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The Volunteer Review

AND MILITARY AND NAVAL GAZETTE.

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

VOL. VI.

OTTAWA, (CANADA,) MONDAY, JULY 8, 1872.

No. 28.

REPORT OF THE ADJUTANT-GENERAL

(Continued from Page 317.)

MILITIA GUNBOATS.

The report of Mr. G. W. Wyatt, Gunboat Agent (which will be found in the Appendix) details the duties carried out, and services performed during the past year by the two Militia gunboats "The Prince Alfred" and the "Rescue." Three Batteries of Artillery performed their annual drill on board the "Prince Alfred," namely, the St. Catharines Battery (two officers and forty-eight men), the Collingwood Battery, two officers and twenty-five men, and the Sarnia Battery (three officers and thirty-eight men).

The "Prince Alfred" took part in the operations carried out at Goderich, whilst the Camp of Exercise was formed there. This vessel is now armed with two "Armstrong" and four brass "howitzer" guns, and has been much improved by recent alterations. As part of the system of defence from Fenian invasion on the western frontier of Ontario, the "Prince Alfred" would be found very valuable, and she is well adapted for a training ship.

The "Prince Alfred" is too large to admit of her passage through the Welland Canal, and is therefore only available for the defence of the frontier of Lakes Erie and Huron.

The Gunboat "Rescue" is not at present so well suited for the service; but when the alterations proposed by Mr. Wyatt are carried out, this vessel will also form a valuable addition to the defensive resources of the country against Fenian attack.

CONCLUDING REMARKS.

Of the 34,414 men who performed the Annual Drill last year, I personally inspected more than 30,000, travelling on this and other duties during the summer and autumn months upwards of 10,000 miles, visiting also every Brigade Camp (with the exception of one,) and nine out of the eleven Military Districts there are in the Dominion.

Among the various corps assembled at the camps of exercise there were many fine looking men. In some of the rural Battalions whole companies equal in height and physical appearance to the men of the Guards in England. Many farmers possessing ample means are to be found in the ranks purely from a patriotic feeling, and no finer physical material for soldiers, can be found in any country than amongst the backwoodsmen of Canada.

Perhaps the largest men are to be found in the New Brunswick and Nova Scotia Corps, but in the Battalion of Ontario and Quebec there are also very many large men. As an instance of extraordinary height, I may mention that in the camp at Point Lewis, opposite Quebec, I found a man in the ranks of one of the rural Battalions by name "Richard Manger" (of French Canadian and Irish blood) nearly 8 feet in height, being also well proportioned and powerful looking man.

On reference to the reports of the Officers Commanding Districts, as well as to the tabular Annual Inspection Returns of Corps (all of which will be found in the Appendix), the numerical deficiency which exists in the ranks will be seen. The only Battalion I found actually complete in strength was the 23rd Battalion (a French speaking Canadian Corps) at the Lewis Camp. It will be seen also that officers commanding Districts entertain little hope that the full numerical strength of existing corps can be maintained by voluntary enrolment alone.

A very general desire appears to exist on the part of the majority of officers to complete every corps to its full strength, when volunteering is exhausted, by means of the Ballot, as provided for in the Law, and thus not only render the respective corps effective in numbers but also equalize the pressure of Military service in the different localities, and on the community at large. A feeling appears to prevail in the Force in favour of a Regular instead of a Volunteer Militia. Experience proves that the strongest national Military organization is that one which is founded upon the principle of obligatory service; the people of Canada wisely recognized this fact in the Dominion Militia Act; doubtless the same wisdom and feeling of patriotism with which they were actuated in framing the law will induce them to carry out its provisions, whenever they find that the necessity has arisen. There are upwards of 220,000 men in the First Class of the Militia in the four Provinces of Ontario, Quebec, New Brunswick alone, young unmarried men between the ages of 18 and 30, the withdrawal of a portion of whom, for a few days in the year only, from their civil pursuits to train for the defence of the country, would hardly be felt as a tax either by themselves, or the community at large; whilst every encouragement should be continued to maintain corps of the Active Militia by voluntary enrolment, the numbers required to complete the strength of corps which cannot be maintained at the proper strength by voluntary enrolment, might be taken from this class in the different Regimental Divisions by means of the Ballot. Thus would not only existing corps be kept

numerically efficient, but the operations of the ballot in time of peace, confined to the 1st class of Militiamen, who would be trained in rotation to some extent to the use of arms at a time of life when military service entails least sacrifice. Moreover, by carrying out the provisions of the law in this respect when necessary employers of labour, and others, would probably be deterred from throwing insuperable difficulties in the way of voluntary enrolment, as is often from self-interest motives, the case, and the pressure of military service, which has always fallen and still falls upon the willing few (in many instances upon the heads of families and upon certain communities only) by being spread more equally over the whole country would as a personal tax be much more lightly felt.

The fact that out of a nominal strength of paper of 43,000 so large a number as 34,414 men actually mustered and performed the Annual Drill last year, in a time of profound peace with no excitement to stimulate them, speaks volumes for the military spirit of Canadians generally, and for their determination to train themselves for the defence of the country. Those who know the high price of wages in the Dominion, the great demand for labor of all kinds in a new country, and the sacrifice such men often make in attending to their military duties, can best appreciate their patriotism; but it is too much to expect that such voluntary sacrifices can be long continued, or that the same men will cheerfully agree to leave their shops and fields year after year, for a certain number of days, to drill, whilst their fellow citizen, who should equally contribute personal service, remain at home to make money, or to reap a harvest.

Although it is found difficult to maintain the existing Corps of the Active Militia up to their proper strength by voluntary enrolment alone continuously, judging from past experience and present facts, however, there appears no deficiency in the number of men ready to enrol in newly formed Corps.

Since the commencement of the present year the following new Corps have offered their services, been accepted and gazetted, viz:

- 4 Troops of Cavalry,
- 1 Company of Engineers,
- 2 Battalions of Infantry,
- and three Independent Companies. Offers to raise Companies or Corps of the Active Militia are constantly being received from every district.

There is therefore every probability that the present actual strength of the Active Militia in the Dominion may be maintained by voluntary enrolment, and the District

Camps of Exercise as numerously attended at the same time of annual drill in the coming season as in the past, although certain districts and corps may from time to time fail to maintain their full quota.

In creating any system of Military Organization the conditions and necessities of modern warfare should be mainly considered; in former days when nations went to war, a certain limited number of trained soldiers who might be regarded in the light of national champions, were ranged against each other, (as it were for a great duel,) and the defeat of one side decided the war; the great mass of the people themselves were never engaged in war or withdrawn from civil pursuits. This system, however (with territorial powers at least), seems no longer observed; when fighting has to be done, and a country to be defended, judging from recent European events, it is evident it must be done by the whole nation, in one great harmoniously organized and disciplined mass, the services of every man and horse, as well as the whole material resources of the country being rendered for the time required, available for military purposes, turned as it were for the moment from the avocations of civil life into those of war, to return again to the pursuits of industry when the safety of the country is secured. Wars, moreover, in these days occur suddenly, it is a word and a blow, concentration is rapidly effected, and the nation that fails to organize and train for defence in time of peace, so as to be ready to take the field if called on at a short notice, lies at the mercy of any strong and unscrupulous neighbor who may be better prepared, and content with conquest. Experience has also shown that nations do not go to war without counting the cost, and that to prevent attack upon any portion of Her Majesty's Dominions nothing has been found so deterrent or efficacious as the power, and the will to resist it; it is an oft-repeated truism, that for any nation to be really free, the strength to maintain such freedom must exist. Union, organization, drill and discipline create strength.

At a time when Military Organization forms one of the most important and difficult questions of the day, it is satisfactory to observe that the Militia System of the Dominion is evidently appreciated. Already there are indications that in the reorganization about to take place in the Reserve Forces of the Mother Country, a system in some respects very similar (although details may differ) will be adopted.

It would appear that the task of reorganizing the Military Forces of Great Britain, has been confided to a committee of which Major-General Macdougall, formerly Adjutant-General of Militia in the Dominion is chairman—that accomplished officer's ability has therefore been fully acknowledged.

The Division or Brigade Camps of exercise established in the various military districts of Canada last year, which were in operation for sixteen days, provides much more effectually for the training of both officers and men of the Active Militia at the time of Annual Drill than the system previously in vogue; many other advantages result therefrom. It was demonstrated last summer that the local force in each Military District could be concentrated in a few hours, mostly in tactical Brigades of the three arms of from 2,000 to 5,000 men; everywhere in sufficient strength to crush any such attempt at Fenian invasion as have of late years occurred. The assembly of these Brigades with such ease and rapidity in many

instances on the immediate frontier, has not only given confidence to the force itself but to the community at large. The very same arrangements which were adopted to concentrate, supply, and maintain the various Brigades for sixteen days, at the time of the Annual Drill would suffice to concentrate them to repel invasion, as rapidly and supply them as well. While it has been shown conclusively that this can be effected readily in every District, it is not too much to say that during the period of the year, field operations are practicable in Canada, should circumstances require it, by bringing Brigades together, a force of about 30,000 men with 32 Field Guns, could be concentrated almost anywhere on the Southern Frontier of Ontario or Quebec in a very few days, without withdrawing a single man or gun from the Province of New Brunswick or Nova Scotia. Among the many other advantages that result from the performance of the Annual Drill in Camps of Exercise, I may mention (1st) Staff Officers are practised in, and regimental officers obtain some knowledge of the mode of moving troops (so as to ensure rapid concentration), transport, and supply duties, (2nd) false musters (an evil judging from History, common to all armies on first formation) can be entirely prevented, no pay being issued except to those officers and men who actually come to camp and are present at the muster parade (the public interests, in this respect, being thus protected), (3rd) whilst every opportunity is afforded in the morning and forenoon for Regimental Drill, at the afternoon parades the different corps may be trained to co operate in tactical Brigades of the three arms, (4th) prescribed course of target practice for the Artillery and Infantry can be carried by corps in rotation under proper supervision, (5th) the officers and men by being brought away from home, and entirely removed from the influence of civil life at the time of Annual Drill, acquire a better knowledge of discipline and a more soldier like tone, and the various Corps are accustomed to work together under the Commanding Officer of the District, (6th) friendly emulation in Drill, discipline, and appearance, between Corps, is created by their being brought together, (7th) officers, non-commissioned officers and men, being paid according to rank, and rationed as if on active service, all just grounds for complaint on this point are removed, and lastly, by making the annual drill for both officers and men of the militia in time of peace, as far as circumstances will admit, a rehearsal of the duties that would devolve upon them in the event of war, it is obvious that the Active Militia thus trained would be better prepared when called on to defend the country.

