and all others enrolled are to belong to the "inactive militia. Provided that there are 700 members to the organizations of each State and Territory; that in the organizations there are not more than 700 men to each representative or delegate in Congress, that each organization or corps serves five days in camp each year and drills once a month; and that at least one rifle range for the practice of the militia is established in each State and Territory, the Secretary of War will, through the Chief of Ordnance, furnish to the militia services uniforms for each man enlisted for three years, camp equipments, small arms, and sufficient ammunition for range practice. The President is authorized to offer annually a prize of \$100 for marksmanship in each State, and \$1,000 for a team prize, each team of fifteen to be selected from the regularly enlisted militia of a State or Territory. The President is empowered, in case of war, to call out the national guard or any part thereof, for a time not exceeding twelve months. A board of officers appointed by the President is to make regulations and decide upon the service uniform to be issued by the Government. Finally, \$500,000 are appropriated to carry out the provisions of the bill, and all conflicting legislation is repealed.

LT.—GENERAL SIR E. SELBY SMYTH, K. C. M. G.

The parting with a friend is at all times a melancholy event, but the return of Lt.-General Sir E. Selby Smyth to England, after commanding our Colonial forces for so many years, calls for marked and special regrets. In him the Militia of Canada loses a true friend, one who has at all times had its welfare at heart, and advocated its interest in spite of all opposition. The great experience he must have acquired in the conduct of Colonial military affairs, and the valuable assistance he can consequently give on so important a subject, is directly lost to the Government of this country and ourselves. Under his command many alterations and great improvements have been instituted, raising the tone of our service to a high state of efficiency. It is, however, to be sincerely hoped that in General Smyth's new sphere of action he will not forget us, but, by being more directly in communication with the War Office at home, will be better able to advance our future prospects, by placing before the authorities in a clearer light the urgent necessity of an "Imperial Colonial Reserve." It is but expressing the earnest sentiments of every officer and man in the Militia when we say, that we all wish him "God speed," and may success attend his future commands, in whatever quarter of the globe the "arms" of Her Majesty may call him.

At the dinner given in Quebec to the officers of visiting corps, on the occasion of the celebration of the past Queen's Birthday, the Lieutenant-General commanding, who was received with loud cheers, in reply to his health, proposed by the Chairman, Lieut.-Colonel Duchesnay, D.A.G., responded as follows:—

"I am sure that none of my friends who are present will think I am using merely a formal phrase when I say that often as it has been my duty and my pleasure in every quarter of the globe to address kind and indulgent

