

and wagons under cover. On rainy days, the usual drills were replaced by lectures on gunnery, and on several occasions guns were dismounted and mounted, and disabled wheels replaced. Much valuable information and a certain amount of self reliance have been acquired, which must increase the efficiency of this corps.

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

M. W. BABY,
Com. Q. F. B.

GRAND TRUNK RAILWAY BRIGADE.

MONTREAL, November 11th, 1873.

SIR,—I have the honor to report, for your information, my opinion on the state of the companies of the Grand Trunk Railway Brigade, after the annual training of years 1873 and 1874. Only a portion, however, have at this date, concluded their prescribed course, principally owing to the great stress put upon our men during the summer and autumn, connected with the change of guage.

On the 10th October, inspected the two batteries at Stratford, Ontario, belonging to 2nd Brigade Artillery, Lt.-Col. Spicer; and at the same time and place Nos. 4 and 5 Companies of 3rd Battalion Rifles, No. 5 marching from St. Mary's. The two batteries are excellent, as far as foot drill and a fine appearance can make them, but some of the officers are very deficient in their knowledge of drill. The other two companies are fair. The band is kept up at their own expense, and is in an improving condition.

On the 11th of October, I inspected the H. Q. of the 3rd Battalion of Rifles, at Brantford, and all work was stopped in order to have a good turn out on the plains near the station. They marched past in good style, performed the manual and firing exercise, battalion and company drill, skirmishing, practising retiring, with advancing and retiring, and expended twenty rounds of blank cartridge. The force, at this point, is in excellent order, you will perceive by my reports for the last two years, that they have always, in my opinion, been up to the mark; this is helped materially by the care and pains bestowed upon it by Lt.-Col. P. S. Stevenson, in the interior economy, if that name can be applied to this force. The right men are Captains of companies, as they command the men both in their civil and military capacity, and should be invariably followed in this organization.

The officers at this point are fairly up in their work. I have inspected Lt.-Col. Hickson's Brigade, with the exception of No. 6 Battery, Captain Symington, by two batteries at a time. By this means it gave me time to check the pay rolls and have a thorough inspection of the men and their ability to perform drill. The musters were excellent, and the batteries performed foot drill steadily. The whole have completed their target practice. You will perceive in this brigade that we have had a dead lock with regard to promotion, owing to the fact that it is impossible for the officers of this force to go to the Gunnery Schools, even for the short course. I hope you will be able to remedy this at once, as the officers are by far the weakest point in the force, and we have already too limited a number.

Inspected the 1st Battalion Rifles, Lt.-Col. Bailey. They are in excellent order, both in drill and as regards the efficiency of the officers belonging to the battalion. I also saw one company of the 2nd. Battalion, Captain Wall. The same remarks apply to this company as to the 1st Battalion. Target practice has been carried out, to my knowledge, to a greater extent than in any previous year. Prizes and very large amounts have been subscribed for, and got up by the officers and non-commissioned officers in

every company. The prizes at the Dominion and Provincial matches for battalion and companies have been, without exception, carried by the brigade, showing a high state of efficiency in the use of the national weapon, the Snider Rifle. I have also inspected all armouries connected with the brigade; they are in good order, with the exception of Brockville.

I have the honor to be, Sir,
Your obedient servant,
P. W. WORSLEY, Lieut.-Colonel,
B. M., G. T. R. B.

The Acting Adjutant General of Militia,
Ottawa.

MONTREAL, November 13th, 1873.

List of all Corps in the Grand Trunk Rifle Brigade, not inspected by the Brigade Major, and a Statement when they will perform their drill:—

Corps.	Not Inspected.	When they will perform their Drill.
1st Brigade Artillery	No. 6 Battery	30th May, 1874.
2nd Brigade Artillery	Nos. 1, 2, 3, & 4 Batteries. ...	30th March, 1874.
1st Battalion Rifles	„ 5 & 6 Companies	30th November, 1873.
2nd Battalion Rifles	„ 4, 5, 6, 7, & 8 Companies.	Between November & December, 1873.
3rd Battalion Rifles.....	„ 6 & 7, Companies	18th November, 1873.

P. W. WORSLEY, Lieut.-Colonel,
Brigade Major, G. T. R. B.

MILITARY DISTRICT No. 9.

HEAD QUARTERS,
HALIFAX, N.S.,
January 1st, 1874.

SIR,—I have the honor to inform you that the quota of Active Militia required to be furnished from the district under my command, is 4,284. The total nominal strength of the force in the district, were the respective corps complete to their established strength, as authorized, would be 320 officers, and 4,505 men.

The total actual strength of the force who mustered at the annual drill for 1873-74, was 244 officers, 3,350 men.

Corps of the established strength of 34 officers and 550 men, have not as yet trained. If these muster at full strength, there would be 42 officers and 605 men wanting to complete.

The Active Militia in this district, consist of the following corps, which at the time of the annual training turned out as under:—

	Officers.	Men.
Halifax Light Battery	5	70
1st Halifax Brigade Garrison Artillery	23	273
2nd „ „	21	244
Lunenburg Battery „ (not trained)	0	0
Mahone Bay „ (not trained)	0	0
Digby „ (not trained)	0	0

63rd Rifles (Halifax).....	20	275
66th Battalion Infantry	28	425
63th ".....	37	498
69th ".....	34	461
72nd ".....	23	302
No. 6 Company, 75th Battalion	3	41
78th Battalion (Highlanders)	20	304
Victoria Prov. Battalion	17	265
Cumberland Prov. Battalion.....	13	192

The annual drill was performed in accordance with General Orders (12,) of 30th May, and (14,) of 23rd June, 1873, as in documents (A.) (B.) herewith forwarded. Annual inspection reports, and district target practice returns are also enclosed.

I have the honor to be, Sir,

Your obedient servant,

J. W. LAURIE, Lieut.-Colonel.

D. A. G., Commanding Mil. Dis. No. 9.

(A)

THE HALIFAX BRIGADE.

Consisting of:—

Halifax Light Battery	Captain Graham
1st Halifax Brigade Garrison Artillery... ..	Lt.-Col. Mitchell
2nd " "	Captain McPherson
63rd " Rifles	Lt.-Col. Pallister
66th " Infantry	" Brenner

Performed their annual drill at brigade head-quarters. The whole brigade attended two brigade field days, at one of which they were formed in division, with a brigade of Her Majesty's regular troops, under Lieut.-General William O'Grady Haly, C.B.; and the force turned out two additional days.

The whole force also attended one evening brigade drill, drilling from 7-30 until about 10 o'clock in the long summer evening.

The Light Battery practised at 1,500 yards range with their 6-pounder Armstrongs, and made such excellent practice that the target was altogether shot to pieces.

The 1st and 2nd Halifax Brigades Garrison Artillery performed their annual shot and shell practice with 32-pounder guns, at ranges from 1,400 to 1,700 yards, from one of the Halifax harbor batteries kindly placed at my disposal by the Lieut.-General Commanding the troops.

The Halifax City Brigade was inspected by me on the 10th October, 1873. The working of the brigade is very satisfactory; both officers and men take an interest in their work, and strive to attain efficiency. The manœuvring is very fair, and the uniforms well put on, appointments, clean and tidy, and the men present a soldierlike appearance; and at the review in honor of the Governor General, earned high commendation from his Excellency, and also from the Lieut.-General Commanding the troops.

Great difficulty is experienced in horsing the Light Battery; a very large amount is annually contributed by the members of the battery to supplement the Government allowance for horses, which cannot be obtained for less than \$1.00 per hour.

The 68th Battalion went into camp at Kentville. As this was a regimental camp, I know nothing of how the camp economy was carried out, but in the few simple battalion movements performed, the men shewed some knowledge of drill.

