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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. VIII.

OTTAWA, (CANADA,) TUESDAY, APRIL 7, 1874.

No. 14.

NEWS OF THE WEEK.

THE city of Ottawa during the past week has been kept in a constant state of excitement in consequence of the reported presence in our midst of the notorious LOUIS RIEL, the member elect for Provencher, and the alleged murderer of Thomas Scott, at Fort Garry, during the emute in the Province of Manitoba in 1869. It appears that at noon on Monday, the 30th ult., he went secretly to the House of Commons, accompanied by two friends, members of the House, presented himself at the office of Mr. Patrick, Clerk of the House of Commons, who administered to him the oath, which he took and subscribed his name on the roll, and immediately left the building. As soon as it became known to the other members of the House that Riel had taken the oath and subscribed his name on the roll of members; Mr. McKenzie Bowell, member for North Hastings, having raised the question of privilege relative to Louis Riel, moved for the attendance of the Hon. Atty.-Gen'l Clarke, of Manitoba, who was examined at the Bar of the House relative to the indictment preferred before the Grand Jury of the Queen's Bench of Manitoba, who produced the indictment and stated that a warrant had been issued for his arrest, and that he is now a fugitive from justice. Finally an order was made for his appearance in the House on Wednesday, the 8th inst., in order, we suppose, to move for his expulsion, and in default of his putting in an appearance on that day, a motion will probably be made to declare his seat vacant and a Writ ordered to be issued for a new election of a member for the electoral district of Provencher.

Mr. Vaux, Accountant of the House of Commons, has been superannuated, and Mr. Hartney, it is rumored, will succeed him in that office, performing at the same time the duties of his former position.

The Governor General has signified his desire to present a silver medal annually to the pupils of the Upper Canada College, during his stay in Canada.

The Victoria, (B.C.) Standard states that Mr. Chief Factor Graham will succeed the Hon. Donald A. Smith as Chief Administrative Officer of the Hudson's Bay Company at Fort Garry.

At Toronto, on the 4th April, a gunner in the Dominion Artillery was arrested for striking Bombadier Longman with a rifle and tearing his hand badly.

The Government of Newfoundland have decided to offer a bonus of two dollars per ton on all ships built in the Province. This is a judicious movement, and will probably do much to stimulate shipbuilding in that Island, and possibly open up a new market for Canadian timber.

The ship-building trade of Nova Scotia is flourishing. No less than ninety-nine vessels are on the stocks at the present time. The aggregate tonnage of these is estimated at 76,680.

The Manitoba Better Terms deputation have, it is said, secured the object of their mission to Ottawa.

A Winnipeg paper says a new steamer is being built at Grand Forks, to run on the Saskatchewan. The boat which was sunk last season will be raised and repaired for the same route.

Steps have been taken by the merchants of Winnipeg to establish a line of boats on the Red River in opposition to the Kittson monopoly.

A large part of the fruit imported into Boston from the Mediterranean, which was formerly brought on sailing vessels, now comes on the Cunard steamers, and the British steamer America, with a full cargo of Sicily fruit, the first ever imported directly into Boston on a steamer, will soon arrive.

The Mississippi River has overflowed its banks and spread itself 50 miles wide.

Sir Edward Thornton has renewed the lease of the country seat on the Hudson, near Catskill, occupied by him last season.

An appropriation was made in the Washington Senate yesterday for the deepening of the mouth of the Mississippi River.

The throes of Stone Mountain, North Carolina, were resumed on Wednesday night, being more violent than at any time since signs of volcanic action have been observed.

The Philadelphia City Council, at a meeting on the 2nd of April, passed, by acclamation and amid great applause, the one million dollar Centennial Appropriation Bill. The Mayor has signed the bill. A certified copy was transmitted to Washington.

The President of the Brooklyn City Railroad has issued an order, prohibiting, under pain of dismissal, any of the drivers or conductors drinking intoxicating liquor, or to live in or enter a house where liquor is sold.

The Carlists according to latest accounts, seem to be making good the defence of their position before Bilbao.

The California State Senate has passed a bill authorizing juries in trials for murder to say in their verdict whether the penalty shall be death or imprisonment for life.

Mr. Anderson will introduce a resolution in the House of Commons declaring that as Great Britain was adjudicated to be in the wrong in permitting the escape of the *Alabama*, and compensated Americans who suffered by the depredations of that vessel, British subjects who suffered similarly ought also to receive compensation.

The Lord Mayor of London gave a banquet on the 31st March at the Mansion House in honor of Sir Garnett Wolseley. Among the distinguished guests present were the Prince of Wales, Prince Arthur, the Duke of Cambridge, Vicount Cardwell, and Mr. Gathorne Hardy. General Wolseley, in response to a toast, gave an interesting account of the Ashantee expedition, and declared that King Coffee had for a long time premeditated the war. The General was received with the greatest enthusiasm, and his speech was frequently interrupted with cheers.

Captain Glover, of the Ashantee Expedition, arrived at Liverpool on the 3rd April, and was received with great rejoicing.

Reports from the districts affected by the famine show a great improvement in the situation. The measures taken by the Government to relieve the distress of the people have proved very effective. There are now no actual cases of starvation outside of Tirhoot, and in that district there are but a few.

The latest advices from Cape Coast Castle are to March 12. An embassy, numbering with its escort 250 persons, had arrived there from the Ashantee King. It was reported that they refused to discontinue human sacrifices, and disputed the amount of the indemnity.

The Carlists assert that the movements of Serrano against the Royalists, before Bilbao, entirely failed, and that there was no fighting between the 28th and 30th of March.

A young man named Pique has received, at the hands of the Mayor of Dover, the Royal Humane Society's certificate, for having leaped from a height of forty feet into the sea, and saved the life of an artilleryman who had been blown off the Admiralty Pier by the discharge of a gun.

Captain General Concha proposes a formal treaty of peace, the terms including a pledge that Cuba shall remain united to the Spanish Crown, the people send representatives to the Cortez, and slavery be only abolished by the consent of the slaveholders.

The Spanish Republicans are said to have lost 4,000 men killed and wounded in an engagement with the Carlists.

CORRESPONDENCE.

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MITRAILLE.

(LETTER No. 8.)

I have just seen the "Army List" for February. The changes of nine months since are still unrecorded.

Who is "Friday"? Is he a Canadian public character? If so, is he one with whom, under that or any other name, we ought to be acquainted? Or is he a new light sprung upon us suddenly like the glare of a dark lantern? Or is he a myth, evolved from the "inner consciousness" of the *Toronto Mail*? Or is "Friday" a nickname, of which we have hitherto rested in darkling ignorance, of some light of the earth already known to us by some other cognomen? The *Mail* itself is scarcely explicit on the subject. However, if any keen intellect can extract a solution from its oracular utterances, here they are, extracted from a recent article, entitled the "Policy of Obstruction."

"Mr. Hardy having largely (sic) withdrawn from the thick of the fight, Mr. Fraser went in, in true Old Bailey fashion, to establish the correctness of Mr. Sinclair's ingenuous confession, and so completely succeeded in the settled ministerial policy of obstruction as to frustrate the intention to report Friday to the House the evidence which had so far been taken upon the McKellar letter branch of the investigation. There was no reason whatever why the evidence should not have been reported Friday."

Deficient punctuation would appear sufficient to account for the exceedingly involved nature of this singular and puzzling statement. *Prima facie* it would seem that "Friday" was a delinquent whom the Opposition desired "to report to the House," which intention was wickedly and corruptly frustrated by the Ontario ministry. At a second glance, "Friday" seems to be a new synonyme for the word evidence. This view is a little strengthened by the following passage, which also occurs in the article in question "there being no meeting of the Committee Saturday," according to which "Saturday" would appear to be the designation of some particular Committee of the Ontario House.

There follows, however, another passage which only adds to our perplexity.—

"The understanding was that when the Committee met Friday Mr. McKellar—time having been given him to read the evidence would have been prepared to make a statement."

Here we begin to doubt whether "Friday" be not Mr. McKellar's name; and as "Friday" seems to be a very bad, or at least a very troublesome, person; and as Mr. McKellar is elsewhere charged with "wicked culpability," there may be some ground for this view. The statement that "before doing

this, he desired that two witnesses named by himself should be examined," seems to corroborate the idea that "Friday" and Mr. McKellar are one and the same malefactor.

A further passage seems to confirm this hypothesis, it is as follows.—

"Mr. McKellar's statement is certainly a curiosity. Every one who heard it made must have been forcibly reminded of the 'Heathen Chinee' Mr. McKellar was 'child-like and bland', in the superlative degree. Ah Sin couldn't have held a candle to him Friday."

Several wild ideas have suggested themselves to us in the course of our lucubrations on this curious puzzle. We wondered, for a moment, whether "Friday" was to have been reported to the House as an unlucky day?—whether the mystery has any connection with our early friend "Robinson Crusoe"—but we only become more bewildered the more we think over it. What did the Governor of North Carolina say to the Governor of South Carolina? Eh? Long time between drinks? Let's liquor then!

An imbecile and aimless young man here suggests that the subject would be completely elucidated, if, in the passages quoted, the word "on" were inserted before the word "Friday." He means to imply, we suppose, that the whole affair only refers to the day of the week! We have not written all this speculation to put up tamely with so ridiculously commonplace a solution. No, as Sir Lucius O'Trigger says, "It is a very pretty quarrel as it stands"! So we will imitate the example of Mr. Hardy, and retire "largely," whatever that may mean, from the thick of the fight.

FRANCO-TIREUR.

To the Editor of the VOLUNTEER REVIEW.

DEAR SIR,—Perhaps the extracts, I take the liberty to call your attention to, may serve to account for the wretched state of, and illustrate the imbecile, ignorant attempts to reorganize the British Army by civilian administrators.

Mr. Cardwell said, in his explanatory speech upon reorganization (1870), "I speak of the man who does not now join the Army, but whom we wish to induce to join it: of the young man who is reluctant to spend all his life away from his own village: who may wish to contract marriage, who would give a good deal for the advantage of training in the Army for a few years. Upon which Blackwood remarks.—"Were these, could these be, the ideas of the stern ruthless men who carried with a devoted faith, the name and glory of England to the uttermost parts of the earth—who planted her standards on the green mounds of Torres Vedras, and bore them in triumph through the hills of Spain—to the tread of whose conquering footsteps the streets of Paris, and the capitol of Washington, the palaces of Lucknow and the Bala

* The advantages of military training to a future Tradesman, are about equivalent to the inducement held out to him (8d per diem), to unfit him for, and throw him behind his competitors, in his particular calling.

Hissar of Caubul, the ramparts of Pokin and the rocky summits of Magadala have rung? Were these the men who went forth to wild storm of Badajos, and when the broucher ran red with their gore, rather than give back, sank on the chained sword blades and died? Were these the men who, as the sun went down stood few, wounded, and victorious on Alburra's fatal hill? Were these the iron veterans of the light division, who rather than see their enemies escape, marched through the lonely valleys of the Pyrenees till they frothed at the mouth and died? Were these the men who gave their souls to God, that the Star of England should not sink beneath the hug of the Russian bear on the misty neck of Inkerman? And they are the men you would reject for the careful, cautious, prudent, well behaved sons of the middle classes—thinking of their marriage and their fortunes, and of the happiness of their homes to come."

But the absurdity of this piece legislation confirms the accusation, that the Gladstone Government was prompt at destruction, but created nothing but discontent, complexity, and confusion.

I am, dear Sir,

Yours respectfully,

SABREUR.