Whilst very general satisfaction was expressed with regard to the special Camps of Exercise which were in operation for sixteen days such was not the case with those for only 8 days, the rates of pay and allowances being different, and the time allowed altogether insufficient. Seeing, therefore the advantages, and that much more practice afforded in sixteen days as compared with eight, I beg to recommend that the system of eight days camps be entirely abolished, and that for the performance of the annual drill for 1872-73, the whole of the Cavalry, Infantry and Field Artillery Corps, be assembled in Divisional or Brigade Camps of Exercise for sixteen days continuous drill, under the command of the officers appointed to command the Militia, in the respective Military Districts; that the various batteries of Garrison Artillery should perform sixteen

days Artillery drill consecutively either at their own local head-quarters, or at such Forts and Batteries as may be convenient, under the instruction and orders of the Inspectors of Artillery. It is further recommended that the same daily rates of pay, rations and allowances authorized for actual service be allowed to the officers, non-commissioned officers, and men, of the Active Militia present at Camps of Exercise for the performance of the Annual Drill.

The additional expense of the Brigade Camps which were in operation for sixteen days was trifling, when the increased amount of efficiency attainable, is considered. In the eight-day camps of last year, the cost to Government for pay, which included subsistence, was \$2 per officer and \$1 per non-commissioned officer and man per day, — the commanding officer making his own local arrangements for rations for his corps, or taking the average sized Battalion, say seven companies, having a strength of fifty-six non-commissioned officers and men per company, as an illustration the total cost for pay and subsistence would be as under for the battalion, viz:

29 Battalion officers, at \$2 per day for 8 days.....	\$164 00
392 Non com. officers and men at \$1 per day for 8 days.	3,136 00
Total.....	\$3,600 00

Under the system carried out in the sixteen days Brigade Camp, where the officers non-commissioned officers, and men received the pay of their respective ranks, as if on actual service, with free rations issued under Government control, the cost of the rations, consisting of 1½ lb. of bread, 1 lb. of meat, 1 lb. potatoes, one-third oz. of coffee, one-sixth oz. of tea, 2 oz. of sugar, ½ oz. of salt and one thirty-six oz. of pepper per officer and man per day, and forage for horses, including hay, oats, and straw, was in—

	Rations for Men.	Forage for Horses
Milit'y Dis. No. 1, Camp at Joderich:	20cts.	36cts
do No. 2, Camp at Niagara..	17½	38
do No. 3, Camp at Kingston.	15	32½
do No. 4, Camp at Prescott.	14½	35
do No. 5 & 6, Camp at Laprairie.	15½	24
do No. 7, Camp at Lewis....	13½	34
do No. 8, Camp at Fred'cton	17½	48
do No. 9, Camp at Aylcsf'd Plains	21½	30

Or say an average for all the Districts of 1 cents per officer and man per day, and 6 34½ cents per horse per day. The average cost for pay and subsistence of the same sized Battalion, consisting of seven companies of fifty-six non-commissioned officers and men, each may be therefore stated as follows:—

	Per day	Total
1 Lieut.-Colonel	\$4 87	\$4 87
2 Majors.....	3 00	7 87
7 Captains..	2 82	19 74
7 Lieutenants	1 58	11 00
7 Ensigns	1 28	8 98
1 Adjutant	2 44	24 42
1 Paymaster.....	3 05	30 47
1 Surgeon	3 65	36 12
1 Assistant Surgeon....	2 43	41 55
1 Quarter-Master	1 94	43 49
29 Total for Officers.....		65 44

	Per Day	Sixteen Days
29 Officers	\$2 27½	\$1 035 04
5 Staff-Sergeants	0 90	72 00
7 Pay-Sergeants	0 80	80 00
14 Sergeants . . .	0 70	160 80
21 Corporals . . .	0 60	201 00
345 Rank and file	0 50	2,760 00
421 Rations	0 17	1,145 12

Total, Pay and Subsistence, \$5,480 10

In the one case, the cost of Pay and subsistence for the Battalion for eight days would be \$3,600; and under the other, for 16 days, \$5,480 10. It will thus be seen that while double the number, or sixteen days' drill, is secured by the latter system, the cost is only increased by one-half the sum required to drill the same Battalion for eight days.

I have the honor to be, Sir,
Your most obedient servant,
P. ROBERTSON-KROSS,
Colonel Commanding, and
Adjutant-General of Militia.
Head Quarters,
Ottawa, 15th March, 1872.
(To be continued.)

SIMPLE AND COMPOUND ENGINES.

That we have persistently written against the compound engine is a fact very well known to all our readers. We have opposed the system because extensively tried years ago and failed to give any results commensurate with the trouble and expense which it entailed. We have always urged that, in theory, steam can be used to more advantage if expanded in a single cylinder than if expanded in two or more cylinders, because, in the first place, the loss of pressure between the two cylinders (shown by the fact that the diagrams of compound engines never "meet") is avoided; and because, in the second place, a far larger weight of metal must be passed over by the steam in a compound than in a non-compound engine. We have besides, in the compound engine, one cylinder which, when much power is required, must be of unwieldy dimensions; and, finally we have in practice the fact that not a single argument can be adduced to prove that compound engines, with all their extra weight, complexity, great first cost, and special liability to get out of repair, are a whit more economical in fuel than properly constructed simple engines. Of course any one can point to the fact that compound engines are now working much more economically than the non-compound engines built some years since. There is no room to doubt for example, that the engines of the *Adriatic*, which has just made her first voyage to America, are more economical than those of the *Persia* or the *Scotia* ever were in their best days; but this proves nothing in favor of the compound engine, although it proves a great deal in favor of high pressures and large measures for expansion. We have frequently carefully pointed out that if the same pressures and measures of expansion were used in two equally well made engines, the one simple, the other compound, no difference would be discerned in the consumption of fuel. The curious fact is, that although engineers and steamship proprietors are now in favor of nothing but the compound system, neither engineers nor proprietors have taken the trouble to ascertain by direct experiment whether our arguments are or are not sound. It would appear as though nothing were easier than to test a good simple against a good compound engine under like condition of pressure and

cut off; but, easy as it is, the work has not been done, and until last Saturday it was impossible to find particulars of a single experiment instituted and carried out to settle this most important question. It is known that the Committee on Designs for Ships of-war recommended the general adoption of compound engines in our navy. Much praise is due to the Government, and their advisers, for undertaking an experiment which the commercial public would not—to decide the relative merits of compound and non compound engines as regards economy of fuel before they carried into effect the recommendation of the Committee on Designs. To make this experiment, two gunboats were selected, the *Swinger* and the *Goshawk*, both precisely alike as regards the hull, the sole difference lying in the propelling machinery. On Saturday, the 25th, these boats were tested for speed and economy of fuel, and we shall now proceed to place the results before our readers. We may add that the information elicited by the experiment confirms to the fullest possible extent the accuracy of the opinions which we have expressed concerning compound and non compound engines.

The *Swinger* and the *Goshawk* are sister composite gunboats, each of 408 tons and 60 nominal horse-power, the engines being intended to work up to 360 indicated horse-power. The *Swinger* has simple engines by Messrs. Humphrys, Tennant & Co., two cylinders, 31 in. diameter and 21 in. stroke actuating a single Hirsch screw, 9 ft. diameter and 10 ft. 2 1/2 in. pitch. The draught of water at the time of trial was 6 ft. 7 in. forward and 10 ft. aft. The coal used was Nixon's navigation. The sea was quite smooth, the barometer stood at 30 deg. 3 min. The six hours trial consisted of a run of three hours from Plymouth, and one of three hours back. On the outward run the revolutions per minute were 115.39, average cylinder pressure, 15.58 lb.; vacuum, 26.1 in., indicated horse power, 302.73. On the homeward run the boiler pressure was 60 lb. revolutions, 115.97; cylinder pressure, 15.61 vacuum in forward condenser, 26. in. after condenser, 25. 8 in.; indicated power, 365. The total quantity of coal burned during the trial was carefully taken. It amounted to 5,700 lb., or 950 lb. per hour, which, divided by the average power (363.85), gives 2.61 lb. per indicated horse-power as the consumption of coal. So much for the simple engines. Now let us see what was accomplished by the compound system.

The *Goshawk* is as we have stated, a sister boat to the *Swinger*, and her draught of water at the trial—whilst took place at the same time as that of the *Swinger*—was also 6 ft. 7 in. forward and 10 ft. aft, care being taken to trim both vessels precisely alike. The *Goshawk* is propelled by compound engines by Messrs. Maudslay, Sons & Field, 60 horse-power nominal. The small cylinder is 28 in. and the large cylinder 48 in. in diameter, the stroke being 18 in. They drive a Hirsch screw 9 ft. in diameter and 9 ft. 2 1/2 in. pitch, the smaller pitch being used to accommodate the shorter stroke of the engine. During the outward three hours' run the boiler pressure in was 60 lb., the revolutions, 126.36, average pressure in small cylinder, 31.08 lb.; in low-pressure cylinder, 7.5 lb.; vacuum, 25.4 in.; indicated power in high-pressure cylinder, 219.8; in low-pressure cylinder, 155.4; total, 375.2. On the return trip the boiler pressure was 60 lb.; revolutions, 125.8 per minute; pressure in small cylinder, 30.3 lb.; in large cylinder, 7.8 lb.; vacuum, 25.5 in., indicated power in small cylinder, 213.3; in large cylinder 160.8;

total, 374.1. Total consumption of coal, 5,852 lb., or 975.3 lb. per hour; and this divided by 374.7, give a trifle over 2.6 lb. per horse-power. From this it will be seen that the consumption of fuel was practically identical in both engines. In one word, nothing whatever in the way of economy was gained by the adoption of the compound system. No more direct or conclusive testimony to the accuracy of the opinions we have advocated could possibly be found.

After six hours' trial the speeds of the gunboats were tested on the measured mile—two runs for each boat. The *Swinger*, non compound, made 10.14 knots average; the *Goshawk*, compound, made 10.410. The boiler pressure of the former, however, was only 61 lb., and revolutions 114 per minute, corresponding to a piston speed of 4.22 ft. per minute, while the boiler pressure in the *Goshawk* was 62 lb., and the revolutions 127.5 per minute, corresponding to 38.25 ft. per hour. We have not been able to obtain particulars of the power developed during this speed trial, but it is evident that, taking the boiler pressure as a measure of the power, the advantage possessed by the *Goshawk* can be fully explained without any reference to the construction of the engines. It probably lies in the fact that the pitch of the screw in the *Swinger* is rather too coarse, and so locks the engines up.

It will be seen that this experiment has not been carried out in a small scale. Engines working up to 375 horse power are quite large enough to prove the truth or falsehood of any opinion about the nature of steam. The results are definite, and prove as plainly as anything can be proved that there is no economical advantage whatever about the compound system, which is not equally possessed by its rival. The result of the experiment is just what we anticipated, and further experiments with larger engines will make the facts clearer and better known to the public.

HEAD QUARTERS,
GRAND FALLS. May 28th, 1872.

