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# The Volunteer Review

## AND MILITARY AND NAVAL GAZETTE.

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

VOL. VI.

OTTAWA, (CANADA,) MONDAY, OCTOBER 7, 1872.

No 41

### NEWS OF THE WEEK.

The Lord Chancellor of England, (Hatherly) has resigned.

Lord Redesdale, ex Lord Chancellor, has written a letter condemning the conduct of Government representatives at the Geneva Board of Arbitration. He says the interest and honor of the country were sacrificed to the exigencies of the party in power, and demands a full explanation of the reasons of action.

Gladstone's Chancellor of the Exchequer, Mr. Lowe, in a speech delivered at Glasgow, is reported to have censured Sir Alexander Cockburn for refusing to sign the award for damages, and for publishing a protest which opens up the whole question, reviving all the ill feeling surrounding this question. He said it was England's duty to accept the award loyally.

The Solicitor General Jessel, has been addressing his constituents at Dover. He congratulated them on the working of the Ballot, and the award of the Geneva Arbitration, which he declared would be paid in a year without increase of taxation.

The Queen, a few days since, laid the foundation stone of a memorial to the Duchess of Sutherland, in the grounds of Dunrobin Castle. There was a large attendance of leading people in the district. The Rev. J. Maxwell Jones, offered up a prayer, and then in the name of the subscribers, by whom the monument is to be erected, presented an address to Her Majesty, who received the address through Lord Granville, and then said—"It gives me the greatest pleasure to testify on this occasion my love and esteem for the beloved Duchess, my valued friend, with whose children I am now staying. I wish to express my warmest thanks for the hearty and loyal welcome I have met with at Sunderland." The Queen spread the mortar with a golden trowel, with an ivory handle, and the stone was gradually lowered. When it reached the solid, the Queen gave it three strokes with a handsome mallet made of walnut, and silver gilt.

Mr. Cardwell has gone to Ireland to decide on the depot centres, and blarney

if he can, the Home Rule M.P.'s. of that turbulent country.

Gambetta, the ex-dictator and total failure, is spoken of as the probable successor of Thiers. He has been starring it in the Departments, and recently at Grenoble severely criticized the conduct of the French President's administration, denounced the Bonapartists and the National Assembly, and advocated the return of the seat of Government to Paris.

It would indeed appear that Thiers has blundered, or the communists have forced the experiment on him, of trying whether it would not be possible to establish a stable Government in France. This has always been a most difficult problem to solve, after all it may have been very simple and the whole secret appears to lie in removing the Seat of Government, and legislative bodies from the capital putting it out of the power of the mob to overrule the one or overturn the other by a *comp de main*. The finances of the country are gradually recovering, most of the Chambers of Commerce of the maritime cities protest against every manipulation of tariffs without their consent, the army is being brought steadily into a state of discipline heretofore unknown to the French soldier, and peace may enable the country to take her place amongst the nations of Europe after her sore humiliation.

Our exceedingly *cute* neighbors over the lines appear to have cut a rod to whip themselves when they so astutely endeavoured to cozen the *Britishers* with the *ex parte facto* International legislation which led to the Geneva Arbitration.

Spain is about putting in a little bill of costs for certain filibustering acts, and the United States will afford the world a spectacle of principle, like Mark Twain's good little boy, pay the little bill which is confidently stated to amount to four or five times the amount of the Alabama award, and learn in future that portion of the Church Catechism which teaches to *keep their hands from picking and stealing*.

The Carlist insurrection still lingers in Spain but it is not of much account.

The Evangelical Conference at Geneva has appointed Dr. Merle d'Aubigny to draft an

address to the Old Catholics in Congress at Cologne.

His Holiness has ventured outside the walls of the Vatican for the first time since the occupation of Rome by the Italian Army, he has appointed Rev. Mr. Vaughan of the Propaganda Bishop of Salford in England.

Austria is looking well to the Danubian Provinces, and endeavoring to strengthen herself in that, her weakest frontier.

Russia is busy reorganizing her army and navy, while Germany under Bismarck and the pious Kaiser is ostensibly engaged in a skirmishing warfare with the Jesuits and Bishop of Friesland, but watchful as a lynx of the affairs of her neighbors.

The Emperor of Turkey has by Firman created Ismail Pasha *Khedive* of Egypt, and made the rank hereditary in his family. The sick man has wonderful powers of recuperation, does not seem to care what effort Russia may make in the Black Sea, as he is prepared for it.

From Japan we hear the mutterings of a coming storm. The old party of obstructionists are said to be coming into power, so that a revolution, attended with unpleasant consequences to foreigners may come off at any moment.

From the United States we have the intelligence that Mrs. Laura D. Fair, the adulteress and murderess, has been acquitted by a San Francisco jury. A murder per diem in Chicago, the attempt to put an ex-convict at the head of the municipal affairs of New York, a large amount of electioneering items, in which pistols, bowie knives and other artistic weapons figures largely. The arrival at New York of three iron steamships direct from China, tea laden, via Suez Canal, with the intimation that it is the first instalment of a very considerable fleet.

In the Dominion of Canada we have had a disastrous fire at Montreal; a good deal of stormy weather; a rise in the rate of the bank discounts; an abundant harvest; brisk business times; and a good promise for the future.

The election riots in Manitoba have subsided.

Sir G. E. Cartier has sailed for England.

## ST. HELEN'S ISLAND.

Of the early history of this Island, there can be no question of its discovery by Jacques Cartier, in his second voyage to Canada in 1535 when he visited Hochelaga, an Indian village, ascended the mountain, which he named *Mont Royal*, and looked down upon this Island in the midst of the mighty river with wonder and delight.

In the voyages and discoveries of the great Samuel de Champlain, three quarters of a century later, this Island was a peculiar object of attention and admiration, and he even contemplated forming an establishment and settling down upon it with his family in 1611, as described in the *Histoire de la Colonie Française en Canada*, page 197 tome 1, as follows :

"Proche de la Place Royale (Montreal), et au fleuve St. Laurent, il rencontra une petite île qu'on sa situation et élévation sembleroit avoir fortifiée naturellement : et dans ses vues pour l'avenir du Canada, il jugea qu'on pourroit bâtir une bonne et forte ville ; mais ce qui est digne d'attention, il la nomma *Sainte Helene*, sans doute pour faire partager les avantages de son futur établissement à Héleue Bouville son épouse, qui, par sa dot, lui donnoit le moyen d'en jeter les premiers fondemens. Car il est à remarquer qu'il ne donna le nom de St. Héleue à aucune des îles sans nombre qu'il rencontra u-dessous et dessus de Quebec, sinon à celle qui étoit à côté de la Place Royale, ou il avoit résolu de s'établir."

It will thus be seen from the above extract the opinion formed by Samuel de Champlain of the natural features of this Island as a place of security and defence, and there is every reason to believe that the early Jesuit missionaries sought refuge here from the ferocious attacks of the Iroquois who exceeded all other tribes of the Aborigines in savage and unrelenting barbarities in their treatment of European settlers, and the Hurons and other tribes who were disposed to be friendly to the strangers.

It was also a depot for provisions, arms and stores, while settlements were forming on the main land. Although the Island, as the above extract will show, owes its name to Champlain's marriage with Helene Bouville—a Huguenot by the way, or French Calvinist—I have not been able to collect anything positive as to Champlain's forming a settlement on it himself or even building a residence there for his family, neither does it appear at this early date that any considerable work of defence was erected for its protection. As was stated on a former occasion St. Helen's (with Isle Ronde and Isle aux Fraises adjoining) is situated in the Barony or Seignory of Longueuil granted by the King of France under the feudal tenure 3rd November, 1672, to the Sieur Le Moine de Longueuil.

When the articles of capitulation were drawn up in Sept. 1760 for the surrender of Montreal by the Marquis of Vaudreuil, to Major General Amherst, commander in chief of H. B. M. Forces in North America, it was provided by the third article that the troops and militia who were in garrison in the fort of Jacques Cartier and in the Island of St. Helen's and other forts shall be treated in the same manner and shall have the same honors &c., &c. The commander-in-chief of the French Army de Louis was so dissatisfied with the articles of capitulation that he retired or threatened to retire to the Island with a force of 2,000 men, and keep possession until more favorable terms could be obtained from the British General; without however obtaining his object. In May, 1781 the Baroness de Longueuil and David Alex-

ander Grant (grandfather of the present Seigneur) were married in Quebec, and it is understood they lived in the family mansion on the Island, Baron Grant died at Saratoga in 1800, and was buried in Boston. His wife the Baroness, survived him 35 years. She died in 1841, and was buried at Longueuil.

During the American war of 1812-14, and for some years afterwards the British Government acquired tracts of land in various parts of Canada for defensive purposes. Among others the Island of St. Helen's, with the Isle Ronde and Isle aux Fraises were purchased from Baron Grant and his wife, under deed of exchange in 1818, for valuable city lots on the site of the old Recollet Church, and in the vicinity of *Citadel Hill*, now Dalhousie Square, which at the conquest became vested in the Crown by right of military appropriation. The value of the purchase amounted to £15,000. The Island itself is about three quarters of a mile long, and one third of a mile broad—contains an area of 147 arpents, or 124 English acres. The Baronial residence was a splendid stone edifice, with outbuildings and a large garden attached, on the South bank opposite Longueuil; the building was kept up as officers quarters for some years afterwards—and money provided in the estimates for the time for the payment of a *King's Gardner*, named Macfarlane.

The other buildings of value were Grant's Mills. (ordinary grist mills) on a point of the Island immediately opposite Molson's distillery, and in front of the present ordnance store buildings—which at one time, with the "Miller's House" was to be converted into a General Hospital.

There are still the remains of an old French redoubt at the south west point opposite the city, and lines of entrenchments on the opposite extremity facing Hochelaga Bay. The only works of defence ever erected by the British Government appear to have been two block houses for the accommodation of about 40 men, principally for musketry and light guns on the top, and the construction of a ditch and parapet in front of the soldiers barracks opposite the city. The block houses, which appear to have been a favourite mode of defence at this period in Canada, were built entirely of wood, and being of little value in modern warfare, have been allowed to fall into decay and become useless. The most elevated part of the Island, near the centre, is about 125 feet above the datum line of the river adopted by the Harbor Commissioners; and further northward, in rear of the Ordnance Store building, the site of one of the old block houses is 100 feet above the river datum line.

During the occupation of the Island, over fifty years, by the Imperial authorities, several valuable buildings were erected, and improvements of various kinds effected. It was the principal depot for war like stores of every kind for the Montreal district. The grand magazine alone would accommodate nearly 6,000 barrels of powder, while expensive magazines and other buildings could be readily fitted up for 6,000 barrels more. The wooden store building next the river, near the site of "Grant's Mills," is of immense capacity, and in excellent condition, and will easily accommodate an equipment of six field batteries of artillery; the new armory on the east side, recently built of stone, and two stories high, on the site of the old military prison, is also of great capacity; the ground floor alone, in addition to accommodation for powder, will hold 40,000 stand of arms. The infantry barracks with bomb proof kitchens and Commissariat

bakery, will easily accommodate 7 or 8 officers and 100 men. At the northern extremity are the work shops of the Military Store Department and cottages for the artificers and laborers, a practice battery for a floating target in Hochelaga Bay, and a good wharf with 10 feet of water alongside at summer level.