The 69th Battalion drilled at company and battalion head-quarters, but it rained heavily during the inspection, held at Paradise, on 7th October, and I dismissed the men after a close muster and one or two simple battalion movements. In this battalion the

belts had been pipe clayed, and there were evidences of a desire to be smart, both in drill and soldierlike appearance, Nos. 7, 8 and 9 companies of this corps were inspected at company head-quarters (Bear River), on the 8th October, 1873, by Lieut.-Col. Milsom, B.M.

The 72nd Battalion also drilled at company head-quarters. I inspected the battalion at Aylesford on the 6th October, 1873. The officers seem zealous and anxious to work up the battalion, but much remains to be done.

No. 6 company of 75th, performed training at company head-quarters, and were inspected by Lieut.-Col. Milsom, on the 14th October. Col. Milsom reports favorable of their willingness and desire to learn.

No. 2 company, 78th Highlanders, was inspected by Lieut.-Col. Sawyer, B.M., on the 13th November, 1873. Col. Sawyer reports them fairly drilled.

No. 4 company was inspected by me on the 30th October. This company drilled very creditably.

No. 5 company was inspected by me on the 27th October. This company is smart and well drilled, and does its captain great credit.

No. 6, 7 and 8 Pictou companies were inspected by me, on the 7th November. The day was bitterly cold, and men were under great disadvantages; men were fairly turned out, and officers who are zealous had worked hard at the drill.

Nos. 1, 2, 3, and 4 companies, Victoria Provisional Battalion, trained at company head-quarters, and the battalion was inspected by Lieut.-Col. Read, B.M., at Baddeck, on the 15th August, 1873; and No. 5 company was inspected at Sydney, on the 22nd November, 1873. Col. Read reports that the ranks were filled with stout able men, and not with mere lads, as in camp last year, and that there was a marked improvement in the drill, &c.

The Cumberland Provisional Battalion, also trained at company head-quarters, mustered at Amherst for my inspection. The companies of this battalion have greatly improved in appearance, belts being better cleaned, uniforms more carefully put on, and generally shewing greater care in drill and turn-out.

The remaining companies, 75th Battalion, as well as the Lunenburg and Mahone Bay Garrison Batteries, have not as yet performed training.

(B)

GENERAL REMARKS.

I may say of all the purely rural corps, that the men are much more careless of their appearance than the city and village corps. They have no pattern to form upon, no one to guide or advise them in military matters, and the presence of an instructor, who has had regular military training in the army, is much required: all ranks are most willing to be taught. The officers are generally in earnest, and do their best, and they mostly have a fair knowledge of drill, &c.; but they come to the annual training after a year's absence, they have no trained non-commissioned officers to assist them, many of their men are recruits, and the utter impossibility of doing everything themselves becomes at last so apparent, that they become discouraged, and find their best and only plan is to gloss over as much as possible, and "get through" the training. If the training is still to be confined to one term of 8 or 16 days annually, and then entirely given up for the year, officers, non-commissioned officers, and recruits should have some preliminary drill, otherwise the full advantage of the training to the rest of the corps cannot be obtained. If it be the intention of the authorities to deal with the volunteer militia as if they are regular soldiers, or on the same footing as the English militia, to be called away from home and avocation, and give up everything else whilst at training, the Government must then be prepared to enter the labour market, and pay the proper price for what it wants; but if the aim is, as I take it to be, to get a body of men who have a stake in the country, and who can be found when wanted at any time throughout the year, and who receive a small money payment more to cover actual outlay than to pay for lost time, more consideration must be given as to how this class can best acquire the greatest

amount of training with the least sacrifice of time. Allowance must be made for the varying circumstances of different localities, and actual efficiency, to be shown at semi-annual inspections, should be the test, rather than the compulsory sacrifice of a certain number of days in camp.

UNIFORM.

I would again call attention to the unsuitability for any purpose, either of appearance or comfort, of the forage cap still issued, and urge that a smarter and more comfortable head-dress be substituted.

J. WIMBURN LAURIE, Lieut.-Colonel,
D. A. G., Mil. Dis. No. 9.

The Acting Adjutant-General of Militia, Ottawa.

APPENDIX No. 2.

REPORT ON "A" BATTERY, SCHOOL OF GUNNERY.

KINGSTON, ONTARIO,
November, 1873.

During the year ending 25th October, 1873, seven officers and 136 non-com officers and men joined this School. The numbers from each battery will be seen on reference to the subjoined list:—

CORPS.	Officers.	Non-Com. Officers and Men.	Total.
London Field Battery			
Wellington do		7	7
Goderich Garrison Battery			
Sarnia do		2	2
Toronto Field Battery		9	9
Welland do			
Hamilton do			
Toronto Garrison Battery	1	11	12
Collingwood do			
St. Catharine's do		24	24
Kingston Field Battery		27	27
Durham do		2	2
Port Hope Garrison Battery			
Cobourg do			
Napanee do	1		1
Trenton do		1	1
Ottawa, Field Battery		1	1
Gananoque do	2	5	7
Ottawa Brigade Garrison Artillery	1	47	48
Iroquois Garrison Battery			
77th Battalion	1		1
1st Regiment of Cavalry	1		1

However well a man may drill, no certificates are given unless the individuals can write correctly from dictation, and keep ordinary accounts; although this rule apparently works rather hardly on some men, yet when it is considered that a certificate almost certifies to the effect that the recipient is fit to hold a commission, I consider that that great caution should be exercised in their bestowal.

The following certificates have been issued during the past year—

	1st class.	2nd class.
Officers	7	0
Non-Com. Officers and Men	8	6

Two officers and forty-three non-com. officers and men volunteered, and were accepted for service with the Artillery in Manitoba, and eight non-com. officers and men received their discharges from the School, for the purpose of engaging in the Mounted Police recently raised for service in the North-West Territories.

In all seven officers and 136 non-com. officers and men (representing more than the full strength of A battery) have joined the School during the year.

I think it highly gratifying that this School of Gunnery has so well answered the expectations formed of it; there is scarcely a battery in the whole Province of Ontario that has not had one or more officers, non-com. officers or men instructed thereat. Some officers commanding batteries refuse to make their men non-com. officers till they have passed through the School, and if this excellent rule was more generally adopted, the effect on the Artillery of the Province would be most marked.

The long course officers were examined in the early part of the past year. I annex hereto copies of the questions, and the following list shewing the marks obtained in each subject, will, I think, convince the most sceptical that a very large amount of professional knowledge has been attained by those officers.

SUBJECTS.	Gunnery.	Artillery.	Queen's Regulations and Articles of War.	Field Fortification.	Mensuration and Trigonometry, &c.	Ammunition.	Militia Regulations.	Extra.	Company Drill.	Field Gun Drill.	Garrison Gun Drill.	Gyn Drill.	Sling Wagon Drill.	Mounting and Dismounting Ordnance, Sheers, &c.	Elementary Exercises, Tackler, &c.	Riding and Sword Drill.	Total.	Decimal.
	Written Answers.								Viva Voce and Practical.									
Maximum Credit.	300	400	200	200	300	400	200	80	100	150	250	50	40	150	130	130	3,080	.1
Capt. Cotton...	184	297	164	190	276	355	126	55	75	133	205	40	20	123	97	65	2,405	.78
Capt. Holmes..	213	272	126	170	289	353	138	55	70	141	221	45	25	110	109	65	2,402	.78
Lieut. Wilson..	110	240	124	74	166	195	136	50	75	144	240	45	30	135	89	91	1,938	.63
Lieut. J. Cotton	213	300	149	102	85	337	155	15	80	141	232	45	30	105	82	78	2,149	.70

I recommend that a higher grade of certificate should be given to officers who passed through the long course creditably, viz., A 1 and A 2 (First and Second Class Artillery). I trust this may be approved of.