MR. EDITOR.—During a recent visit to the neighboring Republic, my wonder was particularly excited in regard to the meaning of "Republican simplicity." I found a country in which Peabody the good might not accept the well-merited compliment of a baronetcy, because inconsistent with republican institutions; overflowing, nevertheless, with honorary "Honorables," "Generals," "Captains," "Colonels" and "Professors," without end. I found in their splendid hotels, in their furniture, cookery, system of arrangement, &c., &c., a lacquering most decidedly Gothic, realizing the days of the Grand Monarque rather than those of John Edicott or George Washington. I found in the churches, the schools, the theatres, and even in the court of justice, the same gingerbread, and the same tinsel. I was particularly amused in their criminal courts, and sincerely lamented the great injury done to the clear understanding of the case by the absurdly technical language in which much of the evidence is given. On one occasion the poor jury were told that "the integuments were reflected from the thorax, and the costal cartilages laid bare, when a wound was found which had penetrated through the anterior mediastinum, and had involved the arch of the aorta." In a case of alleged child-murder, a medical dandy swore, when asked for a plain opinion of the cause of death, "that it was owing to atelectasis and a general engorgement of the pulmonary tissue."

A NEW CANNON.

The "Woolwich Infant" is no longer a prodigy. The public has become familiar with its appearance and performances, and also with some ugly rumours about the effect on it of charges which were probably unduly and unfairly large. We have now nine or ten of these monsters. But a new gun is about to be produced—a gun of 36 tons, which will be some three feet longer than the "Infant" and be otherwise greatly improved in shape. Any one who has seen a member of the Infant family must admit that whatever may be their strength, a more ugly, squat, thick set race never existed, while on the other hand the proportions of the newly designed cannon will be so slender and tapering as to be almost graceful in appearance. It will be calculated to stand a greater charge of powder and be doubtless more true in aim at long distance than the 35 ton gun. The new gun is to be employed on land for harbour defence, most probably in some of the new forts at Plymouth, while the use of the Woolwich Infant will be confined to the navy. Of these latter it will be remembered the ironclads *Devastation* and *Thunderer* are each to carry four, in armour turrets, the guns being mounted in pairs, side by side two in each turret, so that their whole force may be brought to bear at one time, if necessary. In this way nearly a ton and a half of metal—for the shot weigh 700 lbs. each—will be discharged at once, a greater weight than was ever thrown in a broadside by the old first class men-of-war carrying their 120 or 130 guns. And how much more effective the projectiles from these heavy rifled guns will be, it is easy to imagine. The reasons which have led to the construction of a still heavier gun are based, no doubt, on the desire to employ more powder, and thus to expel the shot with greater velocity, and perhaps more certainty. As it is, the penetrative power of the present gun is equal to piercing an armoured plate 1½ inches in thickness at 50 yards while at the distance of 1,000 yards or more the shot would go clean through the side of the *Hercules*, one of the stoutest ironclads afloat, which has solid iron walls 12 inches thick. These results are obtainable with 80 or 90 pounds of powder, and if this charge is increased in the "Woolwich Infant" to any great degree—say to 110 pounds—no corresponding energy is put forth, for much of the powder is then thrown out of the muzzle unburnt. By lengthening the gun, therefore, and without enlarging the bore, it will of course be possible to burn more powder before the shot issues from the gun and it is hoped a higher velocity and greater battering force will be obtained; the full power of the weapon being, in fact, put into requisition. Instead of 90 pounds of powder 110 may be employed, while the strain upon the inside, or core, of the gun, will not be

greater than before. Again, it is feared by many that the bore of the present 35-ton gun—twelve inches—is greater than is compatible with its perfect safety. It will be remembered that in the first instance its diameter was but 11 6 inches, but that afterwards the tube was bored out (and consequently weakened) in order to take a 12 inch projectile. No divided opinion, however, appears to exist as to the capability of the now 36 ton gun to throw with such a projectile, and, therefore, while this weapon will perform a heavier task than its predecessor still that task will be performed with more efficiency and safety. As the gun will not be employed afloat, there need be no restrictions as to length, and consequently all conditions requisite to its proper manufacture can be complied with. It is to be built like the other upon the Frazer system—that is to say, with a steel tube and wrought iron jacket. The solid pillar of steel, which is bored out to form the tube, is a very costly affair, and by itself is valued at £500. About 50 tons of wrought iron will be employed for the outside jackets, or cylinders, to clasp round the steel tube, as much as 30 tons of metal being required for one part alone. These cylinders are made, as the readers may know by heating long bars of iron, somewhat resembling railway iron, and coiling them when at a white heat round a huge reel, so as to form a spiral of glowing metal. This spiral is afterwards put into a reverberatory furnace, and then hammered or welded under a steam hammer until it forms a hollow cylinder, and these cylinders are then placed round the steel tube, thus forming the gun. The bar of iron for making the principal cylinder in the 36 ton gun will be upwards of 1,200 feet in length, and the furnace in which it is placed, when twisted into a spiral or coil, is a roomy apartment, in which twelve or fourteen people might dine comfortably. As a matter of course, forgings of this gigantic nature necessitate machinery of a most stupendous character, and arrangements are being actively carried on at the Royal Arsenal at Woolwich for the erection of a 30 ton steam hammer which with a full jet of steam, will be capable of striking a blow of several hundred tons.—*London Daily News, May 11.*

It is creditable to the Prussians, remarks the *Pall Mall Gazette*, that in Prussia itself is published the severest criticism of the Prussian army, which abroad, and especially in England, finds too many indiscriminate admirers. In reference to the new version of the military penal code in preparation, Prussian captain has published book called "Education and Discipline in the Prussian Army," of which some account is given in a late number of the *National-Zeitung*. One of the chief aspirations of the author is that the good understanding which has existed in Prussia between the army and the civil population since 1866 (but which notoriously had no existence before that date) may be perpetuated; and this condition of things is only he thinks, to be secured by developing the

patriotism of the citizens and raising the moral tone of the soldiers. He protests against the popular saying that "the Prussian schoolmaster beat the Austrian schoolmaster at Sadowa," which he considers not a true observation but merely an effective phrase in the French style. The Prussian soldier has no time, he says, for study during the short period that he remains with the colours; and in spite of compulsory education, he often joins his regiment with only the slightest smattering of rudimentary knowledge. Examining his soldiers year by year as they joined his company, this officer found that out of forty, about five or six could read and write well, and were in a position to continue their education. From sixteen to nineteen could read and write moderately well; while ten or twelve were only beginners, and one or more, generally Poles—who can scarcely be expected to profit much by German schools—had learnt nothing whatever. Out of fifty recruits only one could say a single word about the war of liberation in 1813; and at most five were acquainted with the principal points in the national history of the eighteenth and nineteenth centuries. It is surmised that these five had not pursued their studies so far as to reach the history in detail of the 1813 campaign. The published statistics on the subject of education in the Prussian army are, it seems, very misleading, inasmuch as every soldier who possesses the least knowledge of reading and writing figures on the list of those able to read and write.

HORSE GUARDS, 18th May, 1872.

My dear Colonel Scott,—

I have just read your most interesting report of the journey you made in command of the party that went last autumn to Fort Garry, and I take the liberty of writing to congratulate you upon the successful manner in which you carried out your orders. You had a dangerous and a difficult duty to perform, and you did it well and ably. I have always had the highest opinion of the Canadian militia, and indeed I never desire to command or to serve with better men. What any other soldiers can do, those of Canada can do likewise. I am glad to find from your report that notwithstanding the great hardships your men were exposed to, all reached Fort Garry safely. I always look back with the greatest pride and pleasure to my connection with Canadian soldiers, and take the utmost interest in everything regarding their welfare. Again congratulate them upon the success of your expedition.

Believe me to be,

Very truly yours,

G. J. WOLSLEY.

Broad Arrow, in an article on Lord John Hay's offer to be in the *Glutton's* turret which it undergoes the *Hapsburg* fire, says— "It is the opinion of many of our ablest seamen that the concussion caused by the blows of heavy projectiles will greatly hinder if not paralyze, the crew, and make it impossible for them to work the guns. Our readers may not generally be aware of the effects produced upon the Southern ram *Albatross* by the ramming she got from the United States Squadron. We may state for their information that the crew were reduced to the state of a pitiable crowd of paralytic patients, and the vessel at last surrendered, not because of the damage she had received, but because the stoutest men on board were like the little doll's dressmaker

in 'Our Mutual Friend'—very queer in the back and weak in the legs; in short, quite unable, for want of physical power, to fight the ship." Our contemporary probably means the *Atlanta* instead of the *Albemarle*. The latter did not surrender when rammed by the *Sassacus*, but the former was pretty well used up by a coned 15 inch shot, which was what so demoralized her crew, and not "the ramming she got."—U.S. Army and Navy Journal.

WHAT HAS THE TREATY DONE?

No one will deny that the agreement between the United States and England to refer their international disputes to arbitration was founded on a correct principle, and a worthy outgrowth of the advanced civilization of the two great Anglo-Saxon nations. The principle was a correct one, but we are not certain that the manner in which it was carried into practice at Washington will be productive of those desirable results which have been prophesied. While the world lasts, we hope there will remain what is called National honor, a desire to deal fairly with foreign powers, and a determination that the conduct will be reciprocated. While the horrors and losses of war are ever to be honorably avoided, no one will contend that national disgrace is preferable to war. If a nation is to be respected—if it would guard its rights and dignity—it must not shirk the responsibility attaching to their assertion.

While, then, England was desirous of avoiding war with the United States, and agreed to go to arbitration upon the disputes between her and that country, owing to her unwise concessions the looked for result will not, we think, be secured. No English Statesman would have counselled arbitration if he had known that England's umpires would have put upon record a confession reflecting on the national honor. Such, however, has been the case. Although Earl Russell utterly refused to give ear to the Alabama claims, and maintained that England had honorably fulfilled international obligations, yet we find her representatives at Washington putting their hands to a Treaty which declared just the reverse. This was excused by a desire to make sacrifices in order to remove unfriendly feelings with the United States. But why, should the sacrifices have been all on one side? England was certainly not the weak power, forced to cringe at the feet of the Americans. The sacrifice, disguised and excused as it may be, was one of national honour, to avert a war which would have been more surely removed out of question by a manly assertion of England's rights. But, grant that it was politic to make this sacrifice, what ground was there for England consenting, at the instigation of the United States, to try her alleged failure to carry out international obligations by laws which, by the code of nations, were not in force when

the breach of duty complained of was committed? Here was another surrender of national honor, yet an Englishman would contend that his country would war with the whole of Christendom before it would submit to national disgrace.

