

Topics of the WEEK. The Military College Entrance Fee. National Defence and the Indian Princes. British Army Estimates. A fill bustering rumour. The Pacific Coast Defences. Baybick practice commended. CAVALRY, SignAls... A code just issued to the School. EmployMENT or DOGS FOR MILITARY PURrosts, -U. S. Gasette. REGIMENTAL NEWS. THE RIFLE. Annual meeting Peterborough Asin. MASSACHUSETTS VOLUNTEERS TO VISIT ENG-LAND.-Shooting and Fishing. CORRESPONDENCE. The alleged Field Artillery Handicap. -D. C. F. Bliss. CHANGES IN ARMAMENT.-Lieut Philip Reade

Topics of the Week.

Some months ago a Militia Departmental regulation was issued increasing the entrance fee for cadets at the Royal Military College at Kingston from \$100 to \$200. The parents of the twenty-four cadets who entered the college last September objected to the extra \$100, on the ground that their sons had gone up for matriculation when the then existing regulations placed the entrance fee at \$100, and it was manifestly unfair to levy the extra amount after all arrangements had been made on the basis of the old entrance fee. The Minister has had the matter under his consideration, and has decided to remit the extra amount for the last batch of cadets, but future cadets will be required to pay the \$200 fee.

The movement in favour of the participation of the Indian princes and chiefs in a scheme of national defence appears to have excited the utmost enthusiasm in the Punjab and Rajputana. Amongst the Rajput States the Rajahs of Bhurtpore and Jodhpore have selected cavalry and infantry amongst the existing regiments for special training; the Rajah of Ulwar provides 600 cavalry and 1,000 infantry; while Kotah sends a regiment of infantry. The Maharajah of Jeypore offers to maintain 1,000 ponies fully equipped for transport service; in Bikanir an armed camel corps 500 strong will be raised and equipped. In this way a thoroughly equipped Rajput corps is being got together amongst the chiefs of Rajputana.

The English Army estimates for the current year call for an addition of $\pounds 600,000$ to the annual expenditure. This gives an increase of 2,615 men; improves existing works and submarine defences, supplies the army with quick-firing guns, new field guns of the latest pattern and magazine rifles, and increases the First Class Army Reserve, which will, it is anticipated, in the course of the ensuing financial year, reach the high figure of 58,000 men. The Secretary for War, Mr. Stanhope, calculates that in 10 days the field army of 80,000 men could be made ready. For the defence of London, Mr. Stanhope is making arrangcments for constructing at certain strategical points entrenched camps, surrounded by ordinary field works. In case of invasion these works could be extended and connected, all necessary preparation having been made to secure promptitude of action.

The Duke of Cambridge made an important speech in returning thanks for the toast of the Regular Army and Auxiliary forces at a public dinner recently. His Royal Highness takes the view that conscrip-

incompatible in the British service; which was for the most part foreign, and that France and Germany had conscription because they had frontiers to defend. In their place England has, the defence of India and the Colonies to provide for, and even Prince, Bismarck would hardly be able to persuade his countrymen to accept universal service if it involved long periods of soldiering in the tropics. The Commander in Chief was careful to recognize the fact that the fatal, objections to conscription for the Regular Army did not exist in regard to compulsory service in the Auxiliary forces, which would be brought about by the revival of the Militia ballot. Taking the Auxiliary forces as they are at present constituted, the Duke of Cambridge spoke in high terms of them, and said that they ought to have the support of the 'nation,' and that in particular the Volunteers, being the least expensive, ought to be regarded with the fullest consideration by those who have to see its efficiency maintained. He also said that in his opinion the Volunteers "wanted more money," that is to say, that more money ought to be, spent in improving their efficiency.

This curious paragraph, appearing as an Ottawa despatch of the 24th March, is now going the rounds of the United States:---"Fears are expressed that a filibustering expedition from the United States may seize the undeveloped territory in the great Mackénzie'River region. Senator Girard says: 'Fifty resolute' meh," armed with supplies and ammunition, would be sufficient to hold the country against any force that could be sent against them under existing conditions.' The country contains great mineral wealth, and abounds in valuable fisheries, extensive forests and rich pastures, all awaiting settlement and affording plenty of room for thousands of population."

The San Francisco Standard prints the following: ""The easy indifference which marks the attitude of the United States towards all other countries is well illustrated by the apparent lack of interest in Washington in the building up of a great British fortion Vancouver's Island. A resident of Olympia, W. T., said in this city the other day: 'A very large proportion of the people of this country are aware that the strongest fort on the American continent is now building on the Pacific coast. When completed it will rank next to Gibraltan among the world's fortifications. It commands the entrance to Puget Sound, the second port of entry on the Pacific coast and one of the most important in the United States. The British will soon be able to close this port at any moment. No other nation in the world would permit the building of this great fort to intimidate a peaceful neighbour.

On the occasion of a presentation of officers commanded to the Military Gymnasium the Emperor expressed great satisfaction with the performances that he had witnessed, and, referring to the importance of gymnasiums for the army, recommends the practice with the bayonet to the special care and attention of infantry officers. He expressed him-

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self somewhat in the following words :-- "As long as any orders had to come from him, bayonet fencing should be kept up in the army, as it tends to develop the offensive spirit and the initiative of the individual, and for this reason every officer should exert himself in his particular sphere to see that a proper understanding should exist in the army of this all-important branch of military education."

Cavalry Signals.