To the Editor of the VOLUNTEER REVIEW.

DEAR SIR,—There appears to me to be some inconsistency in your editorial articles abusing England for having civilians at the head of her military organization—while you advocate the principle for Canada.

A friend at my elbow says "what is sauce for the goose should be sauce for the gander."

CONSISTENCY.

[The difference is simply that the English War Minister virtually superseded the Commander-in Chief—the Canadian did not meddle in any way.—ED. VOL. REV.]

THE MILITIA SYSTEM.

(To the Editor of the Witness.)

SIR,—As I understand it is the intention of the Ministry to introduce a new militia law, and to make great changes in the system, which has become perfectly rotten and worthless through mismanagement, perhaps the present would be a good opportunity to make some suggestions to Government through the medium of your columns. In doing so I propose to divide the subject into two heads, namely, Military Schools and Active Militia.

MILITARY SCHOOLS.

The infantry schools, first promoted by the Government of the late Sanfield McDonald, though a move in the right direction, have never been thorough enough in their training, and since the departure of the regular troops, whose colonels generally acted as commandants, and who furnished the instructing staff, have degenerated into a perfect farce.

I would suggest the following alterations—
1. That the cadets should live in barracks during the time of training, which should be at least three months for a second class cer-

ificate, and should be obliged to go through all the routine and discipline of a soldier's life, and get about twice as much drill as they do at present.

2. That the educational examination for admission be much stricter than at present, and that a certain height and physique be indispensable, so that the young men admitted should not be laughed at for physical infirmities or small stature.

3. That a different and more becoming uniform be adopted, and the cadets obliged to dress in a tidy and soldierlike manner, which as a general rule they don't do now.

4. That the staff (at least the commandant and the non-commissioned officers) be obtained from the regular army, and be exchanged at intervals, so as to give cadets the benefit of all alterations and improvements in drill, &c., made from time to time by the Imperial authorities. It is impossible to have militia instructors who can, without any practice themselves, teach the various changes in drill and tactics which are made; and in any case a more scientific staff should be had than we can expect to turn out from our militia for some time to come.

5. The schools to have a vacation at the time when the greatest number of the militia will be undergoing their annual drill, and the staff to act as drill instructors for the militia. Supernumerary regular non-commissioned officers might be attached to the schools, who could instruct such corps as might perform their annual drill at other times than during the vacation. This would supply a want much felt since the departure of H. M. troops, and without such instruction the militia can never be thoroughly effective.

ACTIVE MILITIA.

To resuscitate the active militia force which is now at a lower ebb than it has been since 1861, I would suggest the following changes:

1. That the pay of officers and men for the annual drill should be increased. Officers and non-commissioned officers to receive pay according to rank, on the same scale as is laid down for camp service, instead of the uniform rate of \$1 and 50 cents per diem as at present. Privates to receive \$1 per day for twenty days' drill, instead of the 50 cents now paid, together with a bonus of say \$10 per man for all corps (to be distinguished as "first class effectives") which pass a first class inspection, and have an average daily attendance at the annual drill of 75 per cent. of their full authorized strength such attendance to be verified by daily sworn "parade states," and checked from time to time by personal inspection of the militia staff. The final inspection of all corps to be very strict, and to be governed by a code of rules to be laid down by the Adjutant General. As the expenses of raising and maintaining corps fall more heavily on captains of companies than on field officers, an extra allowance of \$40, instead of \$20, should be made to cover company expenses. It may be objected that this scale of pay and allowances would double the cost of the militia service. To obviate this the force might be reduced to 25,000 or 30,000 really effective men, and the enormously expensive system of camps, which has done more to destroy the force than anything else be done away with, except for country corps which may desire to perform their drill in that manner. Corps going into camp to be obliged to perform half the number of days in company drill at their own headquarters.

2. The instruction of all corps, wherever it is possible, to be carried on by non-commissioned officers from the Imperial army, officers of corps being also obliged to take their turn at instructions.

3. Each military district to be obliged to furnish its quota of active militia, and to have the required number of corps gazetted, and in any district short the number deficient to be strictly balloted for on the requisition of the D.A.G. commanding, and the men drafted into the corps under strength.

4. That every inducement be given men to volunteer—such as exemption from local taxation and jury service during term of enlistment, care being taken that men so exempted shall have served at least one year previous, and be certified as "first class effectives."

5. That the Adjutant General be an officer of high standing from the regular army—such a man, for instance, as Sir Garnet Wolseley—a hard-working, zealous and talented officer to be chosen.

6. That the Deputy-Adjutants-General of districts should also be regular officers, to be appointed for four years, and to be transferred from one district to another, and back to the army, so that they may not settle down into lazy habits. These officers to be more active, and to have a more general supervision of their districts than at present. The D.A.G., who should be, at least, a major in the army, to act also as commandant of the military school of his district.

7. All other militia staff appointments to be the reward for efficient services of officers of the militia, and no civilian to receive such an appointment on any consideration.

8. All officers before being commissioned to pass a strict examination as to education, and a minimum standard of height and physique, for both officers and men, to be established and strictly adhered to.

9. More liberality to be shown in providing clothing and equipment, and all corps to be served out both summer and winter caps. Officers to be uniformed by Government for both winter and summer in a becoming and serviceable manner. Any officer resigning before the expiration of his three years' service to be obliged to return or pay for his uniform, &c. This arrangement would prevent the laughable sights, witnessed at rural camps, of officers improperly dressed and equipped.

10. Corps on active service, such as the North West Infantry Battalion, and the A and B batteries of artillery, should be made permanent and strengthened. They are already a most creditable beginning, and compare very favorably with the best of H. M. troops. A good idea was suggested a short time ago in the *Montreal Gazette*, viz., to let them exchange at regular intervals with similar corps in the Imperial army. This would help to strengthen the ties binding the two countries, and would render these corps most efficient.

11. Care should be taken that no unnecessary service, interfering with their ordinary avocations, be given the Active Militia,—such as turning out for elections. For such service when absolutely required, municipalities should be obliged to pay at least \$1 per diem and free rations, and the rule, adopted in England, of not allowing corps to perform such duty in their own districts, and, in case of bloodshed, making themselves marked men among their own fellow-citizens, should be followed here.

Hoping that these suggestions will not occupy too much of your space, and that they may meet the eye of the Hon. Minister of Militia,

I am, Sir,

AN OLD VOLUNTEER.

21st March, 1874.

Fifteen men of the Kingston Garrison Battery have left for Toronto, having joined the Manitoba mounted police.

SHIP GUNNERY PRACTICE.

One of our naval friends sends us a copy of a pamphlet published over twenty years ago by an officer of the Navy, who shortly after lost his life in the West, on the subject of "the necessity of a gunnery ship, or school of practice for teaching gunnery to the men and officers of the United States Navy." It affords a curious insight into the internal condition and routine of gunnery practice on board our ships-of-war at that day, and reveals a condition of affairs in marked contrast to that which exists in the service at the present day. The writer of the pamphlet alludes to the fact that at the opening of the war of 1812, in which we earned such laurels on the sea, our Government was with difficulty persuaded by naval officers to reconsider its determination to lay up the Navy, to save it from what was regarded as the certainty of its capture by the English, whose supremacy upon the sea was believed to have been conclusively established. It was to call attention to the decadence of our Navy since the war of 1812 that the pamphlet we refer to was written in 1851, and of the various causes which combined to produce this decline only one was considered, and that was "the cessation on our part to keep pace with other leading navies in the practice of gunnery." "Does any one not in the Navy know," asks the writer, "that a line of battle ship recently made a three years' cruise, during which not one shot was fired? Yet such is the fact. The same ship carried 600 shells, yet not one was made use of for the instruction of men and officers supposed to know, intuitively, all about them! Can any one, who has never heard the fact believe it possible that an officer attained the grade of lieutenant before seeing a shot fired from the guns of any ship in which he served? Yet it is true, and the officer in question had seen a large amount of service on foreign stations. Two of the ships in which he served fired shot shortly after he had been detached from them; but this does not, at all, contradict the fact that he saw nearly ten years' sea service, and no ball practice. It would not be impossible, or even difficult, to produce men who have made a cruise in one of our ships of war, and never seen powder fired except by the gunner for a salute. Now can men and officers thus deprived of practical experience, be a match for the English, who exercise, with shot, never less than once in three months?"

"During the time we were at war with Mexico, a line of battle ship which we had in commission on the enemy's coast, never once fired a shot out of her guns, to teach the men and officers how to use them! This might have been excusable had her men and officers been already well taught, somewhere else, and the plan been to save her ammunition for some anticipated necessity. But neither was the case, for her officers and crew had been brought up in the United States Navy, and she carried all her ammunition back to the United States; including 5000 lbs. of condemned powder which had been put on board expressly for practice at a mark! Her boat gun remained in the hole, and never was mounted! Her shells remained in the shell room, and probably many persons on board were ignorant which end of them should be put into the gun first! Now what has occurred once, may occur again, in fact becomes a precedent. An English naval commander, co-operating with an American man of war on the coast of Africa, was amazed to learn that the American vessel had no boat gun; and this vessel had been fitted out by the United States, where

there are any number of boat guns, expressly to make part of a force with which we are pledged to unite with England in putting down the slave trade. Our vessels have been often enough on the coast of Africa, for us all to know, that in the light breezes and smooth seas of that station, boats are often more effective than sailing vessels, in capturing slavers, and that a determined resistance on the part of an armed slaver has in several instances, beaten off boats not armed with a piece of cannon. Yet in the face of these well known facts, an American man of war is now cruising on that station without a boat gun! I am wrong; she has one, but it was presented to her by the English commander referred to above who had three in the small vessel which he commanded, and who asserted that it was sometimes impossible to take a slaver without one."—*U. S. Army and Navy Journal, 28th March.*

WARNING TO THE PUBLIC,

TACKABURY'S NEW TOPOGRAPHICAL ATLAS OF THE DOMINION OF CANADA.

This valuable work, which has employed the time of a large corps of artificers for the last two years, is rapidly nearing its completion. Mr. Tackabury, the publisher, is not a novice in his profession, but is well known as the publisher of Tackabury's Map of Canada West, published at London in 1862, and Tackabury's Map of British Provinces, published in 1864, as well as a Map of Ontario the past year, showing the electoral districts, &c. The new Topographical Atlas of the Dominion, however, on which he has expended a very large amount of money, he looks upon as his crowning success. Nearly all the leading business houses have already given their orders for it, and the publisher wishes to caution his patrons and the public generally not to mistake any other work for this, as he has been informed that parties from the United States are about to send canvassers through the cities and towns to solicit orders for an American Atlas, with a new title, change of publishers' names, and a map of Canada on a small scale added, and offer it as a Canadian production, at \$16. Do not mistake these works for Tackabury's New Topographical Atlas of the Dominion which shows the lots and concessions in Ontario, Quebec and Manitoba, and is to be furnished at the uniform price of \$12. 4

Colonel Stoffel is about to be tried before the second Council of War on the charge of having, on the 22nd and 27th of August, 1870, destroyed, burned, or torn despatches intended for Marshal MacMahon. The punishment imposed for this offence by the military code, even where there are extenuating circumstances, is from two to five years' imprisonment, and degradation from military rank.

The Steamship Nile was lost on her last voyage from Hong Kong to Yokohama. All her passengers were drowned. Among them were the Japanese Commissioners to the Vienna Exhibition.

A TORPEDO DETECTOR.

