

the prize list) it is suggested that there be a separate competition for twenty men teams; the entire expense connected with them to be borne by the company and the twenty men teams respectively. For the dates, ranges, and order of shooting, this seems to be an acceptable plan:—

1st match, in May—200 (kneeling), 400 and 500 yards, 7 shots.

2nd match, in May—500, 400 and (kneeling) 200 yards, 7 shots.

3rd match, in July—200 (standing), 400 and 500 yards, 7 shots.

4th match, in July—500, 400 and (kneeling) 200 yards, 7 shots.

5th match, first Saturday in August—200 kneeling, 200 standing, 400 and 500 yards, five shots at each, to be fired in uniform.

It will be noticed that in the programme thus drafted the 600 yard range is left out, for the encouragement of the new shots. An interesting innovation suggested by the Secretary himself, and to which we refer elsewhere, is the introduction of messenger pigeons as an auxiliary to the telegraph service.

THE NEW RIFLE, AND RANGE PRACTICE.

An interesting letter on this subject appeared in a recent issue of the *Broad Arrow*, over the signature of "Emeritus," in which the writer says:—

"The magazine rifle recently issued to a considerable part of the army is, I hold, as regards the barrel, an excellent weapon, the action also, in principle, is good; but, apparently through bad metal and defective workmanship, there has been some justification given to those who decry the rifle. The present system of targets for range practices is, in my opinion, unsuitable for any kind of military shooting, and very much more so now that the magazine rifle is our arm, than when the soldier had the Martini-Henry, and for the following reasons:—

First, The length of the bullet of the magazine cartridge in comparison to its diameter is much greater than the M-H. bullet; and the magazine bullet owing to its nickel case being also very light, is very easily affected by a side wind, particularly at the long ranges; if it is necessary to allow 8' for wind when using the M-H. rifle at any distance, it would require 12' or more when shooting with the magazine rifle.

Secondly, any soldier when using the M-H. rifle could without difficulty use the wind-gauge on the back-sight, but it is a somewhat more difficult task for him to turn the fore-sight of the magazine rifle into a sort of wind-gauge; I consider that the idea of having a wind-gauge of any sort on a military weapon is unpractical, as it would never be used on service.

"I am confident that the present system of teaching men in their range practices that everything depends on direction and comparatively little on elevation is radically wrong. It must be wrong to teach a man that, in order to hit the target at a long range with a side wind blowing, he must aim at some spot (perhaps the marker's mantlet) that has been found out and verified by perhaps the Colour-Sergeant or some of the best shots in the company with their trial rounds: I feel certain that the same man in action would in any case fire straight at his object. I cannot imagine even a good-natured enemy signalling that all the shots are going to the right or the left, and the commander of the firing section telling his men that the wind is very strong, and that they must aim still several more feet to the windward. With due respect to the musketry authorities in the army, and in all humbleness of spirit—my apology being that several years of range work have given me some experience in the matter—I make the following suggestions:—

"That as no ordinary soldier would dream of making satisfactory practice at an isolated file of men, unless under the most favourable circumstances, at a greater distance than 350 yards, I would advocate that beyond this distance, from 400 to 600 yards, the target should be as follows:—Six iron targets, each 2' + 6" should be joined together, a band of 6" wide, at a height of from 1' to 1' 6" from the ground, should be painted black, extend the whole breadth of the target, and should be the hull. A band of 6' wide on either side of this band should be the centre, and a band of 6" wide on either side of the centre should be the outer. The whole target for scoring purposes would be 2' 6" high, and 12' broad, the part of the target above 2' 6" from the ground would merely show the soldier where, in case he shot high, the bullet hit. Over 600 yards the dimensions might be increased, the bands being 1' instead of 6" wide, and the number of iron targets increased to eight; thus the target for scoring purposes at 700 and 800 yards would be 5' high and 16' broad.