But it may be urged that this is but sentiment and that in view of the great results it were idle to dwell upon it. War between England and America has been indefinitely postponed by the signing of the Treaty, it will be argued. We are not certain of that. If we believed Americans, they were going to gobble up the Empire in revenge for the escape of the *Alabama*. When England failed to knuckle down, the American then declared that we must allow them the use of our fisheries, or fight. Neither of these threats came from respectable Americans but nevertheless they produced an effect on England which culminated in the Treaty. As it was from the *Alabama* claims thence to the Fisheries so it will be to the next thing the Americans "set their hearts upon," for Treaties are mere waste paper if a nation is strong enough or dishonest enough to disregard their provisions. What guarantee has England that the United States, having made her cat no end of dirt and wriggled from her most valuable territorial and money concessions, will cease her importunities? As to the friendly feeling which was to engender it is simply an imaginary one. The people of the United States have not one whit of friendly feeling towards England more than they had two years ago. In the very face of the Treaty which the Senate of the United States had solemnly agreed to observe the Fenian marauders were allowed to make an incursion on Canada from American soil and were unpunished for the criminal act. What boots then the expression of "friendliness" in the Treaty when the United States fail to perform their international obligations immediately after its negotiation in a case a thousand times more flagrant than the *Alabama* escape.

These reflections are forced on us at this day by the discussion of the Treaty in our Parliament. There is little doubt that the shrewd and grasping Americans while settling to their advantage the *Alabama* claims secured concessions from this country intended to pave the way for annexation. They demanded the St. Lawrence and it was given them. They demanded our Fisheries which were conceded them, nominally for twelve years but virtually for ever. They will, regardless of Treaty rights, go on like Oliver Twist "asking for more" until Canada's surrender is demanded—*Kingston Whig*.

Congress having made an appropriation of \$50,000 for the survey of the North Pacific Ocean, the Navy Department has commenced making arrangements for the surveying expedition, which is to be under the supervision of Commander J. S. Sker. etc.

CONSEQUENTIAL DAMAGES

The *Mobile (Ala.) Register* reproduces the following from the *Manchester (England) Courier*.—"An amusing case of 'consequential damages' having, in a small way a ludicrous resemblance to the Alabama case, has just been decided near Bath. The story is told by a correspondent of "Land and Water," and may be briefly summarized as follows. Dr. Dice, an ardent naturalist, well known in the West of England, purchased recently two fine old English black rats.—These interesting animals managed to escape from the doctor's premises, and took up their residence with a gentleman in the neighborhood, a Mr. Spokes, who was an intimate friend of Dr. Dice, and what was of more importance to the rats, an enthusiastic breeder of bantams.

The rats killed a number of bantams, and were ultimately killed by a celebrated rat-catcher named Bill Ferrat. Mr. Spoker claimed damages from Dr. Dice for the loss of the bantams, and the doctor claimed damages for the murder of his cherished rats. Arbitrators were appointed, and all seemed to go on smoothly until Mr. Spokes handed in an enormous bill—after the manner of cousin Jonathan,—for "consequential damages." The number of birds killed was thirteen, for which £13 was claimed. The following items will show the nature of Mr. Spokes' demands.—

Thirteen sittings of eggs that would have been hatched..	£13 16s 0d.
Value of prizes that would have been gained at poultry shows at Bath, Bristol and Sarum	9 9 9
Hire of Bill Ferrat, the rat-catcher, six days at 5s p.d	1 10 0
Beer and refreshments for Bill	0 10 0
Loss of time in looking after Bill Ferrat, six days.....	3 0 0
Four patent rat traps at 3s 6d.....	0 14 0
Damage to a pair of trousers during the hunt.....	7 0 0
New roof to out-house	13 0 0
The whole bill amounted	£61 14 0

After a great deal of wrangling Mr. Spokes withdrew his demands for "consequential damages," and accepted payment for fowls actually destroyed."

In the sitting of the German Parliament for May 27, the general debate on the Navy estimates was opened by the Director of the Admiralty, Herr Stosch, who declared that the centre of gravity of Germany's power lay in her army. It was not intended that her navy should fight great naval battles or try her strength at sea with England. The task of the German navy was to protect her coast. An iron clad fleet was sallying forth to keep the port necessary in the North sea. Bottomed vessels were required. Corvettes were being built for the merchant navy, a fleet of bottomed ships for the coast of Asia.

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MILITARY AND NAVAL GAZETTE.

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

OTTAWA, MONDAY, JULY 8, 1872.

LIEUT.-COLONEL WAINWRIGHT GRIFFITHS, at present on a tour through British Columbia, has kindly consented to act as the Agent for the VOLUNTEER REVIEW in that Province.

To CORRESPONDENTS.—Letters addressed to either the Editor or Publisher, as well as Communications intended for publication, must, invariably, be *pre-paid*. Correspondents will also bear in mind that one end of the envelope should be left open, and in the corner the words "Printer's copy" written, and a two or five cent stamp (according to the weight of the communication) placed thereon will pay the postage.

Broad Arrow, of 8th June, has an instructive article on *Italy as a Naval power*, in which the folly of attempting to defend the Peninsular with an army modelled on the Prussian system is demonstrated.

The article is written as a review of an Italian version of the battle of Dorking, in which the newly created kingdom suffers dismemberment because she depended on an army of 450,000 men, and torpedoes to defend her accessible coast line and great cities within reach of the invader by sea.

Bounded on every side, except the North, by the waters of the Adriatic and Mediterranean, no portion of Europe, except Great Britain, appears to be so well fitted for the seat of a great Naval power.

It would appear that her ill success at Lissa has made the naval service unpopular, and that the people have their attention directed to the development of their Military power

In the by gone period of European history, when England ruled supreme in the Mediterranean, Italy could only be invaded over the Alps.

The close of the last century witnessed the greatest development of France, as a Naval power, yet the armies of the Republic, one and indivisible, led by General BONAPARTE, were obliged to encounter the difficulties of the "Simplon" pass before the future Emperor NAPOLEON, the First, could conquer Italy.

The Italian campaign of 1859, under the Third NAPOLEON, was not marked by a repetition of his uncle's manœuvre, he was at peace with England and the Italian seaboard was open to him—one campaign sufficed to drive the Austrians from the country—and that manœuvre may be repeated if there is no Naval force to defend its assailable points; for it is a fact not creditable to our boasted civilisation that a few armoured vessels can bombard a town, and by inflicting untold misery on the civilian population, compel the military to abandon its defence, and that notwithstanding whatever their numbers may be.

Many of the richest towns and cities in Italy are on the coast, all her defensible positions are within easy distance of it, and an invasion of the Peninsula, under present conditions, would present no very unsurpassible difficulties.

It is true France is at present the only enemy she has to fear, but behind that power is another which owes the Sardinian dynasty no good will, and whose objects as well as her interests may lead to grave results for resuscitated Italy.

The following extract will show the gravity of the danger, and the main agent in the next European contest:

"The prominent importance of Russia's connection with the Black Sea has, says the *Levant Herald*, for some time past thrown into the shade the question of her future position in the Baltic; but nevertheless it is in the latter that the real *piece de resistance* of her foreign policy now lies. The dominion of the Baltic is one of Russia's most cherished possessions, and it is precisely that one which now appears to be most palpably menaced by the march of events. Little can it profit Russia to have shaken herself free at one extremity of her empire if she is to be immediately met by a new barrier at the other. 'A moment's consideration,' observes the *Moscow Gazette*, 'will suffice to show that we have lost more in those (the Baltic) waters than we have gained there since the days of Peter the Great.' Such language as the *Herald* points out, is not exaggeration. Up to 1864 the whole entrance of the Baltic and

its coast-line southward were in the hands of Denmark—a State too weak to have the power, and too closely allied with Russia to have the will, to become dangerous to the *sui-disant* mistress of the Baltic. Then came the Schleswig-Holstein war, changing at one blow the entire situation. The transfer of Schleswig to Prussia, the conversion of Kiel into a first-class naval port, the practical impregnability given to it and to the sister port of Alson, virtually created in the north a second Bosphorus, even more formidably guarded than its southern prototype. Taken briefly, the situation is as follows:—The shallowness of the Sound leaves to large men-of-war only two gates of egress from the Baltic, the Great and the Little Belts; the former of which is virtually barred by the neighbourhood of Kiel, the latter by the works of Alsen Düppel. The progressive growth of the German fleet will gradually force that of Russia to operate in greater strength, thereby necessitating larger and larger supplies of food and fuel, which will become more difficult to procure in proportion as the German cruisers increase and multiply. These, it is true, are contingencies of war, but the *bona fide* closing of the Baltic by the advance of Germany is no longer a contingency, but an historical fact; and Russia, like the genie of the Arabian Nights, is pent into a prison too small for her bulk, though whether she will tamely submit to have her supremacy overthrown at the very moment of its apogee remains to be seen. To attempt any exact estimate of the comparative strength of the Russian and German Navies would be premature at the present moment, but it needs only a glance to discern which Power is the most assailable along her marine frontier, and which, consequently, would be the greater sufferer by a war in the Baltic. All the great ports of Northern Germany—Hamburg, Bremen, Lubeck, Rostock, Stettin, Dantzic, Königsberg—are at a sufficient distance from the sea to be virtually safe from an attack, but with the western seaboard of Russia the very reverse is the case, as the labour now being expended on the Finnish ports amply proves, and as more than one native critic has been candid enough to acknowledge. 'By the time the strengthening of Kiel and Wilhelmshaven is complete,' said a leading Russian journal some little time ago, 'the marine frontier of Germany will be almost unassailable; but what corresponding increase of strength have we to show? What protection have Riga, Revel, Helsingfors, Viborg? Nay, even St. Petersburg itself, under the present improved conditions of shipping and artillery, may yet find the much vaunted forts of Cronstadt an insufficient defence. Had we a fleet in the Baltic capable of coping with that of Germany, there would be less ground for anxiety; but our Baltic Fleet, though costing every year considerably upwards of two millions sterling, is very far from being a match for any of those which are likely to be opposed to it. All that we can do is to secure our seaports against attack; and this in an age when the power of artillery is almost daily on the increase, will be anything but an easy task.' Such is Russia's estimate of herself; it is for the future to show how far that estimate may be correct."—*Pall Mall Gazette*.

This may be purposely designed to distract attention from Russia's operations in the Black Sea, especially her intention of restoring Sebastopol—but there can be no doubt that the Baltic is and will be the most prominent and important portion of her policy, and absorb the largest portion of her

attention. A quarrel with Germany, in which she would appear as the ally of France, would be productive of grave consequences to Italy, and would end in securing the supremacy of the Baltic.

If the policy of England does not expect a greater change she will be neutral in such a contest, and therefore Italy would have to meet the French fleets, the Black Sea Russian fleet, and probably the Austrian single handed.