I would hope that as Government has obtained several officers well qualified to act as instructors, their services may be more fully utilized. I consider that if an officer, a sergeant and two or three gunners, were sent to such places as Toronto, Hamilton, London, Guelph, Ottawa, &c., for a few months at a time, volunteer classes would be formed for instruction, and those desirous of receiving certificates might readily find time to come to Kingston for three weeks or a month (for instruction in Interior Economy, &c.) Thus in a great measure meeting the cases of those who could not possibly leave their business for 3 months, as is now necessary.

A great number of men have been instructed in riding, driving, harnessing and stable duties, but I regret that the few horses allowed for the battery (eight only) have prevented almost entirely the carrying out of any instruction in Field Artillery manoeuvres. This is a very serious drawback in a Province where there are so many Field Batteries, and I would recommend that during the ensuing spring, whilst the price of horses is low, twenty more be purchased. I would also advise that all officers desirous of bringing horses of their own to the Schools of Gunnery, be allowed forage therefor, provided their horses are available for the public service when required.

I must also express my regret that no instruction in the formation of rafts, and military bridges could be carried on owing to the want of the necessary materials,

requisitions for which were forwarded nearly a year ago. For the formation of batteries and field works there is only one piece of public property in the vicinity suitable. I was informed that as that was held on lease by a tenant it could not be handed over to the School of Gunnery; this is to be regretted, as I consider the practical formation of earthworks and batteries a most essential subject of instruction for an artillery officer.

I have much pleasure in informing you that the present state of the school is very satisfactory. It is at its full strength in officers, non-com. officers and men; there is a large staff of instructors, both of officers and non-com. officers, available for instruction at the school or at out stations. The officers and sergeants messes are creditably kept up, and are clear of debt; there is a tolerably good library and reading and recreation room for the non-com. officers and men, and a good library of military books for the officers.

The canteen supplies groceries, vegetables, beer, butter, &c., at wholesale rates, and is in a flourishing condition. Bar stock and stock-in-trade paid for, and a considerable surplus in hand, the profits being applied from time to time for the general benefit of the men, such as prizes for shooting, prizes for athletic games, purchase of machine for sawing wood, &c., &c. There is also an excellent brass band, all the men composing it having in the first instance been *thoroughly trained as Artillerymen*.

The Government of the Dominion having done me the honor of appointing me Commissioner of the Mounted Police being raised for service in the North West Territories, my connection with this School must necessarily close in a few days, I trust I may be allowed this opportunity of placing on record my thanks to all those who have contributed, in their respective spheres, to make the School of Gunnery what it is. To Major Cotton, Captain Holmes and Sergeant-Major John Mortimer, who have been with me from its commencement, are my thanks more especially due, and as I think their services are entitled to some consideration on the part of the Government, I trust they will not be removed from positions where they have done, and are doing, such good service, unless such removal is consequent on promotion.

In conclusion, I beg to state that it affords me the greatest satisfaction to know that I shall be succeeded in the post of Commandant by an officer who will, I feel certain, raise the School of Gunnery to a higher standard of efficiency than it has yet attained.

G. A. FRENCH, Lt.-Colonel,
Commandant, S. G.

KINGSTON, 30th Nov., 1873.

REPORT ON "B" BATTERY, SCHOOL OF GUNNERY.

CITADEL, QUEBEC, 31st December, 1873.

SIR,—The accompanying return marked (C.) shews the officers who during the current year have undergone long and short courses of instruction and examination, and obtained certificates. The subjects of instruction and the decimal proportion of credits gained are also shewn.

I recommended last year (20th March, 1873) the enclosed form of certificate marked (D.) for the long course should be substituted for that in use, to suit the nature of instruction given, and a 3rd class certificate of proficiency in their drill, substituted for the "attendance certificate" for gunners who cannot write.

If the name of Artillery Schools was substituted for that of Gunnery, it would give a fairer idea of the subjects of instruction.

The examination questions for this year are appended.

Return (E.) shows the non-commissioned officers and gunners who have passed practical and written examinations, obtaining certificates during the current year. Return (F.) the number of all ranks who have entered the school during the present year, left it with or without certificates, and those who remain having been re-engaged for a further period of service and instruction, in consequence of ability and good character.

Since the issue of the liberal General Order (23rd May, 1873), which allows men to obtain their discharge on payment of the small sum of two dollars (\$2) per month of unexpired engagement, as a compensation to Government for the wear and tear of uniforms, &c., there is no excuse for the crime of desertion, which is generally accompanied by the theft of uniform and regimental necessaries. I would recommend a reward of ten dollars (\$10) to be paid for the apprehension of each deserter.

Since men have been apprehended by the Montreal police, and tried by court martial, there has been no instance of desertion, but the long period that elapses before sanction for trial can be obtained, is productive of bad effects, and it is hard on men to be kept for months in confinement without trial.

Return (H.) shows the several militia batteries to which the officers, non-commissioned officers and gunners of "B" Battery belong, or have been enrolled, but there is no adequate means of compelling men who leave the battery after a long course, to turn out with the militia corps in which they are enrolled, or to return to the district from which they came. This part of the original scheme seems to have failed in its object in the Province of Quebec; those who join for a long course generally wish to follow a permanent military career, which the present system does not contemplate.

I would recommend the Gunnery Schools to be regarded as distinct corps of Canadian artillery embodied for duty, the care of forts, armament, &c., and to serve as instructors to the militia artillery, detachments of which should be attached as supernumeraries, especially during winter, when work and trade is dull. A good class of men would be procured for training who are not a floating population, and would return to their militia corps; no man in a good position can leave his work during the busy season for any lengthened period.

Officers and non-commissioned officers of the Gunnery School should, I think, be allowed to retain their militia rank, and be borne on the list of their corps (names in italics), returning to them during the drill season, to assist in training. They would be a reliable element of professional ability in case of need.

On the 4th and 5th of March, 1873, the services of "B" Battery were called for in conjunction with the 8th Battalion or "Stadacona" Rifles, and the Quebec Cavalry, to aid the civil power during the election for Quebec Centre.

The garrison duties, care of forts, armament, &c., at Quebec, Point Levis, and Montreal, which formerly devolved on three batteries of Royal Artillery, a company of Royal Engineers, an Imperial Regiment of Infantry, and the dépôt company of the 2nd Battalion Quebec Rifles at Montreal, have been a heavy task on a battery of 160 of all ranks, who have been at the same time instructing, and being instructed in the duties of both Field and Garrison Artillery, while a large proportion of officers, non-commissioned officers and men have been, in consequence of the short time of engagement, constantly changing.

A certain proportion of old non-commissioned officers and gunners from the Royal Artillery might with advantage be enlisted as permanent caretakers for the Levis forts, &c., and the towers on the Plains of Abraham. These men should be supernumerary to the battery strength, as it interferes with the instruction of a soldier engaged for a short term when he is sent on detachment.

The Guard duty, though reduced to a minimum, is so onerous as to allow the men a fewer number of nights in bed, than is considered consistent with the preservation of health by the Medical Officers of the British Army.

The shot, shell—10,000 rounds—and artillery stores, had to be moved from the whole of the town lines in consequence of instructions received.

The amount of labor in removing 10,000 shot and shell, and the proportion of other artillery stores, can scarcely be realized, except by those engaged in the duty.

The annual gun practice was carried out partly on the ice of the St. Charles river, with smooth-bore 32-pounder guns, taken down from the town lines for that purpose; practice was also carried on from smooth-bore 9-pounder field guns on sleighs, as well as from the 7-inch breech-loading rifle gun in the King's bastion.

The mortar practice, from the Lewis Curtain and from St. Helen's Island, Montreal.