Our readers belonging to the cavalry arm will read with interest the following additional signals to be used in the instruction and move ments of cavalry, just promulgated to the Royal School of Cavalry at Quebec by Lt.-Col. J. F. Turnbull, Commandant :

- (a) "Advance" or "Forward."—Arm swung from rear to front, along the side of the horse, finishing with the sword hand pointing to the front.
- (b) "Trot-"-Clenched hand moved up and down between thigh and shoulder. All Me Games
- "Walk."—Arm raised, elbow bent, wrist in line with the shoulder.
- (d) "Retire," "Troops Right about Wheel," "Right Reverse."-Arm circled above the head.
- (c) "Halt."—Arm raised perpendicularly.
- (f) "Shoulders."—Circular movement of extended arm in line with the shoulder in the required direction.
- (g) "Incline."—Arm extended horizontally in the required direction.
- (\hbar) "Dismount."—Two or three slight movements of the open hand below the knee towards the ground.
- (i) "Gallop"—Circular movement of hand below the shoulder.
- "Troops" or "Heads of Squadrons, Right or Left Wheel."-Arm (j) waved from perpendicular to horizontal position in the required direction.
- "Advance from line in Squadron Columns"-Cut "One" and (k)"Two" and "Point."

(1) "Form line into Squadron Columns."—Same as (k).

(m) "Dismounted Practice."—Arm raised as for "Halt," and then pointed to the ground.

In signalling, the signallers should, as far as possible, face the same way as those to whom' the signals are made. Signals of position, such as the "Halt" or "Incline," should be maintained.

Signals of movements, such as "Advance" or "Shoulders," should be repeated till it is clear that they are seen and understood.

To prevent signal (f) "Shoulders" being mistaken for signal (a) "Advance," it is most important that in the former the hand should be kept level with the shoulder. When the signal "Shoulders" is made to a regiment in column, the leading squadron or troop will change direction; when made to a line; it will mean an entire change of front.

WHISTLE SOUND SIGNALS.

To be used in patrol work. These sounds should be short and not too loud, as follows, viz:

- One short sound türn to the right.
 Two sounds turn-to the left.
 One long low sound halt.
- 4. Four long low sound ______ halt.
- danger or retire.

5. Six sounds in the time of the trumpet sound "Advance" advance. 👔 🔮

6. Nine sounds to the time of "Front Form" - close on leading man.

Employment of Dogs for Affilitary Purposes.

(United Services Gazette, March 16.)

may be led to support from the enrolment of dogs into an army are varied, and cannot altogether be definitely laid down; but there are at least five distinct objects for which they can be used, viz.: (1) As auxiliary sentinels to the outposts and sentries and to the advanced rear and flank guards in general. (2) As scouts, on the march, on reconnaissance, and patrol duties. (3) As despatch carriers, on the march, in camp, in action, etc. (4) As auxiliary ammunition carriers, on the march and in action. (5) As searchers for the wounded and killed after an engagement. After detailing very clearly and minutely on these points the lecturer remarked : We have already pointed out the principal ways dogs can be of service to an army in the field, and their training would naturally be undertaken in these different directions. There is

no royal road, I am afraid, to the completion of their education, Much patience and perseverance is required, and a natural aptitude on the part of the trainer to improve upon the gumption of the dogs, and to adapt himself to the varying peculiarities of each. As scouts they can be easily trained, every dog having a natural predilection for ranging. They should be encouraged to range in front of the trainer up to any convenient distance, in order that they may realize what is expected of them; soldiers should be rosted here and there, and whenever they come within reasonable proximity to these menythe latter should, if the dogs do not take notice of them, either pretend to, or actually strike them, so that they may be put on their guard, and after a short time it will be, found that the dogs will be fully alive to the occasion. Barking should, on no account be permitted, but by growling, returning to the trainer, or other indication, give warning that danger is near at hand.

The Germans dress men in French and Russian uniforms, and the French have recourse to similar means, who lie in wait and frighten the dogs, so that very early in their education they learn to recognize the common enemy.

At night it is prudent, unless you can thoroughly trust your pupil, to have him led on a chain; he will then be under direct control, and there will be little or no danger of his barking, for he would otherwise put the enemy on the alert, and his faculties of perception are, even when prevented from ranging, sufficiently acute to enable him to detect a stranger at a very considerable distance. To act as sentinels, dogs take kindly enough to; each sentry (double) should be supplied with one and they should be exercised by day, and specially by night, to give early notice of anything unusual astir.

The role of courier will be the most difficult to inculcate. He will probably take kindly enough to the preliminary training, which is carried out by taking the dog a short way from his master and letting him return at top speed, and gradually increasing the distance until he will come back with certainty at least a mile or more. This should be practised by day and by night also, and it is imperative that the dog be taught to use his nose, for it is not at all wise to allow him to trust entirely to his bump of locality. I find that my dogs perform their journeys at night almost quicker than during the day; the disturbing influences are less, and they seem to think it a matter of life and death to return as rapidly as possible. They must be instructed not to allow any stranger to intercept or stop them. "This there is little difficulty in as hirtige." One wellin trained collie in a German regiment, on the approach of anyone he does not know, will hide himself in the nearest ditch or other convenient place, and will wait until he passes; he then continues his journey, only to repeat the process should he be again intercepted, and will persevere in this manner till safely arriving at his destination. For carrying despatches a leather pocket must be attached to the collar of handy size, and easy to be opened and closed.

As ammunition carrier to supply the firing line, the method of training is very similar. . Harness with properly adjusted panniers (as shown). will have to be worn. Those which 1 employ are constructed to carry eighty rounds (81b.), which in the new ammunition will amount to double that number for the same weight. The dogs will further be taught to stand fire. To search for the wounded and killed, men simulating these condition a nust be posted here and there on the ground the dogs range over, behind trees, hedges, houses, etc., and, having found their man, they must return to the search party, and give indication of his whereabouts. The training should first be undertaken at from six to nine months old, daily lessons of such a length as not to weary or disgust the dogs, remembering always that progress to be real must be gradual, and that kindness must be the guiding rule of those in charge,

As to the care of the dogs in regiments, volunteers should be called for and none but reliable good-tempered men be allowed to look after them. If it is proposed to employ two dogs per company as in foreign armies, then one man per company should take charge of and feed them. r Doubtless the officers would assist in this matter of housing and keeping sicthem, for it would be to the mutual benefit of themselves, their regi-At the Royal United Service Institution yesterday afternoon, Gen. ment, and the army at large, and as most officers have a dog of some George Erskine in the chair, Veterinary Surgeon E. E. Bennett delivered sort, it would be preferable to keep one that is useful rather than one a very instructive lacture on the above subject. The services which we that is not so. In Germany each dog has a separate kennel or barrel, but I think, if housed by the officers, non-commissioned officers and men it would be better, as the dogs would more closely associate themselves to the regiment, and would be more constantly in contact with the human controlling influence; the kennel method, further, has the decided disadvantage of being provocative of barking.