Captain Harvey, R.N. the inventor of the towing Otter torpedo, lays it down as a primary rule in his tactical instructions for the use of the weapon that an attack upon ships by torpedoes should always be made, if possible, under the cover of night. It is evident that such a rule supplies with much greater significance when an attack is made upon ships lying at anchor in a roadstead than under other conditions, and it was with reference to those, most probably, that Captain Harvey arrived at his conclusions, and also only in relation to the torpedoes of the present, which have to be taken to the enemy, and not to those of the future, which we are promised shall be fired from a tube fixed below a vessel's water line, and which will thus take the form of submarine artillery. The naval torpedo committee have given the subject of attack by torpedo boats at night upon ships at anchor considerable attention and have proved by experimental practice that in the majority of instances the torpedo attack upon the ships must be successful, and that the only effective protection would be some means of searching with lightning quickness and distinctness the surface of the water to a considerable distance around the ship. To supply this want effectually, Mr. H. Wilde, of Manchester, some time since submitted to the Admiralty a proposition for the use of one of his electromagnetic induction machines, fitted with a proper apparatus for projecting the beam of light produced upon distant objects. One of these machines has been fixed on board the *Comet*, twin screw gun vessel at Ports mouth (one of the short and light draught-boats carrying one 18 ton gun on a raising and lowering platform, on the Armstrong Rendell plan), and was tested during the nights of Thursday and Friday, under the supervision of Captain Boys, commanding the Excellent gunnery establishment, and members of the Naval and War Office Torpedo Committees with the most complete success.

On Thursday the *Comet* left Portsmouth harbour for eastern entrance to Spithead from the Channel at about 8 p.m.; but half an hour before leaving a first experiment was made with the machine and its projector lens in throwing the beam of light round the upper part of Portsmouth harbour. The results were startling. The gunnery ship *Excellent* with her tenders and the boats alongside and at the boom-ends, the long lengths of the sea wall enclosing the dockyard extension works, the mud-banks—it being nearly low water, the *Asia* and the vessels about her, and, further away into Fareham creek, her Majesty's yacht *Victoria* and *Albert*, the *Glutton* monitor, and the few men of war boats moving about between the ships at the time, all stood out with wonderful distinctness as the electric light touched them. But, beyond all the others, the *Glutton*, in her French grey paint, given her as an invisible dress at certain distances by daylight, shone out in weird splendour. It needed no subsequent experiment to prove that a vessel painted in neutral colour must stand out very much more distinctly under the influence of the electric light than another vessel at the same distance, and painted with the ordinary black coating of our broadside ironclads. When the *Comet* subsequently left the harbour, and had taken on board the members of the torpedo committees off Southsea, she steamed to a position off Wading and the east end of the Isle of Wight, and anchored, attacks being then made upon her by two steam pinnaco torpedo

boats, from the directions of course unknown on board the *Comet*. When the boats had been away a certain time, the electric fire was brought into play, its beam sweeping the surface of the water, and in each instance discovering the torpedo boats before they could lessen a mile's distance between them and the *Comet*. Discovered at such a distance, their attack, of course was considered to have utterly failed.—*Times.*

MR. CARLYLE'S KNIGHTHOOD.—According to a German paper Mr. Thomas Carlyle, the Sage of Chelsea, has formally accepted a German order of merit. Long ago he boastingly declared his contempt of the world's honour, but still he was a hero worshipper, particularly those of the German race; and the star of the 'Order of Merit,' worn till his death by the Italian poet Manzoni, has been conferred upon him by the German Emperor; and an exchange says: 'From the hands of a German Kaiser such distinction must be worth, to Carlyle, more than the oldest English Dukedom. The Emperor William has been the 'able man' who fulfilled Carlyle's predictions. He is the modern Frederick; he is the impersonation of what perfectly disciplined prowess, machine like armies, perfected engineering of war, can do. When Sedan occurred, Carlyle, roared a gruffly eloquent rhapsody of exultation. He scoffed at the civilization of the Anglo-Saxon; and pointed, with withered finger, to the triumphal car of the modern Cesar. The 'Order of Merit' was surely deserved by this ancient defender of Prussian despotisms and herald of Prussian victories.'

The review of the troops which composed the Ashantee expedition came off on Monday at Windsor with great *clat*. Her Majesty, assisted by H. R. H. the Princess of Wales and the Duchess of Edinburgh, conferred the Order of Commander of the Bath upon Sir Garnet Wolseley. Complimentary resolutions to the troops were also passed that evening in both Houses of Parliament.

London, April 1st.—The *Times* acknowledges the existence of a financial panic in London, and attributes it to the effect of those with which New York and Vienna have been visited, combined with the depressing influences of the Indian famine. It says the check to trade is probably as severe as in any former instance.

A select committee of the House of Commons have refused to take action on the course of the Lord Chief Justice of England in lining and imprisonment Mr. W. H. Whalley, M.P. for Peterborough, for contempt of Court. Their evident opinion on the case is 'Saved him right.'

The report that Henri Rochefort and Pascal Grousset had escaped from the penal colony at New Caledonia is confirmed. A despatch from Melbourne, of the 20th ult., says that they, with Gould and Bulliero, and two other convicts, had arrived at Newcastle, New South Wales.

The Archbishop of Cologne has been arrested at the instance of the Government for violating the ecclesiastical law of Germany.

REMITTANCES Received on Subscription to THE VOLUNTEER REVIEW up to Saturday the 1th Inst.

Barrat's Rapids, O.—Lieut.-Col. G. Shepherd, [to March, 1873, 2.00]
Meccah, O.—Capt. J. Hanna, to March, 1871, \$1.00
London, O.—Capt. Thos. O'Brien, to April, 75 2.00
Sault Ste. Marie, O.—Capt. J. Wilson, to Feb. 75 2.00
Agamoo, Q.—Eus. John Jowsey, to May, 1871, 2.00
Franklin, Q.—Lieut.-Col. R. Rogers, [to September, 1871 2 00]
St. Stephen, N.B.—Captain John B. G., to [March, 1871, 1 00]

"THE EARLY MIGRATIONS OF THE ANGLO-SAXON RACE."

The seventh lecture of the Somerville Course was delivered on Thursday night last, by the Rev. Canon Baldwin, in the Natural History Society's Rooms.

The lecturer chose for his subject, "The Early Migrations of the Anglo-Saxon Race," stating as his reasons for doing so, that the marvellous spread of the race over the globe, its restlessness, its power, its influence, made an enquiry into this subject not only natural, but absolutely necessary. Premising that the Anglo-Saxons were not originally one race but were formed of a mixture of nations, he briefly recapitulated the various origins ascribed to them at different times and which obtained until the 16th century. It was not sufficient to say that the founders of the race came from Denmark and Scandinavia—this was but one step and a short one in the march of investigation, nor could much credence be given to the theory, promulgated of late, that they were descended from the lost tribes of the House of Israel. The subject could only be elucidated by reference to ethnological facts, and he dwelt for some time upon ethnology and the knowledge, very limited, of it possessed by the ancients. The science, combined with philology, enabled the student to trace out the origins of the Great Anglo-Saxon race. Europe had been peopled by three great streams of population, following each other at distant intervals—the first comprising the Kimmerings and the Keltic race; the second the Scythian, Gothic and German tribes, and the third and most recent, the Slavonian and Sarmatian. From the first two the ancient inhabitants of England were descended.

Next, tracing the history of the Keltic and Kimmerians, he showed their presence in Europe in the days of Homer, having ere then migrated from Asia towards the West. Driven onwards by a Scythian invasion, a part of them escaped into Asia Minor—which gave rise to the tradition that they conquered that country—and the remainder, as Plutarch states, hurrying on towards the shores of the German Ocean. In the time of Marius, they came into collision with the Romans, and were called Kimmerians, Kimbri, and Cymbri, by various nations. In their Italian invasion a great number perished, the debris finding an asylum in Jutland, whence, subsequently, they crossed over to England. But the most interesting invasion of Europe was that of the Scythian, Gothic and German tribes, some time between the seventh and eighth centuries, B.C. These tribes had begun their migrations in Asia, whence they overran Europe—of them were the Sakai or Saxons, the Massagetar and Arimaspoi—in the time of Herodotus they had firmly established themselves in the new country, driving away the Kimmerians and, eventually under the name of Goths, carrying terror throughout the west, until checked by Roman valour. In the days of Caesar, to whom they were known as Germans, they had reached and even passed the Rhine. The Saxons were a part of this great Scythian family, and the lecturer pointed out the various reasons in support of this view, and in opposition to the theory that the Anglo-Saxons are the lost tribes of Israel. There could be little doubt of the Ashkenite origin of the Saxons and even Sharon Turner, who disbelieved in it, admitted that the Saxons were most probably descended from the Sakai or Saccæ. These Saxons reached as far as the Western Coasts of Europe, their early abode having been in Armenia, from which they spread

into Persia, thence invading Europe, leaving a colony on the Euxine as they moved onwards towards Jutland. Thus the ancestors of the Anglo-Saxons could be traced from the slopes of Ararat in Armenia to the waters of the German Ocean. In the third century of our era, they made a vigorous attack on the Roman Empire, and in 449 A. D., Hengist and Horsa arrived in England. As for the future of the race, no one could predict its grandeur and magnitude. The Anglo-Saxons had peopled North America; made Australia a new field for enterprise; rescued South Africa from the children of Ham; founded an Empire in India "while over the vast area of the East, where once Aryan and Semite held undisputed sway, the name of Anglo-Saxon is the embodiment of order, justice and civilization."

LIVINGSTONE'S LAST JOURNEY.

The following is from the New York Herald of Monday:

LONDON, March 29, 1874.

The steamer Malwa arrived off Suez at eleven o'clock on Saturday night, 28th inst., having on board Arthur Laing and Jacob Wainwright in charge of the remains of Doctor Livingstone. They report that the great explorer had been ill with chronic dysentery several months. He was well supplied with stores and medicines, but had a presentiment that the attack would prove fatal. He rode for a time on a donkey, and was then carried along by men. In this manner he arrived at Muilala, beyond Lake Bemba, in the Bisa country. Here he said, "Build me a hut to die in." A hut was accordingly built by his followers. On the 1st of May, 1873, Livingstone was placed in bed. He suffered greatly, groaning from pain night and day. On the third day he said, "I feel very cold; put more grass over the hut." His followers could not speak or go near him. Kitambo, Chief of the Bisa country, sent in flour and beans and behaved well towards the explorer's party. On the fourth day Livingstone was insensible, and died about midnight. Makaohooa, his servant, was present at the moment of his decease.

The latest entry in Livingstone's diary is under the date of April 27, 1873. He spoke much and sadly of his home and family. When he was first seized he told his followers that he intended to exchange everything for ivory, and to give it to them and then push on to Ujiji and Zanzibar and try to reach England. The same day on which his death occurred his followers held a consultation on the subject of what was best to be done. The Nassick boys determined to preserve his remains. They were afraid to inform the Chief of his death, and they secretly removed the body to another hut, and built a high fence around it to ensure privacy. They then removed the entrails from the body and placed them in a tin box, which they buried inside of the fence, under a large tree. Jacob Wainwright cut an inscription on the tree in the following words:

DR. LIVINGSTONE,
DIED
MAY 4, 1873.

Wainwright then superscribed the name of the head man, Susa. The body was preserved in salt and dried under the sun during the space of twelve days. When Kitambo was informed of the death of the traveller he had drums beat and muskets fired in token of respect to his memory.