The small sum recommended in my letter, dated 25 March, 1873, to be allowed for the recovery of projectiles, as in the British service, would be a great saving to Government, especially when it is remembered that only 200 rounds per gun, for the sea front, and 100 for land, is all that was left by the Imperial Government, an utterly inadequate provision.

There are not, I am informed, any 24-pounder shot left in the reserve stores in this Province, though the principal part of the armament is of this caliber, the reserve warlike stores, not being in my charge, and being directed not to inspect them unless specially ordered, I cannot report with certainty, though I believe it my duty to bring to your notice what I believe to be the fact.

The return of practice of "B" battery, bears favorable comparison with that carried out by the picked detachments of British Volunteer Artillery at Shoeburyness.

The usual prizes for good shooting were not provided for in the estimates for last year.

I would strongly recommend the formation of a Canadian Artillery Association, on something of the same principles as the national Artillery Association of England. I think it would contribute much to emulation among Volunteer Artillery, and conduce to efficiency, as the Dominion Rifle Association does so permanently, in the case of the Infantry, especially if picked gun detachments were sent home from the various Provinces to compete with the English Volunteer Artillery at Shoeburyness. If they accompanied the Dominion Rifle detachment, permission might be obtained for them, through the kindness of the War Department, to go through a short course at Woolwich Arsenal and Shoeburyness, during the interval between the Wimbledon and Shoeburyness competitions, while a few selected officers might be allowed to attend the Autumn Manœuvres, School of Musketry at Hythe, Cavalry at Maidstone, and Signalling and Siege Operations at Chatham.

Small Arm practice was carried out at the Engineer Park, Point Levis, in the month of July, 1873.

Winter marches on snow shoes, concluding with a bivouac in the woods beyond Charlesbourg, gave some little experience of the difficulties of winter operations in the coldest portion of Her Majesty's Dominions.

A Summer Camp of "B" battery for a week, was formed at Lake Beauport, where skirmishing in the woods, surveying, swimming, and athletic sports, were conducive to the instruction, health, and enjoyment of all ranks; no expense was incurred by Government, rations being brought out by the battery horses and forage waggons to the Summer Camp; provisions and camp kettles, &c., were drawn out to the winter bivouac on toboggans by the men themselves. The French Canadians were, of course, quite at home in the woods; the conduct of the men was excellent, and no complaints were made by the inhabitants of the neighborhood, or the proprietors, Messrs. Gethings and P. Pepin, who liberally gave permission to collect firewood, &c.

A Reconnaissance Report, and military sketch of the Kennebec Road towards the frontier, was executed by a party of officers, at their own expense.

I trust in any future organization, the desirability of giving a higher rate of pay to artillery and cavalry may not be lost sight of, in compensation for the greater amount of duty, in connection with horses, as well as more complicated drills and material to take charge of, if rates of pay are made the same for artillery and infantry (which is contrary to the custom of any army). The more hard worked service, in which intelligence and

bodily strength are most needed, will suffer from the attraction of equal pay for less work in the other arms.

It would perhaps be beyond my province to comment upon the recommendation of schools for all arms, by the late Adjutant General, but I beg strongly to submit that the numerical strength of "B" Battery is utterly inadequate for the requirements of duty and artillery instruction.

The duties of garrison and field artillery being as distinct as those of cavalry and infantry, only that each of the artillery branches is far more difficult, and takes much longer to learn.

I am of opinion that for each Gunnery School a Garrison Battery, and one of Field Artillery, with at least one captain and two subalterns, one sergeant-major, one quarter-master sergeant, six sergeants, six corporals, six bombardiers, one trumpeter and 125 gunners or drivers is required for each battery. The captain would be much occupied with pay and discipline, but the subalterns, duly qualified in time, might each take a subject to teach as a speciality, such as surveying, or fortification, or military law, &c.

The field battery should consist at least of four guns, four ammunition waggons, and forty horses; with less than that number it would be impracticable to teach Field Battery movements. Mounted officers should be permitted to draw a forage ration for their private horses, used for Government purposes, as allowed at the cavalry school last year. Militia artillery officers, non-commissioned officers and gunners should be attached, supernumerary for "short courses" to field or garrison batteries, as the case might be; their instruction being confined to their special arm.

At Quebec the present staff of one surgeon, one adjutant, one quarter-master, one quarter-master sergeant, one office clerk, one hospital sergeant, one provost sergeant could perform the duties for a school of all arms, provided the artillery, cavalry and infantry were all in the citadel, which has accommodation for 600 men, but not for the proportion of officers—half of the officers' quarters and the mess room being occupied as a summer residence by His Excellency the Governor General.

The office clerk, provost sergeant, hospital sergeant (who acts as pay sergeant) are not paid by Government for the performance of these duties, which they have been executing for two years, with the hope of recognition in the shape of pay and authorized rank.

The musicians of the band (20), though trained as garrison artillery, should be supernumerary to the strength of the established batteries, as extra guards and duties are thrown on their comrades, and it is already extremely difficult and expensive to the officers to keep up a band in which it is not permitted to engage men for a longer period than 12 months. It takes at least that time to instruct a man, who then goes elsewhere where he can make more money.

A School master, with the rank and pay of lieutenant, is much required. Instruction has to be given in two languages at the Quebec School.

Master Gunner Donaldson, who in addition to his duties as Master Gunner and District Clerk, has assisted me in giving instructions to officers and others, in mathematics as applied to gunnery, surveying, &c., is well qualified for this post.

In concluding this report on the Gunnery School, I would beg again to submit for consideration, my proposal in last year's Militia Report, (page 34,) viz: that "The most obviously advantageous method of utilizing scientifically trained officers during peace, is that adopted in the United States, where a large proportion of those educated at West Point are employed on public works."

"The gigantic railroad, canal, and boundary surveys, undertaken by the Canadian Government, give ample scope for the employment of assistant military surveyors and engineers, who would thus form the nucleus of a practically scientific staff corps, whose intimate knowledge of the country, and the maps they would construct would be of incalculable value in the event of war, and useful in peace. These services are at present, in some instances, done for us (and I have no doubt with great ability) by foreigners, whose knowledge of our country might not always be to our advantage."

"It would be very desirable that a party from the Gunnery School should be attached

as assistants to the Royal Engineers on the boundary survey. When the latter return to England, their Canadian assistants would have acquired sufficient skill to become the nucleus of a Canadian Staff Corps of Engineer Surveyors." To be employed under the Department of Public Works, if required.

I have the honor to be,

Sir,

Your most obed't Servant,

T. B. STRANGE, Lt.-Col.,

Commandant "B" Battery,

School of Gunnery.

The Acting Adjutant General of Militia,
Ottawa.

