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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

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### NEWS OF THE WEEK.

The greatest matter of interest in our English news is the death of the ex-Emperor of the French NAPOLEON BONAPARTE at Chiselhurst, at 45 minutes past 10 o'clock, a.m., on Thursday the 9th inst., in the 64th year of his age. He had been suffering from lithotomy, had an operation performed on him and appeared so much better that his physicians had decided on completing it, the following official bulletin tells its own tale:

"3 p.m.—The following bulletin from the physicians who were with Napoleon during his last hours, is just issued: The ex-Emperor Napoleon slept soundly last night. This morning his physicians had a consultation and decided to perform another operation upon him at noon to day. At the time the consultation was held, his pulse was regular, at 84 beats per minute. At twenty five minutes past ten o'clock, it appeared that he was sinking. The action of the heart suddenly failed, and he died at 45 minutes past 10 o'clock. Signed, Sir Henry Thompson, Conneau, Corvisart, and Clover."

Drakesford Bros., silk merchants, of this city, have suspended payment; liabilities, five hundred thousand pounds.

It would appear that the notorious Dilke bids fair to be a martyr in a small way.

While Sir Charles Dilke was delivering an address on the subject of land and people, in Derby last evening (7th inst.) a mob attacked the meeting and attempted to disperse it. Adherents of Sir Charles resisted the attack, and a severe struggle ensued. Several persons were injured, and many windows broken. The fighting lasted more than an hour, and great excitement prevailed throughout the city. Order was at length restored and the meeting was brought to a close. A large crowd armed with sticks and bludgeons escorted the speaker and his wife to their hotel.

At the Devonshire Chamber of Agriculture yesterday, Sir Stafford Northcote made a speech in which he urged the speedy payment of the damages awarded by the Geneva Board.

Disturbances are feared in South Wales in consequence of the strike of the miners.

Fifty-nine fishermen, of Yarmouth were drowned in the recent gale.

The upper floors of the granary of the Lion Brewery at Lambeth fell today, the manager of the establishment, the clerks and others were buried in the ruins. The fire brigade was at work, trying to save the victims of the disaster, but there is little hope that any one of them will be saved.

The sudden death of Napoleon took every body at Chiselhurst, as well as at London, by surprise; the Empress, relatives, attendants and household, and even the physicians were unprepared for it. The Emperor had passed a comparatively comfortable night, his strength seemed undiminished, and at a consultation early in the morning it was thought he could bear a third operation, which was fully determined upon, so great was the confidence felt in the patient's condition. The Prince Imperial was permitted to return to Woolwich to resume his studies. Dr. Gull went to London yesterday. There was no reason whatever to apprehend a fatal turn in the case up to 9 a.m., when now and dangerous symptoms suddenly set in. The Emperor's vital forces seemed to leave him all at once, and he commenced to sink very rapidly and a telegram was instantly despatched to Woolwich for the Prince. Dr. Gull was summoned from London, and Father Godhead the Emperor's spiritual adviser, was sent for in the greatest haste to administer the last sacraments to him. All arrived too late the Prince was not to see his father again alive, Dr. Gull and the clergyman just reached Park Gates as the Emperor expired. The Empress, who has been most constant in her attendance, was the principal person at the bedside at the last hour. The medical advisers, Sir Henry Thompson and Drs Corvisart and Clover, the Emperor's old friend, Dr. Conneau, and several members of the household, were also present. Since the Emperor's death the residence at Chiselhurst has been closed to all but the nearest friends and relatives.

The physicians state that death resulted from causes independent of the surgical operations to which the patient was subjected.

The event produces a deep impression in London, where the Emperor was personally very popular with the masses. The evening journals publish long obituaries with full expressions of mourning.

From France we learn that the Assembly was engaged this evening in discussing the Bill from the Superior Council of Education. The Deputies of the Left made a vigorous attack upon what they termed the reactionary composition of the Council, which it was said was made up of clericals, who were unpatriotically subservient to Rome. These expressions occasioned commotion on the floor, which was put an end to by adjournment. Bishop Dupanloup speaks to-morrow.

Rochefort will soon return to prison, to serve out the term of sentence, his health having been partially restored by his residence in Versailles.

News of the Emperor's death received at a late hour this morning. It is not yet possible to estimate the effect here. Imperialists are profoundly affected, and appear to regard the event as a final blow to their hopes. The only evening journal which has any editorial on the subject is the *Message de Paris*, an influential Franco organ. It closes a brief article with the following: "The disasters which have made shipwreck of the Empire will not cause to be forgotten the great services Napoleon has rendered to the nation, in re-establishing order and developing the prosperity of the country."

Prince Napoleon's action against ex-Minister Lafont and the Prefect of Police, for illegal expulsion from France, came up for hearing to-day; further hearing of the case is postponed one week. The Prince was interdicted from pleading in person.

The Vienna *Post* officially denies the rumour that the Austrian Government has determined to dispense with the services of Count Von Beust.

The armament of the Servian militia is progressing rapidly, and there is much excitement over R. R. question.

## THE AUTUMN MANŒUVRES.

## THE SCENE OF OPERATIONS.

(From the Broad Arrow

(Continued from Page 3,

While this episode was occurring, Glyn's Brigade, consisting of the 4th Battalion Rifles, 17th Foot and South Down Militia, had deployed in skirmishing order ready to scale the heights on the enemy's right flank, which they had so skilfully turned. A resolute dash at this moment would have decided the fate of the day in the most signal manner, as the two battalions of Guards not engaged in holding Codford were in reserve, and Arthur Hardinge's Brigade was in close proximity to their rear. The Northern Army Corps was temporarily so situated as to be hopeless in the face of such a formidable onslaught; but in war, as in every mundane pursuit, time is everything. Sir John Michel had forbidden Horsford to proceed beyond the point he had reached until further orders from headquarters, and so poor Sir Alfred had to sit on his horse in apparent tranquillity, while the golden moments slipped away and the enemy's reinforcements came up. Aggravating indeed, must have been his position had the situation been a reality. After three good quarters of an hour—precious, nay, invaluable time sacrificed—the tardy *né de* camp arrived, and in a moment later the steady line of scattered red and green coats was again in rapid motion. Anything more brilliant, well conducted and dashing than the ensuing charge up the precipitous slopes which had to be carried, can scarcely be conceived. The Rifles, in advancing, extended almost imperceptibly till they completely outflanked their opponents on the left, and the other two battalions of Glyn's Brigade pressed on straight to the front, at such a speed as in a measure to neutralize the effect of the heavy fire by this time concentrated upon them. When the "cannon firing" sounded, and the battle was over, the valley was filled with troops destined to support Michel's attack. The umpires and commanding officers gathered together, and after a long consultation it was decided that Sir John Michel had succeeded in forcing a passage of the Willey, and in rendering the position of the Northerners on Codford Hill, no longer tenable. The practical result is that each force returns to its present encampment, although the invaders will be allowed to commence their attack tomorrow from the point they gained to day north of the Willey.

SATURDAY, SEPT. 7TH.

"General idea" of the day.—The Southern Army had been reinforced by the detachment from Maiden Bradley, which arrived too late to take part in yesterday's operations. The force which yesterday was at Ringwood has reached Downton, and the force at Cranborne has pushed forward towards Wilton to connect the force at Downton with Sir John Michel's right. The operations are not to commence before eight o'clock, a. m. This however, does not affect the posting of pickets.

*Battle of Wishford—Defeat of Walpole.*—The proceedings today were full of interest and resulted in a crushing and deserved defeat of the Northern Army. To render this intelligible we must begin with a glance at the ground occupied by the two armies

before the fight began. On Friday night Walpole's headquarters were at Winterbourne Stoke. During the night he abandoned the ground successfully held at Codford, and the line of the Willey as far as Steeple Langford. Hence his left extended in the direction of the Avon, above Stapleford, Wishford, and South Newton, to the right of the road from Salisbury. Thus he covered the road from Willey by Yanbury Castle to Winterbourne, that along the Willeybourne stream by Stapleford and Berwick to Winterbourne, and the north road from Salisbury to Devizes. As the crow flies, his line of posts from right to left was about five miles in length. The triangle enclosed by lines drawn along his front, and the advanced posts on his flanks to Winterbourne Stoke is bisected, and for tactical purposes divided into two separate triangles by the stream of Willeybourne, which is crossed by the following bridges—two at Stapleford, at each end of the village, about half a mile apart. An interval of a little less than a mile separates the upper one of these from Berwick St. James, here again the passages are similarly arranged; above the upper bridge at Berwick is a ford, and at Winterbourne the river is bridged and fordable. There were thus five avenues of communication between the right and left zones of defence, and the pontoon train was moved to Stapleford in the morning before eight o'clock. Whether it was used or not, we are at present not informed, but probability points to its having been laid half way between Stapleford and Berwick St. James, where a track across the high down strikes the stream. The whole of the position is cut across at nearly right angles by valleys—not difficult to cross, yet entailing fatigue and delay to the passage of troops. Walpole's most advanced posts on the left were at Wishford. South Newton was occupied later, as well as the wood in Newton Down. At about eight o'clock in the morning the great triangle which would have been difficult to guard satisfactorily with 50,000 or 60,000 men, was attempted to be covered by Walpole with about 14,000, as nearly as we could ascertain in the following manner: The Household Brigade of Cavalry was in a valley to the left of Yanbury, concealed by Little Down. To the left the line was prolonged by a portion of Erskine's and Pakenham's Brigade. The 30th, from Pakenham's Brigade, were in Stapleford. The 2nd Battalion of the 4th and a battery were about half way between Stapleford and Yanbury. Steeple Langford was weakly occupied; Stapleford in considerable force by the Rifle Brigade of the 3rd Brigade 4th Division, who had also some companies at Wishford. There was a battery at Newton Hill, behind the wood. The remaining battalions of Stephenson's Brigade were held in support behind the slopes above Wishford. The Light Brigade of Cavalry, minus the 19th Hussars, which, we believe, was on the extreme right, was near the same spot; the remaining batteries, Maxwell's and Anderson's brigades in reserve near Berwick St. James; Parke's towards Yanbury. The Wiltshire Yeomanry were at Wishford. The whole of the ground was completely overlooked by the opposite hills across the Willey. Yet, on proceeding thither, not a rifle or helmet, except those of sentries, and videttes, was visible from the summit of Graveley Wood.