The editor of the *Broad Arrow* has a critical notice of the above letter, in which he says:—

"With a view to impress upon soldiers, to a greater degree than

he thinks exists at present, the value of correct elevation, 'Emeritus' would substitute for the present targets, devised to show the merit of central shooting, of skill in handling the rifle, in aiming, in judgment of elevation and of wind, long narrow targets on which, if a soldier aims at, say one extreme edge of the black band representing the bull's-eye, and strikes the opposite end, whether owing to unsteady shooting or to strength of wind, he will score a bull's-eye, aiming at Peter striking where Paul may or may not be standing; whereas another soldier, firing with judgment at the same spot, but striking 13 inches above the black line, would score a miss, though the shot would undoubtedly be a better one.

"'Emeritus' thinks the sights of the magazine rifle perfect for correct elevation, but perhaps not so good as those of the M-H. for direction. He probably means that when the backsight has been correctly adjusted to the necessary elevation, the peculiar form of the sights will cause the group of hits to be less oval than that which would be made with the M-H. sights; but this is very doubtful, because the real causes of greater vertical than lateral deviation must always be present, outside the rifle and its sights, in the physical and mental infirmities of every firer. The wind-gauge is said to be unpractical, as it would never be used on service; we believe, on the contrary, that a wind-gauge would be considered by the great majority of practical soldiers to be not only an advantage, but a necessity on service; especially with the magazine rifle, the bullet of which must necessarily from its construction, have a comparatively weak sectional density, and also be seriously affected by a side wind.

"An allowance of 16-feet for wind at 800 yards is not, as our correspondent supposes, of rare occurrence. At long-range firing practice, 1,600 yards for example, some 100-feet has been found necessary; with the lighter .303-inch bullet, losing its velocity more rapidly than would a lead bullet, much more would be required. A sight which by its construction enables the firer to aim at his mark, and at the same time gives the requisite wind allowance, must be right in principle; and in this sense, the recognized, though rough wind-gauge on the M.H. rifle would be more useful than the magazine rifle sight which is not designed for wind-gauge, though in skilful hands wind allowance to some extent can be made with it.

"The wind-gauge discounts the natural impulse of a man under excitement to aim straight at his mark, not always, be it remembered, a perfectly level line of men, but often a mark of even more importance, such as a bridge head a portion, of road that must be crossed, gateways or windows on which it would be of the utmost value to keep up a rain of well-directed fire. In such cases without a wind-gauge it would be absolutely necessary to aim to one side of the object and at some mark probably less distinct than a marker's mantlet, to aim at Peter in the hope of hitting Paul, a method which 'Emeritus' condemns on principle, but apparently supports by his system of targets.

"We understand that the Small Arms Committee object to a wind-gauge on the grounds that a soldier may after using it forget to move it back to zero, and might then if he aimed with it miss a single man at close quarters. The soldier must be trusted with an elevating sight. Why not go a little further and trust him with a wind-gauge? The former is a far more likely source of error, and of far graver error than a wind-gauge could be. Rushes at close quarters are seldom made by single men; a soldier, supposing he were to aim deliberately—not very likely in his excitement—though he might miss his man, would probably hit another near him. For this trifling and problematical error, it seems unwise to abandon the immense advantages which a wind-gauge would afford in all cases excepting in wild panic-struck fire.

"The importance of collective fire, and the necessity for its being thoroughly directed and controlled, is now fully allowed; to be effective it must have both good elevation and good direction, not depending on the individual knowledge of possibly poorly-trained men, but on the intelligent judgment of the section commander. To admit of this, the rifle should have a wind-gauge, and both wind-gauge and elevating sight should be so graduated that the soldier can by command and without personal thought adjust each as ordered. Individual firing, except by order, or when it is unavoidable owing to men having lost control, is, we hope, a thing of the past."

TORONTO'S RIFLE RANGE.

A number of the leading rifle shots in the local corps on Saturday accepted the invitation of Mr. J. H. Boyle to examine a piece of land near Mount Dennis station, about seven miles from the city. Mr. Boyle is interested in the property and has put it under offer to the city. He is better known as the manager of the Exhibition Association wharf. The proposed range is ten minutes' walk from the station; is a level marshy piece of ground of seventy acres in extent, surrounded by hills of about 65 feet in height. An extreme distance of 1,300 yards can be obtained. The sun looks down on the spot from a favourable position