The maritime strength of all these powers is given in the following extract:

"A German paper observes that, notwithstanding the efforts made of late years by the Admiralty at Berlin to strengthen the German Navy, it is still much smaller than the navies of most other maritime States. The ironclad fleet of Germany consists of 3 frigates and 2 smaller vessels, with 59 guns; while even little Denmark has 3 frigates and 3 floating batteries, with 65 guns; and Holland has 5 turret ships, a floating battery, 10 monitors, and 2 gunboats, with 60 guns. Italy's ironclad fleet consists of 21 ships, including 12 frigates, a turret-ship, and a corvette, with 208 guns. Austria has 11 ships, with 182 guns; Turkey, 19 ships; and Brazil, 15. Russia's ironclad fleet on the Baltic consists of 25 ships with 160 guns; France has 62 ironclads, with upwards of 400 guns; and England 46 ironclads, with upwards of 320 guns. America has 51 ironclads, but they are mostly small vessels, and her ironclad fleet carries 48 guns. Even Spain has seven ironclads, with 145 guns. It is true that six more ironclads are now being built for the German Navy; but when these are completed Germany will still be far behind the other great Powers as regards the strength of her fleet, especially as four out of the five ironclads which she now possesses are covered with plates of from 4½ inch to 5 inch only, while the recent improvements in artillery render it necessary to have plates of at least 7 inches. The artillery equipment of the German fleet is very strong, but it is surpassed as regards calibre by that of the English and French navies, while Russia has already obtained naval guns similar to those used in Germany, and Austria and Italy are preparing to follow her example."—*Pall Mall Gazette*.

France has also 264 screw steamers, 62 paddle steamers, and 113 sailing vessels, mounting respectively 1,547, 154, and 672 guns, making a fleet of 401 vessels armed with 3,045 guns.

Italy has also 29 screw steamers, 32 paddle steamers, and 8 sailing vessels, respectively of 380, 113, and 104 guns—total of 91 vessels mounting 798 guns.

The French fleet is manned by 74,403 officers and seamen, the Italian by 19,088. Comment is useless, and it would be evidently the true policy to develop the naval power of the Peninsula.

Broad Arrow reviews a pamphlet by Lieut. J. T. BUCKNILL, R. E., entitled "Torpedoes vs Heavy Artillery," in which that enterprising officer assumes that Torpedoes properly disposed, supported by batteries of what he calls light guns (six and an half tons) would be the proper armament for coast defence.

Admitting the possibility of using such a combination there are certain conditions under which the main agent of defence "the Torpedo" must be used which should be considered.

Torpedoes must be operated as floating, impact, or electrically—the first being managed by clock-work time-fuze or other contrivance—the second ignited by being struck by a vessel and consequently must be anchored—the third must be fired from the shore by the electric battery and wires.

It would appear that the only actual experience yet acquired (barring always Capt. WARNER'S) has been derived from the late Confederate States during the civil war—and it is decidedly against the system of ignition by electricity. If anchored in a roadway or off a harbour their sites will be easily determined, and they may be removed or avoided; as their greatest advocates does not claim a greater effective range for their power than a radius of 40 feet. Moreover where there is any appreciable rise or fall of the tide, a submerged Torpedo is subjected to displacement in a much greater degree than if it floated as a buoy, and those acting by impact are as dangerous to friends as foes, while the floating machines are not reliable or valuable.

It would appear therefore that Torpedoes will be of little use in coast defence except behind a boom or barricade and under the guns of a powerful battery which will not be limited to guns of six or seven tons, but equal in power to anything which can be brought against them at least.

The only known successful use of Torpedoes, as defensive weapons, was behind a barrier and under the conditions described. Their only successful operations, with one exception, was against ships at anchor.

Lieut. BUCKNILL states that he has just "been six weeks in the United States, and found that three special torpedo vessels were commenced, whose speed, it is hoped, will attain seventeen knots per hour; that ten powerful steam-tugs were fitted with telescopic outrigger torpedoes, to be worked from the interior; that the monitors, about thirty in all, were fitted with boom torpedoes; that every vessel, whether corvette, frigate, or gunboat, in the United States Navy carried a number of outrigger and towing torpedoes, to be worked from the vessel itself; that the officers of the Navy were being thoroughly instructed, in classes of twenty at a time, in the art of practical torpedoing, the course of instruction lasting several months"; and "that many of the most experienced officers in the United States Navy believe that the torpedo is to be the principal weapon of future naval armaments."

The United States *Army and Navy Journal* while taking all the credit possible for foresight and enterprise in this matter, says—"The great fact however that should be noted here is the admission that the buoyed or fixed or floating torpedo, whether dischar-

ged by circuit contact or shock of impact is not yet the culmination of submarine defensive art. It is confessed that however well these infernal engines may be disposed, and with whatever security of discharge, invention has found a way to destroy them before they can become dangerous, or at least isolate them from their directing power."

Captain HARVEY states that he can tow them at a considerable angle from the operating vessel's wake at a distance of about one hundred yards, and at a very high speed. We do not question the gallant officer's accuracy, and there is hardly a limit to invention, but we have seen the *fishing otter* and are not prepared to give implicit credence to its manageability at any speed like that which will be used in action. The very fact of the speed will expose its position, and a vessel keeping a luff of 120 yards from her opponent, can avoid the painfully elaborated trap.

Captain COLONN in his "attack and defence of fleets" states that future Naval actions whether fought in *line ahead* or other disposition will be "fought end on," in which case the question will be between the torpedo with 60 lbs. of gun cotton at 340 feet or a 600 lb. shot or shell at 360 feet, the great chance would be decidedly in favor of the latter.

The *Army and Navy Journal* states on the authority of an United States officer of rank and experience, "that the British Admiralty possessed a more comprehensive knowledge of submarine invention and progress than any similar official body in the world." And the limited use made of that knowledge justifies the conclusion that the Torpedo is not what it is claimed to be by its admirers.

As the whole of this question is debated with reference to its application as an armament for the floating batteries which mechanical ingenuity without scientific skill has substituted for the British fleet, and as the attempt to arm them with heavy artillery has been a disgraceful failure, we cannot forbear giving the words of a Naval officer of some distinction relating to the controversy.

At a recent meeting of the "Royal United Service Institution" Major STURMERS read a paper on submarine Mines, Commander DAWSON, R. N., said—

"At this moment, the British fleet is the only considerable one in the world whose officers never practice the applications of offensive torpedoes. At this moment the American squadron in the Mediterranean is furnished with and practices with such torpedoes while our fleet has not a chance of acquiring similar experience. True, *military* submarine mining is taught to naval officers, as if we already anticipated the British fleet being shut up in our harbors and its seamen attached to the corps of Royal Engineers for defensive purposes. Let us then, add to the British fleet *Monarchs*, *Devastations*, *Glattons*, and *Thunderers*, armed with 25 ton and 35-ton guns, which have never been subjected to rapid continuous firing, and which naval men believe will, as at present rifled, contrary to all mechanical principles, break down under such an ordeal. Arm the fleet with such

untested weapons, which even their advocates say must be carefully inspected after only 250 quiet and cool discharges, at the rate of eight rounds every three months, and which it is boasted do not burst during a sea voyage in time of peace, though they are considerably injured by the act of training the crews. Arm the British fleet with such doubtful rifled weapons, and it is quite possible that in a well contested naval action it may be come wholly disarmed by the irregular wobbling and hammering of its own viciously rifled projectiles. The defeat of the British fleet must come from within, and could be arranged for by discouraging the officers and men; by keeping from them all experience of naval weapons of destruction in use in other fleets; and by supplying to them guns which have never been tested for rapid continuous fire, and are known to be rifled contrary to all mechanical principles. When we have thus organized the fleet for defeat, and attained that end, then, and not till then, shall our second line of defence be required to repel invaders."

The rapid and signal success of the Prussian arms during the late contest with France, has very justly invested, with profound interest, every means, probable or otherwise, by which it was or might be attained.

As the tactical subject has been exhausted, and strategy pretty nearly so, the educational element is now submitted to analytical discussion, and the tendency appears to be in the direction of attributing undue weight to the peculiar training of the Prussian subaltern, and as a primary element therein—the practical lessons of strategy taught by a game of military chess, for it is nothing more, called the *Krieg-Spiel* or game of war.

Many of our contemporaries suppose this to be one of those *new inventions* which Prussian military genius has given to the world, and they will, no doubt, be surprised to learn that it was at least 25 years older than the battle of Jena in which the Prussian army was annihilated by the French, altho' the latter had not studied strategy on a chess board while the former had.

The *United Service Journal* for 1851, at page 75, part I, has a well written notice of "The War Game of Prussia," in which it is described as "the familiar mode of illustrating the evolutions of troops by small rectangular figures."

It appears to have been invented in 1780 by a Professor HELLWIG of Brunswick, and improved as well as adopted by the Prussian War Department in 1821, and known by its modern name—it was played by two persons with a third for umpire—with plans and every appliance similar to those now in use.

Our object in noticing this, is to introduce a lecture delivered at Dover on 13th March last, by H. R. II. PRINCE ARTHUR, on this subject, and as every movement of the distinguished lecturer is of interest to the members of the Canadian army we give that portion of the lecture as it appeared in the *Broad Arrow*.

At the same time we are not inclined to pin our faith on that knowledge which would

be acquired by a game of chess, we believe it to be a fact that some of the best strategists and most successful commanders were totally ignorant of that noble game.

It may be valuable to young officers to be taught what strategy means by a mechanical process, but no one except Mr. CARDWELL would think of training Generals by illustrations of the art of war.

"It is significant of the modern advance in popular education in the army to find so many officers and even soldiers occasionally coming forward as expositors of military science. The lecture delivered by H. R. II. Prince Arthur on Wednesday at the Garrison Instructor's Class-room, Dover, on the 'Game of War,' consisted of a remarkably lucid description of the German 'Krieg Spiel,' and was designed to excite an interest in the subject among His Royal Highness's brother officers in the garrison and district. Among the officers and gentlemen present were Sir Howard Elphinstone, K. C. B., Lieutenant Fitzgerald, Colonel W. Parke, C. B., commanding at Shorncliffe; Colonel McDonald, assistant adjutant-general; Colonel Mayne, assistant quarter master general; Mr. A. W. Downes, district controller; General Dalzell; Major Blenkinsopp, superintendent of the riding establishment in Canterbury; Major Crooks, Mr. T. Humphreys, &c.

"Colonel McDonald, as president of the Dover Association for the discussion of military subjects, introduced the royal lecturer. He said he hoped he might be permitted to observe that the honor His Royal Highness had conferred upon them by being present on that occasion, and by his introduction of a subject known only by name to most in that assemblage, would give a stimulus to the institution it had never hitherto possessed.