He allowed Livingstone's followers to remove the body, which was placed in a coffin of bark. They then journeyed to Unyanyembe, in about six months, sending an advance party forward with information addressed to Livingstone's son. This party met Cameron, who, on receipt of the news, sent back the bales of cloth and the powder which he was taking to Livingstone. The body arrived at Unyanyembe in ten days after the advance party reached there. The whole party rested there during a fortnight.

Messrs. Cameron, Murphy and Dillon were there together, the latter very ill in health, blind and with his mind affected. He committed suicide at Kasakera and was buried there. At Unyanyembe Livingstone's remains were placed in another case of bark—one of smaller size—done up as a bale of merchandise in order to deceive the natives, who objected to the passage of a corpse. They were thus carried to Zanzibar. Livingstone's clothing, papers and instruments accompanied the body. When on his sick bed the doctor prayed much. At Muilala he said: "I am going home; carry my remains to Zanzibar."

T. R. Webb, Esq., United States Consul at Zanzibar, has received letters, through Murphy, from Livingstone, addressed to Mr. Stanley, which Consul Webb will deliver personally.

The only geographical news is as follows:—"After Stanley's departure Dr Livingstone left Unyanyembe, rounded the south end of Lake Tanganyika, travelled south to Lake Bemba, or Bangweolo, and crossed it south to north. He then journeyed along the east side, returning north through the marshes to Muilala. All his papers were sealed, and addressed to the Secretary of State, in charge of Arthur Laing, a British merchant at Zanzibar.

Murphy and Cameron remain behind.

LONDON, March 30, 5 a.m.

The steamer bearing the remains of Dr. Livingstone has left Suez by canal for Southampton.

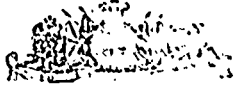
There appears to be a difficulty in meeting the requirements of the British cavalry, so far as the saddle is concerned, and although by the last accounts from England, a saddle had been submitted to the authorities with the tree constructed entirely of wood, and was reported to come more within the standard—even for rough usage—than the present iron tree, (the *bete noir* of all cavalry men), it was considered questionable whether some greater improvement could not be made. However, nothing definitely had been determined on, although the "wooden tree" saddle was being experimented upon by Sir Roger Tichborne's late regiment, a short distance from the capital.

A despatch from Sir Garnet Wolseley, commander of the Ashantee expedition, received in London Feb. 5, by the Secretary of State for War, says:—"All the white prisoners held by the Ashantees have been delivered to me. The King accepts my terms for the cessation of hostilities, which he asked, and has agreed to pay an indemnity of £200,000. We halt for a few days thirty miles from Coomassie."

Paris, April 3.—The Caalists here have information that a revolt has broken out in Bilbao; that only half of their army there has been engaged in the recent battles; and that General Saules will shortly march with strong divisions upon Madrid, and cut off Marshal Zerranos communications,

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The Volunteer Review,

AND

MILITARY AND NAVAL GAZETTE.

Published, fortnightly, on the 1st of every month,
"In regard to the Monarch, from the Law."

OTTAWA, TUESDAY, APRIL 7, 1874.

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

The following extract is the leading article from the pages of the United States *Army and Navy Journal* of 7th March—it is a review of "Admiral PORTER'S Report on monitors and torpedoes"—and we re publish to show how closely it coincides with the opinions long since expressed in the *VOLUNTEER REVIEW* on the value of both as Engines of war.

"The following particulars of the rifle practice at Finspong, in Sweden, with pointed oblong cast iron projectiles of 3 inches diameter against laminated armor of 12 inch thickness, adverted to in the *Journal* on a former occasion, demand careful consideration before a correct judgment can be formed of the merits of Admiral PORTER'S report. The targets employed at Finspong were composed of six inches thicknesses of two inch plates, of the best Swedish iron, bolted together as in the monitor turrets. The targets were supported by vertical posts let into the ground, no wood backing being employed, in order that turret walls might be correctly represented by the laminated targets. Twelve feet behind the target, a wooden bulwark, three feet thick was erected, resting against a bank of earth. The

result of the practice may be briefly stated: When firing at a distance of 200 yards, each shot penetrated 12 inch target, the wooden bulkhead and some eight feet of earth. Apart from the great penetrating power of the projectiles against the laminated armor, thus established, fragments of broken plates and armor bolts, weighing from 300 to 500 pounds, were detached at each shot, and spread over the ground behind the target. It will be evident therefore that a monitor's entire turret crew might be destroyed by a single well directed shot, especially since the six thicknesses of two inch plates composing the Swedish targets, presents a far stronger structure than the monitor turrets composed, as they are, of eleven one inch thick plates. It is surprising that in the face of such facts Admiral PORTER, while advising the Navy Department to expend the large amount of \$180,000 on each monitor, should have omitted to recommend the substitution of solid for laminated armor—an omission which at present places the country in an absolutely defenceless state, against even minor naval powers possessing iron clad vessels armed with rifled ordnance. What reason can Admiral PORTER assign, it will be asked, for ignoring the important fact known to the youngest officer in the service, that the rifled guns carried by the iron clads of our maritime rivals, are capable of sending their pointed projectiles through the monitor turrets with the fearful results before adverted to? Regarding Admiral PORTER'S estimate, persons acquainted with the subject wonder how the Admiral can expend \$180,000 on a monitor of the *Passaic* class, without reconstructing the turret and side armor with solid plates. The weight of the present light plating composing the turret and side armor of monitors of the class mentioned, scarcely reaches 625,000 pounds, hence if the liberal price of 18 cents per pound be allowed for solid plating, it will be found that \$112,000 will suffice for applying such plating of an aggregate thickness equal to the old laminated armor, \$68,000 would still be left, out of the estimated \$180,000—an amount, it would seem, sufficiently large to be expended on vessels of such light and perishable hulls as the monitors, built during a national crisis. Referring the repairs of the monitors Admiral PORTER says in his report. "Those that have been reconstructed are excellent vessels." The country will be anxious to learn wherein that excellence consists. Does the Admiral call that an excellent vessel whose guns and gunners are protected by a laminated structure which may be riddled by projectiles fired from rifle guns of very moderate calibre?

Let us now briefly consider that part of PORTER'S report which relates to torpedoes. Well informed professional persons view with alarm the unqualified recommendation of certain means of attack, the inherent defects of which are palpable. The adoption of the boom torpedo in our Navy, now so prominently brought before the nation in connection with the naval evolutions at Key West, has directed general attention to the significant fact that, while high expectations have been raised by the loud talk in certain quarters about torpedoes as an irresistible auxiliary in case we should be involved in a maritime war, the fact is now patent to all observers that the plan which has been adopted is, to say the least, of doubtful utility. The public, in perusing the accounts of the great naval drill, has learned with amazement that we possess nothing better, as a means of attack, than a boom suspended over the ship's side by ropes and tackle, with a powder bag at the end, to be poked

under the enemy's hull—we might add, with its permission. The published accounts of this new system of naval attack also conveys the discouraging information that the representative of an enemy's ship, on the occasion, was not an object in motion. But simply a floating target; and that our attacking ships were limited to a speed of four miles an hour in approaching the supposed antagonist. In order to show the utility of the whole thing, let us suppose that, in place of the non-resisting floating target, an enemy's ship in motion had been encountered, which, instead of waiting until the assailant, creeping at the rate of four miles an hour, had come near enough to be enabled to thrust his powder bag under the hull, had fired a broadside of grape, at short range, against the boom with its rope and tackle—not to mention the crew handling the frail and complex gear—what would have happened? But we need not discuss the subject further; our intelligent naval officers understand better than we can point out, that the boom torpedo, arranged and handled as practised during the naval evolutions at Key West, will be of little use in actual warfare.

"Before dismissing the subject we cannot refrain from adverting to Admiral PORTER'S silence respecting Captain ERICSSON'S movable torpedo, which we have taken considerable pains to investigate and lay before our readers. Had Admiral PORTER, in common with some other prominent naval commanders, advocated attack at long range, the Navy Department might be persuaded that the Admiral had good reasons for abstaining from mentioning the tubular cable torpedo system; but since he deems it practicable to attack an enemy's ship at a distance of a few yards, we think that in a report containing professional advice to the Secretary of the Navy the new system was entitled to serious consideration."

The following lecture on tactics is copied from the *Broad Arrow* of 7th February, although a mere synopsis its value will be apparent to our military readers at sight. We regret that it is not in our power to give it in detail and it does not appear to have obtained a place in any of the military journals to which we have access. It has been the custom hitherto to preserve great reticence on purely professional military or naval subjects, as if they were not fitted to appear before the public, and if some great and subtle design invention or plan of the utmost importance to the public interests were thereby rendered inviolably secret and stored up as it were for future use in the interests of that public during the next war in which it should be involved, but experience has woefully demonstrated that no secret if any ever could exist can prevent the details of any invention or plan confided to more than one person from becoming thoroughly well known. As for instance the military authorities of Great Britain jealously guarded the secret of the Harvey torpedo from the knowledge of their own scientific military officers, but most laboriously as well as elaborately prepared printed descriptions with proper drawings, &c., for the use of the United States military engineers as well as those of foreign powers; so that it was to the courtesy of the Engineer

Department at Washington, the Engineer Department at Woolwich were indebted for the knowledge of an invention supposed to be used exclusively for their own service.

In fact the whole of this relicence is a mere sham, all general principles in military science is known to every educated soldier and sailor, and they preclude the possibility of any man having an invention that cannot be discovered.

"The second of the annual course of lectures was delivered on Thursday afternoon, January 22, at Alkeshot, by Colonel Middleton, in the presence of a large number of the officers of the division, including General Sir James Hope Grant, G.C.B., and Lady Grant. The subject chosen was, "The effects produced on tactics by the gradual improvement in firearms and artillery."

"The lecturer first explained the meaning of the term tactics, which was, he said, derived from a Greek word signifying "the order of battle. The art had existed from the earliest days, as they all knew, and its principles were the same at the present time as they were in the days of yore, and always would be, namely, "To beat their enemy and to do so with as much loss to them and as little to themselves as possible." There was a much greater loss of life in the ancient wars than in the present ones, the object now not being so much to absolutely kill the enemy as to drive them from the field. To accomplish that, armies must be able to move with great rapidity, and consequently organization comes into play, or what is exactly represented by the meaning of the "mobility." The improvement in firearms had called for a corresponding improvement in tactics, but the idea of saying that tactics were changed, was, he thought, a mistake. They were always the same in their principles. They had, however, to be modified, which modifications were called "eras" in the military history of tactics and strategy. Another idea was that the improvements of weapons in war were productive of what was called "the Butcher's Bill," and when they considered the extreme care taken to bring the weapons to such a degree of precision and nicety, it could hardly be understood how greatly it lessened the number of killed and wounded on the field of battle, but such was the case. The fact was that the great improvements made in the firearms had made both sides more wary, and adopt tactics in order to avoid the effect of these arms. This could be proved true, by referring to the number of killed and wounded in the battles of the olden times, and comparing them with the losses of the present time. They had no real intelligence as to what they really did lose in ancient times, but allowing for all exaggeration, their losses must have been tremendous, being hand to hand combats. One instance was in the Punic war, where it was said that 2600 men were lost out of 3600. As gunpowder began to get more and more into use, the losses were greatly lessened, so that it was plain that the greater attention paid to firearms, instead of making battles more deadly, had the very opposite effect. After all, such men as Armstrong and others should be really members of the Peace Society, and if they were admitted as members, they would be only working ones in the country. It was evident that there was the same style of tactics used in modern days, as in the ancient the slaughter, owing to the arms being so much better, and having so much longer range, would be much greater. During the Secession war in Ame-