As for the Southern Army, it also derived extraordinary advantage from the favourable character of the ground it occupied, yet, as will presently be seen, it did not escape the misfortunes that deservedly over-

took troops manœuvring in a woodland district, unless their flanks are thoroughly protected by cavalry. Grovely Hill throws out spurs towards the Willey, and one, the most important, toward Wilton, very favourable to the concealment of a flank movement to turn Walpole's left. The whole length of the ridge is some ten or eleven miles, and the value of the woods to an assailant has been sufficiently dwelt upon, their danger to an officer neglecting to use his cavalry to save him from all possibility of surprise was to receive a very practical illustration. About nine o'clock the Wiltshire Yeomanry made a demonstration, advancing through Wishford towards Grovely, driving in the Southern vedettes. At the same time, and while it may be presumed that this little diversion served sufficiently to distract Michel's attention from other cavalry movements, Shute, with the 9th Lancers, 13th Hussars, the reserve battery, and Hampshire Mounted Rifles, was directed to move upon Wilton, cross the river, to pass through Wilton Park, and rapidly reconnoitre the enemy's right and right rear. Taking with him Captain Janet, of the Wiltshire Yeomanry (late Grenadier Guards), an officer thoroughly acquainted with the country, as a guide, Shute's little brigade trotted to Wilton, managed unobserved to pass the Willey at this point, and, gaining the downs beyond, swept along the reverse side of the ridge. They pounced suddenly upon and captured a battery, escorted by a troop of the 7th Hussars; considerably worried Hardinge's brigade, which the reserve battery contrived to entangle while marching along a lane, and crowned their exploits by taking prisoners Sir Alfred Horsford and his staff. The capture was sustained in theory by the umpire but not practically acted upon, and General Horsford was released to complete the tactical operation in which he was embarked when the Lancers surprised him. Returning after the performance of this brilliant exploit in safety to the north bank of the Willey, by Wishford, they ascended the downs unmolested, and took post behind the wood on Newton Hill, bringing also intelligence that the enemy was evidently meditating an attack in force on the left and might be expected from the direction of Wilton.

At noon a well conceived feigned attack on the part of the Southerners was made by two battalions of Guards, which, issuing from Grovely Wood, opposite Steeple Langford, deployed into line, threw out skirmishers, and threatened to carry the foot bridge and ford. They were opposed by a half battalion of the 27th Regiments, garrisoning Steeple Langford. Colonel Fielding, deputy adjutant general, observing the menacing attitude of these battalions, made the necessary dispositions to repel them. Whereupon their commander, considering his object attained, retired to the shelter of Grovely Wood and took shelter therein, to advance again when the flank march by Wilton should be developed. By this means time was gained for the prosecution of the design against Walpole's left, and a portion of his reserves were moved to the neighbourhood of Steeple Langford, a point more distant than that from which they started. The Southern commander, although retiring his infantry, left a gun supported by some cavalry, which continued to fire upon the ground, and prevented Walpole's post from being withdrawn.

At about one o'clock the attack began in earnest. The greater part of the 1st Division including one battalion of the Guards (Hardinge's), and part of the Flying Brigade,

with two or three batteries, had, after some delay—caused, we supposed, the imaginary “three thousand” at Wilton—advanced from thence, rolling up Walpole’s left, while the 2nd Division was directed against Stapleford, Wishford, and Steeple Langford. Walpole’s line, excessively prolonged, had compelled him to place many of his reserves in readiness for an attack in the direction of Yarnbury. Nearly all were now hurried to the left, but slowness of movement entailed by the necessity of crossing the dingles on the Wileybourne at and above Stapleford was fatal to the defence. The tide of battle advanced along the left front and up the hill. Michel’s skirmishers, constantly fed by their supports, drove in Stephenson’s posts, carrying Newton Wood without strenuous opposition. The view from Newton Hill towards Stapleford was at the moment highly interesting from an artistic, but melancholy from a military point of view—long lines of skirmishers insufficiently supported advancing against equally weak lines of defenders, which, however, were speedily reinforced, although the defence had, to our eye, numerically the best of it. The attacking line was taken in flank by a battery on Newton Hill; yet there seemed to be a tacit understanding that the defence was to be driven in, and the aggressors to carry their hills between Wishford and Stapleford, advancing along Stopford Bottom. Had it been a matter of reality, the fire of Walpole’s battery at Newton Hill, raking the low ground from end to end, and the very existence or battalions in close order, must speedily have put a term to the arduous of the skirmishers who, regardless of its innocuous thunder, continued to press on in roar of the weak supports, notwithstanding they were exposed to its rapid and well-directed fire.

The battle was apparently lost by the fact that Walpole could not bring up his reserves in time successfully to dispute the possession of Newton Hill. Whether the fault was his own may be a question, considering that he was compelled to defend a greatly extended line divided into two zones by the Wileybourne, and offering in connection with the accidents of country favouring the Southern army almost insurmountable difficulties.

*The Kilkenny Militia, a Warning incident.*  
—When Walpole’s men were driven from Newton Hill, and Brownrigg saw that his opportunity had come, he sent the 88th at Wishford, and drove the enemy out of it in double quick time. Then occurred an incident which is thus described by the correspondence of the *Daily News*—“The 88th and the Kilkenny Boys,” the latter giving vent to a wild Irish yell of delight as they rushed after the retreating foe, pushed on beyond the village up the slopes of Stopford Bottom beyond. Here they had to wait a little until their comrades of the 1st Division could get upon their right. These were not long in coming, and then took place a scene which was no doubt exceedingly interesting to the good people of Wiltshire, who crowded the hillsides, and gathered on every commanding point to view it, but which as little resembled real fighting as anything which could well be conceived. Two long waving lines of skirmishers deliberately lain down on the downs and potted at one another at close range. This was all very pretty, but how in the name of breechloaders did either party get there? Both had to advance for many hundred yards over a smooth down with no cover on it, than on the back of one’s hand, and on which nothing two foot high could have lived for thirty seconds under

even very moderate fire of Spider rifles. However, the matter was apparently taken quite *au sérieux* by the regiment’s engaged, for they popped at each other with a steadiness which in men who were—or ought to have been—cold corpses was as praiseworthy as astonishing. Just as the banging was becoming somewhat monotonous, the ‘bould bhoys from Kilkenny,’ determined to show us how they do things in old Ireland. For some reason best known to themselves, they suddenly made a wild frantic rush at the regiment opposed to them, filling the air with hideous yells, and brandishing their rifles round their heads, evidently intending to make use of them as shillelahs should the base Saxons dare to withstand their onset. They were received with a ‘schnellfeuer,’ which would have cost a sight of masses had there been bullets in the rifles of the regiment they were charging. As there was only paper, the Kilkenny boys rushed on until they were within five feet of the foe. Unluckily for them the English regiment did not seem to see going, and looked uncommonly ready to use the but-ends of their muskets before they budged. In galloped the umpires, and after rating both parties soundly for having got so close, ordered, to the great astonishment of every one, the English regiment to retire. The Irish raised a fiendish yell as their foes retired silently, like good soldiers as they are, before the undisciplined ragamuffins opposite, who should have never been allowed to disgrace, by their unwelcome presence, the division and the *corps d’armée* to which they are attached.” This correspondent adds:—“I have the less scruple in writing strongly about the Kilkenny Militia, because the other Irish Militia regiment with the Southern Army—the Royal Southdown Militia—are as good as their countrymen are bad, and, indeed, are a model of what a Militia regiment ought to be. The Kilkenny Militia next distinguished themselves by broaking their ranks to catch a hare, in which warlike exploit they succeeded. Whereupon the officer commanding the company which had made the capture sung out, ‘Sergeant,’ take down the names of the men who left the ranks, and bring the hare to my tent when we camp.”

*Banquet.*—The Prince of Wales and a distinguished company were entertained in the evening by Dr. Lush, M.P. His Royal Highness sat upon the host’s right hand. To the right of the Prince was General Schousted, aide-de-camp to the King of Holland, the senior among the foreign officers present, though, in point of military rank, not superior to others who were at table; and next to him came Sir H. Storks, the Bishop of Salisbury, and Colonel von Krause, of the general staff in the German Army. To the immediate left of the chairman were the Duke of Cambridge, General Davoust, the Duke of Teck, and Mr. Cardwell. Only two toasts were given—“The Queen” and “The Prince of Wales.” In proposing the latter, Dr. Lush spoke of the general interest which had been excited in Salisbury by this royal visit, and the honour which was felt to be conferred upon the town by the acceptances on His Royal Highness’s part of the invitation to dinner, and by his presence in company with so many distinguished representatives of foreign nations. On the part of the people of Salisbury and the district generally, he wished the Prince health, long life, and every happiness. The toast, having been most cordially drunk, His Royal Highness the Prince of Wales, in replying, said:—

“I thank you for the high compliment

which you have paid me in proposing my health, and I trust you will permit me to take the opportunity, speaking in this place, of thanking you, as the representative of the city of Salisbury, for the welcome which you have extended, not only to me, but to the army which is now round about the city of Salisbury. I feel sure that I am but expressing the feelings of my illustrious relative on my left (the Duke of Cambridge) and of the English officers that I see around when I say that they will not easily forget the hospitality and the kind feeling which has been evinced towards the army on the occasion of the manœuvres during the present year by the inhabitants of Salisbury and the surrounding country. I have also to say what pleasure it affords me—as I am sure it does to every Englishman who is present—to see at this hospitable board so many distinguished foreign officers who have been sent as the representatives of their different governments to assist at these manœuvres. I am sure they will look kindly on us; and however just, and, possibly, severe their criticisms may be upon our army they will, I am sure, believe that we receive them as soldiers of distinction and as visitors whose presence we highly value. I thank you, Sir, as representing the citizens of Salisbury, most cordially for their reception, and I thank you not less for the honour which you have done me personally.”

Soon afterwards the Prince, rising from the table, gave the signal for the company to mingle in general conversation over coffee and cigars, according to the continental fashion. On leaving for Bemerton Lodge, about eleven o’clock, His Royal Highness was, as before, loudly cheered by the crowd outside the building.

SUNDAY, SEPTEMBER 27th.

This morning at half past ten o’clock, His Royal Highness attended Divine service in the cathedral, Salisbury. The corporation, some time previously, had proceeded in state in their carriages, with postilions, maces, &c., to Bemerton Lodge, to attend His Royal Highness. In the cathedral close large numbers of well-dressed persons assembled to witness the arrival of the procession, and the anxiety to obtain places in the interior of the building was very great. Owing, however, to the fact that services are held in the nave while the rest of the cathedral is undergoing restoration, but a limited number, comparatively, could be present. The bishop and cathedral clergy met the Prince and his suite at the western door, and a procession was formed, consisting of the choristers and clergy, followed by the corporation of Salisbury and the officers, and finally of the members of the royal party, with whom came most of the general officers composing the umpire staff. Mr. Cardwell, M.P. Newdegate, M.P., Dr. Lush, M.P. and Mr. A. Seymour, M.P., were also among those for whom places were specially reserved. As the procession moved along the nave, Mozart’s anthem, “I will give thanks,” was chanted by the choir. The sermon was preached by the Bishop of Salisbury. After the service there was a collection for the fund for the restoration of the cathedral. The Prince left the buildings shortly after one o’clock, and walked over with the Duke of Cambridge to his quarters in the close, where he partook of luncheon. The foreign officers left town early this morning on a visit to the Marquis of Bath’s estate, Longleat at Warminster, where they were invited to spend the day.