"Having already described the *modus operandi* of the game, we now confine ourselves to that portion of the royal lecture which represents the Prince's own original views of the application of the 'Krieg-Spiel.' His Royal Highness made the following historical reference to the 'Krieg Spiel.' Some twenty years ago a society of officers was formed at Magdeburg for the special object of playing the game. The chief of this society was Von Moltke, who attached great importance to it. To attempt a full explanation of the rules would occupy far too long a time, and would, he feared, be wearisome. Prince Arthur proceeded to explain the general principles and *modus operandi* of the game. During the late war most of them, he supposed, followed the movements of the armies by placing pins on maps to represent the different bodies of troops, and thus got an excellent idea how matters stood each day. The game of war was simply an amplification of this; instead of pins, leaden blocks were used, and these blocks were cut to scale so as to suit the maps and show the exact disposition and space occupied by each arm of the Service as well as the direction in which they were moving. The Prince produced one of the maps used in Prussia, on a scale of eight inches to the mile; the Austrian maps were upon the same scale, but English ordnance maps were on a scale of only six inches to the mile. In order, however, to make use of these maps, the War Office were now engaged in getting leaden models of troops, of a size suitable to this scale. He understood, also, that it was intended to issue shortly a set of maps and models to each military district. His Royal Highness pointed out a remarkable peculiarity in the Aus-

trian map, the pieces composing it being turned in any direction one pleased, yet always fitting, and thus enabling the players, while using the same map, to change the feature of the ground. In explaining the principles of the game, the Prince said that two persons were chosen to take charge of the opposing forces, a third acting as umpire. The two players or opponents need not be very learned. All that was required of them was that they should know what the different blocks were, be able to read a map, and have all the knowledge of the principles which governed the marches of troops, their disposition in action, &c., and, lastly, that they should yield implicit obedience to the decision of the umpire. The umpire, on the other hand should thoroughly understand the theory and practice of the art of war, and know perfectly all the rules of the game, so that he could apply them at once to any case that might occur. Before commencing the play, the umpire issues a 'general idea' stating the nature of the operations and the general object which each side is endeavoring to obtain. This should be done a day or two before the game began in order to give officers sufficient time to study the map. As an illustration of this 'general idea' His Royal Highness supposed an invading army had landed and established itself at Hythe, and while pushing rapidly on towards London, detached a corps towards Dover and Chatham to mask them; the troops in the South-eastern District concentrating in Dover for a combined attack on flank or rear, so as to cut off the enemy's communications with Hythe. Besides this a special idea was given to each commander to guide his own individual moves; for instance Colonel McDonald, who had kindly undertaken to defend Dover, had received the following special idea. The troops in the South eastern district had had time to concentrate, and numbered about 11,000 men as detailed. They were to advance from Dover on the 13th of March, and take up a position on the high ground in front of Horgham and Alkham, and to throw out their outposts as far as Swingfield, Evendean, and Stanley. During the night of the 13th, the general commanding hears from trustworthy reports that a strong force of the enemy is advancing upon Dover by the road leading towards Hawkinge, Evendean, and Swingfield. The general is to take up the strongest defensive position near his outposts, and to hold until assistance arrives. After describing the laws of the game, his Royal Highness, before closing mentioned a few instances to show how closely the game in its application approached to what would occur during operations carried on in the field. For instance, a report is sent in from outposts that the enemy is advancing; the commander cannot immediately give his orders to the troops, because the laws of the game states that the *aide de camp* cannot carry orders more rapidly than at a certain pace. He must therefore wait for a certain time before he can remove his pieces. He might make use of signalmen; but the rule is, that unless he has given written orders for the signalmen to be with that corps, time must be allowed for the *aide de camp* to gallop over that distance. Secondly, an officer orders his men to "double" so as to take cover in a wood. The umpire forbids him to "double" more than 200 yards at one move, and never more than three times in right moves. Should they be attacked immediately after "doubling," they receive one chance less than is due to their strength, as they are not then supposed to be so efficient. Having said all that time permitted in explanation of the

game, the Prince recommended the study of it to all who were anxious to improve themselves in a knowledge of the operations of war, and resumed his seat amidst loud cheers—*Broad Arrow, 16th May.*

NEWS OF THE WEEK.

The Geneva Board of Arbitration decided that they could not hear the United States claims for indirect losses. It is probable the astute politicians at Washington used the opportunity to establish a precedent and that we have not arrived at the end of the matter by any means.

A movement has been made in the French House of Assembly, having for its object the displacement of M. Thier and creating a *Triumvirate* composed of Marshal MacMahon, General L. Admiral, and the Duc de Grammont, a mere repetition of the *three* Consuls of the first revolution, although the ability to play the *premier* consul a la Napoleon le Grande is not forthcoming in the designated trio.

Thier who had been threatening to resign at once secured the support of the Left, and announced that he was determined to protect the Republic.

It is not a chance which befalls a fellow twice in a lifetime, to get such a good birth as President of the French Republic, and if the present occupant of that office is wise he will think twice before he facilitates the final evacuation of France, so sure as that happens his tenure of place would not be worth forty eight hours purchase.

The treaty of evacuation has been concluded.

The Archbishop of Naples advises his clergy to use their utmost efforts to induce their parishioners to take part in the elections for the administration.

Capital banks still continue to be troublesome in Spain. The *London Times*, following out the senseless and disgraceful policy with which it has been inspired by the English Yankee worshippers, undertook to advise the Spanish Government to cede Cuba to its friends; has been severely taken to task by the *Epoca* of Madrid—taught a lesson in patriotism, and scornfully told that Spain had not yet reached that depth of degradation which would induce her to part with a foot of her territory. The *Times* might truly say that the party it represents and Gladstone's followers, had just attained the enviable position of bartering national honor for money.

The Emperor of Germany is about to take up the *San Juan* case at once.

The German squadron had bombarded Port au Prince to enforce reparation for injuries inflicted on their merchantmen—the Haytian Government was supported by the French consuls, the Germans by the British and French, and finally the indemnity was paid by the Firm of White and Hartman, United States merchants at Port au Prince.

The Yankees have been illustrating their

love of order and idea of international obligations by sending recruits and supplies to the Cuban brigands. Lately a steamer, the *Fanny*, landed 50 men and a large quantity of military stores at Hurradurra, but was driven ashore, set on fire her cargo captured, and the band dispersed with several killed, amongst others the leader Peralta.

Revolution still prospers in Mexico, where the noble art of killing for an idea can be studied in all its interesting bearings.

There appears to be every sign of a smart contest between Horace Groovy and General Grant for the Presidency of the United States. Our lively neighbors will have a good time of it, and will then settle down to abuse their four years puppet.

The Western Indians are giving considerable trouble, and will, in all likelihood, involve the frontiers in another savage war.

Some changes have taken place in the Privy Council of the Dominion. The Hon. Alex. Morris, Minister of Inland Revenue, has resigned his Portfolio and accepted the Chief Justiceship of Manitoba. He has been succeeded by Hon. Dr. Tupper, and that gentleman's place has been filled by the Hon. John O'Connor, of Essex, who is now President of the Council. The Hon. Colonel Grey has been appointed Chief Justice of British Columbia.

His Excellency the Governor General with the Adjutant General, inspected the Camps at Prescott and Kingston. As far as musters are concerned the Camps this year have been quite a success.

Hon Mr. Hathaway, Premier of the New Brunswick Government, died suddenly on the 5th.

REVIEWS.

Blackwood for June contains:
The Maid of Sker—Part xi.
Thackeray in America.
Zanzibar.
A True Reformer—Part iv.
New Books.
The Downward Course.

Republished by the LEONARD SCOTT PUBLISHING COMPANY, 140 Fulton street, New York.

The *New Dominion Monthly* for July, has an excellent engraving of Lord DUFFERIN, the Governor General; and a very good one of the celebrated GAVAZZI. It is as usual full of interesting and instructive matter.

The *Phreological Journal* for July contains good engravings of HORACE GREELY, B. G. BROWN, LORD MONAG, and others.

REMITTANCES Received on Subscription to THE VOLUNTEER REVIEW up to Saturday, the 6th inst:—

- BOWMANVILLE, Ont.—Colonel Cubitt, (per Agent) \$1.00; Surgeon Balch, M.D., \$1.00.
- MONTREAL, Que.—Dr. A. Nelson, (per Agent) \$2.
- LA PRAIRIE, Man.—Ens. Geo. A. Gantoch, \$1.00.
- IROQUOIS, Ont.—Capt. Alex. McDonnell, \$2.00.
- RICHMOND, Ont.—Capt. Thos. Good, \$2.00.
- TORONTO, Ont.—Capt. John Grant, T. F. B., \$5.00.

PRESENTATION TO COL. BEAF MAN.

The very pleasing episode to which we alluded to last evening in connection with the Volunteer Camp at Prescott, (just brought to a close) took place on Thursday evening, the 4th instant in the large mess tent of the 43rd (Carleton) Battalion.

This battalion has the honor of being commanded by Lieut.-Col. John F. Bearman, than whom there is no officer in the District more beloved and respected by those under his command. During the past spring the gallant Colonel had become a Benedict, or in plain English, taken to himself a wife, and the officers and men of the Battalion chose this their first meeting together after the auspicious event, to present him, with a congratulatory address, and not only so, but to accompany it with some substantial token of their respect and esteem, with this object in view the officers and men put their heads together on Tuesday last and in half an hour a sufficient amount was subscribed, and the same evening a delegation was despatched to Ottawa with instructions to purchase a handsome set-service, which reached the camp yesterday afternoon where for a few hours it was exhibited for the delighted inspection of the donors. At 9 p. m., the presentation was made at the large mess tent of the Battalion. At the request of Major Corbett the address was read by Capt. and Adjutant Stephens, and was feelingly and briefly replied to by Lieut. Col. Bearman, after which the company present consisting of Lieut.-Col. Jackson, commanding the District; Brigade Major McDonald, Lieut.-Cols. Buell, 2nd, Cole, 41st, Jessup 56th and Sheppard, 6th, Majors Gemmill, 42nd McClellan, 59th, and Wood, 59th, Gwyone 41st. Capt. Sparks, Ottawa Cavalry, Lieut. Stewart and Hymaster Woodburn, Ottawa Field Battery and several other officers of the different corps in camp with the 43rd, in full strength, sat down to a hastily prepared, but well spread board, and immediately was heard the sharp and oft repeated pop of the champagne cork. The usual loyal toasts were given and duly honored, the toast of the evening (Lt. Col. Bearman, and wife) was given by Major Corbett, and enthusiastically honored, and was briefly responded to by the gallant Colonel. Then toast followed toast in quick succession eliciting remarks from Lieut. Col. Jackson, Powell, Cole, Capt. Holmes, M.P., &c., until finally, at nearly midnight, Major Falls gave 'the ladies' which was of course, received with all due honor, and to which Capt. Sparks in his usual eloquence and happy strains responded, as did also Major Gemmill of the 42nd. Few more pleasant hours were spent during the camp than on this occasion, song, toast and anecdote, were the order of the day or rather the night, and about twelve o'clock, the merry party broke up, each and every one wishing long life and happiness to their gallant entertainer.

The tea service was much admired by all and we believe was purchased from Messrs. Young & Radford, of Sparks Street, in whose window it will be on exhibition in the course of a few days.—*Ottawa Citizen.*

THE FADED VIOLET.

You gave it me long years ago
In the shadowy evening time,
While the clouds stole round the mountain side
And the bells rang out a merry chime,
The blossoms listened at our feet,
The trees stoop'd from above;
You said, "This flower will say to me
All that my heart says—Love."
'Tis long ago; but I have yet
That little faded violet.

And life was at its blithest then;
The world no'er seemed so bright
For the sweetest story ever told
I listened to that night;
And often, often, when alone
I've kissed my violet blue,
And said, "E'en as I keep my flower
So will my love be true."
Ah, me; I have it hidden yet,
That little faded violet.