At the south or upper end there is a rifle range of 500 yards with a metal shield and target, and a saluting platform battery of 9 guns on the side opposite the city. The old French lines before mentioned were principally along the crest of the bank on the N. E. side of the island, at an elevation of about 35 feet above the water level, and commanding that part of the Longueuil shore and Hochelaga Bay where the late Board of Ordnance acquired property in 1843-47 in connection with an advanced work and *tele de pont* for the security of Montreal.

From the time of the great Champlain in 1610-11 down to the period of the late civil war in the States, the position of the island for the protection of Montreal has attracted the attention of eminent military men.

Sir James Carmichael Smyth, the eloquent author of "*The précis of the Wars of Canada*," was sent by the Duke of Wellington to this country in 1825, on a professional tour of inspection, and this Island in particular attracted his attention as a military position of great importance for the defence of the commercial capital of Canada. The difficulty of approach by an enemy is almost insurmountable—the shallowness of the St. Lawrence in certain parts of the basin in front of Montreal, and the force of the current combined, render the passage intricate and difficult even to the experienced pilots of the steam ferry boats. The difficulty of access would be still greater in the East channel between the Island and the main land.

The latest of all the schemes for the defence of Montreal was that recommended by Lieut.-Col. Jervois, Deputy Inspector General of Fortifications, in 1865, and published in the *London Times* for the erection of a strong keep or fortress on this Island as a *point d'appui* to an extended line of forts on the south shore, connected by entrenchments and a covered way, within two and a half to three miles of the main keep on the Island, which was proposed to be erected at the expense of the Dominion Government, at the same time the Imperial authorities pledged themselves to erect a line of forts at Point Levis for the protection of Quebec on the south side of the river.

There can hardly be any doubt that the defensive works on this Island by the French Government were hastily constructed during the seven years war between England and France, which commenced in 1855, and was concluded by the Treaty of Paris in Feb. 1763.

Montreal was several times threatened during this war by a British force from New York by way of Lake Champlain, but it was not till the autumn of 1760 that a detachment of three thousand three hundred men under the orders of Colonel Haviland, advanced from Crown Point to the St. Lawrence, where he was joined by General Murray's force of 2,450 men from Quebec on the very day the French garrison at Montreal surrendered to the forces of General Amherst.

There seems to be a popular error among the early French writers in connection with the *Sault St. Louis*—which is frequently mentioned as the current passing between the Island and *Ville Marie*, now Montreal—whereas the current and rapids in front of

the city are only a continuation of the *Grand Saull St. Louis*, now known as the Lachine Rapids—which derived its name originally from a Frenchman, one of an exploring party, who was drowned by the upsetting of a canoe among the islands at the foot of the rapids—the prefix Saint to his name, and St Helen's Island and others, being given by the early pioneers out of reverence to the parties or incidents connected with the events of that period.

In conclusion the Imperial authorities last autumn surrendered this beautiful island, with all its appurtenances, to the Dominion Government, and it is believed, it will still be held as a military post of the Dominion. The value of the property may be fairly estimated at £30,000 sterling or about \$150,000.

## THE FISHERIES OF HUDSON'S BAY.

(From the *Cobourg Star*)

It is far from being to our credit that so much indifference should continue to prevail on the subject of the fisheries of the Hudson's Bay. Here, as we have on former occasions pointed out, the Dominion of Canada has in its exclusive possession a Mediterranean Sea having a fishing coast line of more than 2,000 miles, swarming with seals and porpoises, a sure indication of the quantity of fish which the Bay contains, and moreover accessible in 24 hours by a railway, if such were constructed from Toronto. Yet the fact of this sea mine belonging to us seems to be as much ignored as if it had no actual existence. Of the value of this seal fishery alone, the following notice gives a good indication.

The tenth of August, says the *New York Herald*, was a great day of jubilation in the quaint town of New London. Two vessels took their departure for the South Shetland Isles, situated ten days sail off Cape Horn. Last year a fleet of four whaling vessels left New London for these islands, and after an absence of nine months returned, each vessel having gained in that time about sixty thousand dollars worth of seal skins. This year a fleet of about fifteen vessels are going out to these islands from New London, New Bedford, and Stonington each vessel expecting to make a fortune. The seal skins received from the Shetlands are far superior to those received from Alaska, and when dried and dressed sell for from forty to fifty dollars each.

On reading this notice it must strike every one that if American fishermen can make with profit a nine months voyage to catch seals, it would magnificently pay the good citizens of Toronto to engage in a similar business at a cost to them of a travel only of 24 hours. We earnestly trust that this subject of the Hudson's Bay fisheries will be taken up with the energy which it demands. All that is required it appears to us is that the Government should give a right direction to the line of route of the British Pacific Railway, and that that right direction is not the line which Mr. Sandford Fleming has been instructed to survey, we are more and more convinced. The mistake committed, is not too late to be remedied, is in our good judgment, in placing the capitol of Manitoba at Fort Garry instead of at the head of Lake Winnipeg. Here we are assured would be found the true starting point from which the fisheries of Hudson's Bay could be made accessible to the enterprise of Ontario, Manitoba and British Columbia.

In his recently published work *General Hazen* speaks as follows of the change made in the order of battle by the introduction of long range and accurate guns:

This situation with troops armed with the long range and accurate rifle, and so confident of their power as to exercise it fully, gives an advantage not realized except by those who have observed it. Our own officers who served in the field during the last year of our war will readily understand it. The attacks upon our forces by Hood in front of Atlanta, where we were always ready and confident, are cases in point. The most conspicuous is that of the 25th of July, 1864, when he attacked our right in position. A single brigade, commanded by General Charles R. Woods, received the attack coolly and confidently in their prepared position losing but fifteen men; while Hood lost in killed, buried by us, long trenches of men, and his number of wounded must have been great in proportion.

At Jonesboro' my depleted division numbered but twenty-two hundred muskets, but every one could be counted on. We took up our position just on the 29th of August, 1864, and on the morning of the 30th it became necessary, from the nature of the ground on my left, to occupy a line half a mile long. This made a single rank the whole length, and not one man in reserve. This was positively necessary, on account of commanding heights which could in no other way be controlled. The division of General Hasterhaus lay on my right, but not on ground that he coveted. After feigning a movement against him, the entire corps of S. D. Lee attacked my thin line, and received so severe a repulse that the same night, on receipt of the intelligence, Atlanta was given up.

We were enabled to do this through perfect confidence, resulting from a slight work we had thrown up under fire, giving each man six or eight deliberate shots after the enemy came within range, while his own person was comparatively safe. This inspired each man with such a feeling of security as to afford him collected use of all his facilities; and the result was, that so many of the enemy were struck that they began to give way a hundred yards from my line, and the few—about one hundred—who came over the works were at once made prisoners. I give these two illustrations, in which the attack received at least ten times the damage it inflicted, to show how a very small force may repulse, and even defeat, a very large one. If several of these positions are prepared one behind the other, I can scarcely see any limit to the power of the defence, provide the morale of the troops be perfect.

The new strength of the defence is mostly due to the late improvements in fire arms, by which their range, rapidity and accuracy of fire are greatly augmented. I think it may be safely said that a single line in two ranks, composed of thoroughly good troops, with the new style of breech-loading arms, and protected by some slight work, can defy any sort of attack that can be devised, provided it be made in front, and over ground affording no cover. This comes from the fact that there is a moral limit to the capacity of men to face danger.

This limit may be increased by discipline, but one in three put *hors de combat* is about the highest in a fair fight. At Shiloh my brigade lost thirty six per centum; but it may be safely put down, that when every third or even fourth man is struck, the body of troops of which they are components is neutralized, until it is reorganized and re-

covers its confidence, impaired by the presence of death.—*School and the Army*, pp. 97, 98, and 99.

The breech loading musket had been used in the small affairs of Baden and Schleswig Holstein, but there were many who described it, because of its wastefulness of ammunition—the precise argument so often used in our country by incompetent judges, who fail to recognize that their objection relates to the discipline of the men, and not at all to the qualities of the arm. The rapidity of fire is so great that in receiving an enemy, a command can with perfect safety reserve its fire until they are within five hundred paces. The attacking force should be made to approach over ground where they cannot take advantage of cover. With these conditions well trained troops with the energy and tact to cover their front with a slight epaulment, such as we were accustomed to make during the last year of our war every night before the troops rested, may await the assault of an adversary, no matter in what formation, with as little concern as the approach of a picket line. It is safe to estimate the advantages of the breech over the muzzle loader as three to one. In its use troops must be well controlled, and not permitted the same liberty of firing on their own impulse as with muzzle loaders.

I have taken the liberty of digressing in this matter, as there are still officers of our service who croak about the waste of ammunition with the new arm. Its use secures such decided advantages as should forever close the mouths of all who now oppose it. There are two requisites to its employment, that the officers should control the fire of their men, and themselves have the intelligence to know when to order it. There can hardly be a doubt, however, that more ammunition will be used in every engagement than we have been accustomed to use with the old style of arms. This makes it necessary to consider carefully the subject of supplying the line with cartridges from the ammunition trains a little distance in the rear of the engagement. Our previous want of any system in this matter might unless remedied, result in disaster with the new arm.

The Prussians scarcely used their arms for skirmishing, or random shooting, either in 1866 or in the present war, but reserved their fire for close quarters; and about Paris there was no exchanging of shots on the picket-line; nor was their attack, made by Prince Frederick Charles, on the very slightly entrenched position of the Austrians at Sadova previous to the arrival of the Crown Prince upon the enemy's flank, of any avail. It is scarcely possible to hope for success in attacking an entrenched position in future, defended by firm men armed with the new breech-loaders.—*Ditto*, pp. 163, 164, 165.

A limited number of foreign officers were officially present at the Autumn Manoeuvres of the British Army. Remarking on the subject the *Army and Navy Gazette* says: "It is to be regretted that General Sherman cannot attend the Manoeuvres. The American Army may be proud of a man who is as modest as he is distinguished and capable. He is a deep thinker, reflects on what he sees, and has a fair and impartial mind to which he refers his impressions calmly and deliberately for judgement; and as he is now after an extensive field of foreign travel, going over the mother country, and we are sorry he does not take a look at the brilliant *echantillon* of our Army, as we trust he would think it. It is stated that General Pennypacker will come to the Manoeuvres as representative of the United States.

ANGLO-BELGIAN PRIZE FUND--ESTABLISHED 1868.