audiences, seldom have I felt my heart so full, my powers of expression so inadequate to the occasion as at the present moment. It is rarely that a General officer, upon relinquishing an important position, is so honored by kind sentiments and good feeling in the presence of so many officers of that force he has been so long proud to command. When nearly six years ago I came to Canada I was aware that as the first British General officer who had ever been entrusted by a Colonial Government to command their national forces, I was in some measure an experiment, that the experiment has not been unsuccessful, I have the pleasure to feel, by the appointment of a successor at the termination of my term of service, and by the living proof of being the guest to-night of so many officers of the Dominion Militia. Gentlemen, it is not by the welcome accorded to a stranger upon first arriving to occupy a prominent public position that his character is to be estimated, it is far more after being tried and proved and honored as I feel I am to-night at the eve of my departure that the happy reflexion comes home to the heart, that in whatever I may have failed the honest desire to do right to all around me has not gone altogether unrewarded in the estimation of those most competent to judge. Since I came among you, gentlemen, I have tried, as my aim and efforts have been ever through a long military life, to do my duty to our Queen and to the country and Government I have the honor to serve, and though in the position I occupy there is much that demands a careful discretion to modify the sterner discipline of regular armies, yet I trust I have but rarely overstept the bounds of that discretion; I have tried rather to perform the part of the old pilot, to stand by the helm in fair weather and in foul, and to keep the ship's head firmly towards her port while steering with a steady hand as she ran her course. I must not detain you, my friends, remembering how time presses and how many of you must speedily disperse to distant homes. When I look around and reflect how many of the present company could address you with more persuasive eloquence I am reminded that as a soldier my forte lies in action more than in contemplation, and that among them some one will thank you on their behalf better than I would, but I may repeat in taking leave of you what I have said upon another occasion. That since my first landing on these shores, wherever I have traveled in the wide and mighty region between the Atlantic and Pacific coasts, wherever I have mingled with the people of this great country, in whatever circle or society I have had the honor to be admitted, I have always received the genial kindness and the cordial welcome of a warmhearted and a loyal people, and I trust in the future I may again in England meet some of the kind friends whom I have made in Canada, and continue that cordial good fellowship that binds us together as the free and happy subjects of our most Gracious Sovereign. I feel a pride that my last public act in Canada should have been, upon this loyal anniversary, to command the troops to-day assembled upon the historic Plains of Abraham, where the events of bye-gone centuries have handed down to this generation, the Canada of to-day, inhabited by a united, prosperous and law abiding population. The pleasure we all felt to-day in doing honor to our Sovereign was enhanced by the presence of Her Majesty's representative and by two illustrious members of the Royal Family, the Princess Louise and Prince Leopold. In His Excellency the militia will always have a powerful advocate and patron, in their welfare and progress His Excellency takes as warm an interest as in that of every important institution of this country. And now I must bid you adieu though I feel how hard it is to be parted from those among whom I have so long dwelt with so much pleasure, yet more bitter indeed is the sorrow that flows when perhaps, to many I may now be saying fare-

well for ever. I thank the Governments under which I have served, and the four Ministers of Militia under whom I have so agreeably conducted my duties. And I thank you one and all, gentlemen, for the downright kindness and good feeling you have always shown me and which I shall never forget.—(Applause).

—“Too many cooks spoil the broth” is an old and true adage, and it is to be greatly deplored that the 62nd Battalion (St. John, N.B.,) should have, upon their late visit to Quebec, unfortunately had their pleasure marred by experiencing the truth of this saying. Through a misunderstanding between Mr. Gregory, of the Marine and Fisheries Department, who had kindly volunteered to look after the interests of that regiment during its stay in this city, and Mr. Hall, the Quarter-Master of the corps, the men were found, at the last moment, upon their arrival from New Brunswick, to be totally without rations, and no provision made to get any; and though the non-commissioned officers and men of “B” Battery had generously voted a day's pay to give their “brothers in arms” a dinner the next day, besides the 50 cents per man voted by the Central Committee, this meal was not forthcoming either. “B” Battery were greatly chagrined at the way things were mismanaged, and hope that at some future day they may be afforded an opportunity of making amends for the discomfort suffered by the men of the 62nd, though the fault lay with others.

GUNCOTTON.

Experiments in Austria, up to July, 1871, show that musket balls fired at short ranges against unfrozen dynamite caused its explosion. The following conclusions were arrived at upon further experiments:—

1. Frozen dynamite cannot be exploded by leaden balls having a velocity not greater than 1,300 feet per second.
2. Unfrozen dynamite placed behind and immediately in contact with an iron plate will explode from the shock of impact.
3. Dynamite can be completely protected by the use of a sufficiently thick plate, at the same time maintaining a space between plate and dynamite, plates of iron 0.17-inch (?) and of steel 0.23-inch thick will be found sufficient.

The idea of plating wagons was, however, abandoned, chiefly on account of the addition of weight, and the impossibility of protecting them from artillery fire, under which the armour would become an element of danger.

The main spread of splinters, &c., due to the explosion of a wagon containing 69 lbs. of powder and 92 lbs. of dynamite was 164 to 131 yards, but pieces fell beyond in a circle of about 240 yards radius.

PURVEYOR TO HIS EXCELLENCY THE GOVERNOR GENERAL.

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Quebec, 1st March, 1880.

M. HOGAN,