[From the Household Words.]

THE BRITISH MILITARY SERVICE.

A practical work has just been compiled by the joint labors of several experienced artillery officers, from which we glean a variety of facts that may prove interesting in reference to the great events of the last few weeks.

The most destructive and scientific arm of the service is horse, or flying artillery—the performances of a troop of which are sometimes astonishing. A battery of horse artillery is, in fact, a beautiful machine, composed of a great number and variety of parts. Say it is a battery, of six nine-pounder guns, with their concomitants. It is waited upon by one hundred and ninety men and one hundred and seventy horses—augmented, during the present war, to one hundred and eighty-two horses.

Among the men we find six officers; that is, the captain of the troop, a second captain, three lieutenants, and one assistant-surgeon—there being no want of medical aid for such an important arm. Then there are two experienced staff-sergeants, and thirteen other non-commissioned officers. The gunners and drivers form the greater portion of the privates, amounting to about one hundred and sixty men. The residue is made up of two trumpeters, to transmit the signals which are given to them by word of mouth from the officers; a farrier; four shoeing smiths (each horse requires twelve sets of shoes a year); two wheelwrights; and two collar-makers, with some others. Of the horses, two each are allowed to the officers; there are four to spare; and the rest are attached, with their riders, to the nine-pounder guns for firing solid shot; the twenty-four-pounder howitzer for firing shells, which accompanies them; the ammunition wagon, the store limber wagon, the store cart, the forge wagon, and the rocket and spare gun carriages.

The list of the articles carried with the guns and wagons is a long one. Round the gun and limber (the limber is the hinder part of the gun carriage, containing ammunition for immediate use, and which, like the tender to a locomotive engine, can be detached from the trail of the gun-carriage), are placed felling-axes, bill-hooks, grease-pots, ropes, spades, pickaxes, buckets, lifting-jacks, swingle-trees, to which the traces are fastened, a prolonge or drag-rope, port-fire, spare sets of horse-shoes, tent poles, pegs, picket-posts, reaping-hooks for cutting forage, mauls, camp-kettles, blankets, and corn-sacks—all, of course packed in the most perfect apple-pie order.

Among the contents of the various boxes attached to each gun-carriage—near-box, off-box, middle-box, and so on—are corkscrews, files, funnels, fuse-boxes, knives, linch-pins, wallets, pincers, saws and a setter, scissors, needles, and a homely bale of worsted; accompanied by solid shot, cartridges, shrapnel-shells, bursters, quick-match, and fuse-bags, with other inflammables. Close to the gun are boxes containing a slow-match, a set of priming-irons, a tin-primer—a gun-lock, ten flints, two punches, two spikes, a sponge-head for the gun-cleaner, and thumb stalls; which are flanked by a wad-hook, spare sponge, hammers, hand-spikes, wrenches, and pincers. So much for the gun-carriage and limber.

Upon looking at the ammunition-wagon we see a little magazine with duplicate supplies of very sort of munition—seventy or eighty solid shot, abundance of cartridges, port-fires, tubes, shrapnel shells, fuses, and other scientific appliances for mowing down "good tall fellows" in the most decisive manner. The very sight of these would have utterly extinguished the dandy lord who tried the patience of Hotspur, when "dry with rage and extreme toil," after a hard fight. All are carefully stowed away, according to the homely Teresa Tidy maxim, which is the soul of military arrangements—a place for everything, and everything in its place. To these are added store-cart and store limber-wagon, carrying supplies of rough iron, wood and leather for repairs; also, tools and miscellaneous necessaries and light baggage. The forge-wagon carries smiths' tools, bellows, iron, shoes and coal.

There is, beside, a spare gun-carriage, with stores, besides a rocket-wagon. Twelve-pounder rockets are destruction against troops at eight hundred to a thousand yards range, and against buildings at six hundred yards. They are especially useful to frighten horses; but they require careful management; without which they are as destructive to friend as to foe. In this train the heaviest load is a twenty-four pounder, on carriage complete, for which ten or twelve horses are required.

The wonderfully rapid evolutions of this expert corps ought to be witnessed on a review-day at their head-quarters, Woolwich. On one occasion, we are told, a troop advanced five hundred yards (more than a quarter of a mile), fired two rounds, retired five hundred yards, and fired one round, in three minutes and four seconds. To appreciate this feat it is necessary to remember that, besides getting over the ground, at each halt the guns have to be unlimbered, loaded, pointed, fixed and limbered up again. A ricochet fire should be tried as much as possible; that is, the shot should be made to graze the surface at a ground-hop, and then fly off again—like a boy playing at ducks and drakes in the water. It will sometimes hit the ground ten, fifteen, twenty times, and more. The most elevated positions are not the best for artillery, for the greatest effects are produced at a height equal to one-hundreth part of the range of the shot.