rica, the most effective weapons were used by the men, but in consequence of the troops moving in heavy masses, instead of lines, the slaughter was on an average greater than any other battle in Europe, simply for want of tactical knowledge. The lecturer then gave a graphic sketch of the tactics used by the Greeks. Their mode of attack was by the well known formation called the "Phalanx." The next nation of whom they had any knowledge at all was the Romans. They at first used the Phalanx but soon found that it was both heavy and faulty, and adopted the "Legionary Formation," which they found much better suited to their style of fighting, and enabled them to stand against the light armed troops of the enemies they were always fighting against. The organization was very much like that of the present time; they had their regiments, troops, and companies, and always fought in three lines, the second line to cover the intervals in the first, and the third to cover the intervals of the second, so that to the enemy in the distance the front line would appear to be unbroken. Each soldier had room to use his arms, and did not touch, shoulder to shoulder. In the old Roman wars cavalry was thought but little of, until they learnt it some time after. After the fall of the Roman Empire the military art as an art seems to have disappeared. The cavalry, then called knights and men at arms, became the only important part of the army, and the infantry was thought but little of. The battles were almost entirely carried on by these knights and men-at-arms. In the fourteenth century gunpowder was first introduced, supposed to have come from China, and was destined to work great changes in the art of war. It was first used for cannons only—the only guns then—being heavily constructed and simply used, instead of the old battering rams. It is said that the English used cannon at the battle of Cressy. The hand gun was not invented until the beginning of the fifteenth century. It was very rudely constructed, being simply held in the hand and fired off by means of a matchlock, and was a very uncertain weapon. At that time only a very small portion of the infantry were armed with the hand gun. The next improvement was giving it a lock, it was then called the arquebus. In that century a general appeared who really left his mark on the military science, namely, Prince Maurice of Nassau. During the sixteenth century the hand-gun got more into use as the weapon became more and more perfect, and additional improvements were made upon the lock. One remarkable feature was the gradual disappearance of armour, until at length it disappeared altogether. They had now got as far as the seventeenth century. Gustavus Adolphus, King of Sweden, next appeared as a military reformer. His improvements were made more with regard to equipment than in tactics. He increased the power of the military by the invention of cartridges. He (the lecturer) had no doubt but even then some wisecracks shook their heads, and said, "these cartridges are fearful things," the same as was said about their modern breech loaders. There were always people to find fault with new inventions. A great improvement made by Gustavus was the formation of brigades consisting of two regiments each. This system was very soon copied by the other European armies. During the early part of the seventeenth century the Dragoons were introduced, but they gradually fell into disuse, until nothing was left of them but the name. Their name was, as far as he could trace, derived from the weapon they used, a small arquebuss, with a large dragon's head upon it, so that

they were called "Dragoons." About 1635 the infantry gave up the pike. He (the lecturer) was, however, old enough to remember seeing pikes carried by the military. Frederick the Great was another reformer of tactics. He accustomed his troops to march in open column with the utmost precision, and then to suddenly wheel in a line, without scarcely a single distance being lost. The extraordinary perfection to which he brought his troops was really marvellous. He took the clumsy firearms away from the cavalry and gave them the sabre instead, and taught them how to charge at speed, and keep in tolerable order. He also taught his army to adapt itself to the ground, instead of making the ground adapt itself to the army; and when he found himself at war with three great military powers in Europe, he proved himself a match for them all. Frederick also introduced the use of the iron ramrod, instead of the wooden ones, previously used by the infantry. Frederick's tactics were soon adopted by all the continental nations. One great alteration was made by the First Napoleon, viz., in making a small army complete in itself, called the *corps d'armee*. He also massed his cavalry and artillery together. The gallant officer then alluded to the impossibility of getting other soldiers to fight in line, the same as the English. There was always a great support given by a mass, whereas when they were formed into line, and saw a heavy front coming towards them, they generally lost their confidence; but it was not the case with Englishmen. With regard to themselves, they were modifying their tactics quietly. There was some individuals wanted them to become thoroughly Prussianized; but if they adopted the Prussian system, one very important man amongst them would have to disappear—namely, the adjutant; and the present system had worked so well that it seemed a pity to upset it. After a few more remarks on the half battalion system the gallant officer concluded his lecture, which was listened to throughout with the greatest attention.

General Sir Hope Grant proposed a vote of thanks to the lecturer for the highly instructive lecture he had delivered, which was carried unanimously.

Our contemporary, the *United States Army and Navy Journal*, seems determined to give the torpedo system no quarter. The following review of a very valuable work on the material construction of artillery is copied from the issue of the 7th March:—

"The report of Captain Edward Simpson and Lieutenant Commander J. D. Marvin, U. S. Navy, on "a naval mission to Europe more especially devoted to the material and construction of artillery," issued by the Government Printing Office, Washington, in two volumes, is a work chiefly made up of the reports and experiments of the English, French, German, and other foreign Governments. It is very handsomely printed with large clear type and ample margins.

"As the torpedo is at this time by far the most interesting matter with naval materiel, we searched through these volumes to see what they contained on the subject. After leaving the description of submarine mines, misnamed "torpedoes"—being the instrument advocated by Major Abbott, of the Torpedo Station at Wicket's Point, for the defence of harbors—we come to the "Whitehead torpedo." Of this the report says: "No accurate description can be

given, as its mechanism is known only to a few officers of the English service, to whom the secret was confided when purchased by the Government." We suspected, several years ago, when this contrivance was brought out shrouded in great mystery, and when it was captivating many naval officers, who saw it actually go under water, that it was scarcely more than a mechanical toy. The business was managed so adroitly that several foreign governments paid roundly for the possession of the "secret." It is said that, although having the secret, none of the governments who paid for it have been able to construct torpedoes on this plan that will perform their functions satisfactorily. We don't know whether our Navy Department has invested in this contrivance, but we are pretty sure it came very near doing so. Last week we published a full description of the Whitehead torpedo, with an account of the fatal accident caused by the explosion of its air reservoir, under a pressure of some 1,000 pounds per square inch—a pressure which, we need scarcely repeat, is necessary to make the torpedo operate for even a moderate period. We believe that this description will make an end of this contrivance in the estimate of all practical men.

We next come to the Harvey torpedo, adopted in the English Navy "for service at sea," whatever that may be. The grounds on which this is recommended seem to us to be somewhat singular to be advanced by scientific officers like the authors of this report. The report says: "The rope fittings, buoys, etc., commend it to a sailor as something which he can thoroughly understand, and in the use of which he can make himself proficient. Surely, the scientific instruction of the Naval Academy ought to make officers at least able to comprehend any instrument fit to be used in naval warfare. The time has not long passed since rope breechings, wooden gun carriages, and other anti-deluvian fixtures commended themselves in the same manner. The report further says: "To do efficient service with the torpedo, it is indispensable that the vessel using it should have great speed," and that "the fast tugs in New York Harbor, would in case of emergency, form a formidable fleet of torpedo boats to operate the Harvey for the defence of a harbor." There are not three tugs in New York harbor which can stem eleven knots, and not one whose life could not be ended by a 42-pound shot.

Now follows a description of a torpedo, the invention of G. W. Rendel, a member we believe, of the Royal Society—heaven save the mark! This eminent inventor evidently "smelt a rat," when the trials of the Whitehead were noised abroad some years since; and his torpedo is simply an attempt to make a contrivance that will do what that instrument did. To show naval engineers how little practical knowledge Fellow of the Royal Society may possess, we give the following extract from his patent office specification, describing the mode of propulsion. It says: "This is effected by attaching to the projecting head of the piston rod a cross head or frame containing one or more flaps or valves, which close for the propelling stroke, and open for the return stroke." It is, in short, the duck's foot paddle which has ruined so many inventors. The report says the "plan proposed by Mr. Rendel commends itself as feasible."

We leave this subject of torpedoes with the remark that the less our Government has to do with any of the movable torpedoes described in the report, the better it will be both for our defence and the Treasury.

On the subject of foreign artillery, its fabrication and power, gunpowder, dynamites and other explosives, these two volumes contain a great amount of exceedingly interesting information. And in relation to the subject of armor and its resisting power the results of a vast quantity of experiments are recorded. The two officers compiling the work have displayed unusual industry and comprehension of the value of collecting all the data possible in relation to these subjects, and have furnished us with a work of standard value. We wish, however, they had added an index.

The attention of our readers is directed to the following Qualifications and Terms of Admission to the National Club, Whitehall Gardens, for the Fellows of the Royal Colonial Institute.

"It having been represented to the Council that the formation of a Colonial Club would be very acceptable to many Fellows of the Institute, the Council have as a preliminary step to the accomplishment of that object, entered into arrangements by which a certain number of gentlemen possessing property in the Colonies, or otherwise closely connected with them, and residing in England, may be admitted to all the advantages of the National Club by the year, on payment of Eight Guineas, without Entrance Fee.

Gentlemen whose residence is in the Colonies, but who are visiting England, may be admitted for a year on payment of Eight Guineas; for half a year on payment of Five Guineas; for three months on payment of Four Guineas.

Gentlemen who are desirous of taking advantage of this opportunity are requested to fill up the accompanying form, and send it to the Honorary Secretary, who on satisfying himself that it is duly filled up, and that the applicant is properly qualified and has paid up his subscription to the Institute, will transmit the application to the Secretary of the National Club.

The admission of gentlemen to the privileges of the National Club. A copy of the present rules can be seen at the rooms of the Institute.

The number that can be admitted under the above Regulations being limited, the National Club reserve the right of selection.

Any gentleman who may wish to see the National Club can obtain a pass from the Honorary Secretary.

C. W. EDDY, Hon. Sec.

Royal Colonial Institute,
January, 1874.

FORM OF APPLICATION.

..... 1874.

Sir—Being desirous of taking advantage of the opportunity mentioned in your Circular of..... 187..., I shall be obliged by your placing my name on the List of Applicants for admission to the National Club as joining for—

A Year
Six Months.
Three Months.

Name in full..... F.R.C.I.
Bank.....
Residence.....

Profession or Occupation (if any).....
Colonial Club or other Colonial Association of, which a Member (if any).
To the Honorary Secretary,
Royal Colonial Institute, W.C.

REVIEWS.

We have to acknowledge the receipt of a well got up pamphlet of seventy pages entitled "Considerations Sur L'Organization Militaire," by Lieut. Colonel D'ONSONNES, Brigado Major of No. 6 Military District.

The distinguishing features of this really clever and interesting Essay is the advocacy of the principle of a permanent force—distributed in proportion throughout the Provinces—the whole force, exclusive of the General Staff, would be 1,911 officers and men, distributed as follows:—

	Men.	Off'rs
Infantry—Ontario.....	1 batt. of 500	26
" Quebec.....	1 " 300	23
" Nova Scotia. 1 "	200	17
" NewBruns'k 1 "	150	14
		80
Artillery—Ontario.....	4 batt. of 200	18
" Quebec.....	4 " 200	18
" Nova Scotia. 2 "	100	9
" NewBruns'k 2 "	100	9
		54
Cavalry—Ontario.....	1 troop of 50	6
" Quebec.....	1 " 50	6
" Nova Scotia. 1 "	50	6
" NewBruns'k. 1 "	50	6
		24

It is also proposed to reduce the Active Force to 15,000 men in 188 battalions, or rather *cadres*, distributed as follows:—

Ontario.....	82 battalions,	6,560
Quebec.....	70 "	5,600
Nova Scotia.....	19 "	1,500
New Brunswick....	15 "	1,200
British Columbia,..	1 "	80
Manitoba.....	1 "	80
	188	51,020

The present force in Manitoba to be included in the permanent organization. The whole scheme displays considerable ingenuity—but it would be more costly and not one whit more valuable than our present system. Owing to the Essay being published in French a reprint would be of no practical value to our readers, although the motto on the title page "Ce n'est pas avec de troupes mais avec des troupes bien disciplinées que l'on obtient des succès a la guerre" has been kept constantly in view by the gallant and accomplished author.