MONDAY, SEPTEMBER 28th

It appears that the umpires, one and

agreed that Sir John Michel and no business in Wilton on Saturday, and if he won a victory at all he lost it again by running inside the post. Sir John Michel, therefore, it is said, was today allowed to go on the northern side the Willey only by favour, and was strictly debarred from occupying Yarnburg Castle, though he would naturally have done so had his foothold been sound.

Very little freedom of action was permitted to the rival generals. Last night the Commander-in-Chief drew up instructions which restricted Sir John Michel to the lines between Chitterno Down and Lamb Down, and Sir Robert Walpole to the ground between the Barns and Willey village; the latter had the advantage of the strong position known as Yarnburg Castle, the remains of an old Roman fort and entrenchment. The movements of either side being thus, one would think needlessly hampered, no use could be made of the cavalry to feel the enemy, and the contending armies were perforce drawn up in battle array very much as they might have been in the Long Valley, only that the ground being so much more accidented, troops could be moved from point to point with less exposure, and flank movements might be attempted with some chance of success. As a refreshing change, which must have been grateful to his forces, General Walpole made up his mind to be the assailant for the first time, and all his brigades were in position ready to begin at the appointed hour—nine o'clock—when an order came from the Duke to defer the operations for half an hour. Whether this delay was prejudicial to the Northerners as the staff appear to think, is doubtful, but at any rate such an interference in the programme at the eleventh hour was indiscreet and unpopular. The explanation of the why and the wherefore has been offered, and even if the distinguished foreigners had "overslept" themselves, as has been suggested, that was no valid reason for "changing the fixture." The engagement commenced with an artillery duel of some duration; then the 5th Division, under Lord Mark Kerr, advanced on the left, covered by the guns in Yarnburg Castle; but having crossed the valley which runs down towards Fisherton, and faced the steep ascent to Lamb Down, they met with an unexpectedly warm reception. The Guards and the 16th Regiment were strongly posted in a shelter-trench, dug expressly during the morning, all along the crest of the hill for upwards of a mile; a battery was behind them, and Maxwell and Pakenham's brigades, on whom devolved the task of storming the heights failed in their object. But why chiefly? Because Sir A. Horsford brought up an overwhelming force to support his skirmishing lines, whereas Walpole had dribbled his battalions all over the field in such a way that they could be massacred in detail, as were his cavalry on Thursday last, and his artillery, as on Saturday, were "nowhere." On his left, therefore, he was unsuccessful, except inasmuch as he subsequently succeeded in occupying Willey. On the right, thanks to Colonel Baker's temerity and Colonel Marshall's good management, he was less unfortunate. The Southern Light Brigade made a bold raid from Chitterno Down, round Gilbert's Copse, and were about to swoop down on the Household Cavalry, when Marshall skilfully withdrew his regiments, and the six guns, hitherto so carefully masked, opened a brisk fire. Hussars and Lancers bent a hasty retreat, but every saddle must have been empty ere they got out of range, and to that effect

was the umpire's decision. McMahon's heavy cavalry, not deterred by the examples that had been made of their comrades, also essayed to charge, but their discomfiture was equally signal. In concert with Marshall, the 9th Lancers and 13th Hussars worked round the enemy's left flank, and would have fallen upon his infantry with great effect, but, lo! and behold, the dead Hussars and Dragoons had reformed, and were ready to receive them. By this time the heavy clouds, the driving rain, and the dense smoke, which could not lift owing to the weight of the atmosphere so completely obscured the view that North could not be distinguished from South, the various positions could not be apprehended, and dire confusion was imminent, when His Royal Highness ordered the bugle to sound, and the combat ceased. Hitherto, with rather a wint of consideration, the troops have each day been detained on the ground until the Duke had finished his admonitory address, but today they were permitted to march off at once. The Northern Army will encamp to night on Stonehenge Down, the Southern in the neighbourhood of Berwick St. James, and to-morrow the last struggle will take place, Walpole holding Amesbury as his base of operations. No decision as to which corps victory belonged was announced on the field, but the general impression is that Michel has again "scored." In spite of the inclemency of the weather, the Prince of Wales was present throughout the day, and our hereditary legislators were again in great force. The foreign officers were sumptuously entertained at Longleat yesterday, and a large house party assembled to receive them, including the Duchess of Buccleugh, the Ladies Scott, Lord Denbigh, &c.

(To be continued.)

The cavalry boot *versus* overall controversy is in full vigor in the French cavalry. The authorities have not yet decided whether the pantaloons and boot to the knee should be adopted or not in the French Army. The French officers say that the boot has no doubt great advantages, and allows the rider to have a closer seat on horseback, but in wet weather it shrinks, and becomes utterly useless, unless retained night and day on the leg. In one of the Hussar regiments now in camp at Roquencourt, near Versailles, the men are wearing a new pattern of "booted overall," which looks very well. The overall is made of red cloth, as usual, but fitting rather tight, something like breeches. The leather booting is brought up to the knee, and fashioned like a "Neapolitan" boot, so that the soldier looks, at a very short distance, as if he wore boots and breeches. The leather booting is made to fit pretty tight to the leg, and those who have tried it say it is quite as easy to ride in as long boots. It is thought not unlikely that these overalls will be adopted throughout the French cavalry.

It is reported, apparently on good authority, that four of the recently-constructed Russian 11-in. steel guns have burst upon proof with ordinary bursting charges, and that the Russian authorities have in consequence expressed an official opinion that the powder charge given to these new guns of one-sixth the weight of the projectile is much too great for their strength, and that future trials shall be made with powder charges not exceeding one-tenth the weight of the projectile fired.

## OFFICERS SUORT COURSE "B" BATTERY, G. S.

GUNNERY SCHOOL.

QUEBEC, October, 1872.

GUNNERY.

### 1. Define the following terms:—

Line of Sight.

" Fire.

Axis of Piece.

Trajectory.

Range.

Point Blank.

Windage—Its advantages and disadvantages.

### 2. Give the formula for calculating the energy of a shot.

3. Give rule for calculating the distance of an object from an elevated battery. What would be the distance of a ship from Kingsbastion height, 317 feet, angle of depression  $4^{\circ} 17'$ , and at what distance would she be secure from the fire of the Rifled Gun on the salient, supposing she was able to close with the battery?

### 4. What advantage is gained by rifling a gun?

5. Which is the best in flight—a solid shot or common shell? Give reason for opinion.

6. Describe the Woolwich, Shunt, and B. L. Armstrong systems of rifling, and the advantages and disadvantages of each.

7. How would you construct a tangent scale and calculate the length of a degree, if the one in use was broken in action or lost.

### 8. What does the length of a gun depend upon?

9. Calculate the length of time-fuze for the following ranges.

S. B. Common	.....	1,400 yds.
" Shrapnel	.....	1,200 "
Large Mortar Shell	.....	1,300 "
Small "	.....	700 "
7 B. L. R. Common	.....	2,000 "

### 10. What relation do the figures on the fuze bear to the time of flight?

ARTILLERY MATERIA.

1. How is rope described in official demands? Given a rough rule to calculate its strength, and the size that will suit a given block.

2. How are guns described? What rules are laid down for their description?

3. How are the bursting charges for Common and Shrapnel Shells regulated? and state reasons, "giving bursting charges for Shrapnel Shells for 68, 32, and 24 P. S. B. guns?"

4. State when you would attach shells to shot and shell. Describe the modes of attachment for land and sea service.

5. Describe Petman's Patent Service Percussion Fuze, with the aid of a sketch. What are the points of difference between this fuze and the General Service? Why is the former not adapted for use with Rifled guns?

6. How are shells prepared for Petman's L. S. Fuze, and how are such shells distinguished?

7. Why "should not tubes and B. L. Fuzes be placed in a magazine?"
8. Upon what does the efficient Ventilation of a magazine depend, and of what use is a wet and dry bulb thermometer in connection therewith?
9. Describe a 7 B. L. R. Lubricator, and explain the uses of the different parts. What is the peculiarity of 7 B. L. R. Cartridges?
10. Describe the process of examining ordnance, and the material required.
11. What is the number of service rounds that may be fired from a cast-iron gun without examination? Where do fissures in the metal first show themselves? And what do you consider the extent and nature of flaws that would render a gun unsafe?

**SPLITTING ORDNANCE.**

1. What is a combination of tackle, what power is gained by a luff upon luff, and what regulation does a gird in power bear to the time required?
2. What proportion does the distance travelled by a roller to the distance travelled by the weight? Give reasons, with the aid of a diagram.
3. How are gyps used, sheers, and under what circumstances?
4. How would you mount a 50 cwt. gun on a platform wagon, with nothing but ropes and weak skidding, about 4 scantling, and dismount it with rollers and drag ropes only?
5. What are the general duties of a detachment in mounting and dismounting ordnance without a gyn?
6. Show, by a diagram, the position of the numbers in raising a gun out of the trundition holes.
7. In receiving a gyn tackle, from which sides of the upper blocks should the fall come away, and why?
8. Describe the uses of the following knots:

- Chitspin.
- Single Bend.
- Double Bend.
- Sheepshank.

9. What are the disadvantages of the sling cart and platform wagon, as compared to the sling wagon?
10. If one of the fellows in the wheel of a field gun carriage was broken in action, how would you get the gun into a fresh position if no spare wheel was available, and how would you carry off the gun supposing the carriage was entirely disabled?
11. Calculate the power of flotation of a cask, fit for transporting ordnance, supposing it consisted of fourteen 108 gallon casks. The superstructure weighing a ton.
12. State the advantages of cask rafts over the old service pontoons.

- ... and sites &c:
1. What are the main differences in the attack of fortresses, induced by the introduction of rifled guns, especially as regards the position of breaching batteries? Compare the signs in France during the late war with those of the Peninsula, and would the causes which led to the rapid fall of Phionville and other French fortresses produce the same results on Quebec Citadel, which is built on the French system, supposing it was fully armed and prepared?
  2. What would be the most probable base in the United States against

Canada, and what defence does Col. Jervis, R. E., propose in that direction?

**MILITARY SURVEYING, &c.**

1. With the aid of a rough sketch from memory, describe, in general terms, the method of making a military plan with a prismatic compass. Take, as an example, the piece of ground upon which the 2nd Brigade Camp was formed at Point Levis, showing the base line you would select, &c.
2. With a protractor plot to scale the run of a road, giving the bearings and distances, as follows:—  
 Commencing at A, 120° to B, distance 100 yds  
 " " C, 75° from B " 155 "  
 " " D, 345° " C, " 270 "

Supposing the top of your paper to be the magnetic north.

