

REPORT OF COL. COTTON TO THE INSPECTOR OF ARTILLERY.

In accordance with instructions, I, together with Major Prevost, examined the rifle submitted by Capt. Harston. His inventions claim to be—

1. An important improvement on the M. H. breech action and lock, principally on the latter, whereby the spiral spring, which is variable and to a certain extent uncertain, has been done away with and replaced by the ordinary > shaped spring.
2. Strength of stock. The wooden stock is continuous instead of being divided as in the M.H. ; but to accomplish this, Capt. Harston has doubtfully divided the mechanism into two principal parts, differing from the M.H., which is assembled in one solid metal box.
3. Increased extracting powers of his lever, which being longer, has that advantage.
4. Simplicity.
5. Cost of manufacture.

In these respects I agree there is an advantage in Capt. Harston's invention.

The whole question then remains whether the advantages are not counterbalanced by the loss of the compact action. I am inclined to the belief that Capt. Harston's rifle stands a very favorable comparison.

There are, however, some minor points and defects (in my opinion) which without in any way affecting the principle of the invention, ought to be rectified and again readjusted before a final decision is made.

The defects alluded to are—

1. The employment of a small swivel to connect the main spring and tumbler.
2. The shortness and slimness (very slight) of the dropping breech block.
3. Unnecessary length of main spring.

These can be easily adjusted.

The rifle went safely through the ordeal of the tests made by us, and which were similar to those to which the M.H. was subjected. These tests have been reported on in detail by Major Prevost.

As to the advantage in cost of manufacture I can of course give no opinion.

The recoil in common with the M.H. is enormous, but this in no way concerns Capt. Harston's invention, being due to the shape of the cartridge and chamber.

W. H. COTTON,
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DOMINION ARTILLERY ASSOCIATION.

In the shifting ordnance competition for field batteries, carried out during the past summer in accordance with the D. A. A. conditions, published in our issue of the 25th August, the results are now made up and the winners determined. The prizes are: 1st, the Gzowski Challenge Cup, valued at \$100, to become the property of any battery winning it two years in succession, and \$30; 2nd \$20, and 3rd, \$10. Col. Gzowski was fortunately present at the performance of the winning battery at Toronto. The Gananoque battery lost their chance in consequence of the gun slipping repeatedly. The following are the scores:

| Prize. | Battery. | Actual Time. | Points Added. | | Points deducted. Score made by Round. | Total Corrected Time. |
|--------------------------|----------------------------|----------------------------------|---------------|--------|---------------------------------------|----------------------------------|
| | | | Talk'g | Drill. | | |
| | | min. sec. | | | | min. sec. |
| \$30 and cup 20 10 | Kingston | 2 10 | ..... | 2 | 10 | 2 02 |
| | Montreal..... | 2 12 | ..... | ..... | 4 | 2 08 |
| | Welland Canal.. | 2 28 ² / ₅ | ..... | ..... | 12 | 2 16 ³ / ₅ |
| | Durham | 2 24 ² / ₅ | ..... | ..... | ..... | 2 24 ² / ₅ |
| | Richmond | 2 25 | ..... | ..... | ..... | 2 25 |
| | Ottawa | 2 42 | ..... | ..... | ..... | 2 42 |
| | Quebec | 3 23 | ..... | ..... | 24 | 2 59 |
| | No. 1 batt., 1st br. | 4 04 ¹ / ₂ | ..... | ..... | ..... | 4 04 ¹ / ₂ |
| | No. 2 " " | 4 05 ¹ / ₂ | ..... | ..... | ..... | 4 05 ¹ / ₂ |
| | Toronto..... | 4 35 | ..... | ..... | 8 | 4 27 |
| | Hamilton | 4 48 ² / ₅ | ..... | ..... | 8 | 4 40 ² / ₅ |
| | London | 4 46 ² / ₅ | ..... | 3 | 4 | 4 45 ² / ₅ |
| Gananoque | withdrew from competition. | | | | | |

In a recently published book entitled "The River Column," Major-General Brackenbury bestows higher praise than any they have yet received, upon the Canadian Voyageurs. Speaking of the difficulties which had to be fought against, he declares that "without the aid of the skilled Canadian voyageurs the ascent of the river, if not impossible, would have been far slower and attended with far greater loss of life;" and further, "that without their services the descent of the river would have been impossible."

