

on targets, the distance being known; volleys at vanishing targets, at moving targets, running as described by me above, long range volleys in which the distances are ascertained as they would be on service, and field firing, which is carried out as a tactical operation. As fifty rounds per man would not admit of all the practices mentioned being carried out, and as at few places is suitable ground available, the Commanding Officer is directed to make a selection. Here, evidently is room for improvement. Every consideration should give way to giving the troops an opportunity of carrying out the whole of the field practice, an increased number of rounds being allowed, say at least another 100 per man, and regiments and battalions being moved into camp where no suitable range is available near barracks. It is true that 40 rounds per trained soldier is allowed in addition to the 150 above mentioned, to be expended under the direction of the General of the District in improving the shooting of the men, and especially in field firing; but that, making up a total of 190 rounds per trained soldier, is not enough, 1,300 rounds should be allowed. In addition, ammunition at a merely nominal price should be sold to soldiers, and rifle galleries 200 yards long should be constructed for private practice in fine shooting, for in action, especially in a wooded country, the object fired at will often be at very short ranges and not larger than half a man's head. This private practice should be permitted to take place with as few restrictions as possible. A man should be able to go into the gallery smoking and in his shirt sleeves, and to have his glass of beer to shoot for and consume on the spot. At present there are only a certain number of miniature ranges, and the price of the ammunition is practically prohibitive. Consequently soldiers prefer a game of skittles to shooting, and seldom enter the gallery.

These changes would involve a certain amount of additional expense, but the return in the shape of better shooting would be great. Moreover, a little saving might be effected by reducing the number of rounds fired by the Engineers and Garrison Artillery. These corps go through a modified course, it is true, the engineers firing 70 rounds up to 500 yards, and the garrison artillery 40 rounds up to 300 yards. Neither of these corps requires greater skill than will enable them to fire with fair accuracy up to 200 yards; their shooting powers, moreover, would seldom be called into requisition, and thus time would be better spent in their own special work. The recruit course of the engineers is the same as that of the infantry, which with thirty rounds of annual practice, instead of seventy, ought to suffice. The garrison artillery fire as recruits 20 rounds, and a similar number every year, instead of forty, would be ample.

As regards revolver practice, every soldier who is armed with that weapon is required to fire twelve rounds annually, but as regards officers there is no such obligation, and the weapon is not required to be worn. Surely every officer should be a proficient in the use of the weapon he carries. I am glad to be able to make the gratifying statement, founded on reliable information, that greater interest in musketry is being taken every year by both officers and men, and that the shooting of the army, as judged by the percentage of third class shots, has improved during the last year. Such being the case, it is to be regretted that, to judge from the newspaper accounts and private accounts and experience, many general officers, from the highest to the lowest, do not give musketry at their inspections the place which it deserves. The excellence of a regiment should surely be tested rather by the manner in which it performs field firing than by the precision of its march-past, the steadiness with which it executes battalion movements, or even by the intelligence with which it performs a sham fight with blank cartridges. Such, however, does not appear to be the opinion of inspecting officers.

### Converted Martini Rifles.

(London Daily News, 13th October.)

Many months ago allusion was made in the *Daily News* to an invention then under trial by War Office authority for the conversion of Martini-Henry breechloaders into magazine rifles. Since then nothing has been heard of the subject, but weapons so converted have undergone repeated tests at Enfield, and the Committee on Small Arms has sent in a report which is on all essential points strongly in favour of the adoption of this ingenious device for utilising all the thousands of Martini-Henry rifles now in store. The method by which results of great practical value are likely to be obtained is described by the committee in its report as the invention of Major Harston, of the Canadian army. It consists of a simple attachment to the breech, which serves a double purpose as hopper for the reception of five cartridges and mechanical loader, whereby the ordinary Martini-Henry is converted into a rapid repeater. This attachment forms only a slight projection that cannot be described as an excrescence on the left side of the breech-block; but within it there is room, not only for

spare cartridges, but also for a set of three simple levers, whereby the whole repeating action is kept in motion. These are actuated by the ordinary breech-lever, which is a little elongated and double hinged, so that it impinges on a projecting spindle attached to one of the minor levers.