3. By interpolation, fix an unknown point X:—  
 The bearing from X to A is 340°  
 " " X to B is 40°.

4. When time is short, and an enemy at hand, to what points should an officer direct most attention, so as to give a useful sketch into the hands of his general.

T. B. STRANGE, Lieut. Col.  
 Commandant, G. S., Quebec.

The *Moscow Gazette* says that the arms of the Russian forces are far from being uniform. Out of 728,852 rifles, nearly 140,000 are upon the old system, and there are at present three kinds of new rifles in use—the Burden, the Carle, and the Krenk. This diversity would be of little importance if a uniform cartridge could be used, but the cartridges are as various as the rifles. It appears that at the battle of the Alma the Russian sharpshooters, armed with the Lutick rifle, were compelled to retire from want of cartridges, for the caisson containing their ammunition could not be found at the moment. The troops next to them had abundance of ammunition. On the other hand, in the late war of 1870-71, during the great sortie at Brie and Champaign, the Wurtembergers were in want of cartridges at the most critical moment of the day, and had not the Saxons supplied them with ammunition they must have retreated and have lost their position.

The Peruvian government has passed law making military service compulsory on all Peruvians over 21 years of age. The time of service to be five years, three in the regular army and two in the reserve. The army is to be of 4,000 men of all arms. The exceptions are the only son of widow or of father over 60 years; a widower with a small family; mutilated; students; priests; schoolmasters and government employees; lastly, those physically exempted. The army is to be kept up by conscription defined by law.

A duel has just been fought in France which we regret to see, has gone all wrong. Lieutenant Dognain, of the Navy, who organized a Breton Legion, during the war, having been maligned in a pamphlet, demanded satisfaction from the author, who accorded it, and ran the lieutenant through the lungs. The life of the gallant officer is departed, and he lies at the verge of death.

**CORRESPONDENCE.**

*The Editor does not hold himself responsible for individual expressions of opinion in comments unless addressed to the VOLUNTEER REVIEW.*

To the Editor of the VOLUNTEER REVIEW.

DEAR SIR -- As an old subscriber, I would claim the insertion of an *en passant* remark or two under the impression that their brevity will excuse what they lack in interest.

I perceive that the REVIEW proffers some very disinterested advice with reference to the Journal of the *Royal United Service Institution*, and sincerely hope the admonition may be fully appreciated by the recipients. The self abnegation on the part of the REVIEW—in a generous recognition of a contemporary's superior claims—should in justice, react favourably upon itself, by evoking a corresponding sentiment from its supporters in the Dominion.

From the REVIEW's perhaps necessarily brief sketch of the Commander in Chief's westward journey, enough can be gleaned to afford assurance of the Canadian Forces being commanded by an energetic, enterprising officer. They, no doubt, latent soldierly attributes of their chief, have in a degree been revealed through the exigencies of a somewhat difficult journey. But, I believe, we are, as a whole, too much of a *car borne*, or *buggy driving* people, to fully realize the fatigue incidental to a thousand miles march on consecutive days outside a piece of pig skin. It is probable the whole undertaking involved a sufficient degree of the dangerous, to afford it a zest, and make its relinquishment impossible to a soldierly instinct. Now, without having any wish to unduly extol or overrate what may simply be characterized as an arduous journey; yet it must be conceded that there are evidence enough of an energy, which (to take a long leap) is neither appreciated, nor sought to be taught in Mr. Cardwell's pet competitive scheme for officering the British Army. This much be-lauded competitive system must naturally find its best representatives in studious effeminacy, and in that lack of individualistic originality, which affords the widest capacity and fittest receptacle for *crum*. It is notorious that the un-shaken fidelity of the British Army was due more to the bold, fearless energy and gentlemanly prestige of its officers, than to the strictness or severity of its discipline. But Whiggish rule, great alone in destructiveness, must palter with an organization; that neither the clash of factions, the cries of sedition, nor the howling eloquence of demagogues could seduce, intimidate nor corrupt.

Fearing I have violated my pledge of brevity, I remain my dear Sir,

Yours &c,

SARREUR.

New Hamburg, 14th Jan. 1873.

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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, TUESDAY, JANUARY 14, 1873.

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

The Accounts for Subscriptions to the "Volunteer Review," are now being made out, and will be forwarded by post to each subscriber, and after allowing a reasonable time for settlement, if not paid, the paper will be stopped, and the Accounts placed in Court for collection.

(Continued from Page 2.)

In resuming our notice of Capt Dawson's admirable paper on Naval Guns, we must warn our Readers that we barely touch the

surface of the valuable and exhaustive *Story of the Guns* as given therein. The article itself will well repay careful perusal, for it shews most conclusively that the proper weapons for either Army or Navy have not yet been found.

The Four Systems of Rifling, known as the Lancaster oval; the Whitworth polygonal, the Scott centring flange, and the French or Woolwich, are described and treated in great detail. With the two first and last our readers are already familiar; the third is, however, a variety. It is known as the long iron-bearing system, and distinguished from the others by having one uniform twist or spiral in the gun. Its advantages are: few, narrow, and shallow grooves, width, 8 inches; depth, .126 inches. In the service gun the width is 1.5 inch, and depth .18 to .22. The windage in the Scott gun equals .53 square inches; in the service gun 1.26 square inches. The grooves are deepest on the driving side, so that the flanges rest on inclined planes, which, no doubt, tends to allow the shot to slip easily around at its initial movement, and helps to give it a chance of rotation; but it labors under the same disadvantage as the others, inasmuch as there is windage. The Whitworth gun also belongs to the long iron-bearing system; as those firing flanged projectiles are called. It has, however, an increasing spiral or twist in its rifling. The Woolwich or French system has its projectile balanced or supported on studs of soft metal—in unrelaxable, imperfect in rotative power, and has a tendency to destroy the gun.

Into the whole practical experience acquired by the trials of those magnificent guns, Captain Dawson goes fully and exhaustively. He shews by official tables that the system is false in theory and vicious as well as ruinous in practice, and raises a well-founded doubt, as to whether rifling is applicable to naval armaments at all. In any case the Woolwich system is not only so, but the probabilities would be in action that the most powerful vessels of the British fleet would be practically disarmed by the failure of a portion or the whole of their monster artillery; for let it be remembered that a slight burr in the bore prevents the shot being sent home, and the fate of the empire might depend on such an accident.

As the gallant seaman truly says, the loss of a gun to our army is a remediable matter; but at sea it will probably be the loss of the action, at least the loss of the ship.

On this subject Captain Dawson pertinently says:—"In dealing with the question of rifling, I have set before you almost exclusively official facts. These shew that we were sacrificing much of the efficiency of our magnificent guns to a vicious system, in which the effect of rotation is concentrated upon the smallest possible bearing—being necessitated by an increasing spiral, and that increasing spiral being opposed to rotation.

experiments, the most fatal suicide results being those obtained where the present form of gaining twist is employed. There has been an utter failure to secure adequate rotation from the service system, and to the fallacious theories on which it rests we can trace in official records loss of practical utility in every gun from the 9 pounder up to the 35-ton gun, and that whether constructed of bronze, iron, or steel. As a naval question, it especially concerns us, not only because the non-penetration of a single projectile owing to its wobbling may be a most serious matter in action, and the disabling of a gun by its own shell be fatal to victory, but because we have permanently crippled the power of our shells by concentrating upon a small and weakened portion of their walls the whole effect of rotation."

With regard to projectiles, he states that they cannot be transported without being damaged, and consequently are totally unfit for the rough usage they must be sure to meet with in warships.

Great variety of projectiles are objectionable in military operations, chiefly because of the difficulties of carriage; but in naval actions, chiefly because it is not always possible to say when loading a gun what sort of a vessel is to be fired at. We have two Palliser projectiles, with chilled heads, alike in weight, and nearly alike in all other respects, viz, the doped shot, and the shell, the cavity in which is nearly the same size. The Palliser shell moreover, is not provided with a fuse, so that its bursting after penetrating the unarmored portion of an iron ship is doubtful, and after penetrating the unarmored portion of a wooden ship, its not bursting is certain." "The common shell is the more generally useful projectile, and it is most pitiable to observe how its efficiency is sacrificed, owing to the impossibility of giving adequate rotation, not only to shell of proper powder capacity, but to any projectile whatever with an increasing spiral, and consequent short bearing."

Capt. Selwyn, R.N., in commenting on the able lecture delivered by Capt. Dawson, stated he did not think that we had got the best guns in mechanical construction, or according to scientific principles. He said that "in Russia they are ahead of us on this question. They have taken the common cast-iron guns, they have steeled the inside by a very simple process, they have reduced the outside to the condition of wrought iron, and they have thereby secured the true mathematical conditions of strain under which iron, whether it be called steel or iron, can best resist the strains to which we propose to submit it. After reviewing the whole question as a practical seaman gunner, he says: "If I was to go into theory I would beg you to direct your attention to a shot starts from a position of rest by progressive increments, only acquiring the terminal velocity gradually, the spirals ought on that theory to be

decreasing, because the shot is passing over more feet in each moment of time from the moment it starts to the moment it leaves the muzzle; and for the twist to remain the same proportionately the spiral of the rifling ought to decrease rather than increase."

Captain DAWSON confirms this view in one of the admirable tables he has given in his lecture illustrating the energy of R.L.G. and Pebble powder. He shows the shot traverses the first inch of the bore at the rate of 360 feet per second; 3 inches at 510 feet, 6 inches at 630 ft., 10 inches at 780 ft., 14 inches at 840 feet, 20 inches at 950 ft., 28 inches at 1,000 ft., 40 inches at 1,110 ft., 56 inches at 1,240 ft., 76 inches at 1,305 feet, and at 88 inches it has attained a velocity of 1,320 ft. per second.

Now the plan pursued in adopting the spiral or twist of all guns, from the 9 to the 12 inch inclusive, is to begin the spiral with a straight groove at the powder chamber and gradually increase it to one turn in 35 calibres at the muzzle; and, as the shot attains its maximum velocity at 88 inches from the powder chamber, and as the 35 ton gun (12 inches) measures about 132 inches from that point to the muzzle, it is evident that the effect is to retard instead of facilitating the flight of the projectile in its efforts to leave the gun. It is also certain that if it has not attained perfect rotation before its final velocity is reached, that all efforts to impart it afterwards will be futile.

Our readers are aware that the whole value of rifling consists in the accuracy of its trajectory, and the power of penetration imparted to its projectiles. In order to accomplish these requirements, it is necessary that the shot fills the bore accurately, and that it leaves it with a rotative motion around its own axis. These are the practical conditions on which the whole value of the system of rifled guns rest if they cannot be fulfilled, the system is little better than a delusion, a mockery and a snare.

Let us see what are the mechanical obstacles to be overcome, for it is in these the whole system has failed. To make the shot fit the bore accurately is one of the first requisites, both being hard metal, and the conditions demand that the fit be as perfect as that of the *slide valve* of a locomotive engine over the valve seat.