As to their food, the leavings from the men's dinners, surplus vegetables and bread, with additions from the officers' and sergeants' messes, would be more than sufficient to feed all the dogs necessary. In this way no extra expense would be incurred which might seriously militate against the introduction of such a system into any army. The young dogs should be fed twice, the older once, daily. In cold weather, when doing sentry duty at night, short-haired dogs should be provided with a coat

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made from any rough material at hand. This will add to their comfort, and enable them the better to perform what is required of them. The supply of dogs for military purposes would, I feel sure, be readily met by the sporting public, who would supplement those belonging to the officers by the surplus from their kennels, but if sufficient were not forthcoming the expense of purchasing puppies at six months old would not be very great. Many volunteer regiments might, in all probability, take up the system, and would gladly yield

up their trained canine companion in the time of national need. And, further, after obtaining a substantial footing, it might be thought desirable to start a special kennel for the supply of dogs, and bred from those already doing duty with the colours. In these days, when, in naval wattare, such a very sharp look-out has to be maintained against the approach of torpedo-boats at night, the dog might materially assist those employed in keeping watch. He might also be most useful in foggy weather in the prevention of collisions by giving timely warning of the whereabouts of approaching craft; and, further, when might attacks and assaults have to be made on shore, the various uses to which we put the military dog could equally well be undertaken by his naval confrere.

Regimental News.

Toronto.

Now that it has been definitely decided that there will be no trip to Niagara at the end of June, the Royal Grenadiers will commence drill at once. Regimental orders have been issued for the battalion to parade in drill order at the armoury every Thursday at 8 p.m. until further notice. Authority has been received for Capt. Kemp, 1st Argyle Rifle Volunteers of Scotland, to be attached to the regiment for drill. He will do duty with "G" Company.

THE QUEEN'S OWN.

The sound of martial music, the steady tramp of armed men and the stentorian voice of command, after a long season of silence, were again heard in the drill shed last week on the occasion of the opening drill of the Queen's Own. Major Delamere was in command, and four hundred and fifty-three of "the boys" turned out to renew their acquaintance with their exercises. After the drill had ended the various captains read the orders to the men.

Lieut.-Col. Allan has been granted leave of absence from March 11 till July (h) Major Hamilton assuming command during that time. The following promotions have been made:—Corp. Simpson, of "B" Company, to be sergeant, vice Peters, discharged; Corp. Cameron, of "G" Company, to be sergeant, vice Flint, discharged.

The following officers are posted thus till further orders :--Second Lieut. Wyatt in "A" Company; 2nd Lieut Crean in "J" Company; 2nd Lieut. Badgerow in "K" Company. Major Hamilton has been granted leave of absence until June 18, Major Delamere to take command till his return.

A combined band concert will be given by the Q.O.R. and 13th Batt. on Tuesday, April 30, in Hamilton.

The adjutant's report read as follows:—"The commanding officer, on the basis of average attendance on drill, has awarded the order of merit for 1888 to the companies as follows:—1st '1),' 2nd 'A,' 3rd 'C,' 4th 'B,' 5th 'F,' 6th 'H,' 7th 'G,' 8th 'I,' 9th 'C' Company."

The Rifle.

Peterborough Rifle Association.

The annual meeting of the Peterborough Rifle Association took place Wednesday, 3rd inst., in the orderly room of the drill shed. The attendance was large, and considerable enthusiasm is evinced in the association's prospects for the coming season. The election of officers resulted as follows:----

President, Col. H. C. Rogers; 1st Vice-President, Mr. C. Clementi; and Vice-President, Major R. W. Bell; Sec.-Treas., Capt. R. M. Dennistoun; Council, Messrs. F. Hall, D. Cameron and A. Mason. The officers were authorized to procure a range as speedily as possible, and they were empowered to arbitrate, if necessary, in order to ascertain the amount of compensation to be paid. It was decided to hold monthly matches, and to offer special inducements to new members. The association is in a better financial position than ever before, and the prospects for the coming season are unusually promising.

Lieut. Geoghegan, depot Royal Irish Regiment, ordered his men to leave the church on Sunday, March 3, upon the use of language by Rev. Patrick Byrne, C.C., during the reading of the lenten pastoral, which Lieut. Geoghegan considered to be seditious. With the exception of two sergeants, the men declined to leave, and the lieutenant was arrested and fined \pounds_3 , with the alternative of one month's imprisonment.

Massachusetts Volunteers to Visit England.

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[Shooting and Fishing.]

Announcement of the contemplated trip of the team of Massachusetts Volunteers to England, has several times been made in these columns. Since permission has been given by Adjutant General Dalton for the Volunteers to visit England, Major Frost has been busily engaged in raising the funds necessary to defray the expenses, as it is an entirely private affair and the expenses not borne by the State but by private subscriptions. As previously stated the team will be chiefly composed of the volunteers who have done such excellent work in representing the State of Massachusetts at Creedmoor and elsewhere during the past few years, and as a reward General Dalton decided to grant permission for the volunteers to visit Wimbledon and other rifle meets in England. Major Frost, we understand, receives permission to take abroad a selected team, and with him is left the matter of selection, and upon him alone rests the responsibility of the affair. It is understood that he, having absolute control of this matter, will reward the most efficient and reliable men by at once notifying them that they are selected. No official announcement has been made as to who will constitute the team, but it is generally known that the ten men decided on are as follows :--- Major C. W. Hinman, Lieut. S. S. Bumstead, Lieut. Hussey, Lieut. Edes, Sergt. W. C. Johnston, jr., Sergt. Merrill, Corp. M. W. Bull, Ptes. F. R. Bull, L. T. Farnsworth and W. M. Farrow. The team is not likely to be less than twelve men, probably fourteen and possibly more, dependent upon the amount of funds raised. Outside of the probable selected ten men named, it is understood the additional men will be selected by the merit of their work in competition, and it is thought that amongst those who will compete for the positions will be the following :--Ptes. W.'D. Huddleson, George Doyle, G. R. Russell, M. W. Daulton, T. T. Cartwright, A. C. White, and perhaps others,

