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The Volunteer Review,
AND
MILITARY AND NAVAL GAZETTE

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

OTTAWA, TUESDAY, OCTOBER 19, 1875.

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

LIEUT. J. B. VINTER, of Victoria, and Captain H. V. EDMONDS of New Westminster, are our authorized Agents for British Columbia.

The following articles on a series of experiments at Dartmoor has been copied from *Broad Arrow* of 7th, 14th, and 23th August, they will be of interest to our artillery readers—especially from the new feature of the *water shell*. One of the most noticeable features of those experiments consist in the ease with which precision is obtained at distances of three and four thousand yards against *fronts* which at that distance must have presented a less tangible mark than an ordinary 8x6 target to musketry fire at 500 yards.

It is evident that artillery need not fear infantry, and can safely be trusted without escort to do their own work in action. In fact this precision of fire and extent of range has completely revolutionised major tactics, and the marshalling of a force in presence of an enemy much depend in a great measure upon what positions the artillery will be able to take up. The great object of handling troops in line will be to cover the artillery, and not as hitherto to keep down the fire of that arm in opposition:

"The camp, as we stated last week, is in Okehampton Park, on the very borders of Dartmoor. In the front is Dartmoor, the back ground being three fine tors, distant about three miles. These are Row Tor, Mill Tor, and Yes Tor. Yes Tor is the crowning summit of the district, 2057ft. above the sea level.

At the foot of the hill, a mile off, lies Okehampton, surrounded by gently-sloping and wooded hills. The camp is delightfully situated, commanding a pretty and varied view. The air is neither too hot nor too cold, although at times a little moist.

The camp is intersected by a field road running north and south. On the eastern side are the E Battery E Brigade Royal Horse Artillery, while on the western side are the C Battery 25th Brigade Royal Artillery. To the east side of the E Battery is quartered a half battery—some sixty men—of Garrison Artillery from Plymouth, who are here to render assistance in placing the targets and in similar duty, the whole being under the command of Lieutenant Colonel Tod Brown, C.B., R.H.A. The E Battery, under the command of Colonel Holtberton, numbers 135 officers and men, with 112 horses; and their equipment is six 9-pounder M.L.R. guns of 6cwt., burning 1lb. 12oz. of powder. The C Battery, commanded by Major Borrodale, numbers ninety-one men and fifty-nine horses, with six 16-pounder M.L.R. guns of 12cwt., firing 3lb of powder. Both men and horses are in excellent condition, the latter, which are mostly of Irish extraction, being well worthy of the pride both officers and men take in them. There are four excellent watering places.

The programme of practice for Friday was as follows:

1. A single row of 6ft targets were placed at three positions.
2. The batteries were to be brought into action at a trot on suitable ground, and at distances determined by the committee and marked.
3. They would fire shrapnel shell with percussion fuses, two rounds per gun at each distance, each gun to receive six rounds of ammunition from the magazine before leaving camp.
4. The officer commanding the battery to use his own judgment as to distance, and to fire at such a rate as he may consider consistent with every precaution to insure accuracy. The time of firing the first round after coming into action and the time of firing the whole number of rounds at each distance will be recorded.
5. Each gun, before firing, to record the estimated range and the elevation given, and, after firing, the effect as judged from the battery.
6. One battery to practice in the morning, the other in the afternoon, and no communication between them to be allowed.
7. The range party were to note the effect, as observed by them, and to record the hits on the targets when each battery has ceased firing.

Precautions have, of course, been taken to insure public safety. Printed notices are posted about the town, and a flagstaff forty feet high has been set up on Yes Tor, on which a danger flag will be hoisted during the time of firing."

On the 13th, 16th, 17th, and 18th the experiments were conducted as follows:

"The weather is still troubling the experimentalists on Dartmoor. On Friday the mist partly cleared away, and the C Battery 25th Brigade, with their 16-pounder muzzle loaders, fired up the valley between the Tors and Blackdown, directed against a single

row of targets representing a company of infantry at unknown distances. Shrapnel percussion fuse-shell were used, and of these three rounds per gun were served out. Two trial shots for range were allowed, and the subsequent practice was very good. The range was fixed at 2000 yards, and not a shell was fired that would not have either taken effect upon infantry, or checked their march. Every shot struck on or near the target, the central section of which was carried away. At the same time as the range firing was going on an experimental gun carriage was tested. One result of Thursday's practice was that on even moderate inclines 16-pounders were given to dangerous recoils. Two of the guns ran down the hill with the recoil, although the slope was not very great, and one of them came into collision with a wall, against which its carriage was smashed. On Friday a carriage fitted with a brake between the shoulder of the axle-tree and the wheel was tried, and was found to work very satisfactorily, the recoil being greatly checked. After the field battery had finished its work the Royal Horse Artillery came out with their 9-pounder muzzle-loaders. The practice with the light guns was capital, a number of hits being made, although throughout the practice the smoke hung in front of the guns, resulting in great delay, and causing the pointing of the guns to be uncertain, the cloudy state of the sky and the heavy fog which hung around rendering practice almost impossible.

On Monday the experiments were of a very interesting and instructive character, against dummy targets, representing an attack by infantry in the new experimental order of formation. The batteries were each supplied with 72 rounds of shell, of which 36 were Shrapnel, 18 ordinary common shell, and 18 common shell filled with water and gun cotton. The trial of water and gun cotton was decidedly experimental, and the shells require gentle handling, as they are rather sensitive. Practice began at 11.30 a.m. and the committee gave the range as 1,500 yards. As the supply of each kind of projectile was expended, firing ceased, in order that the effect of the projectile or nature of the fuse upon an advancing column might be noted. It was found that the common shell filled with gun cotton was much superior to that charged with ordinary powder, as it broke with greater force into a larger number of pieces, and made a greater number of hits. The Shrapnel with time fuses, bursting 40 feet in front of the column, told with terrible effect, the hits being so numerous that they could scarcely be recorded—a single dummy, in some instances, getting twelve hits. The practice was continued until so late an hour that the result could hardly be ascertained. The practice was good throughout.

On Tuesday night the ground had in many places become too spongy to hold the tent pegs, and several tents collapsed and fell on those beneath them.

There was no practice, but the committee tested ranges with Nolan's range finder, and great preparations for further trials have been going on. Through rain and mud the gunners of the 10th Brigade have been busily engaged in transporting targets and dummies away up the valley in readiness for tomorrow's practice, which will be the same as yesterday, only at extended ranges—2000 yards. One of the chief objects of yesterday's practice—and presumably will be of tomorrow's also—was to decide in some measure the great controversy among artillerymen as to which kind of fuse—time or