(C).—"B" BATTERY

RETURN of OFFICERS who have passed for Gunnery Certificates, Long and Short of credit

SUBJECTS OF EXAMINATION.	Corps.	Class Certificate granted.	Gunnery.	Artillery material.	Shifting Ordnance.	Field Engineering and Fortification.	
			Decimal.	Decimal.	Decimal.	Decimal.	
Captain & Brevet-Major Charles E. Montizambert.....	Quebec G. A....	First	.97	.90	.....	.90
Captain Maurice Duchesnay....	Beauce F. B....	First	.50	.63	.....	.89
Lieutenant Charles J. Short....	Sherbrook F. B....	First	.87	.73	.....	.87
*Sergeant Charles B. Lavie....	Beauce F. B....	First	.74	.43	.....	.66
Lieut. Fredk. Montizambert....	Quebec G. A....	First	.79	.88	.....	.90
			.90	.90	.95	.....
Lieutenant James A. Devine ...	Montreal Engrs.	First	.56	.60	.71	.61 } 70 .60 } .90 }	
Mr. Frederick Gautier.....	Armed schooner <i>La Canadienne</i>	First	.70	.80	.80	.....
Lieutenant Thomas C. Gordon..	Montreal G. A....	First	Lieutenant Gordon's papers have			
Lt.-Col. Charles F. Houghton ..	Dep. A. General, Mil'ry Dis. No. 11	First	.94	.94	.90	.60	
Lieutenant William H. De Lery.	Quebec F. B....	Second	.47	.42	.60	.20	
Lieut. Edward T. Duchesnay ...	Beauce F. B....	First	.88	.80	.80	.50	
Capt. & Brevet Major J. Fraser.	Quebec G. A....	First	.78	.42	.55	.43	
Lieutenant Augustus La Rue ...	Beauce F. B....	First	.50	.52	.65	.49	
Lieutenant Oscar Prevost. ...	Montreal G. A....	First	.91	.74	.99	.93	
Lieut. Crawford W. Lindsay ...	Quebec F. B....	First	.84	.81	.....	.....
Lieutenant Henry Sheppard	Quebec G. A....	First	.88	.93	.87	.....
Lieutenant James A. Devine ...	Montreal Engrs.	First	.....	.....	.....	.71

* One Sergeant who passed the Officer's Long Course Examination with great credit, has been included

SCHOOL OF GUNNERY.

Courses during 1873, showing the subjects of Examination and decimal proportion in each.

CITADEL QUEBEC, 31st December, 1873.

Military Surveying	Tactics.	Tactics, Strategy, & Military History.	Naval Officers' Short Courses.	Military Law, Queen's and Militia Regulations and Articles of War.	Average Decimal proportion of credit gained.	REMARKS.
Decimal.	Decimal.	Decimal.	Decimal.	Decimal.		
1.00	.....	.87	.....	.....	.92	Long Course concluded February, 1873.
.75	.....	.84	.....	.....	.72	
.86	.....	.90	.....	.....	.84	Long Course papers (voluntary), February, 1873.
.....	.....	.86	.....	.....	.67	
.99	.....	.86	.....	.....	.88	Short Course, March, 1873.
.....	.....	.....	.....	.....	.91	Short Course, March, 1873.
.70	.....	.70	.....	.....	.66	Short Course, March, 1873.
.....	.....	.....	.98	.....	.82	Short Course (Naval), May, 1873.
not been returned.	.....	.....	.....	.....	.....	Short Course, August, 1873.
.90	.....	.75	.....	.....	.83	
.36	.....	.60	.....	.....	.44	Long Course, December, 1873.
.60	.....	.50	.....	.....	.63	
.62	.30	.76	.....	.....	.55	Short Course, December, 1873.
.61	.63	.86	.....	.....	.60	
.85	.93	1.00	.....	.....	.90	Short Course, December, 1873.
.....	.96	.....	.....	.....	.87	
.....	.....	.....	.....	.65	.83	Short Course, December, 1873.
.70	.....	.....	.....	.72	.71	

in this return, the only non-commission officer with a first-class certificate.

T. B. STRANGE, Lieut.-Colonel,
Commandant Gunnery School, Quebec.

(E.)

"B" BATTERY, SCHOOL OF GUNNERY.

CITADEL, QUEBEC, 31st December, 1873.

The following Non-commissioned Officers and Gunners obtained 2nd Class Gunnery Certificates, after passing a practical examination in Infantry Drills and Artillery Exercises, viz: Gun, Mortar, Sling Waggon and Gyn Drills, Shifting Ordnance and Laboratory. A proportion have also passed in Riding and Driving Drill, Sword Exercise and Stable Duties. They also passed written and *viva voce* examinations in Gunnery, Artillery Material and Shifting Ordnance.

Rank and Name.	Decimal proportion of credit gained.	Volunteer Corps.
Corporal, Holly, John		Shefford Field Battery..
Sergt-Major, Lebreque, John		Quebec do ..
do Neil, John		Shefford do ..
Sergeant, Whitcombe, Albert		do do ..
Gunner, McKearly, Mark		do do ..
do Gilmour, Charles		do do ..
do Swift, Alfred		do do ..
do Baily, Alexander		do do ..
do Carter, David		do do ..
do Rees, Edward		do do ..
do Alexander, James		Quebec, Garrison Artillery
Qtr.-Master Sergeant, Connolly, Patrick		do do ..
Sergeant, Stewart, George		do do ..
do Crowe, James B.		do do ..
Corporal, Goodwin, Thomas	0.60	do do ..
Gunner, Wallin, Edward	0.60	Sherbrooke do ..
do Murphy, Daniel	0.70	Montreal do ..
Qtr.-Master Sergeant, Lavoie, Charles	0.88	Beauce Field Battery ...
Acting Bombardier, Adair, James	0.80	Quebec Garrison Artillery
Sergeant, Robert, Amable	0.78	do do ..
Corporal, Blais, Joseph	0.75	do Field Battery ...
Acting Bombardier, Wil Rinson, Henry	0.74	do Garrison Artillery
Bombardier, Tute, Robert	0.70	do do ..
Corporal, Maxwell, Edward	0.68	do do ..
Bombardier, Armsworth, Charles	0.64	do do ..
Gunner, Sinclair, Charles	0.60	do do ..
do Burton, Thomas	0.60	do do ..
do Parks, Frank	0.58	do do ..
Acting Bombardier, Rayent, Charles	0.57	do do ..
Gunner, Lennaud, Paul	0.50	do Field Battery ...
		do do ..

T. B. STRANGE, Lieut.-Col.
Commandant, Gunnery School, Québec.

(H.)

"B" BATTERY, SCHOOL OF GUNNERY.

Return of Officers, Non-Commissioned Officers, and Men, joined from 1st January, 1873, to 31st December, 1873, showing the Corps in which each man is enrolled.

CITADEL, QUEBEC, 31st December, 1873.

RANKS.	Corps in which enrolled.								Total.	REMARKS.
	Military District, No. 5.			Military District, No. 7.			Deputy Adjutant General of Militia, Military District No. 11.	Dominion Armed Schooner, "La Canadienne."		
	Shefford Field Battery Artillery.	Montreal Brigade Garrison Artillery.	Sherbrook Garrison Battery.	Quebec Field Battery Artillery.	Beauce Field Battery Artillery.	Quebec Provisional Brigade Garrison Artillery.				
Officers		1		2	1	1	1	1	7	There are no Artillery or Engineers in No. 6 Military District.
Non-Commissioned Officers and Men	8	10	8	31	26	60			143	
	8	11	8	33	27	61	1	1	150	

T. B. STRANGE, Lieut.-Col.,
Commandant G. S. Quebec.
The Acting Adjutant-General,
Head Quarters, Ottawa.

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

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

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

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

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

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

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

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

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

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

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

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

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

An apparatus for heating new buildings by steam would, perhaps, be a still better arrangement, both as regards economy and comfort; but the old Barracks handed over to the Dominion by the Imperial Government, are not now adapted to this mode of heating, especially the casemated rooms in the Forts, and the expense of building furnaces and

introducing pipes would be very great. Whereas, the exchange of coal stoves for wood stoves, as suggested, would merely be the removal of one kind of stove for another, and the old wood stoves might realize a good price if sold to people living in the country, who have always a supply of wood at their doors.

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

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

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

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

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

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

TORONTO.

November 1st, 1873.

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

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

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

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

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

Kingston, December 12th, 1873.

(A) BATTERY, SCHOOL OF GUNNERY, KINGSTON.

One Ration of Wood = 1 in. running measure of an English Cord.
 One Ration of Coal = 12 lbs. best Hard Coal.
 One Ration of Coal-Oil = $\frac{1}{5}$ of a Canadian Pint.