When carrying a non-commissioned officer, the weight of the man and his appointments is reckoned at two hundred and forty pounds. This is less than for a heavy dragoon-horse, which, on ordinary occasions, carries two hundred and sixty-three pounds, exclusive of six pounds ration for the man, and twenty pounds ration for the beast. Troop horses are not altogether teetotallers. They find a wine-glass of spirits in half a pint of water a very refreshing cordial. They are very fond of sweets also. In the Peninsular war, they throve remarkably well on a daily ration of eight pounds of sugar and seven pounds of hay, with no corn. When their drinking-water is hard, a knob of clay mixed with it softens it.

Six horses with a nine-pounder can march four miles in one hour and a half, or sixteen miles in ten hours, allowing for periodical halts. The trot is at the rate of seven miles, and the gallop at eleven miles an hour.

Captain Lefoy gives, in his Hand-Book for Field Service, some good rules for choosing a military horse, followed by useful chapters on the diseases to which he is subject, and rules of age. The latter beginning with, "As a horse never dies of old age," sounds like a cruel doom; but it is true that he generally dies by the hand of the executioner, either in the battle-field or in the knacker's yard. The formidable list of equine infirmities will remind the reader of the practical knowledge Shakspere displays in his description of the steed ridden by that mad wag, Petruchio.

"His horse hipped with an old motley saddle, the stirrups of no kindred; besides, possessed with the glanders, and like to mose in the clime; troubled with the lampass, infected with the fashions, full of windgalls, sped with spavins, raied with the yellows, past cure of the fives, stark spoiled with the staggers, begnawn with the bots; swayed in the back, and shoulder-shotten."

Inferior horses are useful in the baggage-train; for which mules and oxen are also found useful; the latter, especially, for heavy draught in a rugged country. The ox is welcome for a more substantial reason, as he yields, when the time comes to cut him up, three hundred and seventy-five to five hundred rations of beef of one pound and a quarter to each man; while a sheep furnishes only forty to fifty rations. Although the camel, in a sandy soil, goes only two miles an hour, he will keep it up for twenty hours, and carry six to ten hundred weight. Camels are important assistants in Indian warfare, and they have been found of great use in the Crimea. Cattle employed for the conveyance of baggage are technically called bat (sounded "baw") animals, just as officers' servants are styled "baw" men.

From an interesting chapter on strategical science, we learn, among other things, that "a gentle slope is the most advantageous ground to have in front of a battery;" and that "fifty to one hundred and fifty yards of soft, marshy ground, where the enemy's shot would sink; gullies or ravines crossing the enemy's fire at right angles, with a terrace of six to ten feet elevation, about twenty paces in front of a battery; are all good obstacles to the enemy's fire." This almost describes, verbatim, the best points of the Russian position above the Alma.

Some curious facts and calculations relative to the distance and proximity of an enemy, so important to be judged of in warfare, are set forth by the same authority. It is calculated that if the enemy's cavalry are one thousand yards off when they begin to move, they will take about seven minutes to come up—first at a gentle trot, then at a round trot, and finally at a gallop; and, during this interval, each gun can discharge at them, with great precision, ten rounds of round shot and four of case shot (that is, shot put up into a cylinder), or about one round every half minute. This is exclusive of the fire of the infantry with their small arms. The effects of a steady fire may be instanced by what took place at Dresden under Napoleon's eye. A body of eight thousand splendid Austrian cavalry dashed down an easy slope at the French—a terrible sight to a young recruit; but on this occasion they were met by the Emperor's Old Guard, who were used to it. They reserved their fire till the enemy were close upon them; and, when they did fire and the smoke had cleared away, four thousand of that immense host were on the ground, either killed or dismounted by the death of their horses.

At two thousand yards off a single man or horse looks like a dot; at twelve hundred yards infantry can be distinguished from cavalry; at nine hundred the movements become clear; at seven hundred and fifty yards heads of columns can be made out. Infantry marching send out strong light, and, if the reflection be brilliant it is probable that they are marching toward you. The dust raised by cavalry and artillery forms a thick cloud; but this is fainter when caused by infantry.