Taking the latter by way of illustration, the valve face and seat, when in contact, are both perfectly smooth; allowing the rate of speed to be 60 miles per hour, the valve will travel at the rate of 88 feet per second, allowing its breadth to be 8 inches and its length to be 12 inches, we have 96 square inches of metal in contact over a perfectly smooth surface.

The 35 ton (12 inch) gun is 132 inches in length of bore. Its internal measurement will be, say 36 inches, its surface over which

the shot travels would be 5752 square inches. The shot itself say 2½ calibres in length—30 inches—of which 20 will be in contact; its circumference will be 36 inches, without taking into account the ribs or flanges, 720 square inches, and it moves over the surface of the bore at the rate of 1320 feet per second; the weight of the valve might be 15 lbs. of the shot 900 lbs. The question to be answered is this, what is the possibility of overcoming the constant and increasing recurrence of the liability of accident in the gun.

Rifling in small arms has been successful because a softer metal has been used as a projectile, and as it was only to be employed against man or animals, it answered its purpose, but when it became necessary to use a metal as hard as the bore of the gun, another state of affairs appeared. The slightest obstruction in the bore will prevent the shot from being sent home: the gun in that case would be useless. How many rounds would it be possible to fire at the rate of one in every two minutes ten seconds, before the expansion of the shot enlarged the bore and brought about the wabbling, hammering, and breaking up of the shot, so well described by Capt DAWSON, if it had not burst the gun previously? and finally, what is the actual use of high trajectory if the shot will fly wildly, and the chances of hitting are not greater than with the old 32 pounder? Well might Capt SELWYN announce that he felt inclined to say that the *smooth bores*, to take them out and out, will beat in practical results the rifled guns with the very best range.

It would appear as if the whole fallacies embodied in the new system was contained in the single idea of long range; and we quite coincide with Capt. SELWYN's opinion when he says—"And great range has run away with an enormous number of people both in small arms and in artillery. It is, I do not fear to say, one of the greatest mistakes of the day. It is a thing which will lead to the expenditure of more rounds of ammunition uselessly than anything else. It is a thing which will lead to more demoralization of troops on land, and more inaccurate work at sea, than anything you can do." This paragraph sums up our opinion of the new system since its first inception. Actions at sea will be decided at a cable's length (200 yards); on shore, at the point of the bayonet. In the first case artillery will be the chief and only agent, and it must be such as described in the valuable paper we have been reviewing. Simple in construction and certain in working; Spherical shot with low trajectory, enabling the seaman gunner to use the most effective *ricochet* and great weight, will be the weapon he requires; at the same time it will not be impossible to give him a shell of great penetrating power, which can be fired from the same gun. In a recent number we have

described a 20 inch gun, throwing a 900 lb. shot. The gun is cast iron; the shot, if properly made, would fill the bore accurately, leaving only a *mathematical* line-length without breadth—of 60 lineal inches in contact with the bore.

The whole question of naval armament is in a most unsatisfactory state. Its solution should not be left to artillery officers, as it presents peculiarities with which they are not necessarily familiar; and we must say that either the race of seamen, gunners have degenerated, or the Whig-Radicals have decided to disarm the first line of defence of the Empire, when the matter was allowed to fall into its present condition.

This article on Naval Guns is the best, ablest, and most satisfactory we have seen since the question of guns v. armor came up. We were never believers in rifled artillery for heavy guns, because the *mechanical* problems connected therewith had not been solved, nor even an attempt made to overcome present impossibilities; and we trust the *Royal United Service Institution* will follow Capt. DAWSON's suggestion and agitate the question so as to provide for the proper armament of the first line of defence.

(To be continued.)

It would appear from Dr. BOYNTON's History that the first attempt at turning the idea of submarine mines to account was made by the Confederates on the Potomac River, not far from Aquia Creek, on the 8th July, 1861. The apparatus used on the occasion was composed of three 80-gallon oil casks connected by about 25 fathoms manilla rope buoyed up by the casks; under each cask a *torpedo* was slung (six feet below it), and a leaden tube led down through the cask to carry a fuse for igniting its contents.

The *torpedo* was a cylinder of boiler iron, four feet six inches long and eighteen inches in diameter, filled with powder. This clumsy machine was designed to run athwart the bow of a ship at anchor swinging under her bottom and explode, if the fuse continued alight, as a matter of course it was caught and the fuse extinguished.

Torpedoes next appears as playing a distinguished part in the defence of Newbern in North Carolina. The town is situated at the junction of the Neuse and Trent rivers, and can only be approached by the former, which is about a mile and a-half in width. The southern bank of the river was protected by formidable earthworks. The first Fort Dixie about six miles from Newbern mounting four heavy guns; the second, Fort Thompson, mounting *thirteen* heavy guns; the third, Fort Ellis, mounting *eight* guns; the fourth, Fort Lane, two miles from Newbern, mounting *eight* guns; and lastly Union Point Battery, one mile from the town, mounting two guns.

In front of and commanded by the guns of Fort Dixie, a row of poles had been driven into the bed of the river across the channel



and they were cut off below the surface of the water. Another row of piles was driven in behind these and crossing them at an angle of 45 degrees pointing down stream. This row was pointed and capped with iron, in front of those were placed a row of thirty torpedoes, each containing about 200lbs of powder. They were fitted with metal fuzes and had trigger lines attached to the pointed piles so as to explode whenever a vessel struck the latter.

The whole of this painfully elaborate system of defence was rendered useless by the simple expedient of landing troops to take the forts in reverse, and when the piles were struck, the torpedoes did not go off.

During the operations in front of Swanah in February, 1862, a torpedo was discovered at the mouth of Wight River. It consisted of five metal cases which served as air chambers and buoys for five others, which contained about 30lbs. of powder. The machinery of these torpedoes was ingeniously contrived; the exploding charge was connected with a common friction primer, and that connected with a string with a wire coiled in the top of the buoy, the passing vessel was expected to strike the buoy, draw out the wire, and explode the charge.

One of the number (for it appears there were many of them) did explode after the passage of one of the launches of the *Susquehanna* with an artillery flat in tow without doing any damage, and the rest were rendered useless, by firing rifle balls through the buoys.

The gunboat *Oraje* was sunk by a torpedo in Mobile Bay.

During the attack on Fort Jackson, previous to the capture of New Orleans the United States ships the *Itasca* and *Pinola*, made an attempt to break a chain placed across the channel, and supported by the hulks of eight schooners, by blowing up the latter by a torpedo, it failed; but the chain was broken by other means.

On the 14th March, 1863, the U. S. Ship *Richmond*, in an attempt to pass the batteries at Port Hudson, had a torpedo exploded close to her stern windows driving them in, but doing no other harm.

On the 18th of June following, the U. S. ship *Essex*, fished up one of those infernal machines (as the commander of that vessel calls it in his despatch,) below the town. The following description of the torpedo construction is taken from the official despatch:

"I stopped the vessel below the infernal machines with her head up stream, sent the men to quarters, and despatched two boats to destroy or take up the apparatus. From the inside buoys an iron wire (apparently telegraph wire) was discovered leading up the beach, then over a glass bottle (attached to a tree as an insulator) and from thence into the woods. About fifty fathoms

of this wire was hauled down to the boats, and its connection with the buoys covered. All the buoy were then raised and found to be connected by wires and a torpedo of cylindrical form, three foot long and a foot in diameter, made of boiler iron was found attached to the barrel buoy."

It would appear this elaborate machine was fitted to be discharged by electricity or friction, the charge was sufficiently powerful to do great mischief.

In the course of the protracted operations before Vicksburg, it became necessary to get the command of the Yazoo River, and as the stream had been obstructed in every possible way to prevent such a consummation, torpedoes taking a prominent position in its defence; an attempt was made to remove them, in doing which the gunboat *Cairo* was lost, by two exploding, one under her port-quarter, and one under her port bow.

About the middle of July, 1863, the iron-clad gunboat *Baron de Kalb* was sunk by a torpedo in the Yazoo River.

In April 1863, the United States fleet attacked Fort Sumter in Charleston harbor they were deterred from approaching it closely by a line of torpedoes, one of which exploded under the bows of the U. S. Ship *Wechawken* without doing her any damage. This vessel carried a torpedo raft attached to her bows, and her commander says it was an unmanageable construction. "No prudent man would carry the torpedo attached to the raft in a fleet. An accidental collision would blow up his own friend and he would be more dreaded than an enemy."

On the 5th of October, an attempt was made to blow up the *New Ironsides*, U. S. ship, with a torpedo boat called a *David*, a cigar shaped vessel, nearly submerged when in motion, it struck the frigate fairly amidships, exploded 60lbs. of powder, and effected nothing.

The following description of the torpedo boat that destroyed the *Housatonic* off Charleston on the night of 15th February, 1864, is interesting:

"It was built of boiler iron, about thirty feet long, and was manned by a crew of nine men, eight of whom worked the propeller by hand, the ninth steered the boat and regulated her movements below the surface of the water. She could be submerged to any desired depth at pleasure, or could be propelled upon the surface. In smooth, still water her movements were exactly controlled and her speed was about five knots. It was intended that she should approach any vessel lying at anchor, pass under her keel and tow a floating torpedo which would explode on striking the sides or bottom of the ship-attacked. She could remain submerged more than half an hour without inconvenience to her crew.

Soon after her arrival in Charleston, Lieut. PATNE of the Confederate Navy with eight

others volunteered to attack the Federal fleet with her. While preparing for her expedition, the swell of a passing steamer caused her to sink suddenly and all hands except Lieutenant PATNE who at the moment was standing in the open hatchway perished. She was soon raised and again made ready for service, Lieutenant PATNE again volunteered to command her. While lying near Fort Sumter, she capsized, and again sunk in deep water, drowning all hands except the commander and two others. Being again raised and prepared for action Mr. ANSLEY one of the constructors made an experimental cruise in her, in Cooper River. While submerged at a great depth, from some unknown cause she became unmanageable and remained for many days on the bottom of the river, with her crew of nine dead men. A fourth time was the boat raised and Lieut. Dixon of Mobile of the 21st Volunteers, with eight other went out of Charleston harbor in her and attacked and sunk the Federal steamer *Mon-satonic*. Her mission at last accomplished, she disappeared with her crew. Nothing is known of their fate, it is believed they went down with the enemy."

The *Wechawken* was lost while at anchor within the bar at Charleston on the previous December, under circumstances which lead to the supposition that she was sunk by a torpedo.

An attempt was made to blow up the *Memphis* in North Edisto River in March 1864, and although the torpedo was under her and in contact it failed to explode. A twelve pound rifle shot fired at the machine caused it to disappear. In April a similar attempt was made on the frigate *Wadsworth* but a round shot sunk the machine.