Departments.	Rations of Wood.				Number of Lamps.	Rations of Coal-Oil.			
	Number of Stoves.	Summer.	Winter.	Mid-Winter.		Remarks.	Summer.	Winter.	Mid-Winter.	Remarks.
Kingston,									
Commandant.....	4	9	11		2 $\frac{1}{2}$	5	5		
Other Officers, ..	3	7	8		1	2	2		
{ Out of Mess.....									
each	2	4	5		2	1 $\frac{1}{2}$	1 $\frac{1}{2}$		
{ In Mess.....									
Passages in the Officers' Quarters.....			5	Each Passage.		2	2	Each Passage.	
Officers' Mess, and Ante-rooms and Passage.....	3	3	5	Each Stove.	$\frac{1}{2}$	1	1	Each Officer in Mess.	
Officers' Mess-kitchen.....	1	6	6		1	2	2		
Sergeants' Mess.....	3	7	8		2	4	4		
Staff-Sergeants, each.....	1	1 $\frac{1}{2}$	3	Each Sergeant.	$\frac{2}{3}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	Each Sergeant.	
Married Sergeants, each.....	1	1 $\frac{1}{2}$	3	Each Sergeant.	$\frac{2}{3}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	Each Sergeant.	
Unmarried Sergeants, each two Sergeants.....	1	1 $\frac{1}{2}$	3	Each two Sergts.	$\frac{2}{3}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	Each two Sergts.	
Barrack Rooms for 12 men and under, and the same for every additional 12 men or fractions of 12.....		3	5	Each Stove.	$\frac{2}{3}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	Each Room.	
Soldiers' Cook-house, for each 7 Men in Mess, fractions of 7 to count as 7.....	1	1	1	Each Mess.					
Passages in Mens' Barracks, where Stoves are necessary, and actually lighted, on certificate of C. O.....			3	Each Stove actually used.		2	2	Each Passage.	
Hospital and Surgery, when actually in use, not to exceed.	3	3	5	On Certificate of Surgeon and C. O., for each Stove in use.	3	1	2	2	Each Lamp required and used
Hospital Passage.....	1	4	6						

(A) BATTERY, SCHOOL OF GUNNERY, KINGSTON.—Continued.

Departments.	Number of Stoves.	Rations of Wood.			Number of Lamps.	Rations of Coal-Oil.			
		Summer.	Winter.	Mid-Winter.		Remarks.	Summer.	Winter.	Mid-Winter.	Remarks.
Kingston.									
Ablution House.....	1		3	5					
Do. on certificate of Com. Officer, as necessary in severe weather.....				4	Extra.				
Forts and Towers, occupied by authority from Hd. Quarters by caretakers or small Detachments of A Battery, For each Fort or Tower.....	2	1 $\frac{1}{2}$	3	4	Each Stove.	2	$\frac{2}{3}$	1 $\frac{1}{2}$	Each Lamp in in each Fort or Tower.
Rooms in the Tête du Pont Barracks, when actually used as offices, not to exceed.....	3		3	4	Each Stove in use on Certificate of C. O.				
Cells in the Tête du Pont Barracks.....	1	1	3	4					
Quarter-Master's Stores.....	1		1	2					
Lecture and Drill Rooms, when actually used as such, not to exceed at any one time.....	3		3	4	Each Stove in use on Certificate of C. O.				
Workshops, when actually in use on Certificate of C. O.....			3	4	Each Stove.				
Reading-room and Library.....	1		3	4		4	1	1	Each Lamp.
Guard-room.....	1		6	7		3	5	6	
Harness-room.....	1		1	2					
Stables.....							1	2	Each Stable, equivalent in Candles,
Exterior Lamps.....									
Officers' Mess.....					1		3	3	
Main Guard and Barrack Gate.....					1	From Sunset to Sunrise, on Certificate of C. O., except 7 days in each month, about Full Moon.			

DETACHMENT FROM A BATTERY, SCHOOL OF GUNNERY, TORONTO.

One ration of wood = 1 inch running measure of an English cord.
 One ration of coal = 12lbs. of best hard coal.
 One ration of coal-oil = $\frac{1}{2}$ of a Canadian pint.

DEPARTMENTS.	Number of Stoves.	Rations of Wood.				Number of Lamps.	Rations of Coal Oil.			
		Summer.	Winter.	Mid Winter.	Remarks.		Summer.	Winter.	Mid Winter.	Remarks.
Toronto.										
Sergeant's Room.....	1	1 $\frac{1}{2}$	3	4		1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$		
Barrack Room.....	1	.....	3	5		1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$		
Soldier's Cook-house for each 7 men in mess, fractions of 7 to count as 7.	1	1	1	1						
Two Caretakers, one stove each	2	1 $\frac{1}{2}$	3	4	each stove	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	each Caretaker.	

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

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

SCHOOL OF GUNNERY, KINGSTON, 8th Jan., 1874.

SIR,—With reference to your letter of the 26th ult., relative to enclosed proceedings of a Board of Officers on fuel and light, &c., I have the honor to submit the following remarks on certain points at issue therein.

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

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

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

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

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

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

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

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

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

I have the honor to be, Sir,

Your obedient servant,

D. T. IRWIN, Major,

Commandant S. G.

REPORT OF BOARD ON "B" BATTERY, SCHOOL OF GUNNERY.

QUEBEC.

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

A Board consisting of the following officers having assembled, pursuant to order, at Quebec on the 14th November, 1873, proceeded to examine the quarters of "B" Battery, School of Gunnery, at that station. :—

PRESIDENT :

Lt.-Colonel S. P. Jarvis, C. M. G., D. A. G., Military District No. 3.

MEMBERS :

Lt. Colonel Jackson, Acting D. A. G., Military District No. 4.

Lt.-Colonel Casault, C. M. G., D. A. G., Military District No. 7.

The Board found occupied in the Citadel of Quebec the following rooms, viz. :—

1 Commandant's quarters.

1 Field Officers' quarters.

7 Other Officers' quarters—two of whom were students, recently joined, and one married officer, (the quarter-master).

1 Officers' mess-room.

1 Officers' ante-room.

6 Staff-Sergeants, (including the Master Gunner.)

7 Sergeants, (including the Bandmaster.)

7 Soldiers' barrack rooms.

1 Commandant's office.

1 Orderly room.

1 Master Gunner's Office. } Communicating.

- 1 Sergeants' Mess.
- 1 Non-Commissioned Officers Reading-room.
- 1 Soldiers' Reading-room.
- 1 Recreation Room, or theatre and gymnasium.
- 1 Model Room, or officers lecture-room.
- 1 School Room, or soldiers' lecture room.
- 1 Cells, with Prevost Sergeant's quarters.
- 1 Ablution Room.
- 1 Main Guard Room, with defaulter's room, communicating.
- 1 Hospital of 2 wards.
- 1 Surgery.
- 1 Quarter Master's Store, (two casemates.)
- 2 Gun Drill Sheds.
- 1 Laboratory, (for Dominion, as stated to the Board.)
- 2 Harness Rooms, (one for officers and one for battery.)
- 1 Collar Maker's Shop.
- 1 Tailor's and Shoemaker's Shop.
- 1 Ordnance Armourer's Shop.
- 1 Wheeler's or Carpenter's Shop.
- 1 Farrier's Shop, or Forge.
- 6 Passages.

In addition to the above-named apartments, the Board found occupied by caretakers the following, viz.:

- 3 Forts at Levis, having 2 caretakers each.
- 1 Engineer Park, do.
- 1 Advanced Redoubt in the Revelin of Citadel, occupied by a married officer, (the Quarter-Master.)
- 1 Advanced Guard-house, in ditch.
- 20 Separate rooms (casemates, and others, now occupied by married soldiers.)