Major Frost some two weeks since addressed a statement of facts to leading business men of Massachusetts, in which he outlined the projected trip. He stated that for three years the rifle team of the Massachusetts volunteer militia had swept all before them at Creedmoor and Chicago, defeating alike the picked teams of the army, navy and national guard, and that to-day Massachusetts, through these men, holds not only the "Soldier of Marathon," representing the championship of the National Guard of the United States, but also the famous Hilton trophy, emblematic of the military and naval championship of America, and that the team now holds the record in both competitions.

"Naturally," he says, "such results have only been made possible v by enthusiastic and self-sacrifising work on the part of every soldier composing the team, which is made up of representatives from nearly every organization in the State service. While the adjutant-general has dealt liberally with the men, the individual expense of each member has greatly exceeded any allowance given by the State, yet has been cheer fully assumed by officers and men alike. Such loyalty to the reputation of this old Commonwealth certainly deserves recognition at the hands of its citizens, and the time has now arrived when it is possible to show in a substantial manner how well the deeds of her expert riflemen are appreciated. The Massachusetts rifle team wishes to visit Europe the coming summer and participate in the annual meeting of the National Rifle Association of Great Britain, at Wimbledom, England, July 8th to 20th. The members desire to study the English system of rifle practice, and believe that the experience gained by a two weeks' encampment with 3,000 riflemen, coming from all parts of the world, cannot fail to be of great benefit to every officer and man. Official correspondence has developed the fact that the Massachusetts team will be cordially welcomed, and that a series of competitions will be arranged with the crack shooting organizations of the English volunteers. The adjutant-general of the Commonwealth is heartily in sympathy with the project, and has favourably endorsed the application for permission to make the trip, and leaves of absence for officers and men and for permission to take arms and uniforms are also provided for. The United States Government, through Gen. Benet, Chief of Ordnance, and Col. Buffington, Superintendent of the Natianal Armory at Springfield, have given it their warmest co-operation. All members of the team have found it possible to arrange their time and business, and all that remains is to provide the necessary funds. About \$6,500 will cover the expense of the trip and carry out every detail in a manner worthy of the reputation of the State. This amount must be raised by private subscription, as the adjutantgeneral has no money at his disposal to devote for the purpose."

The result in securing subscriptions thus far is shown in the statement of Mr. Asa P. Potter, treasurer of the fund, who makes his first public acknowledgment of subscriptions paid in to March 30, which is a total of \$1,450.

The London Honourable Artillery Company is to be reorganized upon a new basis, and thus to be saved from threatened disbundment. 4.4

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dil at Correspondence.

[This paper does not necessarily, share the views expressed in correspondence published in its columns, the use of which is treely granted to writers on topics of interest to the Militia.]

THE ANDEGED FIELD ARTILLERY HANDICAP.

Editor Militia Gasette.—While I have no desire of provoking any further controversy in the matter that forms the subject of Major H. P. Van Wagner's communication which appeared in your issue of the 14th of March, I think that it is, perhaps, hardly fair to your readers to allow them to remain under many erroneous impressions that they would undoubtedly concerve by perusing the letter in question. What Major Van Wagner's object can be in 'so violently assailing the D. A. A.—an association which has indisputably done gigantic work in promoting the efficiency of the field artillery of the Dominion—is beyond the powers; of my comprehension?

Major Van Wagher undoubtedly feels much disappointment at the failure of his battery to win the Governor General's prize for general efficiency during the past year, but a calm and unbiassed consideration of the matter would; I think, compel him to acknowledge that there is very slight, if any, ground of complaint towards either the D. A. A. or its executive. It is a well known fact amongst the officers of the artillery that the executive of this association has left no stone unturned to render the efficiency competition as equal in the conditions under which the several batteries competer as possible. It is true that equal conditions have not always been secured, but it is also true that with the funds at its disposal it has never been possible to render even conditions which, to the uninitiated, may appear controllable, equal so far as individual batteries are concerned.

Major Van Wähner's views as to the propriety of counting the scores of batteries in the tredits in the efficiency competition and standing of the batteries is one that I think is hardly open to argument. Artillery, fire being the very schere of "efficiency," and being the point to which all artillery instruction feads, it would, T think, be a grave error were the efficiency of a battery thus tested excluded from the general efficiency competition, even though the shell practice may necessarily have to be held under "varyity conditions." In the near future, however, we look to seeing many of the warying conditions" of the past done away with by the concentration of competitors from the various batteries at one central point. The executive of the association have worked to attain this object for very many years, and now that success has crowned their prolonged and tenergetic efforts, it would certainly be a great pity for any battery to weiter from the competition through disappointment caused by the uncentrofillable circumstances of the past.

Major Van Wegner hardly places the matter of signalling blind shrapnel before your readers correctly. It is true that there is no specific rule laid down signalling blind shrapnel, but neither is it necessary. The entor infisignalling would appear to me to have been caused by the range officer not having fully comprehended the instructions laid down by the Inspector of Artillery as to signalling. To my mind the instructions are quite clear. The difficulty arose through the range officer attempting to improve on the signalling as laid down by allowing his private judgment to decide whether a shell striking the water was a common "or "a, shrapnel shell. A shrapnel shell "blind" striking the water has all the appearance and cannot be distinguished from a common shell; and had the range officer treated the blind shrapnel of the Hamilton Battery as what they would appear to be (common shell), and signalled accordingly, Major Van Wagner would have known within ten yards of where his shell struck-and I do not think he will claim that the use of a telephone could have given him any more definite information than this. The register keeper and the competitor knowing the shell fired to have been a shrapnel, the range officer treating it in his signal as what it would appear to be (a common shell), no confusion would have ensued. It would be at once apparent at the firing point that the shrapnel was blind.