We have received the following document from Capt. Mercier, which we print for the information of the numerous Volunteers who have been making inquiries at us regarding the event:—

Hon. President, His Royal Highness the Prince of Wales; Chairman, Colonel E. T. Gouley, M. P.; Treasurer, Colonel Charles Ratcliff; Hon. Secretary, Capt. Charles Mercier.

The Fifth Competition will take place this year (1872) at the Tir National, Brussels, and at the Tir-International, Ghent.

The following regulations will be strictly adhered to:

**Staff.**—The following officers will be appointed:—Brigadier, Brigade-Majors and A. D. C's, Battalion Commanders, Captains of Companies, Chief Medical Officers, Assistant Medical Officers.

**Brigadier.**—The brigadier will have the entire command of the Volunteers all on occasions when assembled together, under military organisation, and implicit obedience to his orders will be enforced.

**Battalion Commanders.**—Battalion commanders will receive the orders of the Brigadier through the brigade-majors and see that the same are promptly executed. They will also report as to any irregularity or want of discipline, to the brigadier for the council.

**Brigade Majors.**—The brigade major will make a daily inspection of the men in their divisions, will see that the orders of the day have been duly communicated, and will acquire full information as to the conduct and well-being of the men under their charge, and specially report the same to the brigadier, who will report to the council.

**Company Officers.**—Company officers will be expected to acquire full knowledge of the condition and conduct of each man in their separate companies, and to be their duty to enter in books, which the council will provide for each man, any information which, in their judgment, may be of sufficient importance to bring before the brigadier or council. They will also furnish reports to the brigade-majors as to the men on parade, and those absent with or without leave. They will also ascertain that their men fully comprehend all orders which the Belgian authorities and the council may from time to time issue, and will be expected to see that they are duly carried out.

**Medical Department.**—The council will provide a sanatorium for the reception of all cases of accident or sudden illness, and it will be the duty of one or more of the medical officers to attend daily at certain specified hours, and report for the information of the council on the state of health among the Volunteers. It will also be the duty of one or more of the medical officers to attend at the firing-points when any competition is in progress, and in the event of accident, immediately report it to the council.

**Council.**—The council will receive and consider all applications from Volunteers desiring to take part in the Tir-International, and it will be optional with them to reject applications. The council will also determine the route by which Volunteers shall travel; arrange as to fares, superintend general arrangements, and the lodging accommodation in Belgium; also in the event of invitations being issued for banquets, or other public entertainments, will receive and

distribute them. The council will bear the entire pecuniary responsibility, and a considerable amount will be given in prizes. £150 of which will be the usual annual subscription of His Majesty the King of the Belgians—and will also take charge of any special prizes, whether given by the committee or the public, with power to determine if they shall be given in money or value, if not otherwise specified by the donors. Volunteers will be classified according to the colour of uniform, and arranged in companies, which will be alphabetically designated. As the numbers of competitors must necessarily be limited, preference will be given to priority of application. Volunteers desiring to take part in the Ghent Tir-International must state by letter their willingness to abide by the regulations issued by the council, and must send in their applications, with stamped directed envelope, not later than 1st September 1872, stating rank, corps, and colour of uniform, to the honorary secretary, Captain Charles Mercier, 12 Albert Terrace, Albert Gate, London, S.W., together (unless an officer) with a certificate from the adjutant of the regiment to which he belongs, or from company officer, as to good conduct whilst a Volunteer, and whether distinguished as a marksman, with entrance fee of 10s 6d which will be returned in the event of the council having to refuse the application. Volunteers when in Belgium will be required to parade in full uniform, at such times and places as the brigadier may appoint, unless specially excused. Every Volunteer when in uniform will be required to observe a soldierly bearing, slovenliness of attire or a mixture of regimental with civilian clothing will be strictly prohibited. Officers alone will be permitted to wear undress uniform, which however must be the authorised undress uniform of their corps (not shooting undress). The practice of interchanging clothing or accoutrements between Belgian and English Volunteers, though kindly meant, is most reprehensible and will not be permitted. Whilst in Belgium, the council will sit daily at headquarters for the purpose of giving information and investigating any complaints. Volunteers must apply for information or making any complaints through the officer in charge of their companies. The decision of the council will in all cases be final.

**Special Prizes.**—A series of special prizes will be given, commencing with one from Mrs. Chambers, of Putney House, of the value of £20, and others.

**Minor Regulations.**—Minor regulations will be issued as to route, fares, tariff of board and lodging, conditions attaching to special prizes and other matters.

**Rifles.**—Only those who shall have signified at the time of entering that they intend to compete for prizes in Belgium will be permitted to take their rifles with them.

**Ammunition.**—To obviate the inconvenience which Volunteers experienced on former occasions, the Council will provide Government ammunition to the extent of fifty rounds per man, to be issued at regulation prices.

**Regimental Greatcoats.**—As Volunteers cannot be permitted to wear private greatcoats over their uniform, it is strongly recommended that they provide themselves with a regimental greatcoat, cloak, or cape. The council are endeavoring to make arrangements that regimental greatcoats, cloaks, or capes, shall be issued for the occasion to those Volunteers who may not possess them.

**Penalties.**—Any Volunteer who shall, during his stay in Belgium, be found guilty

of unsoldierly conduct, disobedience of orders, or insubordination, will be subject, at the discretion of the brigadier and council, to the penalty of having his name posted at head-quarters, as disqualified from participating in all competitions and festivals, and to the forfeiture of any prizes which he may have won. Cases of misbehaviour will also be reported to the commanding officers of the corps to which the offender may belong.

**Note.**—Government staff sergeants of the Auxiliary Forces, if they have obtained authority from the War Office, and other members of the Auxiliary Forces, subject to the above conditions, will be allowed to participate in the advantages offered by the council. All communications must be made to Captain Charles Mercier, the Honorary Secretary, at the undermentioned address.

CHAS. MERCIER, Hon. Sec.

25th July, 1872.

12, Albert Terrace,  
Albert Gate, Hyde Park, S.W.

GENERAL ARRANGEMENTS FOR 1872.

The following are the arrangements so far determined; should any important alteration be made it will be duly communicated. The Ghent, and Brussels Tir-International will commence at Ghent, September 16th, and terminate Brussels, September 28th:—

Ghent.

Sunday, September 15th.—Official reception of Volunteers at twelve o'clock, at the Hotel de Ville, when presentation of medals as *souvenirs* of the occasion will be made. Grand concert in the evening.

Monday, September 16th.—Opening of the Tir International by His Majesty the King. Grand banquet, gala concert, and general illumination.

Tuesday, September 17th.—Fetes in Zoological Gardens. In the evening Venetian fete.

Wednesday, September 18th.—Grand fete gymnastic au fete de Casino, ball, fireworks, and illuminations.

During the week there will also be other entertainments.

Shooting, of which details will shortly be published, will commence on Monday, September 16th, and continue until Saturday, September 30th.

The prizes will be 600 in number, and more than £1200 in value. The distances will be 110 yards, 218 yards, and 327 yards. Mrs. Chambers' Ghent prize will be shot for by Belgian and English Volunteers.

Numbers of Volunteers limited to 1000.

The Ghent committee will lodge in public schools 470 Volunteers (and a further number on palliasses without bedstead, at 4s 2d per diem for bed with breakfast, consisting of cold meat, eggs, tea or coffee, with bread and butter *ad libitum*). Volunteers wishing to avail themselves of this accommodation must apply for forms to Captain Mercier, Honorary Secretary. The beds will be allotted according to priority of application.

Brussels.

The Tir International will open in Brussels Sept. 22nd, and will terminate on the 29th. Full information with reference to the fetes and Tir will be published as soon as the necessary arrangements have been completed. The following have been already determined:—

Shooting will commence on the 23rd, and terminate on the 28th.

Anglo-Belgian prizes to be divided into two classes—one class for English Volun-

teers. only (in conformity with the wish of his Majesty the King) and the other for Belgian and English Volunteers. Mrs Chambers' Brussels prize will also be shot for by Belgian and English Volunteers.

The distance will be 110 yards and 250 yards.

Tri-National prizes will be numerous, open to all Volunteers, for any military regulation rifle. Special prizes will be shot for under regulations to be hereafter made, and which will be published with the detailed shooting arrangements for Ghent.

Lodgings.—Accommodation for 1000 Volunteers has already been secured at various hotels, for bed with substantial breakfast, at rates varying from 5 to 10 francs per diem. The hotel proprietors require early application, and that a deposit must be paid. Special forms with reference to hotel accommodation will be issued. Further arrangements will be made for the accommodation of the remainder of the Volunteers and duly notified.

Railways.—The council have induced the English railway companies to make liberal arrangements as to fares, and I hope that the Belgian Government will make equally generous concessions, so that the cost of transport from London to Brussels and back shall be at a very low rate. The South Eastern and London, Chatham and Dover will issue return tickets to Dover, at 10s first class, and 8s second class. The Great Eastern will issue return tickets to Antwerp at single fares, and the following companies will also issue return tickets at single fares from all country stations above thirty miles distance on their lines to London, viz: the London and North Western; the Great Northern, the Great Western, the Midland, the London and South Western, the London, Brighton and South Coast (on special application); the Manchester Sheffield and Lincolnshire, the North British, the Caledonian, the Lancashire and Yorkshire, the North Eastern, the Cambrian, the Mid Wales, the Newry and Armagh, the Brecon, Merthyr, the Rhymers, and the Pembroke and Tenby. To obtain these special railway return tickets it will be necessary for Volunteers to show their vouchers at the booking offices and have them signed or stamped.

Greatcoats.—Application for regimental greatcoats, which will be issued from the War Office stores at cost price (23s 3d), to be made on special forms, accompanied with remittance to Captain Mercier, Honorary Secretary.

Important notice.—Vouchers.—Only those who are accredited by the Council of the Anglo Belgian Prize Fund, and who produce vouchers signed by Captain Mercier, Honorary Secretary, on behalf of the Council, will be recognized by the Ghent or Brussels authorities, be allowed to participate in any way whatever in the competitions or entertainments offered by the cities of Ghent and Brussels. These vouchers will be forwarded in due course.

CHAS. MECKER, Hon. Sec.  
12 Albert Terrace, Albert Gate, S. W.  
16th August, 1872.

RIFLE MATCHES.

DISTRICT OF BEDFORD RIFLE MATCH.

We continue the report of the Rifle Match at Granby last week. The shooting was fair, but great complaints are made of the little interest taken in the Association.

SECOND-DISTRICT MATCH.

Open to all members, and to all Rifles—Ranges 500 and 600 yards; 5 shots at each. Twenty prizes—1st Prize a silver Cup, presented by Lieut. Col. Miller, and \$5 cash by the Association. Entries—44.