On the 25th of May an attempt was made to blow up the Confederate ram *Albemarle*, as she lay in the Roanoke off Plymouth, by floating a torpedo to catch athwart her. But it failed because the parties operating it was discovered. Warned by the attack the officers of the *Albemarle* had surrounded her with a moulINETTE of logs, so that it was almost impossible to approach her, but on the 27th of October, a daring officer of the United States Navy, Lieut. W. B. CUSHING, in a steam launch, succeeded in running alongside thrusting a beam with a torpedo attached under the *Albemarle*, and its explosion not only destroyed that vessel, but the launch with all her crew except the gallant Lieutenant and one man.

During the expedition up the Red River in 1864, the *Eastport* United States Ship, was sunk by a torpedo, between Grand Ecore, and Alexandria.

While General GRANT was moving on Richmond by the James River, the United States steamer *Commodore Jones* was blown up by a torpedo off Bermuda hundred.

In the action of Mobile Bay on the 5th August 1864, the monitor *Tecumseh* ran on a torpedo, and was blown to pieces. The

channel leading to Fort Morgan was filled with torpedoes, but the fleet passed over them with impunity, as the men at quarters thought they heard musket firing, but it was only the blows of the torpedo hammers striking upon caps that did not explode.

This was the last chronicled operation of war in which torpedoes were largely employed, and the record is by no means such as to warrant any implicit faith being placed in their employment under any other conditions. It will be seen they were principally if not wholly used in narrow channels. The class of vessels against which they were directed were notoriously slightly built, and in several cases mere steamers. That it was in almost every case a mere chance by which they were struck, and in no case need success have attended their operations, if ordinary care and vigilance had been employed against them, as in all cases they must be placed within the range of the guns of the supporting battery; they are not more effective than a row of piles as obstructions, while the possibility of being wholly ineffectual is rendered absolutely certain by being left under water for any length of time.

As a defensive weapon it may be of use as a *scare crow*, as an offensive weapon it is wholly useless against any vessel of war, on board which ordinary vigilance is exercised.

Our English contemporaries, it is to be hoped, have learned to place its true value on the torpedo, and will not permit themselves to be led astray by the pretensions of the Willetts Point School.

We publish today the subjects for examination of officers in the Quebec Artillery School, under the command of Lieut. Col. T. B. STRANGE, R.A. Those subjects are *Artillery Material, Gunnery, Shifting Ordnance, Sieges, and Military Surveying.*

Our object in publishing purely technical papers is to show our readers and the public what value the country is receiving for the small sum outlaid in support of those *Gunnery Schools*, and we can fairly challenge the military systems of other countries to show a more comprehensive curriculum than that adopted by Colonel STRANGE, whose high professional attainments are well known.

The last subject, that of *Military Surveying* we should have preferred seeing taught in an *Engineering School*, and a properly organized *Engineer Corps*, attached to the Canadian Army, the officers of which should be obliged to pass through the Artillery School in the first instance.

We do not believe in the *multum in parva* system of imparting all technical knowledge practically and scientifically in one, especially in professional matters so closely allied and so widely separated as, that of Artillery and Engineer-

ing. It is very evident that while the knowledge attained in both should be accessible and interchangeable with all, the necessity exists for the development of each under separate administrations.

There is no doubt that the work done by imparting a knowledge of *military surveying* at the *artillery school* is well and thoroughly done. But that one branch of military engineering is all that can be taught profitably and our army should not be deprived of the services of an Engineer corps under the plea of economy.

The portion of knowledge that can be acquired is merely the initiatory branch of what is the absolute necessity of an efficient military force,—a thoroughly educated Engineering Corps. After the perusal of the paper referred to, it will be seen that the lessons of the age, as far as artillery is concerned, have been imparted in an efficient manner to our people.

Our readers will be pleased to see in the columns of this issue of the VOLUNTEER REVIEW, a communication from our gallant friend "Sabreur." It is like all the preceding contributions of that officer, concise and slashing, what should be expected from an old cavalry man.

We thank him for his kindly feeling. The organization and *esprit de corps* of the Canadian Army owes more to him and his gallant comrades who have contributed to the pages of this Review than to all other causes.

It is a matter of regret to us that our pages are not more largely used for the advancement of the ideas and knowledge which soldiers like "Sabreur," could impart; the unavoidable secession of such men from the rank of the Canadian Army is an irreparable loss, though it is in some degree balanced by the fact that they are too good soldiers and too much imbued with the instincts of military life to lose all interest therein.

The ex-Emperor of the French, Louis NAPOLEON BONAPARTE, died at Chiselmurst, England, on Thursday, the 9th inst., at 45 minutes past 10 in the morning. An operation for lithotomy had been performed, and it was thought that all danger was over. After a good night's rest, while his physicians were consulting as to completing the surgical operation, he rapidly sank, and suddenly expired.

Born in the Tuilleries in the year 1808, the deceased had completed his 64th year. The son of Louis BONAPARTE, King of Holland, and Hortense Beauharnois—born in the purple, an exile in poverty, and surrounded by ill fortune, his belief in his destiny was never shaken. During the course of his wanderings he visited the United States; made what is called a foolish attempt to dethrone Louis PHILIPPE; prisoner in Ham, he resided in England for the

greater portion of his exile, and during the Chartist riots, in 1848, he acted as special constable in Bond Street, London like any other respectable citizen.

Elected to the French National Assembly in the same year, an attempt was made to prevent his landing in France, but he was allowed to take his seat; was elected Commander of the National Guards of Paris; assisted in suppressing the insurrection of June in that year, which was put down by the strong hand of General CAVAIGNAC; the President of the French Republic; elected in his stead as President for ten years; the *coup d'etat* of 2nd December 1851, and a plebiscite made him Emperor of the French, realizing the dream of a lifetime.

The part taken in the affairs of Europe is a matter of history; the Crimean War, the Italian campaign; the Mexican intervention; and lastly the Prussian War, which once more, after a reign of eighteen years, drove him into exile.

Throughout the varied vicissitudes of this last period he had the good fortune to be blessed with a faithful and tender wife, and leaves a son about sixteen years of age as the heir of the fortunes of the modern Caesar.

It is not easy to predicate what effect his death will have on the fortunes of unhappy France, and it is questionable whether his dynasty would not furnish better rulers than the Bourbons.

As a rule, Louis NAPOLEON raised France to a height of prosperity which she never before knew, and there can be no doubt that he would have died on her throne but for the plottings of the enemies of all law and order.

A Series of experiments have just been made at Bourges with guns of bronze and phosphorus, but that composition does not appear to have stood the test as well in France as it did at Liege. At Bourges it was found that the Montefiore gun exhibited no greater powers of resistance than the ordinary bronze cannon, to which it was inferior in other respects. As far as the composition goes, it is said in France that M. Ruolz discovered it in 1854, and that two Frenchmen then offered as a present to the Government the same article which M. Montefiore desires to sell.

REMITTANCES Received on Subscription to THE VOLUNTEER REVIEW up to Saturday, the 11th inst.

TORONTO, Ont.—Col. Geo. T. Denison.....	2 00
ESQUIMO Lt.-Col. J. Murray.....	2 00
PETERBORO' Ens. John Dixon.....	2 00
Cornet W. H. Rackham.....	4 00
COBBWALL Judge Jarvis.....	2 00
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HALIFAX, N.S.—Lieut. W. McKerron....	2 00
Mr. J. B. Gray.....	2 00
Capt. J. A. Ritchie.....	2 00
Capt. W. A. Parcell....	2 00
Lieut. G. A. Sanford....	2 00
Lt.-Col. J. S. Belcher....	2 00
Major H. J. Parker.....	2 00
Capt. and Adj. L. J. Bland	2 00

## DEFEAT.

He took her hand, and looked at her,  
No sound did that deep stillness stir;  
Even the weary, wandering rain  
Hath ceased to beat upon the pane;  
Only about the perfect mouth  
A sigh more faint than the faint south  
Flowered of moment's space, and then  
Died into nothingness again.

The words he spoke were brief and slow  
What could he say, she did not know—  
What pulse of that impetuous soul  
But owned her calm, serene control—  
No need for him to test her heart  
With cunning fence or verbal art.  
Only to ask and wait her will,  
And, winning, losing, love her still.

Perhaps she wavered—ay perhaps  
The shadow of the cloud that wraps  
The future from our questioning gaze  
Let in some glimpse of after days  
Some hint of all she might possess  
In that true spirit's tenderness,  
If but her weaker life might move  
Unto the music of his love.

Perhaps! who knows? He only knew  
The large grey eyes were dim with dew,  
Saw only on the mouth's sweet bloom  
The shadow of reluctant doom,  
Felt only one sad, gentle word—  
And then through the deep stillness heard  
Once more the weary, wandering rain  
Beat dull against the window-pane.  
—Barton Grey.

## CAVALRY COSTUME AND ACCOUTREMENTS.

From the United Service Magazine.

In the present day the dress of our soldiers is regulated and attended to on precisely the same principles that ladies select a bonnet or any other important portion of their dress—viz, to look nice, and fit to wear in fine weather. In England it has been calculated there are about fifty fine days in the year, and the fair sex purchase their adornments as if in the whole three hundred and sixty-five days there would never be one but in which they could parade in all their power of beauty assisted by art. In like manner our cavalry, artillery, and infantry are clad and equipped as if their whole career would never carry them beyond a review in the *Phœnix* or a march past at Wimbledon. And just as we hear women talk of the colour and pattern of a dress, or the style of a bonnet, do we hear colonels and generals discussing the shape of a boot, the fit of a jacket, and the fashion of a tusty. "Oh!" exclaimed one of them when an officer of sense proposed doing away with the useless shabraque, "would you take away the only ornament we have left?" as if the existence of the whole of the British cavalry depended on a piece of embroidered cloth which, dangling about the horse's flanks, is an annoyance to the animal and a nuisance to the rider. We have witnessed more tuss made about a plume, and the height of a stock, than ever we saw expended over the fashion or fabric of a cloth, or any other article of real utility. Regiments have had to parade again and again in complete marching order, endeavouring to get the tips of the men's pouch belts or the butts of the carbine *in line*, an evidently impossible task when men and horses are not all one size, yet the foolishness of the attempt was never discovered nor discontinued until the patience of the promoters of these projects was worn out by the hopelessness of their self-imposed task.