We parted long, long months ago,
With not a sign to tell
That once in far-off happy days,
We two had loved so well.
We parted with a few cold words—
We two who oft had said
Not all the world should come between,
Ah, well; the love was dead—
The love was dead; but yet, but yet,
I keep my faded violet.

—St. James's Magazine.

Our neighbors of the United States claim to be the foremost in civilization, and political institutions. The following detailed narrative from the *Army and Navy Journal* will not tend to support the claim of superior civilization, and betrays a total laxity of legal administration, with a want of Executive force, disgraceful in the highest degree.

If anything could shew the superiority of monarchical institutions, it would be the difference of law and order in the border Provinces within 300 miles of which the following outrages occurred, where life and limb is as safe as in London:

Fort Gibson.—A despatch from Chicago April 21, announces that Lieutenant General Sheridan has ordered General Grierson with two companies of infantry to occupy Fort Gibson, and capture and drive out the murderers and marauders in Indian Territory. It is expected that this action of the Government will restore confidence between the settlers and the peaceable Indians on the borders of Arkansas. The Fort was abandoned by the order of General Pope, but the terrible affray reported from Fort Smith shows the necessity of soldiers in that section. The affray referred to occurred on April 15th. On the 11th instant a white man named J. J. Kesterson, living in the Cherokee nation, filed information before United States Commissioner Churchill against one Proctor, who, he stated without provocation shot his wife dead, and then fired his revolver at Kesterson, the ball striking just above the left eye, before he could fire again Kesterson escaped. It is further stated that Proctor was undergoing trial for the murder of his wife at the Court house in the Snake district at about fifty-seven miles northwest of here. A writ was issued and the Deputy Marshals were instructed to go to the Court house and remain till the trial was over, and if he was not convicted, to arrest him on the other charge. Proctor is known to be a desperado and it being in the neighborhood where Deputy Marshal Bentz was killed a little over a month ago—where, in fact a Deputy Marshal is shot almost "on sight," it was necessary that a strong posse should be sent. The party also had writs for the murderers

of United States Deputy Marshal Bentz, who are supposed to be in the immediate vicinity, and intended to resist arrest. Monday morning April 15, Deputy Marshals with a posse of nine men arrived at the Indian Court house near Dutchtown, dismounted, hitched their horses, and quietly walked toward the east end of the house in file by twos. They stopped at the corner, and Beck, one of the posse, stepped around to the front door and looked in. Seeing a large number of people inside armed to the teeth he turned immediately to come away; but not before he was fired upon and dangerously wounded. At the same time a volley was poured from the court house upon the Marshal's force without, who then commenced to return the fire. They were at great disadvantage, as the attacking party were under shelter inside the Court house. It appears that Beck had some friends inside the Court-house, who, when they saw him fall, opened fire on his (Beck's) enemies inside, and presently the fighting was general. It was brief, but terrible in its result. Of the Marshal's force, seven out of the eleven lay dead, and of the assailants three. Some sixteen or seventeen are reported wounded—some mortally, including Marshal Owens, Proctor, the woman killer and desperado was guarded by eleven of his personal friends, who would not see him convicted. The Sheriff was killed and the Judge received three buckshots in the knee. Indeed, it appears from the sudden and fierce assault upon the Marshals force, that the people inside the Court house had been fully informed of their approach and were prepared for them. The officials had instructions to make a demand for Proctor in case of his acquittal, and expected some resistance should they attempt to arrest Proctor after his acquittal. But for the murderous volley on their first approach, they were not prepared, hence their slaughter. Immediately upon receipt of this information at Fort Smith, Ark., a reinforcement of thirty mounted men was sent out.

The following description of the constitution and decorations of the "Order of St. Michael and St. George" will be interesting to many of our readers as they may possibly attain the honor of earning the distinction, which has already been conferred on several Canadian officers for meritorious services in the field.

It is copied from the *European Mail* of the 1st May:

The Order consists of three classes, and is at present restricted, the first class to twenty five, the second to sixty, and the third to one hundred. Either class, however, can be supplemented by legislative enactment, if occasion should require. The reigning sovereign is the chief of the Order, and a prince of the royal blood, descended from George I., is to be nominated Grand Master of the Order. The Duke of Cambridge now holds this most important office. It is ordained that in all solemn ceremonies the Knights Grand Cross, and the second and third class in their degree, of this order shall have place and precedence next that, and immediately after the Knights Grand Commanders, &c. of the most exalted Order of the Star of India.

The following relates to the qualifications for the Order:—

It is ordained, that the persons to be admitted into this most distinguished order

shall be such natural born subjects of our Crown of the United Kingdom of Great Britain and Ireland as may have held or shall hereafter hold, high and confidential offices within any of our colonial possessions, or such other natural born subjects of our Crown of the United Kingdom of Great Britain and Ireland, as may have held or shall hereafter hold high and confidential offices, or may render extraordinary and important services to us as Sovereign of the United Kingdom of Great Britain and Ireland, in relation to any of our colonial possessions or who may become eminently distinguished therein by their talents, virtues, loyalty or services, or who now are, or hereafter may be appointed officers of this most distinguished Order."

The following will give you some idea of the character of the insignia of the Order:—

The Knights Grand Cross shall upon all great and solemn occasions and at all investitures of the Order appointed by the sovereign, wear mantles of Saxon blue satin, lined with scarlet silk, and tied with two cordons of blue and scarlet silk and gold, on the left side of which mantles shall be embroidered a representation of the Star of a Knight Grand Cross of the Order, which shall be composed of seven rays of silver, between each of which shall issue a small ray of gold, over all, the Cross of St. George, Gules; and in the centre of the said star, within a circle azure, whereon is inscribed in letters of gold the motto "Auspicium Melioris Aevi," a representation of the archangel St. Michael holding in his dexter hand a flaming sword and encountering Satan. The Knights Grand Cross shall on these solemn occasions also wear round chapeaux which shall be of blue satin lined with scarlet, turned up in front, and embroidered thereon the Star of the Order heretofore described, which chapeaux shall be adorned and surmounted by three white ostrich feathers, and in the centre one large black ostrich feather. And we do further command that on all other occasions whatsoever, the Knights Grand Cross shall wear the Star of the said order embroidered upon the left side of their coats or outer garments and that they shall also wear at all investitures and other solemn ceremonies of the Order, as well as on all days usually termed "Collar Days," a collar of gold, composed alternately of lions of England royally crowned, of Maltese crosses, and of the cyphers S. M. and S. G.; having in the centre of the said collar, our Imperial Crown over two winged lions, passant gardant, each holding in his forepaw a book and seven arrows; and at the opposite end there shall be two similar lions, all of which shall be of gold, excepting the crosses, which are to be enamelled white, the whole linked together by small gold chains. To the said collar shall hang the badge of the order, which shall be a gold cross of fourteen points, enamelled, argent, edged, gold, having on one side thereof in the centre within a circle, azure, whereon is inscribed the motto "Auspicium Melioris Aevi," in letters of gold, a representation of the archangel St. Michael, holding in his dexter hand a flaming sword and encountering Satan; and on the reverse within the said circle and motto, a representation of Saint George armed on horseback, with a spear, encountering a dragon, which badge shall be ensigned by our Royal and Imperial Crown, gold. On all other occasions the said Knights Grand Cross shall wear the said badge suspended to a richly watered Saxon blue ribband, of the width of four inches, with a scarlet stripe passing from the right shoulder to the left side.

And for the greater honour and dignity of the Knights Grand Cross, it is hereby declared that it shall and may be lawful for them upon all occasions to bear and use supporters to their arms; and we do by these presents direct and command our Garter principal King of Arms for the time being to grant supporters to all Knights Grand Cross of the said Order. The said Knights Grand Cross shall also surround their armorial ensigns with the collar, circle, and motto of the Order, and suspend thereto a representation of their badge.

The Knights Commanders shall wear around their necks a ribband of the same colours as the ribband of the Knights Grand Cross, of the breadth of two inches and pendant therefrom the badge of the Order, which shall be of the same form and appearance as the badge appointed for the Knights Grand Cross, but one size smaller. They shall also wear, on the left side of their coats or outer garments, a star composed of four rays, thereon a small cross of eight points in saltire, argent, surmounted by the cross of St George, gules; and in the centre, argent within a circle, azure, whereon is inscribed the motto "Auspiciis Mellioris Aevi," in letters of gold, a representation of the archangel St. Michael, holding in his dexter hand a flaming sword encountering Satan. They shall surround their armorial ensigns with the circle and motto of the Order, and suspend thereto a representation of their badge.

The Companions shall wear the badge or small Cross of the Order, which shall be of the same form and appearance as the badge appointed for the Knights commanders, but smaller, pendant to a ribband of the Order, of the breadth of one inch and a half, from the buttonhole of their coat or outer garments. They shall suspend a representation of their ribband and badge from the lower part of the escutcheon of their armorial ensigns.

CANADA'S COMMERCE—HER SHIPPING AND HER FISHERIES.

We are very apt in contemplating the sources of our country's wealth, and the instrumentalities by which our enviable industrial progress is worked out to overlook the important class "who go down to the sea in ships"—who carry on the commerce of this fourth maritime power of the world. Taking our population as the basis of comparison we possess probably the largest mercantile marine in the world; it is therefore apparent that a very large amount of capital must be devoted and an immense annual aggregate of labor to this interest. Information relating to this important division of our national industry seems to be not readily accessible to the great mass of the people, and being in one sense a dry subject, does not command general attention. In the last annual report of the Hon Peter Mitchell, of the Marine and Fisheries Department, is a passage which sets forth the great importance of this matter in forcible terms:

"In the Dominion of Canada with its extensive sea coasts, numerous harbors and immense inland navigation, both on the Atlantic and Pacific coasts, and the great facilities it enjoys for shipbuilding and ship owning, seafaring pursuits must always hold a prominent part in the occupations of its people, and we already know by the example of that great country to which we have the honor to belong, and other maritime nations, that there is nothing that tends to establish a country's greatness and build up

her material prosperity more than the possession of a hardy and intelligent population on her sea shore, who in time of peace go down to the sea in ships and do battle with the mighty deep in the interests of trade and commerce, and in time of danger when her shores are threatened by the invading forces of a foreign foe, are not only willing but able to serve on board their ships of war and defend their coasts from the attack of an enemy; for it must be remembered that sailors cannot be made in a day, neither can navigating officers of ships be procured when the emergency arises and when they are most needed, unless prudent measures are adopted beforehand, such as Canada is now inaugurating, to educate and prepare a certain proportion of her population to the mercantile naval profession, which to a sober inauspicious man, is not only remunerative in the meantime, but presents a fine field for advancement in life by enabling respectable men who rise to be shipmasters to become eventually wealthy ship owners."

