

were as follows: 1, 900 yards, hit target; 2, 900 yards, hit target; 3, 1,400 yards, fifty yards over; 4, 1,400 yards, hit target; 5, 1,800 yards hit target, cutting flagstaff.

The total time of these five rounds was 3 minutes and 43 seconds, but a few seconds delay was occasioned by the cap of a cartridge case, which was only temporarily secured for these experiments, falling off in the gun during loading, which necessitated reloading. Five rounds of cordite, under similar conditions to the last series, were now fired at the 900 and 1,400 yards target, the 1,800 yards one being no longer visible. The results were as follows: 1, 900 yards, hit target; 2, 900 yards, hit target, cutting flagstaff; 3, 1,400 yards, ten yards over; 4, 1,400 yards, five yards over; 5, 1,400 yards, twenty yards over. The total time for these five rounds was 1 minute, 37 seconds.

The gun was then fired with 5°, 10°, 12°, 15° and 20° elevation, with charges of E X E and cordite, to test the mounting, and, except for a little difficulty in running out when at 20° elevation, everything went perfectly.

### The Future of the Cavalry.

(Army and Navy Gazette.)

It is a curious thing, and one which must strike every impartial observer, even of the ordinary field-day, that, in spite of the assertion so boldly made by all drill and text books, the infantryman has nothing to fear from even several horsemen; no sooner do the cavalry make their appearance than the solid, unshaken infantry of the drill-ground bolt, like rabbits to their burrows, into rallying squares. And the same phenomena may also be witnessed in the fields of literature. No sooner does any one venture to say a good word for the mounted service than the infantry fairly bristle with goose-quills in their own defence. The latest champion of the foot-soldier is Captain Altham, of the Royal Scots, who is seriously concerned lest the spirit of our infantry may be weakened by the doctrines of the revivalists. The writer's fear is quite uncalled for. It is surely not proposed by any party that British cavalry should ride over British infantry. All that has been attempted in England is to question the teachings of infantry umpires, and to show that British cavalry, properly handled, may still play a very important part on the modern battle-field. And this is all that has been asserted for the mounted arm on the Continent. Each nation thinks only of the part its own cavalry might be able to play against its enemies' infantry. Such a controversy ought not to be used as a means for the creation of army jealousies, and such jealousies ought to be deprecated. Captain Altham's paper in the current number of the *United Service Magazine* is interesting reading, and would be instructive if it were not based on several fallacies, one of which is that Napoleon's mounted men were good cavalry, which they certainly were not. Captain Altham must know that cavalry do not charge infantry at the trot. Another fallacy is that the Prussian official is a species of new revelation. The interpretation, too, put on the views of the author of "The Cavalry Division on the Battle-field" is by no means accurate. The writer of that pamphlet was himself an infantryman, and was actually charged over by the 1st Guard Dragoons as he lay wounded on the ground at Mars-la-Tour. He never claimed for that particular charge decisive results. What he did say was that, had the French cavalry been able to charge the debris of the 30th Brigade, not a man of them could have escaped. All students of the art of war must agree with Captain Altham that good infantry have nothing to fear from cavalry, although the cavalry revivalists maintain that the condition of dismounted men varies in the course of an action, and that what may have been excellent infantry, say, at 9 a.m., may prove to be very inferior indeed at, say, 3 in the afternoon. The picture the writer draws of the fire which awaits the charging cavalry is very graphic and true; but he forgets that the same ordeal lies before every single infantry unit that is destined to reach the fighting-line. Herein he shows that he has completely missed the point on which the cavalry revivalists base their case. Their contention is, briefly, that the number of hits on a given target will vary directly with the area of the target and the time of exposure. The area of the cavalry target may be taken as double that of the infantry one; but it takes them only three minutes to cover the 1,500 yards limit he assumes, and it would take the infantry at least fifteen minutes to cover the same distance. The hits, therefore—assuming all other conditions equal—should be as one to five in favour of the cavalry. But all other conditions are not equal. On the contrary, several are altogether on the side of the cavalry. The chief point in their favour is their relative freshness. Every body of infantry within 2,000 yards of the fighting-line has been steadily losing both men and nerves during the whole duration of the struggle. Except in very rare circumstances, there can be no such thing as an unshaken reserve of infantry on the battle-field. Only the cavalry, thanks to their mobility, can be kept so far to the rear as to be out of actual danger. The infantry are dropping with physical