In endeavouring to cover the head alone we have in the cavalry three or four different descriptions of protection, each of which are open to several objections. The helmet the Household, troops and Heavy Dra-

goons is as uncomfortable as it is cumbersome, and as hot to swelter under in summer as it is cold to wear in winter. Whenever the troops move out for a walk, the helmet slides backwards, until it gets into the position which has gained for it the well-deserved name among those who wear it of *neckhold protector*, unless the rider's hands are continually pushing it forward again. Who would ever dream of following the hounds in a helmet? yet a horseman in actual warfare may often have to ride over as rough ground, and go as fast a pace, as the members of the Leicestershire Hunt. Copies of the antique we have had recourse to old medals and coins for the shaps of the cavalry head-dress; never pausing to consider that what may have suited a savage age was ill-adapted to modern uses and requirements. The present helmet, sloping back close over the head, as if the wearers' heads were as void of brains as monkeys', offers no shade to the eyes or protection to the face from the sun. In olden times, being meant to be drawn over the face in action, it apparently rested flat on the head when the vizor was up, and thrown back for air and coolness when its wearer was out of danger. Besides, they were never worn but on the day of battle, and then only by officers of rank and station. Such matters of detail are never dreamt of by the hatters and tailors whose interest it is seemingly to have nothing for the soldier to wear but what is gaudy, useless, and expensive.

The busby of the Light Dragoon has all the faults of the helmet, excepting that it does not weigh quite so much. Of the hardness of wood, it feels when on as if the least movement in any direction would cause it to fly off at a tangent, and consequently the busby lines round it and its wearer's neck are really more useful than at first glance would be supposed. A tight chin-strap and practice, combined with the aid which the right hand can mostly afford to give, keeps the busby in its place usually, but it is a most ridiculous thing that a head covering should have to be held on at all by men, who being supposed to hold the reins in their left hands and their swords in their right, have neither hand to spare for such a purpose.

The Lancer's hat made to draw on like a night-cap has certainly the advantage of fitting on tightly, with the disadvantages of weight and a shape specially adapted to attract heat and moisture. The glazed black leather which covers it attracts the sun's rays with a force which none but those who have worn them can imagine, while the peak in front and the peak behind carry every drop of rain that falls on the hat down over the wearer's nose, and inside of his collar down his bare neck.

How comfortable such things as these must be to wear in any climate, one can well imagine; and when we reflect how useful two of them are, from the brass about them, to direct an enemy how either to avoid or find their wearers by daylight, we cannot help feeling surprised that such tawdry unanswerable articles should have formed part of a Dragoon's uniform for so many years. Certainly our authorities have studied well the precept, "How not to do it."

For a really serviceable cap we recommend us to the French *kpi*, or better still the head-covering of sheepskin that the Cossacks wear. The first-named is a neat, elegant head-dress, with a peak which shades the eyes and face from the sun, and would answer equally well for dress and undress. The Cossack cap is essentially a cap for

campaign; a cap one could sleep in, or make a pillow of, or in fact nearly anything at a push, except perhaps a saucepan. With a white cover, or a turban similar to what soldiers wear over their forage caps in India, the Cossack cap would suit a warm climate, and, as regards expense, why that would be so little, that, were it adopted forthwith, Mr. Cardwell would be able to show another great reduction in the Estimates, without reducing the strength. But, as we cannot expect to attain perfection all at once, we will recommend to the authorities a helmet of felt, smaller but something similar in shape to what the London policemen now wear. The helmet we contemplate would not be so high as that of the policeman, but shaped to swell out more above the forehead gracefully to the line where the front of the crest with the plume of horsehair would meet with it. This if made without brass or metal ornaments of any description, and with an air-tube for ventilation in the crown, would be a neat, serviceable head dress, far before the clumsy things which now disfigure the heads of our Dragoons.

Descending we come to the tunic; an article of dress which, promising well at first, has been spoiled by making it too spare and fitting it too closely. When will our clothing committees, or other authorities who ruin the men by casing them in tight-fitting clothing, learn that soldiers in action want equally as much room to move their muscles as sailors do? What would be thought of a captain of a ship who dressed his crew up in tight uniforms, stocks and hat caps, and then expected them in this trim to go aloft and reef topsails? Yet it would be easier for men so attired to go up the rigging of a ship as far as the main-truck and down again in a gale of wind, than, encumbered with rifles belts, and ammunition, to scramble over sharp pointed palisades, to mount scaling ladders, or climb up ruined but well defended ramparts, as storming parties have to do.

The same remarks apply to the horsemen, who, whether riding at ease on the march at home or dashing at a battery of guns in the field of battle, alike requires roomy clothes that will permit him to use his arms and weapons to the best possible advantage. The present tunic is far too small and too light for the wear and tear of a campaign. If what is now used in many regiments, and know by the name of patrol jacket, was to be the one adopted for all occasions, it would be difficult to devise a better or more suitable portion of dress for the purpose, as it is roomy, warm, and easily put on and off. With it no braces (1) would be wanted, which would give so much more power to a swordsman's arm, which is now considerably cramped by those appendages. We should like to see all yellow or white disappear from the clothing, as it speedily loses its beauty in the field, where men have more important matters to think about than *chrome-yellowing* and *pipe-clothing*.

The trousers should also be roomy, and although the Hessian is now the boot of our cavalry, yet we do not admire it with the veneration that its introducer does. Our objection is, that its use entails the expense

\* For India the spine of the back requires protection as much as the head, when dark clothing is worn. Soldiers' tunics, therefore, for that climate, should have cotton wool padding placed down the back as protection to the spinal marrow. If the tunics have openings at the armpits for ventilation, it would be another advantage.

(1) Braces to a Dragoon are the same encumbrances to him that the breastplate and crupper are to his steed. Braces, in short, interfere with free action, as well as cause heat and obstruct the circulation.

of one or two extra pairs of overalls upon the men, and several pound of extra weight for their horses to carry. Hessian boots can only be worn with knee breeches and as knee-breeches will not do for foot parades, or for stables, special overalls have to be kept for those occasions. Again, as the Hessian boot cannot well be worn under cloth trousers, a pair of extra plain boots will have to be kept by the Dragoon for this special wear.

On service we will venture to predict that the Hessian boot will, from its size and shape turn out a failure. These boots are all too small for the men, and the result will be at the coming Manœuvres (m) that the men's feet will swell so much as to interfere with their getting the boots on again in the morning when they have taken them off overnight. When they have taken them off—will they do so, we wonder, if there is any difficulty about getting them on again? Perhaps not: time will tell. However, the fact stares us in the face, that both our Cavalry and Infantry men have boots supplied to them which no civilian who could beg or borrow the price of a pair would think of wearing. A tight boot is torture to wear, and it would perhaps be quite as well if the authorities cast their eyes about in search of a comfortable boot for soldiers to march in as to expend all their time in looking after monster guns and improved rifles. It should be kept in mind that marching is of equal importance to fighting; so it logically follows that next to the arms soldiers are called upon to use, are the shoes or boots they have to wear when marching. The military boots should fit easily, be water proof, easily put on and off, and easily repaired. Now, we believe that in the new boot patented by Mr. Parker Rhodes these essentials are combined. This boot is a compound of the comfortable walking shoe and gaiter. To the sole proper a round heel and clump sole are attached by screws, and from the wearing surfaces, which consequently can be replaced by the wearers when necessary. The upper leathers are also fastened to the soles by screws, the sole being composed of an inner leather, an intermediate waterproof material, and an outer leather. The upper is formed of two or more pieces, so cut, that when closed one covers the other like a flap and so effectively as to keep out wet or dust entirely. When open, the whole inside of the boot lies exposed to view, which admits of its being cleaned and aired thoroughly. Over the upper a vamp shield, or cap of leather covers the front of the boot from the toe to the leg, an additional preventive to the entrance of wet or dust. The mode of fastening the boot is by a single lace passing through eyelets under the buttons, thus enabling the wearer to have an easy or tight fit at pleasure, therefore the boot can always be altered so as to fit comfortably. So readily, too, is this boot made, that any soldier being supplied with this cut pieces can make them himself into boots in an hour's time re-soleing and heeling is of course more easily done. A boot of this kind would be more serviceable to the cavalry and artillery than the neat but useless Hessian they are now compelled to wear. The advantages of such a boot as the Parker Rhodes is at once apparent if worn with cloth overalls. In fact we consider that good high-lows are for a cavalry man far preferable to the boot now worn. Cloth overalls, as we have remarked already, are the most serviceable. In the first place, they do for all duties, mounted or dismounted; and secondly,

when a pair of high lows are bored for spur bolts to go through, if a man's boots were bad or soaking wet, he could wear his high lows without any trouble, and thus be able to ensure a change which at times might be the saving of his life. So the Dragoon could not only do with fewer boots, but fewer pairs of overalls, if we were to go back to all cloth trousers; a matter of some consequence, when it is taken into consideration that, before long, Dragoons will have to go on service very lightly equipped indeed—if they are to be of any use in a campaign, that is to say.

The weapons of horse soldiers should be confined to the sword or lance and a long-barreled pistol. The sword should be nearly straight, and the Dragoon taught more about thrusts than cuts. A long barreled rifled pistol or revolver would carry and kill at 600 yards, and with it a man would, when mounted, make sure of a far better aim than he could do with the present "Westley Richard's carbine." We do not for a moment wish to disparage the weapon we have last named; far from it, as we believe it is the best gun the cavalry have ever had. We object to it, and all carbines, for cavalry, as it is impossible for any man to hold a gun with one hand, mounted, and fire with any chance of hitting the object fired at. If he rests the muzzle on the left or bridle arm, the least movement of his horse's head, at the moment of firing, must cause the bullet to fly wide of the mark aimed at, and if he holds it with one hand, the moment he attempts to pull the trigger with his forefinger, all aim he had before is at once lost, in short no one could tell where or in what direction that bullet might go. Now, with a pistol and a slightly bent arm, a very fair aim can be taken, and with a weapon capable of killing at 600 yards, we would give our cavalry soldiers an arm not only more handy and reliable than they have at present, but one that does not weigh half as much.

With a long-barreled pistol would disappear the pouch and belt which our Dragoons are now compelled to wear. The pouch could be fastened on to the sword belt by loops, so that it could be shifted behind when not required. The sword should be in a leather scabbard with but one ring to it, and but one sling to the belt. Of course, we would do away with the lower ring of the scabbard and the long carriage of the sword-belt—a change that most cavalrymen would welcome. The sword itself should be as light as possible; a light weapon would not only be equally efficacious, but much easier used than the heavier one. The late Captain Nolan, in his excellent but now almost forgotten work on "Cavalry Tactics," describes his astonishment at finding a squadron of Irregular Horse in India armed with swords made from old Light Dragoon blades, that had been cast, and sold as unserviceable for our troops. As he also strongly advocated the one-sling system of supporting the scabbard, we will give the extract referred to in full:—

"The sword-blades they (the irregular cavalry) had were chiefly old Dragoon blades cast from our service. The men had mounted them after their own fashion. The hilt and handle, both of metal, small in the grip, rather flat, not round like ours, where the edge seldom falls true; they all had an edge like a razor from heel to point, were worn in wooden scabbards, a short single sling held them to the waist-belt, from which a strap passed through the hilt to a button in front; to keep the sword

steady and prevent it flying out of the scabbard.