I cannot, however, leave this point of Major Van Wagner's communication without drawing attention to the fact that there can be no difficulty in recognizing from the firing point whether the shrapnel fuze has been good or blind. "The burst of the shrapnel is distinctly visible with the naked eye, and how any officer could allow *thirteen blind shrapnel* to be expended is a mystery. Even supposing that the shrapnel burst at the moment of impact it must still be apparent to the competitor that though he might receive value for the shell as good, still the shell having burst so low, he would surely realize that the fuse had been bored too long and improve it in his next round. The battery that would fire 13 blind shrapnel, signal or no signal, could bardly be called "efficient," as the unnecessary waste of ammunition with such a battery on service (where neither telephone nor flag signalling could be expected) would render its employment a very useless expense. It appears to me that this is the *attainment* of "an efficiency at target practice that would put the marksman of the old smoothbore to the blush."

It is not apparent that any ill results would ensue through a shrap nel shell, fuse good, bursting between bannerols 4 and 5 being signalled the same as between 1 and target; fuse blind, as the impact of the shell is clearly visible from the firing point, and the great distance that Major Van Wagner complains about is, itself, the surety that there would be no confusion as regards the result of the signalling.

is it is also worthy of note that while the Hamilton Battery made six points more than the Welland Canal Battery on the same range, the same days and employing the same signal system in the preliminary practice; the latter battery made, 47 more points than the Hamilton in its final practice. This difference in the final practice cannot be laid at the door of an inferior signal system, because in the final practice no signalling is permitted. How, therefore, can this falling behind in the final practice be accounted for? I have heard it stated that while the commanding officer of the Welland Canal Battery was present himself at the final practice and gave much assistance in the way of advice and instruction to the competitors, the officer commanding the Hamilton Battery did not consider it worth while to be present at the time of the final practice of his battery. I think that had the Hamilton Battery been properly overlooked in its final practice by its own officers it would have won the general efficiency prize-and nothing would have been heard about the "varying conditions" of the practice.

By the way, nothing was heard in 1887 about "varying conditions" although the Hamilton Battery was awarded the general efficiency prize and had used the telephone at its shell practice, notwithstanding the fact that the Shefford, Newcastle, Richmond and Winnipeg batteries had to be content with flag signalling instead of a telephone. It all depends on "whose ox is gored."

The insinuation that the executive of the D. A. A. permitted the use of the telephone at Toronto for the purpose of giving an undue advantage to the batteries under the command of the President of the Association, I shall pass unnoticed. It is simply a matter of surprise to those who know the members of the executive that an officer occupying the responsible position of Major Van Wagner should lend his name to such a statement.

Now a word as to the studiess shells. I have made full inquiries into the lengthy arraignment of the D. A. A. for having competied the Quebec Battery to fire Canadian manufactured shells. Major Van Wagner asks "Can a D. R. A. member imagine the D. R. A. compelling some competitors to fire the Canadian ammunition a few years ago when it was unsatisfactory, and allowing others to use imported ammunition, and when the competitor failed to make a "good store disqualify him for another competition? What a furore there would have been. But this is practically the way Quebec was treated" by the D. A. A. Quebec did not protest. Nobody objects to anything in the competition except the 'Hamilton kickers.'"

The statement made in the quotation is a sufficiently serious one to have warranted Major Van Wagner in making the most complete inquiries before sending it broadcast through the country in the way he has done. It is a direct misstatement. The Quebec Battery had the studless shells issued to them through an error, and through no fault of the D. A. A. or its executive.

Major Lindsay's application to be allowed to fire his common shell over again with the imported ammunition received the warm endorsation and recommendation of the D. A. A. executive. The Department, however, could not, unfortunately for the interests of the Quebec Battery in the competition, see its way clear to authorize the expense attached to the additional expenditure of ammunition. Quebec did not protest, as Major Van Wagner has stated, because Major Lindsay had a sufficient sense of fair play not to lay the blame in the matter at the door of those who had no control over it. The protesting has been done on Quebec's behalf, but without its consent, by the self-designated "Hamilton kickers" on insufficient grounds and in entire ignorance of the circumstances.

Major. Van Wagner's peroration is not any more creditable to him than his misstatements as to the alleged handicapping of the Quebec Battery by the D. A. A. He states that before 1885, from various local causes, the Hamilton Battery was out of the competition for any place in the efficiency list. His ground of complaint, therefore, dates from 1885. In that year he ascribes his inequality with the fortunate batteries in the competition to no credits being given his battery for dismounting drill; but I find on reference to the report of that year, that had the full points for this drill been allowed the Hamilton Battery, it would not have been any more successful as to the winning of prizes than without the credits. Hamilton, with full marks added for dismounting drill, would only have occupied a third place in the competition. The same complaint is made as regards 1886, and with just about as much justice. The full points for dismounting added to the others awarded to the Hamilton Battery would only have given them a third place in this year also. In 1886 no complaint was made. There were no "varying conditions? Hamilton won the prize. In 1888 Hamilton made a good "inner" in the competition; that they did not strike the "bull" should be more fairly ascribed to the want of coaching of the competitors at the final practice, and not to the "varying conditions" that have heretofore necessarily existed every year; as far, at least, as four or five of the competing batteries are concerned.

From all accounts in 1889 Major Van Wagner can have absolutely no ground for complaint if, as expected, the efforts of the executive to secure shell practice for all competitors on the same ground are successful. D. C. FORSTER BLISS.

Ottawa, 8th April, 1889.

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Changes in Armament.