fatigue: the cavalry, however tired their horses may be, escape themselves from the depressing effect of absolute weariness, and in the few moments of the excitement of the charge are mentally stimulated and not depressed by their forward motion. Finally, they cover the ground so rapidly that it is almost impossible for either infantry or artillery to keep their sights adjusted to the proper range to check their advance once they are well in motion. These are facts which tell tremendously in favour of the trooper, and the Germans lay great stress upon them in their estimate of the *pro's* and *con's*. Thanks to our comparatively long service, it will be entirely our own fault if our infantry do not give as good an account of themselves on the battle-fields of the future as they did in the past. All must be thankful that British cavalry will never be called on to ride against them. But we as a nation, horse-lovers as we have ever been, ought to decline absolutely to accept the verdict of those who maintain that the short-service infantry of any other nation in Europe will face unmoved the rush which such squadrons as ours ought to ride home with. Those who seek to depreciate the possible utility of our troopers are doing bad service not only to the army as a whole, but to their own arm; for properly handled and understood, thanks to the long-range weapons of the present day, cavalry have become what formerly the bayonet was—viz., the last threat of the cold steel which turns the scale. And, just as with the bayonet, no one ever proposed to use the latter without previously having obtained the moral superiority by fire. So with cavalry: they would only be brought into play when they could be employed with advantage. Those who say that their days are numbered show at once that they have failed entirely to keep pace with the discussions which have been going on for some time past in Germany, and which have had the effect of making converts of fully nine-tenths of the thinking soldiers of the German army.

### The U. S. System of Rifle Firing.

(N. Y. Army and Navy Journal.)

It is one of the hackneyed themes of writers on military subjects to say "that it takes a ton of lead (in the shape of bullets) to kill a single man. It has been generally supposed, however, that the great improvement which has been attained in shooting would much reduce this average, particularly in the United States army, where more care is expended upon teaching the men the principles of rifle practice, and where they are allowed more ammunition than in any other army. In addition to this, the ordinary life of the United States regular in most of our western posts is dull, and the detachments are so small as to practically debar anything but the simplest military instruction, leaving competition in shooting almost the only thing they can turn to with interest. Consequently our army has prided itself upon its accurate shooting, particularly in skirmishing. Yet the occurrence at the Cheyenne Agency communicated to the *Army and Navy Journal* of September 27th, by a special correspondent (apparently an army officer) would seem to show that in practical field work but little better result can be expected to be obtained from our troops from a given expenditure of ammunition than under the ancient regime.

It appears that two young Cheyennes having been outlawed for murdering a white man, and knowing that their capture was inevitable, notified the troops guarding the agency that they would attack them at a given time, passing up through a certain valley. At the time designated they appeared on a neighbouring hill and proceeded to attire themselves in the full regalia of Indian war. A troop of the 1st Cavalry was dismounted and deployed to meet them, and another was sent out on the flank—allowing 30 men to the troop this would give 60 men, all armed with Springfield breechloading carbines, a very accurate weapon. The two Indians were forced from the hill and charged on the other two troops, one of them being on horseback the other on foot (his horse having been killed) under a heavy fire from their opponents. According to all theories they ought to have been riddled with bullets before they had gone a hundred yards, yet the mounted one actually rode through Pitcher's troop, killing three horses before he was killed, being then hit with seven bullets. The other, "while his clothing was cut and himself wounded by the fire," was not so hurt but that he was enabled to retire to a cut in the valley from which he conducted a spirited fight until he was killed.

This is a matter which deserves serious consideration from the officers charged with the instruction in small arms practice. To the ordinary mind it shows that something must be wrong with the system of instruction pursued. It has been questioned by many high authorities whether the idea is not erroneous that a soldier in the excitement of action will be able to control himself sufficiently to manipulate the sights of his rifle so as to insure accurate firing as he is taught to do in our present system of skirmishing; that if he sets them in the first instance at a high elevation to fire at a distant object, he will be very unlikely under the excitement of action to lower them, as his enemy