	Batt.	Points.	Prize.
1 Sergt. Vaughan	60	31	\$5
2 " Savage	79	30	8
3 " Wells	79	29	6
4 Lieut. Whitman	60	29	5
5 Private Martin	79	26	4
6 Lieutenant Latimer	79	26	3
7 Sergeant E. Neil	79	25	3
8 Ensign Stoveson	79	25	3
9 " Jos. F'alo	79	25	3
10 " D. Darby	79	24	3
11 Lieutenant Hodge	79	23	2
12 Q. M. Bartlett	79	22	2
13 L. Kennedy	77	21	2
14 Lieut Martin, Sheriff, F. Batt.....		21	2
15 Capt. Mayotto	79	20	1
16 Ensign Bockus	60	20	1
17 Sergeant Wingate	79	20	1
18 Sergeant Duffy	52	19	1
19 Gunner Roberts Sheff F. Bat.	18		1

THIRD-DISTRICT COMPERS MATCH.

Open to all comers, and to all Rifles—Range 500 yards; seven shots each.

1 Captain Bockus	60	27	\$10
2 Lieutenant Hodge	79	25	8
3 Sergeant Neil	79	25	6
4 Sergeant Wells	79	25	4
5 Capt. Westover, Home Guards	23		3
6 Sergeant Major Hall	53	23	3
7 Ensign Nichols	79	21	2
8 Lieut. Martin, Shefford, F. Batt	21		2
9 Private Martin	79	21	1
10 Sergeant Duffy	52	20	1

AGGREGATE.

1 Staff Sergeant Wells	79	61 pts.
2 Sergeant Vaughan	60	64

TIME MATCH.

Range 400 yards. Best score in one minute.

1st Lt. Latimer, 26 pts; 2d Lt. Hodge, 25 pts; 3rd Lt. A. Lawrence, 24 pts; 4th Pte. S. Martin, 23 pts; 5th Lt. Whitman 23 pts, 6th Pte. Bockus, 23 pts; 7th Sergeant Wingate, 23 pts; 8th Sergeant Vaughan, 22 pts; 9th Ensign Bockus, 21 pts.; 10th Capt. Bockus 21; 11th Sergeant E. Neal 21.

COMPANY MATCH.

Ranges 400, 500 and 600 yards, 3 shots at each, 5 men from each company. Prizes: Silver Cup, \$10, \$8, \$6, \$4 and \$3.

No. 2 Company, 79th Batt 100 pts; No. 1 Company 79th Batt. 93 pts; No. 5 Company 60th Batt. 60 pts; No. 4 Company 52nd Batt 80 pts; Shefford Field Battery 85 pts; No. 4 Company, 69th Batt. 76 pts. Highest individual score, Pte. Neal, No. 2 Company 79th Batt. 80 pts.

CONSOLATION MATCH.

500 yds. 5 shots, 15 prizes 40 entries.  
1st Corp Ryan 16 pts; 2nd Gr. Yanuld 14

pts; 3rd A Wooley 14; 4 Pte Vaug an 2. 5 Pte. A. Martin 12; 6 Lt. Payne's, 11; Corp. Salo 11, 8 Lt. Col. Hall, 10; 9 Sergt. Pearson 10; 10 Lt. Bulman, 9, 11 Pte. Littleale 9; 12 Col. Miller 9; 13 G. Savage 9; 14 G. Neal 8; 15 Capt. Galbraith 7.—St. Johns News.

HOW REPUBLICANS ARE GOVERNED.

The Liberals and Democrats of New York City are running a man for the office of Mayor, who according to his published record, is about the lowest and worst specimen of a man that could be picked up from the slums of that city. The N. Y. Tribune, however, thinks he is a nice sort of a person and evidently calculated to shine as a public man, and as the party the Tribune represents appear to have the majority in New York, it is very likely this Mr. O'Brien will be the next Mayor of the great city. In order that our readers may see what kind of material is used across the lines to make public men of, we give a brief resume of his history which has lately been published. From this it appears that he is a man.

- I. Who cannot read and write.
- II. Who has been convicted of rioting and petty larceny.
- III. Who has worn Penitentiary stripes as a thief.
- IV. Who altered and falsified his account as Sheriff.
- V. Who falsely swore that one bill against the city for \$104,000 was true—thereby committing perjury.
- VI. Who confided to the President of the United States (U. S. Grant) that he had put 10,000 fraudulent ballots in New York ballot boxes to help elect him President.
- VII. Whom the records of Congress show to have been concerned with McCunn and Barnard in the immense naturalization frauds of 1868.
- VIII. Who is an inveterate gambler, who sometimes gives fraudulent checks in payment of his losses.
- IX. Who is a proved blackmailer.

The country must be bad off for material when it selects such characters to occupy the highest position in the land. But it unfortunately happens that in a large city like New York, where every body has a vote, the rabble rule the roost, and in order to secure this vote in the present Presidential election, the Greeley party think it a good stroke of policy to accept the nominee of the rabble for the office of Mayor of New York. A pretty state of things, truly.—Belleville Intelligencer.

GENEROUS.—Mr. F. Keon, learning, a few days ago, that the Volunteer Company was considerably in debt, handed Capt. Burnet his account against them, receipted, remitting the whole amount.—Orilia Expositor.

REMITTANCES Received on Subscription to THE VOLUNTEER REVIEW up to Saturday, the 5th inst.:

GLANFORD, On.—Capt. Alex. Bethune, \$2.  
BELTON CRYRE, Que.—Lieut. T. Pico, \$2.

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## The Volunteer Review,

AND

### MILITARY AND NAVAL GAZETTE.

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

OTTAWA, MONDAY, OCTOBER 7, 1872.

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

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

In the United States service a cast-iron gun with a breech reinforce of wrought iron shrunk on it has been successfully rifled. It is known as the *Parrot gun*, and ranges from eight inch to a 300-pounder; it is greatly praised by the able artillerymen of that service. The *Rodman gun* generally smooth bore has been cast up to 15 inches in diameter. From the superior excellence of the material at command the expense of *built up* ordnance in the States or Russia may be avoided, although the latter power seems to find its account in purchasing Krupp's steel guns in Prussia.

This latter system is simply that of forging the block out of a steel ingot tempered in oil and boring it out—shrinking on reinforces and for heavy guns strengthening coils.

English cast-iron could not bear the requisite strain for heavy guns, and as the supposed exigencies of modern warfare demands that a weight of metal averaging from 400 to 700 lbs. should be discharged from ship and battery guns, the problem presented to her Engineers was to find a metal capable of resisting an increasing force varying from 22 to 66 tons per square inch. The means resorted to accomplish its solution were described in a former article, and we have now only to deal with the specialities of the weapon produced with such skill and labour.

Built-up ordnance in the British Service may be classed as breech and muzzle-loading—as a general rule it consists solely of rifled guns. The great inventors of this system are Sir W. ARMSTRONG and Sir JOSEPH WHITWORTH, the outlines of their improvements have been heretofore described. Armstrong's gun being a many grooved cylindrical bore, with this peculiarity that the *lands*, i. e., spaces between the grooves were less in surface than the grooves, and the number of the latter increased with the calibre. Whitworth's gun was an hexagonal bore having the same number of grooves under all circumstances.

The Armstrong guns were generally built up of wrought iron coils welded into a solid mass, the coil was made by twisting a long bar of carefully forged iron around a *mandril*, the fibre of the metal was thus disposed to stand the greatest possible tangential strain, and as the coils could be repeated the conditions of compression and tension would be complied with. The breech piece was a solid forging of wrought iron, it was turned, bored, and shrunk on to the chase—to further strengthen the gun a trunnion ring was shrunk over the barrel.

Breech-loading Armstrong guns were of two kinds, screw and wedge; the principal parts of the gun are the barrel or chase, breech piece, trunnion ring, vent piece, breech screw, tappet ring, lever ring.

In the barrel are the bore, the shot chamber, and the powder chamber; in all guns except the 7-inch at the end of the powder chamber is screwed a copper ring, against the outer edge of which the copper facing of the vent piece fits and so closes the bottom of the bore; the 7-inch gun has a wrought iron ring in the powder chamber.

The vent piece is kept against the end of the barrel by the breech screw which is supported by the breech piece, and the latter has to resist a longitudinal strain—that exerted by the force of the expanding gas against the vent piece to force it backwards, therefore it has been necessary to make the breech piece a solid forging with the fibre of the metal disposed to resist the strain.

The vent piece is a piece of iron or steel tempered in oil which when dropped through the opening or slit in the top of the gun to its position and pressed by the breech screw tightly against the end of the powder chamber effectually closes the bottom of the bore.

All the vent pieces except those of the 7-inch guns have a copper facing, ring shaped and angular to correspond with the copper ring at the end of the powder chamber and the closing of the breech of the gun to prevent escape of gas, depends on the accuracy with which those surfaces are fitted.

The 7 inch gun having only an iron ring at the bottom of the chamber the vent piece has no copper facing, but the bore is closed by placing a tin cup behind the cartridge—all those vent pieces have handles, or as they are technically called *shackles*, by which they can be lifted out, so that if it becomes necessary to disable a gun, all that would be required would be to carry away the vent piece, a far easier operation than that of spiking.

The *breech* screw fits in the thread cut in the breech piece, and is worked by the lever or tappet so as to press home or release the vent piece.

It is bored hollow of a larger diameter than the powder chamber to enable the charge to be passed through in loading the gun—it is allowed a certain amount of play—if made to fit very accurately it would be liable to become clogged with dirt.

The *tappet* ring fits on to the octagonal part of the breech screw, it has *cams* against which the lever acts and thus works the screw.

The *lever* ring is an arrangement by which additional power is acquired for tightening or releasing the vent piece.

There are six different *natures of screw* B. L. rifled guns, viz.—7 inch 40, 20, 12, 9 and 6-pounders.

Of the 7 inch guns there are two kinds—heavy of 82 cwt., light of 72 cwt.; the first is used in land and sea service; the second for land service only. They can be used in garrisons as siege guns, the shells containing large bursting charges would be formidable against earthworks or masonry; they can only be fired with small charges and would be formidable against wooden vessels or as a defensive weapon in position.

Of the 40 pounders there are two varieties, 40 pounders G pattern, 35 cwt.; do. old pattern 32 cwt.; they are intended either for land or sea service; in the former case they are mounted on block trail travelling carriages and would be employed either as siege or position guns—they may be used in fortresses.

There are three varieties of 20 pounders, L. S. of 16 cwt., S. S. 15 cwt., do. of 13 cwt.; the first is mounted on a block trail carriage and would be employed as a position gun or for heavy field batteries. The 15 cwt. gun was intended for a broadside gun for vessels of the sloop class, and the 13 cwt. for boat service.

There is but one variety of 12-pounders, it is a field gun of 8 cwt.

The 9 pounder of 6 cwt. has the same calibre as the 12-pounder, but fires a shorter projectile.

The 6-pounder of 3 cwt. is also a field gun. The three latter *natures* are the same in general design and rifling as already described, but the method of opening the breech for loading is different. In the screw breech loader the vent piece must be removed to insert shot and cartridge; in the field piece this is effected by reversing the screw which allows the breech piece to open by a hinge, the shot and cartridge being inserted the breech piece is swung back to its place, two or three turns of the lever tightens it home and the gun is ready for action; the vent piece is removable whenever it may become necessary, but not whenever a shot is fired.