The *Aldine* for April opens with a marvelous collection of beautiful illustrations, some of which are the finest yet seen in The American Art Journal, while all reflect great credit upon the enterprising publishers. American scenery, as heretofore, forms a striking feature of this number of the *Aldine*. Five great and remarkable pictures of Lake George and its glorious scenery embellish this number, in which the well-known artist, Thomas Moran, and the engravers, have vied with each other to put upon paper faithful pictures of the most exquisite scenery in

... New World. A full-page picture shows Lake George, looking from Caldwell and the rear of the famous Fort William Henry Hotel; another fine picture is "Fourteen-Mile Island," and the rest, all large and beautiful, are "View from Fourteen-Mile Island," "Long Island," and "Cat Mountain." The moonlight, rainbow, and sunlight effects in these pictures, are particularly pleasing. A. Gault gives a full page picture of "Knickerbocker Days," which faithfully represents rural life in New Amsterdam, in the middle of the seventeenth century, when New York was but a village. The most spirited picture which has been seen on paper for a long time, is a full-page battle scene, drawn by Julian O. Davidson, representing a conflict at sea between an American and English ship of war, during the Revolution. The details of the ships are admirably drawn. Four other large and beautiful pictures represent scenes in the Old World. One of these, "Marble Mills on the Untersberg," by R. Puttner, is a picturesque view in the woods on the Alps; another, "The Fishwife of Munken," shows us the interior of a cottage on the "Island of Widows," in the Zuyder-Zee; the third, "In the Cloister Cellar," by Edward Grutzner, is a picture of a perplexed abbot contemplating the gross dereliction of an intoxicated brother who has fallen in a drunken sleep by the side of a beer cask; the last of this series is called "Getting Around Him," by F. Widmann, a pretty scene of a man asleep across a path way in the woods. A striking picture to add to this long list is a scene from "Lad Astray," by T. Beech, which gives the portraits of Rose Fytinge and Mr. Thorne. A fine portrait of Theodore Thomas, the eminent musician, is given. A little woodland view, "Watching for the Flowers," completes this remarkable list of illustrations. The literary contents are of a high order, varied and interesting. Subscription price, \$5, including chromos "The East" and "The West." James Sutton & Co., publishers, 58 Maiden Lane, New York City.

In *Blackwood's Magazine* for March we find continuations of the serials "Valentino and his Brother," and "Disorder in Dreamland," and the first part of a new story, "Alice Lorraine," which promises to surpass the others in interest. "The Two Speransky—Part II," tells of Elizabeth Speransky-Bagréeff, who though unhappy in her domestic life, was the centre of a brilliant circle in St. Petersburg, was a great traveller, and the author of several novels and other books written in French. "Lord Stanhope and the 'Historians of Queen Ann's Reign'" is perhaps, the most striking article in this number. It contains sketches of many of the prominent men of the day, including Marlborough, Godolphin, "Orator" Henley, etc., besides a brief notice of some of the more important events of that reign. There are also a couple of poems, "Horatian Lyrics," and two political articles, "The Elections of 1868 and 1874," and "Mr. Gladstone's Ngl. Attack and its Results."

We have received the April number of *Wood's Household Magazine*, which well sustains its previous good reputation. While its contents are not deep or scientific, its pages are free from trashy sensational stories, and are full of bright sunny reading that goes home to the heart. The magazine contains its usual number of illustrations, and its general appearance compares favorably with the higher priced magazines. Subscription price one dollar a year; with extra Yosemite one dollar and a half. Subscriptions may begin with any number. Address, *Wood's Household Magazine*, Newburgh, N. Y.

The *P. M. Mail Gazette* says that "pending the publication of those further portions of the Official History of the War of 1870-71 which are concerned especially with Metz, there are some very interesting particulars to be gathered from Capt. Goltz's work on the 'Operations of the Second German Army,' which seem in all respects to confirm the justice of Bazaine's sentence, and consequently to contradict the view taken of him by German writers as a good soldier who was simply unfortunate. Thus we find that after the catastrophe of Sedan became known, the Germans sensibly reinforced their investment on the right or east bank of the Moselle, which had been previously sacrificed, so to speak, in order to strengthen the other side, through which Ly Bazaine's direct line towards MacMahon. That this was done implies that the Marshal was in a manner justified in his previous efforts on the right bank made at the time of the Sedan fighting; and the implied weakness of the circle on that side renders it more difficult than ever to excuse the half-hearted way in which the so-called battle of Noisseville was then fought by him, which allowed the whole French Army, so far as Bazaine chose to engage it, to be repulsed by less than two of the German corps. Another point greatly telling against the French commander is the accurate knowledge the enemy had of the situation within, which was not due (Captain Goltz explains) to the use of spies, but simply to the careful gleaming of such intelligence as was offered by prisoners, by personal reconnaissances, and other means which were equally in the power of the French to use. But the most remarkable fact of all to be noted is the terrible way in which the duties of the investment told on the strength of the Germans, the number of sick reported increasing almost every week, so that at the beginning of October there were no fewer than 2000 men per day admitted to treatment, and when the place surrendered the investing armies were reduced to a strength of but little over 170 000, being actually less than the muster roll of the French who capitulated."

OXFORD VS. CAMBRIDGE.

UNIVERSITY BOAT RACE.

London, March 28, 3 p.m.—The weather was beautiful, and a more propitious day for the contest could not have been selected. The crowd that assembled to witness the race was unprecedented. On the Surrey side of the river, from Putney to Mortlake, there was one compact mass of people 150 feet wide, and at the latter place carriages five deep stood in long rows. The Princess of Wales and the Duchess of Edinburgh, who

expected to be among the spectators, were absent.

Upon the loss of choice of positions Cambridge won and selected the Middlesex or northern side. The Oxford crew rowed into the stream at one minute past eleven o'clock. Five minutes later the Cambridge boat appeared, and was received with immense cheering by its friends. The betting at this time was five to two in favor of Cambridge. All things being in readiness, at fourteen minutes past eleven the signal for the start was given, and the boat got away almost instantaneously. Cambridge had the advantage from the first, rowing at the rate of thirty-seven strokes per minute, but both crews pulled steadily. After an exciting contest, Cambridge reached the Ship at Mortlake at thirty-seven minutes and thirty-five seconds past eleven o'clock, winning the race in twenty-three minutes and thirty-five seconds. The water, though not so smooth as was desired, was fairly calm.

Immediately upon receiving the word to start both boats took the water together, but, after a few pulls at the oars, the Cantabs were one quarter of a length in advance of Oxford, and at Bishop's Creek, three furlongs from Aqueduct Bridge, the starting point, were nearly clear of their opponents. Here the steering of both boats were reckless. Between Craven Point and Hammersmith Bridge the coxswain of the Oxford boat steered wildly. Off the Crab Tree, seven furlongs from Bishop's Creek, Oxford decreased the lead of Cambridge by a plucky spurt, and at the Soap Works, about one mile and four furlongs from the Aqueduct Bridge, was only one length behind the Cantabs. At Hammersmith Bridge, about two furlongs and a half from the Soap Works, Cambridge lost half a length by bad steering, but two furlongs further, again went ahead fast. The "dark blue" made another spurt, and drew up nearly level with the Cantabs, and off Chiswick Church succeeded in getting one quarter of a length in advance. The excitement became intense. Cheers from Oxford's supporters rang out from both sides of the river. On Corney Reach, about two miles and a half from Aqueduct Bridge, Cambridge took the lead again, and passed Barnes' Bridge, about seven furlongs beyond Corney Reach, a length and a half of Oxford. Here Oxford rowed wildly, and Cambridge kept the lead till the end, reaching the Strike boat at Mortlake four lengths in advance of their opponents, amid the deafening cheers of their friends on the shore. Both crews were very much exhausted when the race terminated, but Oxford appeared to be the most distressed.

This evening the victors and their opponents dine together at the Criterion Restaurant, the members of the Oxford crew having declined the invitation of the Lord Mayor to both crews to a dinner in the Egyptian Hall of the Mansion House.

WILAT I SAU.

BY REV. J. MILTON AKERE.

I saw a pretty cottage stand
In grounds that were both trim and neat,
Where graveled walks and charming flowers
Solicited the wandering feet.
A very Paradise it seemed,
With virgin joys and glories crowned;
A spot upon this sin-cursed earth
Which yet the serpent had not found.

I saw a woman, pure and good,
Upon whose cheek the rose bloomed;
Who deep inhaled the atmosphere
Her dearest husband's love performed,
A calm and happy life was hers,
No grief upon her spirits pressed;
And hope, the darling angel bright,
Sat monarch in her loving breast.

I saw a happy family,
With ruddy cheeks and faces bright,
Whose joyous heart expression found
In eyes that danced with pure delight,
The maids were modest, chaste and fair,
The boys were brave and noble, too;
The families, as best as this,
The sun shines on, I trow, a few.

I saw a man with form erect,
And with a calm, expressive face,
Upon the lineaments of which
It was not hard for one to trace
The workings of a noble soul;
A sympathetic friend, and kind,
More ardent, constant, firm than whom
'Twas ne'er my privilege to find.

I saw that cottage once again;
But ah! 'twas sinking to decay—
The window lights were broken in,
The shutters had been wrenched away;
The grounds were overgrown with weeds,
No hand had trained the vines of late;
And what a view now where wealth had been;
'Twas blighted, cursed, and desolate.

I saw that woman once again;
Her face was thin her cheeks were pale;
And from old care's deep chiselled lines,
I read, with pain, her sorrow's tale.
Within her heart, where hope had reigned,
When all was joyous, bright and fair,
A monarch crowned with ohn sat,
Whose name I've learned to call despair.

I saw that family again;
But oh! the change, how very sad,
They wandered forth, to virtue lost,
In filthy, tattered garments clad,
Their eyes no longer danced with joy,
Nor could they longer happy be,
For sin, and poverty, and shame
Had overwhelmed that family.

I saw that man but once again,
With blood-shot eyes, and bloated face,
Upon the lineaments of which
It was not hard for one to trace
The workings of a fallen soul;
A vicious prostituted mind,
More wretched and depraved than whom,
May God forbid I e'er should find.

A man, a family, a wife,
Once good and happy, young and fair,
Have fallen from the heights of hope
Far down the starless gulf, despair.
The cottage, too, the home of peace,
Has been surrendered up to fate,
And now its many tongues repeat
"Behold, I too, am desolate."

What agency, or some so strong,
What evil genius, or spell,
Can so bring down the human race,
From heaven's gate, so near to hell?
In one short word of letters three,
Of human ills we find the sum,
The withering, blighting, damning scourge,
Which bears the simple name of rum!

ARMAMENT OF SHIPS OF WAR.

At the regular meeting of the U. S. Naval Institute, held March 12 Rear Admiral Herwood in the chair, an instructive paper on the Armament of our Ships of War was read by Commodore Jeffers, Chief Bureau of Ordnance. An interesting discussion followed the reading of the paper, after which, upon motion of Rear Admiral Worden, the thanks of the Institute were unanimously tendered to Commodore Jeffers for his interesting and highly valuable paper. The meeting then adjourned. We give this week a synopsis of the first part of this paper, reserving the conclusion for another week.