The Board found, likewise, four Martello Towers, one of which only was occupied by a family, (civilian) who stated that they draw no allowances.

The Board are of opinion that the same scale of allowances of fuel and light recommended for the Province of Ontario, so far as relates to the rank and position of officers, sergeants, and other rooms occupied as barracks for soldiers, should be established, with the exception that during the mid-winter period in the Citadel of Quebec, the allowance of wood for each passage stove, should be twelve inches or rations per diem; and the periods of the seasons should be as follows, viz.:

Summer, 16th May to 30th September, 138 days.

Winter, { 1 October, to 15 November, } 91 "

Mid-winter, 16th November, to 31st March, 136 "

The Board find that the last Tender approved for the supply of fuel-wood in Quebec, was French measurement, or the cord three feet wide only, whereas the allowances now recommended, are for four feet wood, or 128 cubic feet (English) to the cord.

The Commandant of the School of Gunnery at Quebec informed the Board that he had on his "State" at the present time, exclusive of officers temporarily attached for instruction:—

- *7 Officers
- 13 Sergeants (Staff and others)
- 141 Non-commissioned Officers and men.

161

*In addition to these 7 officers on the establishment, there were two attached for instruction at Quebec, and one in charge of the detachment at Montreal, on St. Helen's Island.

Making a total of 161 all told, of whom twenty-four non-commissioned officers and men are supposed to be at St. Helen's Island, Montreal; seven officers and eighty-nine non-commissioned officers and men were in officers' quarters, and in seven soldiers' barrack rooms in the citadel; six non-commissioned officers and men were at the Levis Forts, and the remainder, thirty-five in number, were provided, as married men, with separate quarters in the barracks and elsewhere—each one of the latter drawing fuel and light allowances for one barrack room. Of this number, (35) thirteen are sergeants, staff and others, who would be entitled to separate rooms or quarters on sergeant's allowances; leaving twenty-two married men employed as caretakers in the vacant casemates—a portion of which only are as yet occupied; but as married soldiers increase in numbers, the remainder may possibly be tenanted, and fuel and light drawn for them if sanctioned.

The establishment of "B" Battery, School of Gunnery, as provided for by G. O., (24) 20th Oct., 1871, is thus:—

- 6 Officers
- 1 Sergeant-Major
- 9 Sergeants

143 Non-commissioned Officers and Men

Out of which numbers the following detachments are to be found:—

Point Levis Forts.

1 non-commissioned officer and 10 men.

St. Helen's Island, Montreal.

1 officer, 1 sergeant, and 23 non-commissioned officers and men.

It was reported to the Board that the vacant casemates in the citadel require heating for preservation. The members of the Board not being engineers, beg to reserve the question of the necessity for fires in the casemates for the decision of a professional engineer, as from long experience in the country they do not believe that fires are necessary for the preservation of masonry alone. Some of the casemates are out of repair, the front of one being propped up with large timbers. The Board were informed that this was done while the Imperial troops were in occupation, and this may reasonably be used as an argument against the necessity of keeping them occupied and heated for the sake of preservation, as they will probably fall down in time under any circumstances, if not kept constantly in repair by the expenditure of labor and material. If the casemates now in occupation by "B" Battery require heating to preserve them, all the casemates in the citadel would require the same treatment. Where there are floors and wood work and plaster in the casemates, occasional fires would seem necessary to preserve them from damp, wherever they are worth preserving; but the Board do not think it expedient to issue the amount of fuel, which may be allowed for this purpose, to "B" Battery, and therefore have not recognized so many married men's rooms as are at present in use.

With regard to the three valuable fortifications at Point Levis, the Board think that some supervision should be exercised over them, to prevent spoilation or intrusion by strangers. But this object might be attained at a less cost than the present system entails upon the Militia Department. The Board found that the estimated cost of fuel for this purpose for the present year amounts to nine hundred dollars, or thereabouts, exclusive of the pay and rations and clothing of caretakers from "B" Battery. At No. 2 Fort the caretaker lived in a cottage outside the fort; consequently the fuel-wood used by this caretaker could have had but little influence on the masonry of the fort, which it was supposed to benefit. The Board do not think it necessary for the preservation of the masonry that fires should be constantly kept up, but for a short period in the spring of the year, when the frost is leaving the ground above the casemates, an allowance of fuel should be granted to dry the floors, or other interior fittings, where leakage from the ground above might damage them. This allowance of fuel should depend upon the number of rooms requiring it, to be determined by a Board of Officers, composed of the Deputy Adjutant-General of the District, the Commandant of Artillery, and such other members as may be specially appointed for the purpose.

The Board consider that sufficient supervision might be exercised by the weekly visits of an officer, under the orders of the Commandant of Artillery.

With regard to what is called the Engineer Park at Point Levis, consisting of a number of wooden huts and other out-buildings, well finished and totally unprotected, the Board think it desirable that they should be occupied by caretakers; and that allowances for two stoves in winter and midwinter should be granted, and two cooking allowances all the year round, with a like proportion of coal oil for lighting.

The same caretakers exercising a general supervision over the fortifications and the trees on the government property in the neighbourhood.

With regard to the Four Martello Towers, extending from the St. Lawrence to the St. Charles Rivers, on the west of the citadel, and facing the Plains of Abraham, the Board consider that they need not be occupied by military detachments or caretakers from B battery, but should be occasionally visited by an officer under the orders of the Commandant of Artillery. At present the board find only one of them occupied, and that one by a civilian and his family, to whom no allowances of any kind are given; while the Board are informed that in the estimate of fuel wood this year, upwards of forty-two cords of wood are included for these towers, and which they consider quite unnecessary, unless occupied by detachments of troops.

The Board were further informed that fifty-one cords of wood were estimated for the water-pipes in the citadel, but they only were shewn four such pipes: one of which was in a staff-sergeant's room and three others in a model room. These pipes convey water from the roof to tanks below, to provide for the exigencies of a siege. The Board do not think it necessary to allow extra fuel for such purpose at present.

Subject to the above mentioned considerations, the Board recommend the scale of allowances of fuel and light for B. battery at Quebec, as detailed in the annexed scale of fuel and light for that garrison.

MONTREAL.

November 17th, 1873.

The Board having proceeded from Quebec to Montreal, and having inspected St. Helen's Island Barracks, report that they found occupied by the detachment of B. Battery, School of Gunnery, the following quarters viz:

- 1 Officer's quarters.
- 1 Officer's kitchen.
- 1 Orderly room.
- 1 Sergeant's room.
- 3 Barrack rooms, capable of containing 16 men each, thus:
 - 1 containing 10 men.
 - 1 do 7 do.
 - 1 used as a dining hall.
- 2 Married mens' quarters. (two small rooms for each man).
- 1 Soldier's kitchen.
- 1 Canteen.
- 1 Small arm armourer's quarters. (attached to B. battery for subsistence).

The Board were further informed that a detached guard house was occasionally used as a "lock up" when necessary to confine unruly prisoners, and for which allowance of fuel might be required; but no permanent guard was mounted there.

The Board have not therefore made any stated appropriation for this "lock up," but recommend that when used, the fuel for one stove be allowed, upon special certificate of the officer commanding the detachment, and approved by the Deputy Adjutant General commanding the district.

The Board recommend that the allowance of fuel and light, as detailed in the scale attached to this report, shall be established for the detachment at St. Helen's Island, furnished by B. battery, so long as the detachment is considered necessary and remains at its present strength.

The Board do not deem it necessary to recommend fuel and light for vacant rooms, merely as married men's quarters: for they consider such rooms do not require permanent and continuous heating or lighting for their mere preservation, except under the direction of a professional engineer, as before stated with reference to the numerous casemates and other vacant rooms at Quebec: but in the absence of any authority for married men's accommodation with separate quarters in the barracks, the Board would suggest that a limited per centage of married men be recognized on the establishment of both A. and B. batteries, for the purpose of washing and repairing the single mens' clothing.