The motion is begun exactly as in the act of extracting an exploded cartridge from the Martini-Henry. When the extraction is complete the elongated lever comes in contact with the spindle, a cartridge is lifted simultaneously from its place in the hopper, gripped as between a finger and thumb by a bent lever, and by an eccentric motion pressed with irresistible force into the cartridge chamber. The breech is then closed in the ordinary way, and by the simple operation of moving the lever to and fro and pulling the trigger the shot can be discharged in rapid succession until the hopper is depleted. Then the rifle can be used as a single loader, with the great advantage that its attached levers serve the purpose of an apparatus for quick loading. All that has to be done is to throw a cartridge on to the fallen block and close the breech, when the bent lever with its peculiar grip faultlessly performs the duty that, in the use of the ordinary Martini-Henry rifles, has to be done by the finger and thumb—sometimes in rather bungling fashion. Thus one motion which involves considerable loss of time and frequent mishaps is superseded by a simple mechanical contrivance which moves with much more rapidity and with absolute precision. As a matter of fact, this lever attachment enables the marksman using his weapon as a single loader to fire twenty-four shots in exactly the same time it would take him to get off sixteen with the unconverted Martini-Henry.

When all the repeating action is put in motion much greater rapidity is of course attained. Then the improved Martini can more than hold its own even with the greatest and most improved pattern of Government magazine rifle. It is not, however, intended to supercede the latter, but only to serve the economic purpose of turning to good account all the old weapons now in store and to provide our troops with a serviceable repeater, while the best form of weapon for modern tactics is being developed. To arm all our troops with an absolutely new rifle, "lock, stock and barrel," would furnish employment for all our small arms factories during the next ten years. The conversion of half a million Martinis into repeaters might be completed in a single year without interfering with ordinary work at Enfield, and the cost of all those weapons would not amount to more than 250,000/. When converted they would form a reserve of inestimable value for our second line of defence and for native troops in India. By the substitution of a small-bore for the present Henry barrel absolute uniformity of calibre would be secured in case of the new magazine rifle being finally adopted, and this would involve an expenditure of only 1/ on each weapon.

As to the practical importance of this invention, the committee on Small Arms does not seem to entertain any doubt. Converted Martini-Henrys have been subjected to severe trials and every conceivable test since June, and with the most satisfactory results. Rifles with the lever attachment have been buried in fine sand, placed in boxes into which sand and dust have been blown as from blast furnaces; left out for nights together in the rain, and through every ordeal, and they have passed without showing any weakness in the mechanism. Only when the hopper was opened and sand poured into every crevice the levers worked a little stiffly but that was all; and though over 3,000 rounds were fired in various trials, often under the most adverse conditions, not a single cartridge jammed. All the rifles were fitted with improved extracting levers, and the cartridges were solid drawn, but even with similar advantages other magazine rifles have not passed through such severe trials with equal credit. The weak point of the new Enfield magazine rifle, as proved in recent experiments at Aldershot, was occasional failure of the spring extractor to withdraw an empty cartridge case after explosion, and consequent liability to serious derangement. While defects of this kind are being remedied we might have to wait a considerable time for a perfect weapon wherewith to arm our infantry, and it is a point of great importance therefore, to have ready at hand the means of converting our vast surplus stores of Martinis into efficient repeaters within a single year and by an expenditure comparatively insignificant. On these grounds the Small Arms Committee have, we understand, based a report strongly in favor of the immediate conversion of weapons now lying useless in store.

The recent act of the U. S. Congress, providing for an increase of pension on account of total or partial deafness, having been approved by the President, the Commissioner of Pensions gives notice to all those not pensioned for total or partial deafness, that no formal application will be required to secure said increase. It will only be necessary for such pensioners to write to the commissioner, giving name, certificate, number and service, and such cases will be settled at the earliest practicable moment.