In the Wedge gun another arrangement prevails: a slit is cut through the breech from side to side, and the parts that close the bore are therefore inserted or withdrawn at the sides instead of at the top. It is said that by this arrangement the gun can be loaded more rapidly.

This arrangement is known as the *wedge and stopper* system, and may be described as follows: The stopper is made of iron or steel, has a projecting face to fit into the bottom of the bore, and on this a tin cup is placed to prevent the escape of gas; it has studs on the top and bottom which travel in guiding grooves cut in the slot, and it cannot be detached from the gun till the little stop pin is raised.

The wedge is made of iron, has a taper of one-half inch in its whole length to correspond with a similar taper at the back of the slot; a piece of iron formed into a handle at each end lies loosely across the wedge with a play of about 4 inches, so that it can be used like a hammer to loosen or tighten the wedge.

On the top of the breech is a *slide plate*, the motion of which backwards or forwards raises or lowers a *locking pin* passing through the metal of the gun into the slot. On the upper surface of the wedge is a small recess of about one inch in depth, and in such a position that when the wedge is in its place for firing the locking pin drops down into it and thus prevents any lateral motion of the wedge; until this happens the *slide plate* covers the vent and the gun cannot be fired. The hammer must also be returned into the slot as part of the recess for the locking pin is cut in its upper surface. When this operation is completed the wedge and stopper are immovable till the slide plate is again forced over the vent.

In order to load this gun the vent must be covered with the slide plate, by which the locking pin is raised up out of its recess in the wedge and hammer—the latter is then used to loosen and push out the wedge—the handle of the stopper is forced back and the latter pulled out at the side; the slot and

cartridge can now be inserted, the *tin cup* placed on the pin in the centre of the face of the stopper; the latter is pushed into place, the wedge sent home with a smart blow, and the hammer returned into the slot, the *slide plate* being drawn over all leaves the vent free.

There are two *natures* of wedge B. L. guns in the service, the 64 pdr. and the 40-pdr., both siege guns.

The heavy M. L. rifled ordnance from 7 to 12 inch are made of wrought iron coils over a steel tube with a solid end which is supported by a caseable screwed up against it through the breech; they are built on a variety of constructions, but the principle is the same, and the varieties consist in great part in the number, arrangement, and cost of the structure shrunk over the inner tube.

The varieties of the system from ARMSTRONG'S original conception appears to be that whereas he employed a solid forged breech piece and a large number of coils shrunk on and hooked together to prevent longitudinal separation; FRASER'S method is to form a breech coil over the inner tube composed of double coils welded to the trunnion to form a mass which is shrunk on in one operation, the muzzle being strengthened by a short tube formed of two coils united. A modification of this has a coiled breech piece under the breech coils which is therefore reduced in thickness.

We have already enumerated the different *natures* of this system in the service, and they are all rifled on what is called the Woolwich system, the *twist* of the grooves being alone uniform in the 7-inch gun, but increasing in the larger calibres. The projectiles have gun metal studs of equal size on the 7 inch, but on all the others the top studs are smaller than the bottom studs owing to the increasing twist.

The 64-pounder M. L. gun is an exceptional variety both in construction and rifling. There are four different constructions of this gun, first—the converted Armstrong 70-pdr.; second—Fraser B. construction; third—Fraser D.; those are *built up* guns rifled on the *shunt* system—which is that the grooves increase gradually in depth from the muzzle to the breech. The fourth is an 8-inch cast iron S. B., lined with a wrought iron tube and known as the *Palliser* construction.

All those guns fire the same projectile which have copper studs.

This whole question of M. L. rifled ordnance is in a state of experiment; nothing decisive has been achieved beyond the fact that a gun can be built up strong enough to resist the strain of a charge of 120 lbs. of powder, a pressure of 66 tons to the square inch, and throw a 700 lb. shot.

Its value as a weapon, accuracy of fire, and amount of work, have yet to be determined. The mechanical difficulties attending the operations of such a machine have not yet been overcome. The field is open for experiment and discussion.

We have always been of opinion that a trained soldier was the best possible authority on strategical movements, or even the selections of points *d'appui*, involving future or present military operations.

It seems, however, that the *Whig-Radicals* in England are really far greater geniuses than the world give them credit for. CHILDERS reconstructed the British Navy amidst the enthusiasm of the Manchester philosophers. CARDWELL is about to reconstruct the Irish portion of the new localised British army after another.

Our contemporary the *Broad Arrow* is evidently satisfied that the action of the military attorney is about to lead to important results, the most prominent of which is, evidently an *Irish row*, as the following extract will shew:

"It is rumoured that Mr. Cardwell will proceed at once to Ireland to consult with the Lord Lieutenant with reference to the depot centres about to be established. This will be an excellent opportunity for the War Minister to gratify the Home Rule M.P.'s, as the establishment of a depot centre in any town or district of Ireland is certain to be welcomed as a boon, and may perhaps eventuate in an occasional experiment like that of our Autumn Manœuvres. Irishmen, like Frenchmen, are rather fond of military display than otherwise, and we see no reason why they should not be gratified—always providing that Umpires are at hand to moderate their excess of zeal. Who knows that the hurly burly of the war game may not in time supersede the glories of Donnybrook? Seriously, there is no reason why the taste of Irishmen for a scrambling fight once a year or so should not be gratified, and at the same time idealised by the æsthetic advantages at the command of the authorities. The association of Ireland with the military glory of England is an historical fact, which it is high time should be handsomely acknowledged, and we know of no better way than the one suggested to please Pat when he is 'spilin' for a fight.'"

The most important military positions in the United Kingdom are to be found in Ireland; the selection of those as depot centres would necessarily be the work of a professional man, but the incapables of Whig Radicalism are fond of aping the vanity of the Deputies of the French National Convention, and with the same eminent success.

AN article on the practical application of *Logistics* in the last number of the VOLUNTEER REVIEW has received a singular illustration as to the manner in which its administration in the British Army cripples that service.

The *Broad Arrow* of the 14th September gives the following paragraph, and it must be recollected that the draft on the effective cavalry force reducing its strength by one-third is in addition to the *second* army of non-combatants employed by the Control System.

"A correspondent of the *Morning Post* recently stated that the three regiments of heavy cavalry attached to the Southern Army, engaged in the manœuvres, marched from their respective quarters with a



strength of 260 horses, and that the deductions for transport and casualties left the strength of each regiment at 170 mounted men, or of a brigade of cavalry at 500, being about two thirds the number of a single Prussian regiment. We believe it is true that from 35 to 40 horses are deducted from each cavalry regiment for transport (except the Household Cavalry. We have heard, indeed, that in one Light Dragoon regiment (10th Hussars) they had no horses heavy enough for the waggons, and they gave £50 a piece for 20 horses, in order to supply their contingent for the duty. Without asking where the £10 over the Cavalry price (£40) came from, it is surely a wrong system to take cavalry horses for this service. Their muscles are all trained to carry a load (about 17 stone), and if another set of muscles, which have to draw a weight, are called into play, their backs are not strong enough for it. Each waggon weighs about 17 cwt., which is too much for a small blood horse, like those of the 10th Hussars. The proper course would have been to provide them with draught transport horses, to be driven by the dismounted men, so that the strength of the troop might not be weakened."

No stronger argument could be adduced than that furnished by our contemporary against the practice of placing the *commissariat* of an army under civilian control, or allowing the interference of the civil element in any way except as primary contractors or sellers of the necessary articles of supply.

The most important element in warfare is its cost, and the first item in that is the supply of food and material outside the munitions of war proper, because it is that consideration and no other that limits the force employed, and as a consequence, the operations.

Now under the system of modern warfare, in all the requirements demanded from the aspirant for command this question of *Logistics* is the one least considered and about which least is known, the practice being to exclude the fighting soldier from all participation in its workings and to use him as a machine for a single object.

As can be easily seen the loss is considerably greater than the gain, the whole operations of an army frequently depending on some dull and respectable clerk in the commissariat department whose ideas are bounded by the walls of his office and his knowledge of operations by *red tape*.

In February last Mr. DE FONBLANQUE delivered a lecture before the *United Service Institution*, on the *Control Service* which has created some discussion in military circles at home, and as it bears directly on the question of *Commissariat* in all its branches, in which we are interested, it will be as well to consider the able analysis of the lecture made by a correspondent of the *Broad Arrow* of 7th Sept.

It should be premised that the lecturer is or was Deputy Controller, and the correspondent asserts that he proves the following facts relative to the system:

1st. That the members of the administrative branch of Control at home, have not

yet been permitted to exercise their natural functions as Controllers, and of course their abilities in that capacity have not as yet been tried.

2nd. That the body of junior clerks forming the present Control Department, of whom, according to his own account, there are upwards of from four to five hundred, are with the exception of those of one particular branch (that to which he himself belonged of course) from circumscribed knowledge, unfitted for the office of Controller.

3rd. That even this exceptionally gifted one (the Commissariat) is less gifted for Control, than would be combatant officers who have heretofore performed the duties of quartermaster-general.

4th. That Controllers, as a general rule, are unfitted for the custody or control of warlike stores.

It would appear from the lecture that the first effort of the lecturer to perform administrative functions, ended in securing him a rebuke from the War Office, for acting on his judgment, and acting rightly in a case not provided for in the "Regulations."

The complications of the system is graphically portrayed by the hosts of junior clerks, and the question may be naturally asked as to what they can find to do.

It is admitted that the two principal branches of *Control*, the administration of warlike Stores, and the actual supply of the troops in the field, would be better confided to the Quartermaster general's department, and it is evident from the lecture that the whole would be better managed by combatant officers.

The lecturer admits that the department as organised at present, is unfit for administering the affairs connected with ordnance or warlike stores. These properly belong to the artillery, and, if rumor is correct, Mr. DE FONBLANQUE was the most active agitator for the destruction of the old Ordnance Department, the powerful newspaper advocate for a new order of things, and a total failure when success enabled him to assume duties which previous education or training totally disqualified him for in the administration of the affairs of the Department to which he succeeded.

It is very evident that the more such questions as this connected with military administration comes to be investigated, that the evil of employing civil assistance will be more clearly demonstrated. The Financial Department alone should be under civil control, and there is nothing to prevent a knowledge of the whole science of *Logistics* being made a subject of practical study by every regimental officer.

The cost alone of the civil administration of the British Army would more than cover the expense of double the number of effective Militia and Volunteer soldiers.

ADVICES from Manitoba state that the band of Indians who recently received their annuities, have returned to Winnipeg with a big budget of demands upon the Indian Commissioner. Amongst other things they

demand the establishment of English schools amongst them: also that they shall be provided with cattle, pigs, sheep and poultry, and a person who shall teach them the uses and care of these animals. They also require houses for themselves, and say that they cannot send their children to school without clothing, they look for the government to cloth their children until such time as they raise wool enough to manufacture it for themselves."