(Lieut: Philip Reade, in Chicago Times.)

It is not a matter of general knowledge that when the civil war broke out the infantry of the United States army had just changed its rifle. In 1860 the Maynard primer rifle was changed to the percussioncap, despite the protest of Gen. Winfield Scott, and the Springfield rifle, muzzle-loading, was adopted instead. March 4, 1861, the United States had on hand 336,788 smooth-bore flint and percussion muskets, 73,544 rifled muskets, and 32,855 rifles. In addition Uncle Sam owned nineteen different varieties of breech-loading carbines. The chief of ordnance purchased in open market and from contractors the enormous number of 1,055,862 foreign rifles; also, 670,617 rifled United States pattern muskets, and 113,034 old smooth-bores. There were fabricated that year in the United States armory 805,537 rifled muskets. The total of smooth-bores was 449,822, and of rifles 1,559,698. These were the small arms with which to arm the handful of United States regulars and the army of volunteers. By June 30, 1866, the total number of small arms had increased to 2,649,439. The losses by wear and tear during three years of active warfare were for infantry about 13 per cent. per annum. In January, 1866, Gen. W. S. Hancock was directed to report what form and calibre should be adopted for breech-loading muskets and carbines, and what form of conversion for muskets from muzzleloading to breech-loading should be adopted. After testing twenty-two varieties of breech-loading muskets and seventeen varieties of breechloading carbines, Gen. Hancock reported in favour of 45 calibre for muskets, and the best charge of powder from sixty-five to seventy grains, weight of ball from 480 to 500 grains. These dimensions exist now. Duing 1869 Gen. J. M. Schöfield was ordered to select the six best patterns of muskets for infantry. After examining thirty-four varieties of breech-loading muskets and eight each of carbines and of pistols, he recommended the Remington, Springfield, and Sharp's system of breechloading as superior to others in the order named and alone superior for adoption by the government without further trial in the hands of the troops. In 1870 the chief of ordnance placed in the hands of companies of infantry and cavalry for twelve months' trial muskets and carbines of each of the above named system and also of the Ward Burton system.

Two years later congress passed an act under the provisions of which Gen. Alfred H. Terry was ordered to recommend a breech loading system for muskets and carbines to be adopted for our military service, which system, when adopted, it was directed by congress should be the only one to be used by the ordnance department in the manufacture of muskets and carbines for the military service. After the trial and examination of ninety-nine varieties, besides nine varieties of breech loaders in use by foreign nations, Gen. Terry (in May, 1873) recommended that the Springfield breech-loading system be adopted for the military service of the United States. We still adhere to that system. Some of the foreign systems examined by Gen. Terry were the Martini-Henry (Enfield), Chassepot (French), Dreyse Needle (Germany), Mauser (Prussia), Werndl (Austrian), Berdan (Russian), Vetterlin (Swiss), and Werder (Bavarian), also, the Spanish Remington. Four of these nine varieties named were American in their origin. The weight of the Springfield rifle decided on was 8.38 pounds and the trigger was adjusted to pull off at from six to eight pounds.

In February, 1881, Congress appropriated for the manufacture of small arms at national armories \$300,000. Of this amount \$50,000 was directed to be expended in the manufacture or purchase of magazine guns, to be selected by a board of officers to be appointed by the Secretary of War. Col. Brooke was detailed as president of the board. Forty guns were submitted. Of these the principal ones were the James P. Lee, Chaffee-Reece, Hotchkiss, Spencer-Lee, Marlin, Remington-Keene, Burton, Springfield-Jones, Elliott, Dean, Russell-Livermore, Trabue, and Boch. Two foreign guns were presented by Joseph Schulhof, of Austria, and F. Vetterli, of Schaffhausen, Switzerland. The board reported that the Lee, the Chaffee-Reece and the Hotchkiss possessed efficiency as single loaders, and, considering safety, ease of loading, rapidity of fire, endurance, moderate weight and simplicity of construction, it recommended them in the order named. The Spencer-Lee was especially

mentioned as possessing some novel and meritorious features. Th board recommended 9¼ pounds weight for the Springfield rifle; caliber .45 inch. This recommendation of weight was not concurred in. that time the weights of the muskets of the other nations were as follows: United States, 8.38 pounds; France (Gras), 9.26 pounds; England (Martini-Henry), 8.75 pounds; Holland (Beaumont), 9.76 pounds Italy (Vetterli), 9.26 pounds; Prussia (Mauser), 9.66 pounds; Russia (Berdan), 9.47 pounds; Switzerland (Vetterli, magazine gun), 10.14 pounds. It is notable that ten years ago Switzerland was the only country whose forces were armed with a repeating rifle. It may be also mentioned that the lapse of ten years finds six of the nations mentioned feverishly engaged in changing their small-arms system. When one calculates the expenditure involved in buying or making a quarter of a million or so of rifles, the immense cost of rearming a nation with smallarms becomes appreciable. The Springfield rifle costs \$13.12, the Lee \$14.12, Hotchkiss \$16.58, Chaffee-Reece \$33.35.

The Lee, Chaffee-Reece and Hotchkiss magazine guns recommended by the board in September, 1882, to be issued to the United States army for trial were issued to selected companies of our army for trial by troops. After a careful consideration of the reports rendered, Gen. Benet, Chief of Ordnance, stated to the Secretary of War, December, 1835, that he was satisfied that neither of these magazine guns should be adopted and substituted for the Springfield rifle as the arm of the service. He has since reported that an effective and simple magazine gun has become a necessity, but that from the little that can be learned of the magazine systems abroad he is persuaded that nothing is to be gained by haste at this juncture, as the Springfield will continue to admirably serve the purpose and the best interests of the army long enough to enable the determination finally on a magazine gun that will do credit to the inventive genius of the people.