Under the head of marches, we are reminded of Marshal Saxe's profound dictum, that the whole secret of war is in "the legs." Marches preface the victories which battles decide, and pursuit completes. The order of march of an army is this: infantry, artillery, baggage, cavalry; and a column of thirty thousand men thus disposed, would occupy three miles, and would require two hours at least to range in two lines of battle. A day's march with the lightly-armed Romans was eighteen and a half miles; but, for ordinary armies, in modern times, fifteen miles is allowed, in consideration of the artillery, baggage, and other impediments. But we must not overlook what can be done on extraordinary emergencies.

For instance, Gen. Crawford astonished even the Duke of Wellington, when he joined him after the battle of Talavera, with his light brigade, having marched sixty-two miles in twenty-six hours. Lord Lake's cavalry gallop of seventy-three miles, to the scene of Holkar's defeat at Furruckabad, was performed in the same number of hours. In forced marches, the greatest obstacle to the infantry is blistered feet, to prevent which, feet should be greased well beforehand. Tallow dropped from the candle into common spirits, and rubbed well into the feet, is a cure of blisters already raised. The ordinary quick step is equal to three miles an hour; but this rate cannot be kept up after the first hour or two. Double-quick is at the rate of seven miles an hour. On parade, a military pace is thirty inches, two thousand one hundred and twelve of which equal a mile.

Where troops sleep without cover—as we know will sometimes happen with the best regulated armies—and must often happen in armies under red tape rule, in which the men are governed by the general, their food by the commissariat, and their tents by the ordnance; each department utterly independent of the other—they sleep with their feet towards the fire (one fire to six men); but in a marshy country they should be made to sleep between two fires, which promotes a free circulation of air—the great secret of health where fever and ague are prevalent. A useful cookery hint:—Take your ration of meat, wrap it in a piece of paper or cloth, and cover it with a crust of clay; then you may bake it in any sort of hole well covered over with red-hot embers; and with good economy too; for not a jot of the juice of the meat is lost.

From fire we pass to ice, to mention a recipe for improving the passage across a freezing river. When the ice is thick enough to bear a man, lay six inches of straw down and pour water on it; and when the whole mass has frozen together, lay down planks, and it will be strong enough to bear a train of field artillery.

Great caution is used in passing a pontoon bridge, as well as a suspension brige; and, to counteract the dangerous rocking of which there is a tendency, the troops should never keep step, or halt upon it, unless it has begun to rock. In swimming a horse, give him his head; and, if he is distressed throw yourself off and hold on by the name, or the tail; for he cannot kick in the water. But, as he swims nearly upright, the mane is more convenient.

Temporary works in the field are hastily raised to afford protection to the camp, and to enable the troops to annoy the enemy more effectually. The main features are a parapet breast high, for a screen, and a ditch or trench outside. The cubical contents of these two are about equal; so that what is thrown out of the trench just serves to make the parapet; as in planning a railway, the great art of the engineer is to lay his line at such inclinations, that the stuff taken from the cuttings shall suffice to form the embankments. One to two cubic yards per hour is the allowance for each soldier, who, under these circumstances, works without additional pay; the use of the spade, pickax and barrow being as essential for the defensive as that of the musket and bayonet for the offensive operations of the army. An exception is, however, justly made for the performance of certain duties at sieges—say, the siege of Sebastopol—and in special cases. Where the soil is unfavorable, or time forbids its use, artificial parapets are raised with gabions, fascines, and sandbags. To obstruct the enemy, sharp palisades are stuck in the ground here and there; and abatis, or small trees in the rough state, are dispersed in all directions.

The fascine is a large faggot, the full size of which is eighteen feet, and the weight one hundred and forty pounds; the gabion is a coarse basket, a foot and three-quarters to two feet and three-quarters high, weighing, when filled, forty pounds. Along with tarred sandbags, these are used in immense quantities, to build up the extempore walls of batteries, made on the same principle as the field-works. It is the proper business of the sappers and miners of the engineer department to construct such batteries, and it is usually performed at night-time, that the men may be less exposed to the enemy's fire. Working parties are at the rate of eleven to fourteen per gun, assisted by voluneers from the rest of the army. In the sieges of the Peninsular war, next to the sappers, the guards, we are told, were found to be the best workmen; and this is the character they bear at Sebastopol. Such is the zeal of their officers, that they do not disdain to act the part of foreman over their men, under the direction of the engineers.