"Thinking the wooden scabbards might be objected to, as not suitable for campaigning, I got a return from one of these regiments, and found the average of broken scabbards below that of the regulars, who have steel ones. The steel is snapped by a kick or a fall; the wood, being elastic, bends. They are not in the man's way, when dismounted they do not get between his legs, and trip him up; they make no noise—a soldier on sentry on a dark night might move about without betraying his position to an enemy by the clanking of the rings against the scabbard. All that rattling in column, which announces its approach when miles off, and makes it so difficult to hear a word of command in the ranks, is thus got rid of, as well as the necessity of wrapping straw and hay round the scabbards, as is now customary, when engaged in any service in which an attempt is to be made to surprise an enemy."

We might continue for pages adducing fresh facts against the uselessness of the present steel scabbard and heavy sword, but our space will not admit of this. However, the objections are so evident that we believe no sane soldier will contradict them; so we pass on to the accoutrements, &c., which cavalry horses are overburdened with.

The first article we would dispense with is the *Sheepskin*, which is of no earthly value, except by its colour to attract the sun's heat in fine weather, and to hold after a shower the rain in wet weather. Examining its inutility further, we find that it for five minutes effectually prevents the Dragoon from getting to his cloak, wallets, or valise, and as in that time he might either be thoroughly drenched through with rain, or have picketed his horse, the unserviceableness of the sheepskin will be more and more apparent. The same remarks apply equally to the ornamental shabbarque, which, serving no purpose whatever, is a torment to both steed and rider. Substitute a waterproof cape—not, however to cover the saddle but the Dragoon, in wet weather when mounted, and the ground on which he has to rest in camp or bivouac—and a useful article would take the place of a useless one; an article that has lightness as well as other advantages in its favour. The valise should also be done away with, the wallets being made large enough to hold a woollen shirt, extra towel, and two pairs of socks additional to what they now hold. The saddle to be almost a plain hunting one, with strap in front and a highish fork, to secure cloak and wallets to. Shoe cases to be attached to rings at the cantle of the saddle, the mess tin fitting on the near-side, and the pistol holster on the off-side shoe case. Heelropes, pegs, and waterproof cape to be fastened being, in a similar manner to the way the valise is now. We would do away likewise with the crupper and the breastplate which only prevents a horse from jumping or moving freely, while they add more weight for him to carry. The headstall and big bit could be made much lighter as well, and if the useless collar chain was discarded for good, a great gain would result. In the field against the enemy, or when practising sham battle at home, collar-chains are never used to fasten the horses with; therefore, in the name of common sense, why should they be tolerated at other times? Let them and their accompanying cast iron logs disappear, and likewise shabbarques, sheepskins, valises, carbines, foragenets, breastplates and cruppers, and we will guarantee that the British Cavalry will not only be more efficient, and be able to turn out on any

(m) This paper was written two months since.

occasion in half the time it now takes them but the horses will do much more work, while at the same time they will be less fatigued in dowing it.

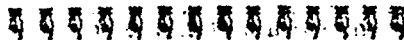
In making these remarks, we are guided by the knowledge of the fact that "The speed of cavalry must be esteemed its first and most useful property" all other things are secondary to this, and to attain it in perfection we must reduce the riding weight of our Dragoons by stones and not by pounds; hence the necessity of the alterations we have advised, alterations, be it remembered, that in no single particular detract from the rider's efficiency, but, on the contrary, add to it.

The first movement for the establishment of the Newport Torpedo station was made in September, 1869, when Commander E. O. Matthews—then attached to the Bureau of Ordnance in Washington—was selected for the work on account of his special qualifications and adaptability for prosecuting successfully a series of experiments, which, in governmental interest, were to be of the most thorough description. By February, 1870, operations commenced in earnest for the manufacture of the torpedoes and instructing officers in their use. A new machine shop is now building, which is of brick, two stories in height, and will, when completed, be a model of its kind. West of the machine shop is a brick building, used for storage on the first floor of all extra finished parts of machinery, apparatus for experiment, etc., while in the loft is the telegraphic machine under the hands of students who are qualifying themselves for operatives. Within Fort Wolcott is a laboratory where the materials for igniting and exploding the torpedoes are prepared. Out of the fort, on the west shore of the island, are two small buildings especially devoted to the manufacture of the terrible explosive tri-nitro glycerine and dustin, and north of them is a still for the manufacture of chemicals. Chemistry and electricity play most important parts in torpedo manufacture, and the student is obliged to throw off all horror of disagreeable work, don the proper clothing and add by practice to what he had previously acquired theoretically. From the first day to the last of the student's stay, it is constant work with head and hands, and if he does not prove an efficient officer, it surely will not be the fault of the Government. In the building known as the head quarters, are small laboratories, lecture and study room; all conveniently connecting with the office of the commander in the centre. In the latter room is kept a complete record of everything; work performed, business records and results of all experiments, many of which are of the utmost importance to the War Department. The torpedo varies in size from a capacity of from fifty to five hundred pounds of explosive material and is classed according to use. Before receiving the explosive, the test is made by an air-pump to satisfy as to tightness. For harbor defence the torpedo is copper-covered, as that material is slow of corrosion, while for spars and immediate miscellaneous uses the cheaper cast iron alone answers. The variations of style and manner of use are secret. Connected with the post are three steam launches, which are fully provided with ingenious devices for exploding the torpedo from the broadside and under water.—U. S. Army and Navy Journal 21 Dec. 1872.

Complaints are being made in France about the unsatisfactory manner in which the soldier performs his toilette, especially in camp. There is a rule that a jar of water shall stand in each room or hut; but this water is intended only for two purposes—to quench thirst and lay the dust on the floor. There are orders that this water shall not be used for washing; but in cold and wet weather the soldier prefers pouring some of it into his hands, and thus washing his face, to going out into the open air; his hands serve him for a basin, and his sheet for a towel. Now, the *Bulletin de la Reunion des Officiers* considers all this insanubrious and unclean, and recommends the erection of a covered washing place, with conveniences for daily ablution, and a thorough scrubbing under the eyes of officers once a-week.

During the last twelve months the number of deserters from the English Army has been so unusually large as to excite public attention and the newspapers are engaged in discussing means of putting a stop to the illegal exodus. Last year 8,360 names of deserters were published, and desertion is still going on at the rate of 700 or 800 a month.

**BREAKFAST.—EPPS'S COCOA.—GRATEFUL AND COMFORTING.**—The very agreeable character of this preparation has rendered it a general favorite. The *Civil Service Gazette* remarks:—"The singular success which Mr Epps attained by his homoeopathic preparation of cocoa has never been surpassed by any experimentalist. By a thorough knowledge of the natural laws which govern the operations of digestion and nutrition and by a careful application of the fine properties of well-selected cocoa, Mr. Epps has provided our breakfast tables with a delicately flavoured beverage which may save us many heavy doctors' bills." Made simply with boiling water or milk. Sold by the Trade only in 1lb., 1/2lb., and 1/4lb tin-lined packets, labelled—JAMES EPPS & Co., Homoeopathic Chemists, London, England



**TO THE WORKING CLASS.**—We are now prepared to furnish all classes with constant employment at home, the whole of the time or for the spare moments. Business new, light and profitable. Persons of either sex easily earn from 25c. to \$2 per evening, and a proportional sum by devoting their whole time to the business. Boys and girls earn nearly as much as men. That all who see this notice may send their address, and test the business, we make this unprecedented offer: To such as are not well-satisfied, we will send \$10 to pay for the trouble of writing. Full particulars, a valuable sample which will do to commence work on, and a copy of *The People's Literary Companion*—one of the largest and best family newspapers published—all sent free by mail. Reader, if you want permanent profitable work, address **J. C. ALLEN & CO., 27 N. 3rd St., Phila., Pa.**



**NOTICE TO CONTRACTORS.**

**SEALED TENDERS**, addressed to the undersigned, and endorsed "Tender for Petawawa Works," will be received until Thursday, the 16th instant, at noon for the performance of certain repairs of Sills, Dams, &c., from the First Cnuite to Thompson's Rapids, on the Petawawa River.

Specifications can be seen at the office of the Superintendent of the Ottawa River Works on and after Friday, the 10th instant, where printed forms of Tender and other information can be obtained.

The Department will not be bound to accept the lowest or any Tender.

By Order,  
**F. BRAUN,**  
Secretary.

Department of Public Works,  
Ottawa, 6th January, 1873.

**NOTICE TO CONTRACTORS.**

**SEALED TENDERS** addressed to the undersigned, and endorsed "Tender for Caillon Canal, Dam and Slide," will be received at this office until noon of Monday, the 27th day of January next (1873), for the construction of a Dam, Timber Slide, and Canal with two Locks, in the Caillon Rapids.

Plans and Specification of the works can be seen at this office, and at the Lachine Canal Office, Montreal, on and after Wednesday, the 15th day of January next, when printed forms of Tender will be furnished.

All Tenders must be made on the printed forms, and to each must be attached the actual signatures of two responsible and solvent persons, residents of the Dominion, willing to become sureties for due and faithful performance of the contract.

This Department does not, however, bind itself to accept the lowest or any Tender.

By Order,  
**F. BRAUN,**  
Secretary.

Department of Public Works,  
Ottawa, 25th Dec., 1872.

**ORDNANCE LANDS.**

**PUBLIC NOTICE** is hereby given that on **SATURDAY** the 1st day of February next at the Salesroom of J. Birmingham, Ottawa, and at the hour of noon will be offered for sale, the following Lots of Ordnance Land, to-wit:

1st. The lease for twenty-one years from day of sale of two several wharf Lots, lying on the west side of the Rideau Canal to the south of the Sappers Bridge, Ottawa, between the said Sappers Bridge and the stores of the Messrs. Bates, each Lot having a frontage of 83 feet, by a depth of 100 feet more or less, as shown on plan. Buildings to be erected thereon within two years in accordance with plans to be submitted to and approved by this Department.

2nd. A piece of Ordnance Land known as broken lot No. 11, Con. 5, South Crosby, County of Leeds, Ontario, contents being 35 acres, 3 rods and 24 square rods, more or less, together with a smaller piece of land contiguous to above, containing 1 rood and 28 square rods of land, more or less, with mines and minerals thereon being specially any mine of Phosphate of Lime, which may be, or may be found thereon. Terms Cash. Plans to be seen at the place of sale.

By Order,  
**E. PARENT,**  
Under Secretary of State.

**W. H. COFFIN,**  
Ord. Lands Agent.  
Ottawa, 27th Dec. 1872.

**READ THIS!** All persons having leisure and wishing to increase their income, please send address prepaid to undersigned Occupation easy and honorable, suited to all, especially **TOLADIES**, \$2 to \$10 per day without risk or expense.  
**C. L. BOSSE, Montreal.**

**Wanted,**

**A BAND-MASTER** for the P. W. B. Band. For particulars as to salary, etc, apply to **RICHARD W. BARROW,** Captain, President Band Committee Kings, Ont., July 19th, 1872.