The main points to be considered in determining the armament of a ship are, 1. That the aggregate weight of the guns should be in proportion to the tonnage; 2. Having decided what this weight shall be, the next point of importance is to dispose of it in the best manner to develop the greatest power of which it is susceptible; 3. The relation of the battery to the speed of the vessel; for although it is absolutely necessary that a ship of war should exercise a full power, offense and defence, within the circle of which she is the centre, next to this, and to this only, its importance is her ability to transfer this power to another point with certainty and rapidity.

We will proceed to consider these points *seriatim*.

To exemplify our first point, we may take the old sailing frigate *Constellation* as a type of what was considered to be at the time she was built, a well armed ship. Her tonnage was 1,236, and the battery consisted of 30 18-pounder cannon on gun deck, and 16 32-pounder caronades on the spar deck, weighing in the aggregate 160,700 pounds, and throwing a broadside weight of 530 lbs. of shot. In 1845 the Ordnance Board recognizing the importance of reducing the number of guns and increasing the calibres assigned a battery of 38 32 pounders, weighing 171,048 lbs., throwing a broadside weight of metal of 674 lbs., and 22 lbs. of explosive material. In 1853, her sister ship, the *Macedonian*, carried a battery of 2 10 inch pivot, 16 8 inch and 2 32 pounders in broadside, weighing in the aggregate 138,432 lbs., and throwing a broadside in metal of 672 lbs., with 26 lbs. of explosive material. Finally Admiral Dahlgren proposed for these ships a battery of 18 9 inch guns weighing 164,000 lbs., broadside weight of metal 721 lbs., with an explosive content of 30 lbs.

It will be observed that in these changes, made by competent authority, the relation of weight of battery to tonnage of ship was closely adhered to, while augmenting the power of the armament by reducing the number of guns and increasing the calibres. With the first introduction, however, of steam into the Navy, a departure from the law of relation of armament to tonnage of ship became unavoidable; because the pioneer paddle steamers did not afford the requisite room and conveniences for proportionate batteries. It was evident to all seamen that the few guns carried by these vessels were entirely disproportionate to their tonnage, and the success of the screw was at once accepted by our best thinkers as a solution of the problem. The *Princeton*, the felicitous conception of Commodore Stockton, was a move in the right direction which we failed at the time to follow up, and still continued to build sidewheel steamers. Even after the screw was determined on as the motor there was manifested a great indisposition to sacrifice gunpowder to facility of shifting one's position; and the five frigates of the *Wabash* class had only auxiliary power, although the conservative spirit of the day reduced the effective force of the battery one fourth by substituting on the spar deck 8 inch and 10 inch in lieu of 9 and 11 as originally assigned. This defect, however, has since been remedied by modification of the broadside battery, and the ships of this class now carry a weight in guns better proportioned to their tonnage, though not excessive, viz. 42 9 inch, 2 11 inch, and 2 100 pound rifles. We may remark in connection with these ships that the plans of Admiral Dahlgren contemplated for all of them an entire spar deck battery of 11 inch guns, and the details exist

for mounting six on the spar deck of the *Franklin*—in which, however, he was overruled. *Niagara* alone was the first ship to realize the conception of speed and power combined; but owing to faults of construction she never was a favorite ship.

We next come to vessels of the *Hartford* class, which were constructed to carry a respectable armament combined with full power of movement. If we assume these ships to have been well armed, as is admitted by every one, and take the ratio of weight of battery to tonnage—the lightest armed (*Hartford*, *Richmond*)—16 of 9 inch in broadside, will give us a factor of 108 lbs. of gun to each ton. The heavier ships of the class, *Brooklyn*, *Pensacola*, armed with 20 9 inch and 1 11 inch, give a factor of 130 lbs. to the ton. Applying the least of these factors to the latter ships of the *Plymouth* class, we have a total weight of battery of 121,176 lbs.—50 tons proportionate to their tonnage. Now these ships were originally designed to carry 2 11 inch in pivot; but for constructive reasons, the after pivot was omitted, and the battery modified to consist of

GUNS.	WEIGHT OF BROADSIDE.
1 11 inch, 16,000 lbs.....	136 lbs. (shell)
6 8 inch, 39,000 lbs.....	192 lbs. "
1 60 pdr., 5,000 lbs.....	60 lbs. "
	60,000 lbs. 388 lbs.,

a weight of guns and broadside entirely disproportionate to their tonnage.

Substituting 6 9 inch guns for the 8 inch, increases the weight of battery, and of broadsides, to 75,000 and 616 lbs respectively. But, in fact, these ships should carry

GUNS.	WEIGHT OF BROADSIDE.
1 11 inch, 16,000 lbs.....	139 lbs. (shell)
10 9 inch, 90,000 lbs.....	350 lbs. "
1 60 pdr., 5,000 lbs.....	60 lbs. "
	111,000 lbs. 546 lbs.,

It may be claimed, however, by some, that these ships have not sufficient breadth for the 9 inch, and that their deck beams and scantling are too light to support such weights. If this be really the case, then we would propose, as a compromise, for such a ship an armament of

GUNS.	WEIGHT OF BROADSIDE.
3 11 inch, 48,000 lbs.....	408 lbs. (shell)
1 100 pdr., 9,200 lbs.....	100 lbs. "
	57,200 lbs, 508 lbs.,

which, with a less weight of guns than the battery just assigned, would give a power of 508 to 388. It is also to be observed that the pivot carriages cover so many of the beams, and the weight being thus distributed over a greater surface, the 11 inch strains the vessel less than the 9 inch, mounted at the side on a Marsilly carriage. From actual measurement, however, it appears that the ships of this class have at least five (5) ports of a side which will allow the muzzle of a 9 inch gun to come 12 inches inside the port, affording ample space for loading and sponging in actual firing, at which time trifles generally disappear. In rare exercising there may not be convenient space for the in tuckle blocks; but this inconvenience is surely not of so much importance as to sacrifice to it the grave consideration of calibre.

We next essayed two classes of vessels with different powers, in the effort to realize the idea of a fast gun-boat, heavily armed with cannon of great range and accuracy. To these belong the *Ticonderoga* (1,049 tons), and the *Wachusett* (695 tons). To the *Ticonderoga* construction assigns 78 tons for armament, of which only 22 tons were for guns and howitzars. The Bureau of Ordnance therefore determined upon 3 of 11 inch, with 4 24-pounder howitzars; but before the vessel was finished, the 150-pounder (8 inch) rifle made its appearance, and the battery was modified to

	WEIGHT OF.	BROADSIDE.
1ST BATTERY.		
2 11 inch, 32,000 lbs.....	272 lbs. (shells)	
1 150 pdr, 16,000 lbs.....	150 lbs. (shot).	
4 24 pdr., how.....		
	48,000 lbs.	422 lbs.

(Howitzer weights are omitted as too light to affect the question).

This was an excellent arrangement, combining range, power and facility of handling. Her first commanding officer, however, wished to have some broadside guns, therefore the detail was changed, and the first battery actually mounted was:

	WEIGHT OF.	BROADSIDE.
2ND BATTERY.		
1 11 inch, 16,000 lbs.....	136 lbs. (shells)	
1 150 pdr, 16,000 lbs.....	150 lbs. (shot).	
4 9 inch, 36,000 lbs.....	144 lbs. (shells)	
1 50 pdr., 6,000 lbs.....	50 lbs. "	
2 24 pdr.,		
	73,000 lbs.	480 lbs.

Here, the absolute weight of battery was somewhat increased, while its power of broadside remained practically the same, but imperilled by the introduction of two new calibres and a diminished facility of handling in a sea way. The ship was afterwards ordered to be fitted out for a foreign station, and the original weights restored. But the foremast having been shifted, and a forecastle built upon her, there remained only room enough for two pivot guns. Therefore, there were mounted as a

	WEIGHT OF.	BROADSIDE.
4TH BATTERY.		
2 11 inch, 32,000 lbs.....	272 lbs. (shells)	
2 9 inch, 18,000 lbs.....	72 lbs.	
1 60 pdr., 5,400 lbs.....	60 lbs.	
4 24 pdr. how.....		
	55,400 lbs.	404 lbs.

The *Wachusett* was particularly the exponent of the "cooper around the cask" idea—a swift, handy, light draft, powerfully armed craft, which should be able to keep the sea in all weather under canvas. The armament assigned was:

1st Battery.....	2 11 inch
	4 32 pdr., of 27 cwt.
	1 30 " rifle.
	1 20 " "

Commodore Wilkes, who had his flag on board when she first fitted out, proposed an alteration of the battery to

2nd Battery	1 100 pdr, 9,200
	10 8 inch, of 55 cwt. or 12 31. of
	43 cwt. 61,600, or 57,732
	1 30 pdr., rifle, 3,500

He argued that the removal of the heavy 11 inch gun, and a distribution of their weight in broadsides, would tend very much to prevent the vessel from rolling so much. Said he: "As for using the large pivot guns, it is entirely out of the question in a sea way. There is not an officer under my command

but is satisfied with the inadequacy of the armament of these vessels, and the uselessness of having such large and heavy calibres;" and he recommended a broadside battery for all small steamers now in commission. This subject of broadside and pivot guns will be discussed further on; but my own experience is that the 11 inch can be cast loose and handled in a seaway when it would be difficult and dangerous with the broadside guns. The vessels of the *Wachusett* class were not intended to perform the functions of a broadside vessel like the old frigates and corvettes, as it is evident they would be very feeble in this respect, the weight thrown from their broadside not exceeding 300 lbs. But they were intended to have a high speed, so as to overtake or leave broadside armed vessels, and harass them by deliberate practice with a few heavy shells, at ranges where the guns of broadside could not reach. Their light draft was also to permit them to roam in shoal water not accessible to heavy vessels. If the vessel was deficient in the primary condition, speed, the proposed change in the battery would not afford a remedy. As regards excessive roll, that belongs to all propellers, and the weights should moderate the movement; but it does not appear that this can be carried to a profitable extent for want of capacity, nor is there sufficient room for 9 inch guns. However, her armament has been increased to a 3rd battery of

	WEIGHT OF.	BROADSIDE.
2 12 inch.....	32,000 lbs.....	272 lbs
4 9 inch.....	36,800 lbs.....	140 lbs
3 20 pdr. rifles.	3,900 lbs.....	40 lbs
	72,700 lbs.	452 lb.

The light cruisers of 410 tons *Kansas* class were designed to carry the 10 inch Parrott rifle (300 pounder), of 26,000 lbs; but such guns were never provided, and these vessels were therefore heterogeneously armed. At the end of the war the

<i>Kansas</i>	carried 1 11 in, 29 in., 1 30 pdr. rifle
<i>Nipsic</i>	" 1 11 in, 1 30 pdr. rifle.
<i>Nyack</i>	" } 1 100 pdr., 29 in., 1 30 pdr.,
<i>Shawmut</i>	" } rifle.
<i>Yantic</i>	" 4 9 in, 1 30 pdr. rifle
<i>Saco</i>	" 1 60 pdr., 6 32 pdrs., 1 30 pdr. rifle.
<i>Pequot</i>	" 1 150 pdr., 6 32 pdrs., 1 30 pdr., 2 24 pdrs., how.

While the battery originally assigned to these ships was 1 300 pounder rifle and 2 24 pounder howitzars.