In the Dominion Marine there are now 438 steamboats besides several more in British Columbia; 58 new steamers were added last year, of which 49 were wood and six of iron. These vessels are valued at \$20,000 on an average which gives a total value of \$1,160,000 of steamboat property, added to the year ended Dec 31st, 1871. To enable us to see the other side of the picture, a new and most valuable feature has been introduced in the reports of the Marine Department—a statement of the casualties to the Dominion shipping during the year. Those who have access to the report will find the total number of seagoing casualties last year was 239—the subjects of which were 61 ships and barques, 44 brigs and brigantines, 101 schooners, and 4 steamers, involving a total estimated loss of \$1,800,000. Sixty-five lake, or inland vessels were destroyed or damaged—including 16 steamers, 42 schooners, 7 brigantines and 1 barge, involving a loss of property amounting to \$300,000. The total damage to the shipping therefore exceeded two millions of dollars. The great public loss must be considerably above the average, and a good proportion of it must be due to the terrible destruction that overtook a fine fleet of vessels in the lower St. Lawrence at the close of navigation.

It is but right in the view of the interest involved that strenuous efforts should be put forth for the protection of our shipping to seek the causes and so be enabled to lessen the number of annual disasters. These efforts are aimed firstly to lessen the danger of navigation by increasing the number of light houses, light ships, buoys and beacons, fog whistles, &c., without which the navigation of many of our waters would be simply impracticable; and secondly by securing the possession of higher qualifications in the masters and mates to whom so much property and so many lives are annually intrusted. The Dominion has altogether 251 light-houses including 2 in British Columbia; 11 light-ships, 3 steam fog whistles, and 5 more under contract, and buoys and beacons in great numbers. Very much has been done to lessen the dangers of navigation on the lower St Lawrence and seemingly with the best results. Every captain or master is now required to pass an examination before he can receive his certificate from the Department, which we notice will be recognized by the British Government and its officers in the United Kingdom and elsewhere as of equal value with those granted by the English Board of Trade in Great Britain. A good deal of attention has been devoted to meteorological observations, and the best re-

sults are expected to follow after a time. Prof. Kingston of the Toronto Observatory has made himself specially active and has done much in a very disinterested manner to direct attention to this important subject. The sum of \$5,000 was devoted last year to furthering the objects aimed at under this head, and it is to the expenditure of that sum that we owe the partial introduction of a system of meteorological reports in conjunction with the elaborate, costly, and effective arrangements now in operation in the United States. The money proving insufficient the reports were discontinued. This year it is intended to spend \$10,000 which it is hoped will be sufficient to pay the expense of taking reports at about 150 points and forwarding the same to the central office at Toronto. When stations can be erected at intervals across the continent in Canadian territory these observations must become of great interest and great value.

FISHERIES.

The industry which has been the subject of much public attention for a twelvemonth past is neither insignificant nor unimportant. In Nova Scotia alone over 20,000 persons are engaged in fishing and the product of their labor was over five millions of dollars. In the whole Dominion the fisheries yield about eight millions of dollars. A healthful and satisfactory increase is shown by the results of fishing operations in 1870, as compared with 1871:—

Nova Scotia.		1870		1871.	
Codfish	qtls 599,809	qtls 447,168			
Mackerel	brls 85,254	brls 228,152			
Herring	" 125,863	" 203,512			
Salmon	" 8,347	" 7,371			
Other fish and fish oils value	\$668,530	\$1,363,343			
Quebec.		1870		1871.	
Codfish	qtls 152,414	qtls 204,966			
Mackerel	brls 8,298	brls 9,403			
Herring	" 35,623	" 79,805			
Salmon	" 5,840	" 3,728			
Other fish and fish oils value	\$484,550	\$221,205			
New Brunswick.		1870		1871.	
Codfish	qtls 21,167	qtls 9,296			
Mackerel	brls 3,282	brls 4,515			
Herring	" 105,736	" 150,871			
Salmon	" 11,796	" 8,579			
Other fish and fish oils value	\$413,965	\$395,812			
Ontario.		1870		1871.	
Value	\$291,182	\$207,024			

Much complaint arises from the want of a proper system of inspection. Frauds in packing and curing, are one of constant occurrence, and for these the innocent suffer in a measure, with the guilty, since on this account the market value of the whole product must be depreciated. We presume the measure now before Parliament will satisfactorily settle this matter, in which our fishermen are so much interested.

Colonel William Swan of Cummington, a hero of the war of 1812, died Wednesday June 12, at the age of 95 years and 6 months. General Winfield Scott was his comrade and messmate while in New Orleans, both at that time being captains, one of the infantry and the other of the artillery. He was in the service from 1793 to 1815, received several promotions, was in the battles of Little York, now Toronto, and Sackett's Harbor, and passed safely through many perils.

FOREIGN, MILITARY AND NAVAL ITEMS.

It appears from a Parliamentary return recently issued, that the British army is made up of 117,701 Englishmen, 44,092 Irishmen, and 25,885 Scotchmen.

An English correspondent writes as follows: "The Austrians have just effected a great reform in one branch of their army, and that a branch which especially required it—the cavalry. The whole Austro-Hungarian kingdom is portioned out into sections, and a sort of equine judge is established in each, to whom at stated periods is reported the strength in horses 'rising four' of his district. All these can be claimed at a price to be settled by a committee composed of that judge, a commanding officer of cavalry, and a veterinary surgeon, for the government, if the necessities of war require it. Twenty-four hours after it was found necessary to increase the cavalry every available horse would be at one of these centres, and the committee is bound to select and pay for every animal required in forty-eight hours more.

We take pleasure, says "Les Mondes" in quoting the statistical documents prepared by Dr. Chenu in his summary of the Crimean. During the first winter the English army, even worse administered than the French army, lost, like the latter, 10,000 men, which considering its smaller effective force implied a more considerable mortality. During the second winter Miss Nightingale (Nichtegalle), having arrived with full powers, had completely reorganized the administrative service of the English army, the soldiers were well nourished, well dressed, put in barracks, kept warm, occupied by games libraries, etc. Fifteen millions were thus expended. No change was made in the French Army. The mortality for this army attained the enormous figure of 21,000, while the English Army only lost six hundred men! These figures ought to be written in letters of fire in the offices of the military administration,

The applications of photography are certainly various. One of its most recent uses, as pointed out by the *Journal of the Photographic Society*, has been to aid army tailors in cutting the new fashioned tunics, which are to be worn this year by all French regiments. Formerly it was the custom to forward to each master-tailor of every regiment a pattern coat, showing the alterations to be made, together with instructions as to the manner in which the lace and trimmings varied in the uniforms for the different grades. Instead of this, but one garment of each sort had been made; and these having been photographed in three different positions, copies have been distributed throughout the country, and instead of complicated instructions about the depth of the facing

and style of trimming upon the tunics, of sergeants, corporals, drummers, pioneers, etc., the master tailor receive three sketches which show at a glance the whole nature of the alterations and modifications. In the same way pictures have been taken of soldiers wearing the new valise equipment which is to take the place of the old knapsack.

RUSSIAN ADVANCES IN CHINA.

The correspondent of the *Eastern Budget* of St. Petersburg, says:

The Government here is about to open negotiations with China for the purpose of extending the southern frontier of Russia in the direction of China and of promoting and securing commercial traffic in that region. Similar proposals are being made in this case to those offered in England about six months ago in regard to central Asia. Let us divide say the Russians the territory which lies between our respective frontiers, this will be the best guarantee against the depredations of the nomad races which now inhabit it and paralyze our trade. In the case of China it is proposed that the Government at Peking should take possession of all the country inhabited by Buddhist Mongol races, and Russia that inhabited by Turkish Mahometans. It is true that Russia could by this get the lion's share; but the Chinese would find it easier to govern two and a half millions of Mongols than Russia to keep in subjection five millions of Mahometans. Such are the arguments advanced in favor of Kouldscha which is much coveted by the Russians on account of the fertility of its soil and the advantages it would offer to Russian colonists.



GOVERNMENT HOUSE, OTTAWA.

Thursday, 20th day of June, 1872.

PRESENT:

HIS EXCELLENCY THE GOVERNOR

GENERAL IN COUNCIL.

ON the recommendation of the Hon. the Minister of Customs, and under the Provisions of the 8th Section of the Act 31st Victoria, Cap. 6 intitled: "An Act respecting the Customs," His Excellency has been pleased to order, and it is hereby ordered, that Hudson's Bay Trading Posts, known as York Factory and Moose Factory, in the North West Territory, shall be, and the same are hereby constituted and erected into Out Ports of Customs. York Factory to be under the survey of the Port of Winnipeg, in the Province of Manitoba, and Moose Factory, under the Survey of the Port of Sault Ste. Marie, in the Province of Ontario.

WM. H. LEE,

Clerk, Privy Council,

Ottawa, July 1, 1872.

27-31n

GOVERNMENT HOUSE, OTTAWA.

Saturday, 25th day of May, 1872.

PRESENT:

HIS EXCELLENCY THE GOVERNOR
GENERAL IN COUNCIL.

ON the recommendation of the Honorable the Minister of Customs and under the authority conferred by the 12th article of the 123rd Section of the Act 31st Victoria, Chapter 6, intitled "An Act respecting the Customs." His Excellency has been pleased to order, and it is hereby ordered, that Horses and Mules or other pack animals bringing provisions or other merchandise from the United States Territory across the Southern Boundary of the Province of British Columbia, be admitted without payment of duty on Bonds being given in an amount equal to double the duty on the animals brought in and conditioned for the due exportation thereof within a period of three months from the date of their entry into such Province, or the payment of the duties upon due entry before the expiration of that delay.

WM. H. LEE,

Clerk Privy Council.
24-31n

GOVERNMENT HOUSE, OTTAWA.

Saturday, 25th day of May, 1872.

PRESENT:

HIS EXCELLENCY THE GOVERNOR
GENERAL IN COUNCIL.

ON the recommendation of the Honorable the Minister of Customs and in pursuance of the provisions of the 8th Section of the Act 31st Victoria chapter 6, intitled "An Act respecting the Customs" His Excellency has been pleased to order, and it is hereby ordered, that Salmon River, in the County of Albert and Province of New Brunswick, be and the same is hereby constituted and erected into an out Port of Customs, and placed under the survey of the Port of Hillsborough.

WM. H. LEE,

Clerk Privy Council.
24-31n

GOVERNMENT HOUSE, OTTAWA.

Thursday, 20th day of June, 1872.

PRESENT:

HIS EXCELLENCY THE GOVERNOR
GENERAL IN COUNCIL.

ON the recommendation of the Hon. the Minister of Customs, and under the Provisions of the 8th Section of the Act 31st Victoria, Chapter 6, intitled: "An Act respecting the Customs" His Excellency has been pleased to order, and it is hereby ordered, that the Port of Apple River in the Township and District of Parrsboro, in the Province of Nova Scotia, shall be and the same is hereby erected into an Out-port of Customs, and placed under the Survey of the Port of Parrsboro.

WM. H. LEE,

Clerk Privy Council.

Ottawa, July 1, 1872.

27-31n

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