The list of articles procured by fabrication at American armories annually is too extended for publication. The yearly average of manufacture is about 41,000 rifies and carbines, 5,000,000 ball metallic cartridges for same and 1,000,000 blank cartridges for small arms There is purchased each year more than 100,000 pounds of small-arms or musket powder, and about 300,000 metallic cartridges. These amounts are not for the use of the regular army exclusively. Under sections 1661-1667, Revised Statutes of the United States, there is annually distributed to the militia arms and equipments to the value of \$400,000. For more than 25 years Americans have been engaged in improving the Springfield rifle and its ammunition. Its parts are interchangeable, and it has been tested by extensive, accurate and well designed experiments. To ascertain its tensile strength the barrel of the Springfield rifle has been filled with lead so tightly secured that the service charge-70 grains of gunpowder-was unable to move the mass of metal in front of it, and yet no rupture of any kind was produced. This proves that the barrel is able to stand at least 43,000 pounds per square inch. It has been experimented with charges of compressed powder, smokeless propellants, perforated cartridges, Hebler cartridges and every conceivable variety, model and calibered projectile. Every Government is on the look out for a perfect missile weapon. The Germans, in particular, have been experimenting for years with other rifles than the Mauser, but have not yet decided on the pattern to succeed that rifle. So rapid is the progress that is made in the development of this problem of small-arms that the new rifle of last year may require modification this and become obsolete next year. The perfect gun of 1889 may not be, probably will not be, the best rifle pattern in 1890; but in Europe the desire for or the dread of conquest compels unceasing expenditures in the matter of military rifles. We watch the progress of experiments and tests by foreign experts, and meantime adhere to the single-loading Springfield. Eventually we will reap the benefits of the satisfactory solution of the problem. To European nations these incessant changes of rifle, of ammunition, and so forth are almost synonymous with bankruptcy. France, Italy, Portugal, Prussia, Germany and England have either adopted or are about to adopt new or converted rifles with calibres varying but little from .31 inch.

When the Uuited States ordnance department experimented to find out the effect of increasing the length of barrel of the Springfield rifle it was found that with a barrel 112 inches long, using seventy grains of powder and regulation bullet, there was scarcely any smoke and a very little noise accompanying the explosion, while with a barrel only five inches in length there was a perfect cloud of smoke and a deafening noise. These phenomena are natural results of the complete combustion of the charge in the bore. In the near future the common black gunpowder will be entirely superseded as a motive force in guns. It is time that the mechanical mixture known as gunpowder, and which was used in battle by the Chinese in the year 1232, and which composition has practically been used in all portable fire arms ever since, should be superseded by a chemical mixture, smokeless, noiseless, without recoil, and a more powerful pusher than gunpowder. The term "pusher" is used

advisedly; there is a difference between a blow and a push; we want a pushing propellant for our rifles, not a rending explosive. The rifle is a machine for the production of work, the motive power being the expansive force resulting from the combustion of the charge, and the useful effect, or work performed, being measured by the muzzle energy of the projectile. Using the Springfield rifle and service ammunition the penetration at ranges of 3,500 yards is about three inches in pine wood; energy corresponding to a penetration of one inch in pine is held to be sufficient to inflict a wound dangerous enough to put a man out of action. For reasons both humane and politic it is better to wound a man in action than to kill him. A steel plate half an inch in thickness can not be penetrated at any distance by our Springfield bullets. The time of flight for the Springfield bullet in traversing 3,000 yards is 1734 seconds.

Investigations have been completed to determine the charge and projectile for a rifle of smaller calibre than the present Springfield. It is the intention to use compressed and perforated cartridges, but as yet the powdei-makers have not succeeded in producing a satisfactory powder, the desired velocity being accomplished by too great a pressure. This matter of a suitable powder is still under study and trial. The results obtained in France with the Lebel rifle point to a radical change in the manufacture of powder for small arms. The necessity and policy of learning all about the improvements and alterations in the character of the rifles and cartridges of Europe was never greater thun now.

Gleanings.

England's debt in 1816 amounted to \$4,500,000,000. The American War of Independence cost her \$605,000,000; the War of the French Revolution, \$3,005,000,000.

Military service has been increasing in unpopularity in England so rapidly since the adoption of short service that it is becoming a serious question as to how the army is to be maintained

The Federal Council, suspecting that in the event of a Franco-German war Germany would violate the territory of Switzerland, has recommended to Parliament the adoption of a credit for the purpose of fortifying St. Gothard. and a Villa

In a race between dogs (comprising pointers, setters, mastiffs, and a poodle) and cyclists, the pointer covered the distance (1 1/2 miles) in one minute and forty-five seconds, closely followed by the setters and masting.¹⁷ The poole was beaten by the leading bicycliss, who took four minutes.

Considerable stir has been excited lately in Austria by the success of the petroleum borings in Galicia, and hopes are entertained that at no distant date the Austro-Hungarian Empire will be totally independent of a foreign supply of oil, and that the oil industry will be as important for Austria as it is for the United States.

By a recent order of the German War Minister, it is provided that those ecclesiastics whose age would render them liable to military service are to be enlisted as almoners and hospital attendants. Those who will follow a course of instruction for a period of four weeks in a military homital will be called upon to pass a special examination at the end of the Course.

With 343 ships in commission and 205 in reserve, England spent upon her navy in 1859 \$51,241,330, in 1888, with 256 vessels in commission and 122 in reserve, \$50,816,950. In 1863 England's wooden walls were represented by 43, line-of-battle ships in reserve; there are now but two left, while the armoured ships in reserve have increased from 12 to 39. This gives an excellent idea of the complete revolution which has taken place in naval construction.

While Capt. Hand, of H.M S. Royalist, was walking on the shore at Samoa a German man-of-war boat gave chase to another containing some unarmed natives. They made for the shore and ran for the bush, whereupon the Germans opened fire regardless of the danger to Capt. Hand. Some unfortunate British subjects who have been bombarded by the German ships engaged in the blockade of the East African coast have lost their trade, and some of them their lives. Those able to get awaý are returning to India almost ruined.