Sufficient has been stated to show the principles on which the armament is based. First. The aggregate assigned to Ordnance by the Naval Constructor in distributing his weights. Secondly. The weight of battery which experience shows, can be safely and conveniently carried, which is from one-third greater to double that allowed on the given displacement. Thirdly. The smallest number and heaviest pieces which can be conveniently handled, having due regard to speed and tonnage.

It is to be observed, that since the introduction of full power into steamers, the space below has to be carefully apportioned; and that the addition of even a single gun crowds the magazine, shell and store rooms. Having then determined the total weight of battery for a given tonnage, next in importance is its distribution, with a due regard to the accuracy, power and range of the guns. The power of a ship of war may always be in proportion to her capacity, and the largest ship can always be made the most powerful in offence as well as defence;

the smaller ships, on the contrary, can never be made more effective than the larger, unless the means of the latter are misapplied.

One of the first elements to be considered is the ability to handle the projectile in the confined quarters of a ship, subject to violent motions of rolling and pitching. For obvious reasons, only one man can conveniently handle the shot of a broadside gun, and but two that of a pivot gun; and experiment proves that the 9 and 11 inch are the largest shells which can be so handled with ease. There are, however many persons of the opinion that some smaller calibre, 32 pounder or 8 inch substituted in broadside for 9 inch may, by celerity of fire, and being more numerous for the same weight of battery, more than compensate for diminished accuracy and power. This is entirely fallacious, and has been completely refuted by Admiral Dahlgren in "Shell and Shell Guns."

But we will here repeat the argument.

"The reasoning in favor of the 8 in. against the 9 in. is, that with the same weight one can have more cannon, and firing faster, the weight of metal thrown is much increased. This argument is not new—it was offered in 1812 by the English for preferring the 18 pounder to the 24 pounder, and has no better foundation now than it had then."

The 8 in. weighs 6,500 lbs., the 9 in, 9,200 lbs the rates being 65 92, or nearly two-thirds, that is: three 8 in. cannon weigh as heavy as 2 of 9 in. The 8 in. thro. 3 shells of 51 lbs, 153 lbs.; the 9 in. two of 72 lb, 144 lbs. In actual trial at the battery here, the 9 in. gun has been fired five rounds at an average of 53 seconds per round. It is likely that an 8 in. gun can be fired more rapidly? On board the *Plymouth*, commanded by myself, and then cruising as the Ordnance ship, a trial was made for rapid firing, with the following results:—

U. S. ship <i>Plymouth</i> , off Cape Catoche, September 10, 1851.			
Guns manned by the regular crews, 17 to 9 in. and 15 to 8 in.			
Guns run in, and all ready.			
		NINE-INCH.	EIGHT INCH.
		25 min. 40 sec.	25 min. 40 sec.
Sponge	29	25 45 "	29 " 25 45 "
Fire	30	12 47 "	30 " 12 47 "
"	30	57 45 "	31 " 00 48 "
"	31	47 50 "	31 " 55 55 "
"	32	38 51 "	32 " 59 64 "

Av'ge time of fire 47 3 5
Shifted the 15 from 8 in. and 15 from 9 in, leaving the roller h's man and one other.

Sponge	45 min. 00 sec.	45 min. 00 sec.
"	45 " 30 30 "	45 " 30 30 "
"	46 " 07 37 "	46 " 06 36 "
"	46 " 44 37 "	46 " 40 34 "
"	47 " 23 39 "	47 " 22 42 "
"	48 " 03 40 "	48 " 03 41 "

Av'ge time of fire 36 3 5
Both crews had been under careful drill for more than three months. Of course no other pointing was possible than to preserve the guns nearly in their original position when fired. The celerity of fire, then from the 8 in. and 9 in guns will not vary materially under like circumstances. At the same time I may remark that every officer knows that the time required to load, fire and run out, is never the standard for accurate practice; that is controlled on ship-board by the difficulty of pointing amidst the smoke, and disturbed by the rolling and

progressive motions of both ships, etc., so that as a general rule under fair conditions, the rate of good firing may be two to three minutes. The original difference in weight of metal thrown by the 8 in. and 9 in. guns should not be effected, therefore, by the rate of fire. But it will be influenced by another condition, not generally considered, in estimating the value of the lighter guns, viz., the inferior accuracy of the inferior calibre. That of both guns has been tried with the most extreme care at a target 1,300 yards distant—the 9 in. was found to strike 75 per cent. of its fire and the 8 in. 50 per cent. This difference was due entirely to conditions of weight and resistance of spherical bodies moving through the air, and to the pointing of them, both being adjusted with equal care. A sample of this practice may be seen at page 242 of my work on "Shells and Shell Guns," though introduced then to illustrate another application of the same principle. The weight of shells, then, that strike from an 8 in. gun will not when accuracy is involved, be equal to that from a 9 in. gun—and the difference in accuracy will reduce the weight of metal which strikes from 153 lbs. and 144 lbs to 77 lbs. from the 8 in. and 108 lbs from the 9 in., or in that proportion.

Again the charges of the shells enter into the question—the three 8 in. contain 6 lbs. of powder, and the two 9 in. a like quantity, but each of the 8 in. shells contains only 17 lb., while each of the 9 in. shells contain 3 lbs., and we know that the action of powder is in far greater ratio than its weight, that is the explosive force of the 8 in. to the 9 in. charges is in a greater ratio than the weight of the charges, 2 to 3. This is an important consideration as well as that of concentration by reason of greater weight.

Again, the penetration of the 9 in. shell is greater than that of the 8 in. shell, so that the former not only enters further into the opposing ship, but will carry with it a far greater bursting effect, individually. In the foregoing data, enough is stated with exactness to show that the Ordnance power of the two guns is hardly comparable, and that no effort should be spared to use the heavier calibre. Whenever possible to go above the 9 in. I would advise it, but never below it. And the *Ironsides* has shown the power of 11 in. broadsides as well as the facility of using such cannon. Whenever there is space on the deck that will allow the muzzle of a cannon to come in, if only clear of the inside, the gun may be fought; and any obstacles that are removable, ought to be made to give way without scruple.

SENATOR SUMNER.

HIS BIOGRAPHY.

Charles Sumner was born at Boston, U.S. on January 6th, 1811. He graduated at Harvard College in 1830, and studied law in the same institution after taking his degree. In early life he contributed to, and afterwards became editor of the *American Jurist*, and having been called to the bar in 1834 began to practice at Boston. He edited in, 1836, Dunlop's "Treatise on Admiralty Practice," visited Europe in 1837, and was present in Paris during General Cass' embassy. At the request of the Ambassador, he wrote a defence of the rights of the United States in reference to the questions

then pending between the two Governments.

He signalled himself by his opposition to the annexation of Texas, and by his support of Mr. Van Buren as candidate to the Presidency in 1848, and was elected to the Senate as successor to Mr. Daniel Webster in 1851. A few years before the breaking out of the war a violent attack was made upon him in the Senate House by Mr. Preston Brooks, a South Carolina member who had been enraged by Mr. Sumner's denunciation of his [Brook's] uncle; Senator Butler. His name is famous in Europe as the champion of slave abolition which, in 1861, he was willing to carry to an extreme in relation to the dispute between the Federal and Confederate Governments.

He, like many others Abolitionists from having been friendly, has become hostile to England owing to the course of public opinion in that country during the Civil War. His speech against the Johnston-Clarendon Treaty, in which he claimed that some six hundred millions of dollars as incidental damages due from England to the United States, for the course of the former in the unpleasantness between the North and South, was not provided for, was the cause that led to the rejection of the bill to ratify it. He recommended the surrender of Mason and Slidell in the Trent affair, whilst maintaining that English precedents were unfavorable to the right of the United States Government to retain them. He advocated the securing of the adoption of the metric system of weights and measures by Congress, and the arrest in the Senate of the Bill abolishing the neutrality laws which had been unanimously passed by the House of Representatives in a spirit of hostility to England. He was for several years Chairman of the Congressional Committee of Foreign Affairs, but after his violent attack upon President Grant some two or three years ago, he was displaced and has since been in opposition to the Administration. It is noteworthy that a short time after his attack on President Grant he moved a resolution in the Senate to prohibit the inscription of "Bulls Run" and other battles upon the Federal Flag, for which resolution, a vote of censure against him was passed by the Massachusetts Legislature; which however was a few days before his death formally rescinded. One of his last acts in the Senate, was conjointly with his colleague, Senator Boutwell, to make some decided speeches in opposition to Mr. Simmons, Collector of Boston, whose nomination had been procured by Gen. Butler, but the Senate confirmed the appointment. He published at Boston in 1850 "Orations and speeches" and a volume entitled "White Slavery in the Barbary States." He was also the author of several volumes or Federal Law Decisions by Judge Story and others.

In the German Reichstag, General Von Moltke, in the course of a speech in support of a new Military bill, said: "What we acquired in six months we shall have to protect by force of arms for half a century to come. France, notwithstanding a majority of her people are convinced of the necessity of peace, is imitating our Army organization." He concluded: "We have become powerful, but remain peaceful. We require an Army for defence, not conquest."

RECEPTION BY THE KING OF ITALY.—The King on the 23rd received some three thousand persons from all parts of the kingdom who came to congratulate him on the 25th anniversary of his accession. Signor Visconti Venosta, Minister for Foreign Affairs, presented to His Majesty an address from the American and English Ministers.

Paris, March 23.—In the Assembly to-day a protest was presented demanding the dissolution of the Chamber. The protest is signed by M. M. Gambetta, Ledru Rollin, Challolled, Lacoër, Pargrat and Barodet.



GOVERNMENT HOUSE, OTTAWA.

Friday, 6th of March, 1874.

PRESENT:

HIS EXCELLENCY THE GOVERNOR
GENERAL IN COUNCIL.

WHEREAS doubts have arisen as to the description of articles contemplated by the terms "Fish-hooks, nets and seine lines and twines, used in Schedule C to the Act 31 Victoria Chapter 4," and it is expedient that the meaning of the same should be defined and declared.

His Excellency, on the recommendation of the Hon. the Minister of Customs, and under the provisions of the 4 Section of the Act 31st Victoria Chapter 6, has been pleased to Order and declare, and it is hereby Ordered and declared that the following words in Schedule C to the Act first above mentioned, viz.: "Fish-hooks, nets and seines, lines and twines" shall from and after the passing of this Order be taken to mean Fish-hooks, fishing nets, and seines and fishing lines and twines, and no other—and that the Collector of Customs at any Port at which such goods shall be imported, be and he is hereby authorized before passing to a free entry of such articles to require the importer thereof to make oath to the fact that such nets, seines, lines and twines are so imported for fishing purposes only.

W. A. HIMSWORTH,

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C. P. C.



GOVERNMENT HOUSE, OTTAWA.

Friday, 6th of March, 1874.

PRESENT:

HIS EXCELLENCY THE GOVERNOR
GENERAL IN COUNCIL.

WHEREAS doubts have arisen as to whether any or what duty is payable on the article known as "Boot Felt," or "Patent Felt," and it is expedient that such doubts be removed.

His Excellency, on the recommendation of the Treasury Board, and under the provisions of the 4th Section of the Act 31st Victoria, Chapter 6, has been pleased to Order and declare, and it is hereby Ordered and declared that the articles known as "Boot Felt" or "Patent Felt," may be imported into Canada free of Customs duty, under the article mentioned in the Free List (Schedule C) of the Customs Tariff now in Force as "Felt for Hats and Boots."

W. A. HIMSWORTH,
C. P. C.

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