"A NOODLE" SPEAKS.

"MY DEAR MISTY,—I fear my memory is going fast, for just at the moment I fail to remember the wind up of my last letter. But, however, let me just scratch you off a few lines on the "feet" of the militia. The feet proper can't be beaten, as the late North-west business proved, and no troops could have outmarched our men, who, had they been better clothed, and equipped with suitable working appointments, would have beaten their already splendid record. Those who saw the men, and more especially the unfortunate fellows who wore the boots and shoes, &c., will not be likely to forget the tramp-tramp over the prairie last April with Middleton's column. If their memory has lost the impression made during the wading through the melting snow and slimy mud of the muskegs and sloughs by day, few, if any, will be unable to recall the awful mornings when it became necessary to put on the above mentioned boots and shoes just before sunrise. What a sight it was, as one by one, from the Lieut.-Colonels downward, they hopped about one foot bare with the other half way down the leg; just about the instep is the first graze I think with a water-logged boot. Well, my dear Misty, the sight was indeed a sad one, for almost any man looks sad with both fore fingers in the tags of his boots jumping about in his anxious search for an object to kick, the popular and generally effective custom adopted with a refractory boot. Those who have travelled on the prairie will understand the difficulty these poor fellows had to contend with, for objects to kick are not found in the abundance that they are in the eastern part of Canada. Therefore cases occurred, most pitiful ones, where some, in consequence of the eternal flatness, would often complete a tiresome circuit of the entire camp before the necessary object was found, and by the time the wandering hero had waited for his turn and departed for his other boot, the "fall in" likely would destroy his breakfast or disarrange the final touches of his toilet. Boots and shoes of all leathers and manufacture flourished, or rather withered, during the North-west marches. And it speaks wonders for the determination, hardihood and good temper of the troops, when we knew what was weighing on their soles.

"I think you will agree with me my friend, that if we cannot march with the Indians the next best thing is to go as near that desirable quality as possible. I maintain and can, if you wish, find some who will sustain me, that it can be reached; and one of greatest and most necessary changes to acquire that gift is serviceable style of foot gear. Even you, yourself, have on occasions had a sore toe, or perhaps you have also found a boot that refuses to go on. I might surmise also that after kicking all the paint off the furniture, changing your socks, soaping your heel, &c., as you have got over or into the obstacle. But it has been noticed that the furniture is often scarce about the tents of troops on the war path, at least we found it so; also occasions do crop up when a man finds himself minus soap for his face and hands, much less for his heels.

"No quality will impose more respect for our powers among the Indians or any foes than endurance in marching, therefore every nerve must be strained to perfect this, and when it requires only a good instead of bad pair of boots, one naturally asks "why the dash don't we get them?" well, "why the dash don't we?" dashed if I know. There is no doubt a great diversity of opinion exists regarding the most suitable, but no person could advocate for the future such styles as were in vogue during the tronales.

"The subject of the feet is to my mind the most important matter to be considered by those who desire, a change for the better, in fitting out the militia for active service. No cheap and nasty affair will suit for a campaign. A poor article gives out, and once a man's feet are gone he is useless.

"The principal aim in shoeing a soldier should be to give him an article that will come on and off easily, but at the same time of good lasting stuff. In order to explain what I mean as the best by far of all boots and shoes for the purposes in question, let me point you to the "beef boot" as worn by the Quebec *habitant*. I can see the look of dismay and disgust on your face, and even I will grant it is not as pretty as some of the elastic side shoes that departed for the seat of war, but you would alter slightly your ideas if forced to wear the latter. The beef boot referred to is pretty well known, but only in the Province of Quebec is it found in perfection. It requires soling and must be hand made. It stands water better than anything if well greased, the uppers are light and flexible, and when tied at the top, garter fashion, it completely keeps out snow. This lightness is a great blessing, and a wad of snow does not slip down the leg and worry the wearer by melting. Its great advantage, however, is in the fact that at night men turn into camp, light a fire, slip them off and dry their socks, while some poor wretch with a regulation long boot is looking round for a friend, or endeavouring, by the aid of the spokes of a wheel, to remove his