The management of battering trains requires great energy, patience and attention from the artillery officer. First, he has to consider the quantity of ordnance—six guns being used to every four howitzers or mortars, besides allowing for spare guns: then, the ammunition; and next, the means of transport. With regard to the ammunition, it is stated that at the siege of Cuidad Rodrigo, in six days, eighteen hundred and twenty-five barrels of powder were expended; at Badajoz, in eight days, two thousand two hundred and seventy-one barrels; and at the two sieges of Saint Sebastain, five thousand and twenty-one barrels. As to shot, the average per gun may be (this is speaking roughly) about five hundred; and of shells, one hundred and twenty; but the general conclusion from former sieges is that a breach, one hundred feet wide, can be made by the expenditure of ten thousand six hundred 24-pounder shot, at five hundred yards distance, with a commanding position, much less will suffice.

Upon inquiring into the execution done, we find, from elaborate experiments tried in 1834 at the great artillery school at Metz, a 36-pounder, with only one-third charge, at one thousand yards, penetrated twelve inches into good rubble masonry, thirty-one inches into sound oak, and nearly six feet into a mass of earth, sand, and clay. An eight-inch shell penetrates twenty-three feet into compact earth. One thirteen-inch iron mortar, at an angle of forty-five degrees, with a charge of twenty-five pounds, ranged 4,850 yards. Weak powder is sensibly improved by heating it, with proper care. Exposure to the sun is useful.

Double-shotting, which is chiefly practiced in the navy may by safely tried at short distances with heavy guns. It would seem easy to sink ship by hitting her below, water, but the fact is, the resistance of the water is so great, that a shot can hardly penetrate it; and the only way to damage the ship, would be to catch her as she heels over. Steamers with their machinery below the water-line are as safe as sailing vessels; even many holes in the funnels are of slight consequence.

The smooth-bored percussion musket will fire sixty rounds in thirty minutes, and carry two hundred yards. The carbines used by the artillery and cavalry carry one hundred and fifty yards. These, however, are nothing to the new rifle muskets and carbinis, with Minie balls, which are good at eight hundred to one thousand yards. Artillery do not need carbines carrying beyond three hundred yards, as their heavy ordnance effectually keeps the enemy at a respectful distance.

A few hints for the transportation of troops by rail are drawn from the instructions issued by the Minister of War in France. One is to the effect that horses should be embarked in the train before feeding, and fed on the journey, which keeps them quieter. But, with regard to the railway, it is found that when infantry travel the expense is double that of a march; that of cavalry, six times; and that of artillery, fifteen times; for which reasons, as well as on account of the importance of keeping up the habits of long marches, the railway is restored to only on particular emergencies.

Skill in measuring distances is an important branch in military education. The use of instruments, and certain mathamatical rules, must, of course, be learnt; but without them, distance can be accurately reckoned by sound. The flash of a gun is seen before the report is heard; multiply every second of that interval by three hundred and eighty yards, every beat of the pulse in health by three hundred and four yards, and you get the exact distance of yourself from the gun. There is 'the peak of a cap' method; which is said to be good for distances under a hundred yards, on level ground. Suppose you want to measure the distance of an inaccessible point, say on the opposite side of the river, draw your cap over your eyes, till the peak just meets the point; then turn smoothly on your heels, keep your head stiff, and notice when the peak covers some other point which is accessible. You can then measure the ground between yourself and that accessible point, by pacing. The distance will of course be the same as that to the accessible point. But the best, or rather the most useful of all calculators, is the eye itself; which, after repeated trials, will register distances with great accuracy. The value of musketry and artillery in action depends on an officer's judgment in this respect. His sketch of the fields for the use of the general is executed with the eye, the pocket compass, and by pacing. An officer on service had better be without his watch than without a compass. Yet mother wit is all in all.

When Marlborough was sent on a mission to Charles the Twelfth, he noticed a pair of compasses lying on the map, with the legs pointing towards St. Petersburg, and instantly concluded that the King's thoughts turned that way, which was the case.

Major Gen. Arthur Wellesly, coming to a river which his guides insisted was impassable, was rather puzzled, his rear being exposed to an overwhelming force of the enemy's cavalry, but, seeing a few cottages on its banks, he took what seemed the desperate resolution of making for the river, discovered a ford, and won the battle of Assaye; and all from guessing that men did not build villages on opposite side of a stream without some means of communication between them.

No soldier should be without useful hints in the case of wounded or sick men, when the doctor is not at hand.—Fever, ague, and dysentery, are the diseases soldiers are most liable to. For ague there are several common vegetables, in the absence of quinine, the king of all: such as willow bark, orange-leaf water, the root of the sweet-scented flag, oak bark, gentian—to which add catechu and bitters in general for dysentery or diarrhea, and holly bark for ague. The last remedy on the list is a truly military one—namely, a charge of powder, swallowed in water, is a prompt and safe emetic.