We are inclined to think that throughout the whole transaction, the Indians have shown themselves far more practical in their ideas than our own people.

The actual problem to be solved is the question of civilization, and they have proposed the manner in which it should be effected, which is the true way.

If we deprive them of means of subsistence by taking away their hunting grounds, we are bound to furnish equivalents, and they should have what they demand, as they are good, loyal, and can be made orderly as well as useful subjects,

The Special Committee on Gun-cotton have printed their report in continuation of their preliminary report, dated December 13th, 1871. In the present document they report the results of the experiments carried out by them near Hastings, and the conclusions they have arrived at relative to the transport and storage of gun-cotton. The following are the points they hold to be established by their experiments, and it will be seen that they are of the greatest practical importance:—

1st. As gun-cotton is not materially, if at all, injured by being kept in a damp state, and as the operation of drying can be easily carried out, it is unnecessary to store gun-cotton in the dry state, and the committee think it should not be stored dry, in large quantities than are required for the current wants of the Service.

2nd. The present pattern box is objectionable for packing dry gun-cotton; its strength is an element of danger, in the event of the accidental ignition of a store of gun-cotton packed in such boxes; and it is unnecessarily strong for transport.

3rd. In a store of any construction, the ignition of large quantities of dry gun-cotton packed in strong boxes, will be followed by violent explosion; but in light-made boxes, or in boxes designed specially to facilitate the escape of the heated gas before it has reached the exploding point, and in magazines lightly constructed, ignition will probably not be followed by explosion; but the committee are of opinion that the experiments recorded do not afford a sufficient guarantee that ignition will not be followed by explosion if the quantity, however stored, be very large, or the building be exceptionally strong.

4th. Taking these points into consideration, the committee think that dry gun-cotton, wherever stored, and in whatever quantity, should be treated as an explosive, and that the precautions now observed with explosives generally, as regards locality and description of building, should apply also to gun-cotton.

5th. Gun-cotton in the wet state being perfectly unflammable, no special regulations are necessary for its transport; in the case of dry gun-cotton, which under ordinary conditions is non-explosive, but readily inflammable, the committee are of opinion

that it may be safely moved under the regulations which govern the transport of gunpowder.

"6th. The evidence obtained by the committee tends to show that pure gun cotton is a stable material, but experience on this point is limited. They think it therefore preferable at present to follow the more prudent course of excluding it from magazines containing gun-powder; although they consider that gun cotton may be stored, when convenient to do so, in magazines built for gunpowder."

The recommendations of the committee in their preliminary report relative to wet gun-cotton remain unaltered. We reserve any comment which these conclusions may suggest for another opportunity.

One of the earliest recent discoveries of explosive agents other than gunpowder was that of the celebrated gun cotton, an agent of such a characteristic as to be accounted exceedingly dangerous.

The Report referred to by the above extract from *Broad Arrow* shows however that it has been brought under control, although a recent fearful accident shews with what care it is necessary to handle it.

Dynamite, Lithofracteur and other explosive compounds have been largely employed in quarrying and tunnelling with striking effect, whenever it is necessary to pulverize rocks either will be employed, the explosive force being great and exerted instantaneously, whereas gunpowder burns comparatively slower and acts with a gradually expanding pressure.

Hitherto gun cotton has not been much used for the reasons given in the Report, nor do we see much reason to believe it will ever supersede gunpowder in ordinary operations, its transmission in a wet state will militate against its use and the danger arising from it when dry.

The following description of the new regulation patrol jacket of the British army is taken from the *Broad Arrow* of 7th Sept. and we republish it as it is likely our dress regulations will follow those of the Regular Service.

Her Majesty has been pleased to approve of a scarlet patrol jacket for officers of infantry. The jacket is to be of scarlet cloth or serge, according to the climate, of the same shape and size as the blue patrol jacket, with collar of the regimental facings. The sleeve braided as the shell jacket, according to rank. Scarlet shoulder strap with a small button and the number of the regiment in gold embroidered figures three quarters of an inch high and half an inch from the lower end of the strap. White cloth edging all around, except the collar and round the shoulder strap. Scarlet lining. Field officers wear gold embroidered collar badges. The scarlet patrol jacket is to be worn without the sash at drill, and on parade when the men are dressed in frocks. The blue patrol jacket may be worn on regimental boards and on fatigue, stable or orderly duties, but not on parade. Officers of line regiments are not obliged to provide themselves with blue patrol jackets, but may wear the scarlet jacket on occasions

when the blue patrol jacket is authorized to be worn. A pattern of the scarlet patrol jacket is deposited in the officers pattern room, Horse Guards, War Office, Pall Mall.

Our intensely hot summer will prescribe the cloth as a light sergo for our armies.

In our next issue we shall commence the publication of the late *Autumn Manœuvres* in England, for the benefit of such of our readers as have not had the opportunity to read detailed accounts of these interesting operations.

It seemed to us to be better to give a consecutive narrative of the whole, than portions of the details of isolated operations, as by their means the value of the Manœuvres can be better understood.

Some of the English journals displayed a tendency to criticize too severely the Volunteer and Militia force, these good people forgetting that actual warfare would reveal quite as ridiculous incidents as any on which they could pretend to form an opinion. That the whole force, regulars and reserve, are little better than recruits; and that the operations in which they were engaged, were entire novelties to officers and men.

In point of fact these Autumn Manœuvres are merely training schools on a large scale, the events of the next *three* years will test their full value, because in that time the officers of the force will have learnt their duty and there will be a large percentage of the rank and file pretty well accustomed to mimic warfare.

The record shows that both branches of the service acquitted themselves with great credit and a thorough appreciation of their work.

The telegraphic announcement given below, must convince our English admirers of the United States *Torpedo System and Service* of the actual value of that destructive weapon of modern warfare, and what advance has been really made towards equipping or devising a suitable vessel for the purpose of using it as an offensive weapon.

It was not possible to use the *door* at the bow of this boat, through which the torpedo was to have been manœuvred.

New York, Sept. 23.—The torpedo boat launched at the navy yard three weeks ago suddenly sank on Friday, after the officers had been making experiments; three of the mechanics were on board. After two hours work the boat was raised and the men found alive. The compressed air with which the vessel is supplied in air tight tanks was not exhausted and had saved their lives. Naval constructor Delano has condemned the vessel.

On Friday last (27th Sept.) a detachment of 215 recruits sailed for Collingwood, en route to Fort Garry to replace the soldiers whose period of service has expired in that garrison. They were under the command of Lieut. Colonel Osborne Smith, C. M. G. Deputy Adjutant General,

It is expected that they will reach their destination in *twenty* days by the Dawson Route, and will be a desirable addition to the population, as they are fine stalwart looking fellows, the very material for a new colony.

### REVIEWS.

The *St. Catharines Daily News* is a recent addition to Canadian newspaper literature, it is on the liberal side of politics, is neatly got up and appears to be conducted with talent and ability.

The *Toronto Weekly Advertiser* has been considerably enlarged, and its prospectus declares it will give an independent and liberal support "to the Reform party."

While chronicling the advent of such efficient support to that party in Ontario a corresponding loss appears to have been sustained in Quebec—the *Montreal Daily News* has ceased to exist, and that uncompromising advocate of Independence and Annexation, the *Peoples' Journal* has followed suit. The valedictory of the latter declares that it was a *literary success* and a *commercial failure*.

The facts being patent that it would not be supported by a people who abhorred its teachings, which were better adapted to the latitude of Boston or New York.

It will be many years before the people of Canada will accept Republicanism, as a political system or any modification thereof, and the lesson taught by this failure is one which was anticipated by all parties outside the clique who promoted the undertaking.

We have to acknowledge the receipt of the *Science of Health* and the *Phrenological Journal* for October.

*Blackwood* for September contains:

A True Reformer, Part VII.

Glimpses of the future.

The British Tourist in Norway.

Charles James Lever.

Life of Madame Lafayette.

Japan.

LEONARD SCOTT Publishing Company, No. 140, Fulton Street, New York.

We have also to acknowledge the receipt of the *Home Journal* for October.

The *New Dominion Monthly* for October has been received.

The *Invalide Russe* gives an account of the works to be carried out at Sebastopol in order to restore the commercial position of that port. The commercial port is to be situated on the southern and western portion of the southern bay, and a stone quay is to be constructed along the western bank for the loading and discharge of large ships. The southern portion of the Bay will be reserved for those of lighter draught. Coal, timber and other matters necessary for the ships will be stored on the south western bank. It is expected that when these works are completed, accommodation will be afforded for the loading and discharge of 1,150 vessels annually in the commercial port of Sebastopol, and it is said that the quarantine station of Odessa will be transferred to the resuscitated port.

## THE REWARDS OF SONG.

I have a little, soft and plaintive,  
Mellow murmuring lute,  
To which I oft attune my voice  
When Earth and Air are mute,  
And though the plodding busy world  
Cares not to hear the strain,  
I make my music to myself  
A solace for my pain.

I reckon not though none hear me,  
More than the nightingale,  
Or lark beneath the morning cloud,  
High poised above the vale;  
These seek not men's approval,  
But sing for love of song,  
As I do in the wilderness  
When summer days grow long,

Perchance a passing stranger,  
That loiters on the way,  
May hear the distant echoes  
Of my rejoicing lay;  
And bless the unseen singer,  
Embowered amid the copse,  
Or soaring singing-soaring,  
Above the mountain tops.

Perhaps—who knows?—a mourner  
For present grief or past,  
May hear my hopeful music  
Upon the wild winds cast,  
And so take heart and courage  
To wander less forlorn,  
And turn from evening shadows  
To sunlight of the morn.

The stars rejoice in shining,  
And I rejoice to sing,  
For sake of love for sake of song,  
And not for praise 'twill bring.  
Despise me, if it please you,  
Ye traders of the mart!  
Not all your gold could purchase  
The freshness of my heart.

—All The Year Round.

## OUR INDIAN POPULATION.

Foremost among the important questions which from time to time press upon the attention of the Dominion Parliament must be ranked that relating to the present condition and future destiny of the Indian population dwelling within our borders. In its two-fold aspect, first as dealing with many thousands of human lives, and next as influencing the material prosperity and progress of the country, the importance of our Indian policy is clearly revealed. And if proof be demanded that the policy pursued by Canada toward the Indian tribes has been directed in sympathy with the vital interests affected, we submit it is to be found in the single fact revealed by official statistics just published, that the Indian population instead of disappearing before the inroads of civilization, is actually steadily increasing, and that the increase has been continuous for several years. This result is attributed to improved habits of life, proper medical treatment when sickness occurs, habitations and sufficient clothing, better food and an ample supply of it, the outcome of improved civilization. Fewer complaints are heard of the commission of crime; indeed everything connected with the position of the redskins goes to show the good influence at work are making them better members of society. The encouragement given to the Indians of the old provinces of Canada to settle on the soil and raise crops for their sustenance has had a happy effect. The Indian reserves become more thickly settled as they are opened out by the construction of colonization roads; the children receive an education in schools scattered throughout the different districts,—there being no less than eleven of these in the province of Quebec alone; and agriculture is taught at several institutions. Thus the work of elevating the condition of the aborigines of this country progresses; and whilst the settlement of the Indians on their reserves in Quebec, Ontario, New Brunswick and Nova Scotia conclusively proves that the redman

can be brought to till the land, it gives us hope that similar success will follow the like friendly and aiding policy inaugurated recently in dealing with the great tribes of the North West Territories, and which, we trust, will shortly be introduced into British Columbia.