The German War Department has just published, in accordance with one of the last wishes of the late Emperor William, a history in two volumes of Prussian flags since 1807. The work is intended as a kind of introduction to the history of the Prussian regiments themselves from the earliest times, which is in course of preparation. In the wars of 1864 and 1866 it appears that go flags were pierced by bullets; in that of 1870 there were 151. The flag of the 7th Infantry Regiment received 23 bullets at the battle of Mars-la-Tour alone. In the latter campaign 38 standard-bearers were killed flag in hand.

The Mannlicher magazine rifle is about to be adopted for the Belgian army.

A second all-steel armour-plate, ordered by the British Government from Messrs. Vickers, Sons & Co., Limited, of Sheffield, immediately after the successful trial of their first plate, was submitted to the customary tests on board the Nettle at Portsmouth. In this instance the plate was made rather harder, to see to what extent the hardness would make it resist shot better. Five shots were fired, three howitzer and two Palliser. The Palliser shot were broken up, and the howitzer were driven back against the bulkhead. The depth of penetration was considerably less than in the former plate, whilst the cracks were not more serious.

SEALED TENDERS addressed to the under-signed, and endorsed "Tender for Indian Supplies;" will be received at this office up to noon of THURSDAY, oth May, 1880, for the delivery of Indian supplies during the fiscal year ending 30th June, 1880, consisting of Flour, Bacon, Gro-ceries, Ammunition, Twine, Oxen, Cows, Bulls, Agricultural Implements, Tools, &c., duty paid, at various points in Manitoba and the North-West Territories. Territorie

TENDERS.

Forms of tender containing full particulars rela-forms of tender containing full particulars rela-tive to the supplies required, dates of delivery, &c., may be had by applying to the undersigned, or to the Indian Commissioner at Regina, or to the Indian Office, Winnipeg. Parties may tender for each description of goods (or for any portion of each description of goods)

(or for any portion of each description of goods) separately cr for all the goods called for in the schedules, and the Department reserves to itself the right to reject the whole or any part of a tender. Each tender must be accompanied by an accepted cheque in favor of the Superintendent General of cheque in favor of the Superintendent General of Indian Affairs on a Canadian Bank, for at least five per cent. of the amount of the tender, which will be forfeited if the party tendering declines to enter into a contract based on such tender when called upon to do so, or if he fails to complete the work contracted for. If the tender be not accepted, th

contracted for. If the tender of hot accepted, in cheque will be returned. Each tender must, in addition to the signature of the tenderer, be signed by two sureties acceptable to the Department for the proper performance of

the contract. The lowest or any tender not necessarily ac

cepted. This advertisement is not to be inserted by any newspaper without the authority of the Queen's Printer, and no claim for payment by any newspaper not having had such authority will be admitted.

L. VANKOUGHNET Deputy of Superintendent-Genera of Indian Affairs.

Department of Indian Affairs, Ottawa, April, 1889.



SEALED TENDERS, addressed to the Post-master General will be received at Ottawa until noon on FRIDAY, 31st May, 1889, for the conveyance of Her Majesty's Mails on a proposed contract for four years, six times per week each way between Metcelfe and Ottawa. from the 1st way, between Metcalfe and Ottawa, from the 1st July next.

Printed notices containing further information a to conditions of proposed contract may be seen and blank forms of tender may be obtained at the Post Offices of Metcalfe, Leitrim, South Gloucester, Greely, Billings' Bridge, Ottawa, and at this office.

T. P. FRENCH,

Post Office Inspector Post Office Inspector's Office, Ottawa, 27th March, 1889.

Mail Contract

SEALED TENDERS, addressed to the Post-master General, will be received at Ottawa until noon on FRIDAY, 31st May, 1889, for the conveyance of Her Majesty's Mails on a proposed contract for four years, six times per week each way, between Russell and North Branch, from the rst July next. Printed notices containing further information as to conditions of proposed contract may be seen and blank forms of tender may be obtained at the Poet

blank forms of tender may be obtained at the Post Offices of Russell, Marvelville, Kenmore, North Offices of Russell, Marson Branch, and at this office. T. P. FRENCH, Prof Office 1

Post Office Inspector Post Office Inspector's Office, Ottawa, s9th March, 1889.



OFFICE OF CHARLES A. SNTDER, BREEDER OF CLEVELAND BAY AND TROTTING BRED HORSES. ELMWOOD, ILL., Nov. 20, 1988.

DR. B. J. KENDALL CO Dear S.J. KENDALL CO. Dear Sirs: I have always purchased your Ken-dall's Spavin Cure by the half dozen bottles, I would like prices in larger quantity. I think it is one of the best limments on earth. I have used it on my stables for three years. Yours truly, CHAS. A. SKYDER.

KENDALL'S SPAVIN CURE

BROOKLYN, N. Y., November 5, 1885. DR. B. J. KENDALL CO. Dear Sirs: I desire to give you testimonial of my good opinion of your Kendall's Spavin Cure. I have used it for Lamences. Stiff Jeinta and Bpavins, and I have found it a sure cure, I cordi-sily recommend it to all horsemen. Yours truly, Manager Troy Laundry Stables.

SPAVIN CURE. **KENDALL'S**

BART, WINTON COUNTT, OHIO, Dec. 18, 1998. Dz. B. J. KENDALL CO. Gents: I feel it my duty to say what I have done with your Kendall's Spavin Cure. I have cured iwenty-five horses that had Spaving, tim of Bing Bene, nine afflicted with Big Head and seven of Big Jaw. Since I have had one of your books and followed the directions, I have nover lost a case of any kind. Yours truly, ANDREW TURNER, Horse Dubtor. ANDREW TURKIR. Horse Dublor.

KENDALL'S SPAVIN CURE. Price \$1 per bottle, or six bottles for \$5. All Drug-sists have it or can get it for you, or it will be sent to any address on receipt of price by the proprie-tors. Dr. H. J. KENEDALL CO., Encemargh Falle, Vt., SOLD BY ALL DRUGGISTS,

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