Properly, a regiment is said to consist of a thousand men; but, at present, the actual strength of an Infantry Regiment is a battalion of thirteen hundred and thirty-seven men of all ranks. One-third of this number, or four companses (each company being composed of a captain, two subalterns, five sergeants, five corporals, ninety-five privates), for the depot or reserve at home: while the other eight, amounting to eight hundred and ninety-five men, are the service companies on duty aboard. A regiment of cavalry numbers two hundred and seventy-one horses, or three hundred and sixty-one horses in the dragoons, and as many as seven hundred and three in the East Indies. What is called a division of an army is a force of from five to ten thousand men in the command of a General, and made up of two or three Brigades of three or four Regiments, each of Infantry, two or three gun-batteries of six pieces each; and a proportion of cavalry.

In reckoning their number, it is customary to deduct ten per cent sick or disabled; so that five regiments of say eight hundred each would represent three thousand six hundred fighting men actually in the field.

A division in line of battle is posted in two lines, one in rear of the other, with the cavalry behind, and a reserve of guns and one or two regiments behind these, to be kept fresh in case of need. Some idea of the extent of a line may be gathered from these numbers: a regiment of eight hundred stretches two hundred and fifty yards; a division of three brigades, seven hundred and thirty-five yards, allowing for space between; and a regiment of cavalry four hundred yards. The guns are posted in front, or at the flanks, at each end of the line; the right flank and wing at your right hand as you face the enemy, the left flank at your left hand. Generally, the artillery have the honor to begin the encounter, supported by the fire of the Infantry. When the former have done sufficient execution, the latter advance with the bayone to complete the business; and when the enemy is disorganized, or in flight, cavalry follow up the blow and dart off in pursuit. Artillery are usually employed opposite artillery, cavalry against cavalry, and so on, according to circumstances.—It is only 'devils dressed in red and white' who go up—as the gallant light division of infantry at the Alma did—and, contrary to all the rules of strategy, take a battery of artillery in the face of an astonished foe.

The Woeful Condition of the Army.

[From the London Times, Feb. 15.]

Under the head of "Naval and Military Intelligence," in our yesterday's paper, among a great variety of particulars connected with the war, some of our readers might have lit on the following passage: "The 63d regiment, or rather the remains of it, marched on the 21st to Balaklava, there to embark either for Scutari or Malta. It left the Fourth Division thirty strong, every officer, regimental staff, and all hands included (scarcely a sufficient escort for the colors), after landing in the Crimea about 970 strong, and having since received a draught of thirty men. There was one sergeant only to represent the Grenadier Company remaining out of 120. The returns show 400 men in hospital at Scutari. This paragraph would probably attract very little notice, being much of a piece with almost daily statements through all kinds of sources. We are now almost too familiar with the idea of a regiment disembodied by death and disease in little more than half a year. The public has already got over the once terrible fact implied in these details. The shadowy host of 28,000 men, in whom Mr. Gladsone still confidently believes, is now a superstition as obselete as the armies which the poet or the soothsayer once saw in the Northern Lights or in the ruffle of the breeze upon the lake. It is contradicted by every letter from the Crimea. We may state, on undoubted authority, that in a private letter accounting for the condition of our men, a general high in command says, "With lines more extensive than the French, they have 70,000 men, and we only 14,000." We have seen the number variously stated within the last fortnight at 10,000, 11,000, 12,000, and even at 13,000, but never at 14,000, the figure which drew upon us a circumstantial contradiction from the Chancellor of the Exchequer and his organ in the press. Nay, an officer, writing from the camp, says: "Depend upon it, we have not five thousand men fit to be out of a hospital." There may or may not be exaggeration or a particular mode of counting in these statements; but if the undersigned coincidence of hundreds—aye, thousands of witnesses is worth a straw, then the 54,000 men transported from these shores or our garrisons in the Mediterranean since the beginning of last year—transported most luxuriously, as we were assured, most rapidly, and certainly most expensively—have shrunk to a fourth of their number. The simple fact is "horrible and heart-rending," even without the hideous details that have startled the eye, and compelled the reluctant pen.

But there is another fact which, without any cavilling, in self-consistency, we are bound to notice. As the blood of us peaceful men curdled over the carnage of Alma, of Balaklava, and of Inkermann, it glowed again at the telling fact that the proportion of officers killed and wounded was twice, we believe even thrice that of the rank and file. It was evident those gallant fellows had borne their heads high in the tide of war. They had led their men, and made themselves the mark of the murderous rifle. All unwonted as was the din and tumult of war, it had for them no horrors, and they preferred a glorious death even to the festive boards, the sweet firesides, and the