When such a per centage shall be established by authority from the head-quarters of the Militia Department, the Board would recommend the same allowances of fuel and light for such quarters as are allowed to sergeants' rooms, for the number of stoves actually required.

The Board find at St. Helen's Island a small arm armourer, detached from the corps of small arm armourers in England, and now under the orders of the store department in Ottawa, but attached to B. battery for pay and allowances. As this man is not on the effective strength of B. battery, the Board do not hold him to be subject to the regulations at present under consideration, and therefore do not include his quarters with those of the School of Gunnery.

If however, he should be transferred as an armourer to the School of Gunnery, the Board recommend his allowance of fuel and light to be the same as that for a staff sergeant of the battery.

The same remark applies to the small arm armourer at Quebec.

The Board find, by the Imperial Regulations on Fuel and Light, that in Montreal and Quebec, all contracts for fuel-wood were to be made in French measurement, viz.:—"The cord to consist of 8 French feet long, 4 French feet high, and 3 English feet wide: and is also to be issued and accounted for by the same measure." This appears to be, in English measurement, about 8 feet 8 inches long, 4 feet 4 inches high, and 3 feet wide. Such measurement being one-eighth less than an English cord, the Board, in their recommendation for both Provinces on the English measurement of a cord of wood, viz.:—8 English feet long, 4 English feet high, and 4 English feet wide; and are of opinion that the issues made in Quebec and Montreal should be supplemented by such quantities as will make the number of rations of wood in French measurement equivalent to the same number of rations of wood in English measurement.

The "scale" of allowances, attached hereto, of fuel and light, for St. Helen's Island, with the exception of the ablution house, are recommended by the Board on the supposition that the detachment from B Battery will not exceed one officer, one sergeant, and thirty-two non-commissioned officers and men—the barrack-rooms being adapted to hold 16 men each.

The ablution room allowance to remain the same at all times while the barracks are occupied by troops.

The Board do not deem it necessary to recommend fuel and light for an orderly room for so small a force as that in St. Helen's Island.

The Board do not deem it necessary to recommend fuel and light for a barrack room to be used as a dining hall for the men, as at present, there being no authority for such an appropriation in the Imperial service, nor is it the usual custom to do so.

The Board do not deem it necessary to recommend fuel and light for a canteen under any circumstances, as these institutions should be self-supporting.

In view of the increased and increasing price of fuel-wood, the Board think that a more economical method of heating the barracks and quarters might be found in substituting self-feeding coal stoves for the old wood stoves, and allowing an equivalent in coal, according to the relative consumption of the two kinds of fuel, based upon the scale of fuel wood allowances already recommended, and taken from the Imperial regulations.

The Board would recommend such equivalent in coal not to exceed twelve pounds of best hard coal to one inch running measure of an English cord of wood, as a single ration

If new barracks were being erected, it might be an advantage to build them with apparatus for heating with steam; but the old barracks and buildings handed over to the Dominion are not now adapted to this mode of heating, and the expense of making the necessary alterations would be very great.

Upon a calculation that one ton or 2,000 lbs. of hard coal is equivalent in time of burning to about one cord and three quarters of the best wood. And that such coal can now be purchased for \$7.50 a ton of 2,000 lbs., while the price of wood ranges from \$6 to \$8 a cord, with a probability of this price increasing, the Board consider that so great a saving in the price of fuel would be effected in one year, by the substitution of coal for wood, as would cover the cost of purchasing the coal stoves required; and in each subsequent year there would be a direct saving of that amount annually. And the Board also believe that the barracks and quarters would be more uniformly heated thereby.

The Board beg further to suggest that if a District Quartermaster were appointed at Kingston and Quebec, as was formerly the case, this officer could act as a supply officer to the force on permanent duty at those stations, and be likewise available for the care of stores and other Government property at the head quarters of the districts not under the immediate charge of the Artillery. He could also be responsible for the proper issue and receipt of camp equipage when required for annual drills, and his salary would amount to but a small percentage on the annual expenditure under those heads; while the possible reduction in expenditure of supplies and the safety and preservation of the public property in his charge, would amount to a large percentage on the sum now expended, and on the value of property lost or damaged for want of the necessary supervision.

S. P. JARVIS, Lt.-Col.
President.

W. H. JACKSON, Lt.-Col.
Act. D.A.G., M.D. No. 4.

L. A. CASALTY, Lt.-Col.
D.A.G., Mil. Dist. No. 7.

KINGSTON, Dec. 12th, 1873.

"B" BATTERY, SCHOOL OF GUNNERY, QUEBEC.

One ration of wood - 1 inch running measure of an English cord.
One ration of coal - 12lbs. of best hard coal.
One ration of coal-oil - $\frac{1}{3}$ of a Canadian pint.

DEPARTMENTS.	Number of Stoves.	Rations of Wood.				Number of Lamps.	Rations of Coal-Oil.			
		Summer.	Winter.	Mid Winter.	Remarks.		Summer.	Winter.	Mid Winter.	Remarks.
Quebec.										
Commandant		4	9	11						
Officers, each, out of mess		3	7	8						
" " in mess..		2	4	5						
Passages in Officer's Quarters.....	6	0	0	12	each passage.	9	0	2	2	each lamp
Officers' Mess Room and Ante-room.....	3	0	3	5	each stove		$\frac{1}{2}$	1	1	each officer in mess
Officers' Mess Kitchen...	1	6	6	6			1	2	2	
Sergeants' Mess		3	7	8			2	4	4	
Staff Sergeants—each..		$1\frac{1}{2}$	3	4	each serg't		$\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{2}$	each serg't
Other Sergeants—married		$1\frac{1}{2}$	3	4	each serg't		$\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{2}$	each serg't
" " unmarried		$1\frac{1}{2}$	3	4	each two serg'ts		$\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{2}$	each two serg'ts
(each two serg'ts)										
7 Barrack rooms.	7	0	3	5	each stove		$\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{2}$	each room
(for 16 men or under and the same for every additional 16 men, or fraction of 16.)										
Soldiers' Cook-house		1	1	1	each mess		0	0	0	
(for every 7 men in mess. Fractions of 7 to count as 7.)										
Hospital.....	2	0	3	5	each stove on the certificate of the surgeon.	2	$1\frac{1}{2}$	2	$1\frac{1}{2}$	each lamp
Surgery	1	0	3	5			0	0	0	
Hospital Passage.....	1	0	4	12			0	0	0	
Ablution house.....		0	3	5			0	0	0	
do		0	0	5	extra		0	0	0	
(on certificate of Commanding Officer, as necessary in severe weather.)										
Cells in Citadel.....	1	1	3	4			0	0	0	
Quartermaster's Store....	1	0	3	4			0	0	0	
Rooms in Citadel.....	3	0	3	4	each stove in use on cer. of C.O.		0	0	0	
(when actually used as offices, not to exceed.)										
Lecture and Drill rooms.	4	0	3	4	each stove in use on cer. of C.O.		0	3	3	each room when used at night on cer. of C.O.
(when actually used as such, not to exceed.)										
Workshops.....	4	0	2	3	each stove in use.		0	0	0	
(when actually used as such, not to exceed.)										
Non-Commiss'd Officers' Reading-room.....		0	3	4		3	0	1	1	each lamp
Soldiers' Reading-room..		0	3	4		3	0	1	1	each lamp
Recreation room or Theatre		0	3	4			0	3	3	when used at night on cer. of C.O.
Guard room.....	1	0	6	7			3	5	6	
Defaulter room	1	0	3	4			0	0	0	
Harness room.....	1	0	2	3			0	0	0	