The two westerly provinces of the Dominion, Manitoba and British Columbia, with their large native populations, will afford in the future fields wherein to thoroughly test our Indian policy. In the former, a large portion of the work devolving upon the Italian Department last year lay. Recognizing the equity of the claims put forward by the tribes for compensation upon ceding their lands to the Government, the department succeeded in concluding treaties whereby the Dominion became owners of many of the most fertile tracts of prairie land hitherto used by the Indians as hunting grounds. By the first treaty, the province of Manitoba and certain tracts of country lying to the north-east was ceded to Canada, every Indian thereon receiving in return a sum of three dollars a year in perpetuity, a reserve being set apart for each band, of sufficient size to allow one hundred and sixty acres to each family of five persons. A further condition gave to each Indian settling down upon his share of the reserve the necessary agricultural implements, and to each chief some animals with which to commence stock raising. By the second treaty a large tract of country, three times as large as the province of Manitoba, was surrendered by the Indians to the Crown, upon similar terms to those already mentioned. The fertility and resources of Manitoba are well known; but valuable as these lands are, they are fully equalled, if not exceeded, according to Mr. Wemyss Simpson, the Indian Commissioner, by the country of which the government came into possession of by the second treaty. Already settlers from the provinces of Canada and elsewhere are pushing their way beyond the limits of the province of Manitoba; the water courses of the province are excelled by those of the territory, and the want of wood which threatens serious difficulty in the former, is reported to be by no means so apparent in the latter. The fertility possessed by Manitoba is shared by the North-west country and its confines, and cannot fail to attract a large immigration of small farmers and hardy laborers. And since it is necessary for the prosperity of any community that security should be assured to life and property, it is highly gratifying to have the assurance of the Chief Commissioner that there is no reason to fear any trouble with those Indians who regard themselves as subjects of Her Majesty, that nothing but gross injustice or oppression will induce them to forget the allegiance which they now claim with pride, or molest the white subjects of the sovereign whom they regard as their supreme chief. But whilst referring to this subject, the Chief Commissioner adverts to the large mixed frontier population in the Saskatchewan district, and points out that a treaty with the Indians of those regions will become essential to the peace, if not to the actual retention of the country.

Notwithstanding the large Indian population of British Columbia, numbering not less than fifty thousand souls, the work of organization and the introduction of an Indian policy and system has practically to be commenced in that province. The ground hitherto has been occupied almost solely by missionary societies, who have been carrying on the important work of instructing the native tribes in the rudiments of education

and in reclaiming them from heathenism. Among other efforts made for their benefit is the establishment of an industrial and agricultural school, and we are told that its effects has been to encourage, in some settlements, successful farming, but of course in a limited degree. The difficulties which will have to be surmounted before a thorough Indian policy can be introduced into the Pacific province may be judged when it is remembered that of the fifty thousand Indians inhabiting British Columbia, almost all are in a condition scarcely approaching to semi-civilization. But notwithstanding the arduous nature of the task, we confidently anticipate that the adoption of a policy similar to that pursued towards the native tribes of the other provinces of the Dominion will be followed by like happy results, and the whole population, mixed though it be, will devote its united energies to the development of the magnificent resources of the gold producing province.

## AN AMERICAN OPINION OF THE AWARD.

(From the N. Y. Tribune, Sept. 16.)

We published this morning the text of the award made by the Court of Arbitration appointed under the Treaty of Washington. So much has been done by our own Government to neutralize all the good results which might have been attained by this experiment of international arbitration, that there will be a general feeling of surprise and possibly even of congratulation that anything has been given in satisfaction of the claims of the United States. The controversy has grown stale, and every one will be glad to hear that it is at an end. But it could scarcely have ended worse. We have lost every point we tried to make. By asking too much we have gained nothing. The thousand millions which would have made our case sublime if they had not made it ridiculous, have dwindled to fifteen and a half. This petty sum will doubtless be greatly diminished by the English claims against the United States which are yet to be allowed. Of course the mere matter of money is the least important feature of so grave and authoritative a decision, which forms a sort of epoch in international proceedings. But this trifling sum is positively all we have gained. In every point of view the great moral advantage is with England, and against us. In their anxiety to convict England of negligence, our attorneys have persistently urged the propriety and necessity of the employment of arbitrary powers by the Government, to prevent possible violations of the neutrality laws. As we are to pass the greater portion of our national life as neutrals, and as we all expect our ship-building interests to revive some day, it is easy to see how jealous belligerents could annoy our legitimate industries by the weapons we have thus put into their hands.

The Government of Great Britain are in a condition to repudiate this award entirely, not of course, as it binds their present action, but as a precedent for the future, if it should ever be quoted against them. At the same time it is fully binding upon the United States, as the Arbitrator appointed by our Government has joined with those of Italy, Brazil, and Switzerland in making it. The English Government are in a position to say that they will respect the decision of the Court to which the settlement of the present differences have been referred, but they do not agree that England is justly liable for the damages which in the interest of universal peace they consent to pay. The

very point upon which such stress has been laid, of the importance of inducing Great Britain to make a frank avowal of responsibility, thus falls to the ground. And with it goes the last possibility of ever gaining any satisfaction for those national damages, the omission of which from the Seward-Clarendon Treaty negotiated through Mr. Reverdy Johnson, caused the failure of that Convention. By the decision of the Court, on the presentation of the Indirect Claims, the field of reclamation for national damages was narrowed to the one point of asking compensation for expenses incurred in the pursuit of Anglo-Rebel cruisers. And now, by the final award even this class of claims is entirely excluded from consideration. By a vote of three to two the Court decided that these costs are not properly distinguishable from the general expenses of the war, and that there is, therefore, no ground for awarding any sum by way of indemnity under this head.

The cheerfulness of the London papers over the award is, therefore, easy to understand. It will be difficult for us to extract any satisfaction from the conclusion of the matter. We are to have a few millions, it is true, at the end of a year, provided there is anything left of the sum awarded after it is decided what English claims we are to pay. Otherwise we have nothing on our side of the account. There was a great opportunity presented for an important and beneficent improvement in international procedure. But it has been thrown away on our side by the vacillation and incompetency of our Government. We may consider ourselves fortunate if we do not lose by this Treaty in the long run more than the amount of gold over which Washington is now rejoicing and Mr. Clews is rubbing his recently naturalized hands.

#### THE STORY OF A HERO'S DEATH.

The London *Daily Telegraph*, in its issue of Sept. 5, says: "Noble as is the tale of the Birkenhead, it finds its parallel in the account of the death of Paul Elson, English pilot, in charge of the ship *Rothsay*. On the 26th of July, this vessel, which had three days before cast off the Calcutta tug and steamed safely out of the horrible jungles and swamps of the Sunderbunds, was caught by a cyclone. On the 30th she lay a wreck, all hope of saving her, long past. Then the pilot, Paul Elson, the one man who seems to have had his wits about him—collected a few volunteers, and rigged a raft. Thirteen of the crew got on her; the rest were frantic with terror—some praying, others drunk, others raving, others lashed inextricably to the sinking vessel. Elson was the last to leave the ship; leaping overboard, he swam to the raft, cut the hawser that held her, and constituted himself by inherent right her sole officer. Within an hour the doomed vessel heeled, lurched heavily, and went down head first. All that day and all that night the raft drifted, heavy seas breaking over her. 'We were up to our necks in water,' says the man who tells the tale, 'for she floated low.' All that night, nevertheless, Elson, who was a powerful swimmer, swam round and round the raft, lashing her together and strengthening her as best he could. Ever and anon the furious breakers washed a man off. And then would the brave pilot, who had not only the heart but the strength of a giant, strike out towards him and carry the drowning wretch back. But at last it became apparent that the raft must be broken up, and that a second and smaller raft must be con-

structed to relieve the other. This, too, the pilot effected almost single handed. The large raft floated away into the night; Elson and three other men took to the smaller: while on it drifted away a native boy, Paul Elson's servant; of whom, hitherto, in the midst of all his terrible toil the brave pilot had never once lost sight. 'He kept near him; he tended him as a mother would tend her child; he gave him our last supply of drinkable water,' the vessel had sunk on the 29th of July; it was now the second of August. The raft was drifting under a raging tropical sun; for three days there had been no food, no water; worse than this, the frail support itself began to break up, and, swimming about in a heavy surf, Paul Elson became much exhausted. The end, of course, could not now be far off. First one of the men was washed away, and then another until Elson himself and the Scotchman who tells the story were the only survivors. 'Pilot,' said I—so the narrative runs—'we must fight it through!' 'Oh, Frases,' answered he, 'I can't hold out any longer.' \* \* \* Then a heavy sea broke upon us and knocked him off. I found it impossible to hang on, and was forced to let him go.' And so the story ends. The body of Pilot Elson, worn out by his incessant labours, floats away into the great deep, there to lie till the sea shall give up its dead. For hour after hour he had labored and toiled, wasting himself and his strength in the effort to succour those whom he had under his charge. A hundred times over he forgot to think of himself; he broke his great heart in an obstinate effort to save, not himself, but the others. All night he swam round the raft, tightening a rope here, wedging in a spar there; when the native boy was delirious he handed him the last drop of water; when hope grew desperate his cheery voice brought back fresh life and strength to the desolate; and at last, when all his strength is gone, when those stout limbs were cold and numbed and well nigh dead; and faintness, brought on by the deluging salt spray and the dreadful blinding sun, has set in—even then the brave man dies as he ought to have died—ending nobly. 'I told him,' says Fraser, 'that if he couldn't hold on, I would lash him. He then made some exclamation about his poor wife, and said, 'I will try to stand it,' but a huge wave, rearing its hundred foaming crests against the skies washes Paul Elson off—his body to the deep, and his soul to his God.'

#### THE ROAD TO MANITOBA.

The problem of how to reach Manitoba and the fertile prairie lands of our future wheat rising province, and the further question of the probable cost of transport, must, we think, seriously disturb the peace of mind of intending emigrants. Official statements upon these heads possess, therefore, enormous value, since they serve to assure emigrants that, even though portions of the distance are travelled by the primitive mode of teaming, yet the journey can now be made with comparative comfort at a very moderate expense. Emigrants bound for the North-west have the choice of two routes, one lying solely through our own territory, the other by way of the United States, entering Manitoba from Minnesota State on the south. The former route is, it appears, coming into general favor. In a parliamentary return just issued, some particulars as to the expense of transport of emigrants over this route, which is termed the Red River route between Lake Superior and Fort Garry, are supplied. The line of travel lies partly

by water, across the lakes and rivers, and partly by land. Great efforts were made during the past summer to improve the navigation by opening portages and building dams, and several steam launches and steamers have been placed on the navigable sections to transport passengers, whilst barges were provided for the conveyance of cattle and heavy goods. These navigable sections lie between the westerly terminus of the Thunder Bay road and the Lake of the Woods, and cover a distance of somewhat over 300 miles. From the Lake of the Woods to Fort Garry the mode of conveyance last season was by carts drawn by horses or oxen; the hire of a man to drive 2 such carts averaging eight shillings sterling per day, to which must be added the cost of supplying the driver with rations. Owing to the number of emigrants last year being small, only some one hundred and fifty, no fair criterion was afforded of what the cost per head would be for greater numbers; but, we are officially informed that should one thousand emigrants present themselves during the season, they could be taken through from Arthur's landing to Fort Garry at twenty-five dollars per head, and should that number be quadrupled, the average cost would be reduced to ten dollars. The means of transport to Manitoba have been materially improved of late, to such an extent, that we are officially assured that farmers will be able in future to take their horses and heavy implements over the Red River route without difficulty or any great delay. This announcement must prove highly satisfactory to agriculturists and others purposing to take up their residence in the province, and with cheap and rapid transport, the magnificent lands of our northwest territories will speedily be occupied by an energetic and prosperous population.

While American yachts beat British on salt water, and the owner of the *Sappho* is challenging English yachtmen in vain, American yachts on inland waters are getting badly beaten by Canadian yachts. A Toronto sloop has just beaten all the crack American boats on Lake Erie by nearly an hour in a thirty mile race. The fact is that Americans living on the great lakes do not, and Canadians do appreciate the privileges such a residence offers them. There is no better water for yachting in the world, and there is none so little improved. On Lake Ontario there are three or four flourishing yacht clubs on the Canadian side, there is not only a yacht club, but there is nothing that deserves to be called a yacht on the American side. When we go into yachting as freely and as keenly as our cousins we may expect to beat them at it, but certainly not before.—*N. Y. World*.

This year's military manoeuvres in Italy will take place in the vicinity of the Ticino, and part of the operations will be a passage of the river by pontoons. The King will be at Arona in order to witness them.

The Prince of Wales recently presided at the ceremonial attending the completion of the Portland Breakwater and Harbor, of which breakwater his father, Prince Albert, laid the foundation stone twenty four years since.

The German Government has taken measures to improve the harbors of Hamburg, Bremen, and Lubeck, so that vessels of the largest class will be enabled to enter and depart, without delay from inadequate depth of water.

## HEAVY GUNS AND TIME FUSES.

(From the *Broad Arrow*, June 22.)

One of our contemporaries—the *Pall Mall*, if we mistake not—recently stated that the premature breaking up or bursting of the studded projectiles in the present service guns was due to some *hidden* cause. It has, perhaps, in mind those minute cracks which are not always discernible by the naked eye, but which, radiating from the stud-holes, cause the disruption of the shot. The *Engineer*, however, a journal devoted to mechanical science, clearly pointed out at the time of the proposed adoption of the spurious French system, viz., in 1865, the results that would necessarily follow the weakening of projectiles by first boring holes and then wedging or swedging hard studs into the cavities. In a later impression, dated June 10, 1870, the same scientific paper stated, in respect to the constant breaking up of the studded projectile, that it “seems to be always in antagonism to the objects of its own existence.” Again, the *Engineer* of this present month says the work in which the skill and resources of the Royal Laboratory have been so highly taxed for so many years may not be inaptly described as the task “of devising a perforated postage-stamp which will not tear through the holes.”

We now turn to the explanation of the accidents which have happened to the guns of the *Hercules*, more especially as to the recent disabling of another 18 ton gun. In the columns of the *Globe* of the 17th instant, we are informed “that common shells are liable to be prematurely exploded by time fuses, whether of the ordinary wooden pattern or of brass. The latter can not be thrown out by any sudden check.

Yet the shells fused with it exploded prematurely.” This accords with our own statement in the *Broad Arrow* of the 15th instant, in which we pointed out that the concussion arising from the checks or shocks which the studded projectile is subjected to in its passage through the bore of the gaining-twist gun tend to break up the time-fuse composition, and by allowing the flame to reach the bursting charge, cause a premature explosion of the shell. We cannot, however, accept our contemporary's conclusion, viz., that because some shells (the size and numbers are not specified) have been fired with a cap screwed down over the fuse, and the fuse found to be uninjured on recovery, that therefore the rush of gas past the base of the shell is the cause of the destruction of the fuse composition, and of the consequent premature explosion of this projectile. If the premature explosion, when time-fuses are employed, is due to the rush of gas, why not substitute the concussion-fuse for the time fuse?

We are under the impression that concussion fuses are still more liable than time fuses to cause the premature explosion of heavy shells fired from the gaining-twist gun, for, as we understand it, the shock of the sudden pressure of the powder gases upon the base of the projectile liberates the detonator or striker, after which any subsequent shock, such as that caused by the projectiles' rear stud on first coming into contact with the driving side of the gaining twist, would set off the detonator and cause the premature explosion and bursting of the shell.

*Engineering*, as well as the *Mechanics Magazine*, concur with the other mechanical journals, the *Naval and Military Gazette*, and the *Standard*, and the leading paper of our great naval ports, in denouncing the present gun system, which as they point out, is so

faulty that the *Hercules*, which alone had any lengthened experience with its application in the 18-ton guns, cannot get through “the ordinary quarterly training practice at targets without disabling three out of her eight 18-ton guns in less than three years.” Well may naval commanders feel alarmed at the prospect of being knocked over by the broken pieces of the shell of a *friendly* vessel; and well may the captain of our turret ships hesitate at firing over or near bulk-heads, which a split projectile might unhappily pass through to the great destruction of life. We are still at peace, and we trust that the favorable opportunity for reviewing the condition of our guns, as well as improving our powder and keeping it dry for any emergency may not be lost.

The U. S. flagship *Worcester* left Key West, May 10, for Kingston, Jamaica, to inquire into the *Edgar A. Stewart* difficulty. A despatch from Kingston, Jamaica, May 10, reports that the steamer *Edgar Stewart* arrived there on the 14th of April, under peculiar circumstances. She cleared from New London, Conn. for Key West, but there were munitions on board which were not to be found on her clearance papers, and which would, had they been discovered on board prior to her leaving port, have given sufficient ground for her detention under a charge of violating the neutrality laws of the United States. Prior to her arrival in Jamaica she made the island of Cuba, and her instructions were that she should not sight the island of Cuba at all in daylight, but from a given point which should be shown her commander, and at a time which he should be informed of by some one on board of her. She should then proceed in a direct line “through a channel” at night “so as to be seen from neither point.” This she accomplished, and landed a boat with ten armed men; but as these did not return, and as daylight was gaining upon them, the *Edgar Stewart* put out again to sea, but returned the following night, in the hope that their missing companions might be heard from: but though the steamer made signals no boat came off. The crew (or rather the Cubans on board) then rose against the captain and took command of the steamer themselves; but sighting a Spanish gunboat in the offing, which gave them chase, they restored the captain to his command, and ran into the port of Kingston, Jamaica, at night, where she reported herself in distress. On arrival at Kingston, having powder on board, according to harbor regulations, she was not allowed to proceed further than Fort Augusta, where all such combustible material must be deposited, while here the captain preferred charges of “mutiny and piracy” against those on board, and they in turn preferred charges of filibustering against the captain, who to make matters still worse, stated that he apprehended that those on board would carry off his vessel, leaving him behind. These several declarations were forwarded to the Governor and the United States Consul, and in accordance with a law which enables the Governor of this island, on certain representations of the collector of customs, to detain such a vessel pending an investigation, she was taken in charge by the naval authorities at Port Royal. These circumstances brought about an examination, and it was found that the coal on board the *Edgar Stewart* was wrongly charged with bacon, and that she was capable of running sixteen knots an hour. It now became a question with the Governor how they could deal with this vessel. She had reported herself in distress

but then there were these declarations of those on board as to the unlawful character of her mission, and this was supported by the nature of her cargo. There was therefore considerable delay; but the Government eventually decided on letting her go, and so informed her commander and the United States Consul, to whom she was delivered over. Meanwhile a Spanish steamer of war came to look after the *Edgar Stewart* and not long after her the American steamer of war *Wyoming*, from Key West. The officers of Her Majesty's steamer *Plover*, who had been keeping a strict watch upon the *Edgar Stewart* to prevent her escape, and who had their guns loaded and bearing upon her day and night were sadly disappointed when they found they had to grant her liberty, and still more chagrined when they found the *Edgar Stewart* again captured by the captain of the United States steamer *Wyoming*, who put an armed crew on board of her and announced his intention of carrying her off to Key West, where he declared the British authorities had a right to have taken her as a prize for adjudication. While the *Edgar Stewart* was in charge of Her Majesty's ship *Plover*, the latter vessel having just returned from a cruise off Hayti, had not a ton of coal on board, and it was found difficult to keep up the appearance of readiness. When she was absent coaling, although the *Stewart* had been told not to leave port, and which she might easily have done during the night for all Her Majesty's steamer *Plover* could have done to prevent her, it was found that she was getting up steam. The *Plover*, which had been shovelling in coal into the furnaces, as it was being brought on board in baskets, then came up but before she came alongside the *Edgar Stewart* the engineers of the latter had turned on their hose and put out the fires, and on being charged with an attempt to escape, declared they had no fires, no steam, yet the engines were so hot that the engineers of Her Majesty's ship *Plover* found it impossible then to disconnect the engines, which they afterwards did, to prevent any similar attempt to escape. It is now stated that an officer and crew from the *Wyoming* will take the *Edgar Stewart*, convey her to sea, and then despatch her to Key West in charge of an officer and crew, who will be responsible for her going nowhere else.—*U. S. Army and Navy Journal*.

At a recent meeting of the American Association for the advancement of Science in Dubuque, Prof. Asa Gray read an interesting paper on the *sequoia gigantea*, or the big trees of California, in which he took occasion to correct the popular error that they are the oldest and tallest trees in the world. Certain Australian gum trees are taller, and he believed that several groups of trees in the world were probably older. Prof. Gray's theory is that these trees are the few survivors of a race that once flourished in Northern America, Asia, Europe, and the islands of the Northern seas.—Fossil remains of the *sequoia gigantea* have been found throughout the miocene formations of Northern Europe, and in those of Iceland, Spitzbergen, Greenland, Alaska, and the Rocky mountains. All of these fossil specimens are almost exactly the same as the big trees of California. The only conclusion to be drawn from such facts is that these trees are the last living relics of gigantic forests which once belted the earth, they having in some manner escaped the destruction in which the other of their species were overwhelmed ages and ages ago.