

MISCELLANEOUS.

AT THE FRONT.

Surgeon Colonel W. F. Stevenson, who is known the world over for his splendid systematizing and bringing to a high state of perfection the service of the hospital corps on the field of battle, and whose ideas have been adopted in all armies, has prepared the following description of the latest and most advanced methods which will, in view of the war with Spain, be read with the greatest interest. As he remarks, the methods are the same in all civilized countries, the reader can readily apply the following facts to the American army:

How much depends on the employment of efficient means for affording assistance to the wounded in campaigns, can only be thoroughly understood and appreciated by those who have had practical experience of the horrors of war upon the field of battle. Not only the future condition of the victims of war, as regards suffering and the usefulness of limbs, but even the preservation of life itself, is involved in the methods which are made use of for the collecting and succoring of the wounded. The German medical officers reported, after the war of 1870-71, that large numbers of men died in the field hospitals three or four days after their admission, not so much from the immediate effects of their wounds, as in consequence of the general exhaustion of vitality following on long exposure on the field, which, on some occasions, had been unavoidable. For the prevention, too, of the aggravation of the conditions of the wounds themselves, as well as to insure the possibility of treatment on the lines of modern surgery, it is all important that wounded men be rapidly picked up and carried out of danger of further injury, to where nourishment can be supplied to them and their wounds attended to.

But, besides this, every feeling of humanity prompts us to aid the wounded soldiers at the earliest moment, and to the utmost of our power, and to place him where he will feel that his comfort and his urgent requirements are certain to receive that care and attention so necessary to his recovery and so well deserved for so strict an adherence to such a duty as his, carried, as he has carried it, to the extent of risking life itself.

In the armies of every civilized nation in the world the methods to be employed for these purposes are, in modern times, laid down by regulation, and in all they are based on the same general principles, with some slight and unimportant variations necessitated by the circumstances of particular cases.

In former times no systematic methods for the performance of these important duties had been decided on for the English army. Until the year 1877 there was no unit in the British army whose special business was to collect and attend to the wants of the wounded men where they fell upon the field. Even at as late a period as the time of the Crimean war, the only men available for the purpose of helping a wounded man off the field were the regimental bandmen, or his comrades in the corps to which he belonged, and no means could have been more inefficient than they. They had never been taught and knew nothing of how to move and carry wounded men, nor, of course, had they any appreciation of the risk wounded men are exposed to when moved by inexperienced hands. Moreover, their comrades in the regiment had other work on hand, and were there for other

purposes. In the year 1877, a committee, with the late Sir Thomas Longmore, Col. Brackenbury and Major Kemmils, R. A., as members, was assembled in London by the commander-in-chief. A scheme for a bearer company was drawn up by this committee, and this was the model on which the bearer company, as at present organized, is based. This bearer company was first tried in actual warfare in the Zulu war of 1879, and (as we learn from Longmore, "On Gunshot Wounds") its "operations were then attended with such success—every man who fell wounded being at once picked up and carried to the rear for surgical aid—that the secretary of state for war called the attention of the House of Commons to them, especially to the courage of the bearers, who kept close up to the attacking troops, and to the rapidity with which all the wounded were placed under hospital treatment."

For purposes of description, the means for medical assistance of the sick and wounded in a campaign, as laid down by regulation, may be divided into three lines.

The first line of assistance is composed of the regimental aid and the bearers companies.

The second line comprises the field hospitals and the stationary hospitals on the lines of communication, and

The third line the general hospitals at the base of operations, and, if the base be on a seaboard, hospital ships.

The first line: The regimental aid.—When on active service every corps or regiment has a medical officer attached to it during the campaign: four men per squadron or two men per company, are trained, during peace time, in stretcher bearer work—how to lift and carry wounded men on stretchers—and in rendering "first aid" to wounded on the field. The medical officer and these trained stretcher bearers form part of the first line of medical assistance, viz., the "regimental aid"; the bearer company forms the other part.

A bearer company is a body of men composed of the medical staff corps and its reserves (including the militia reserves) especially trained and practiced in affording first aid to wounded men, placing them on stretchers, carrying them to where surgical treatment can be given to them, and in packing them into ambulance wagons for conveyance to the field hospitals. It is commanded and administered by officers of the army medical staff.

The personnel of a bearer company consists of three officers of the army medical staff, one warrant officer, six sergeants, one bugler and fifty-three rank and file of the medical staff corps. Of the latter thirty-two are stretcher bearers, for eight stretchers at four men each, and the remainder are corporals, privates, cooks, servants, etc.

The transport of a bearer company may be either "wheel" or "pack." In the former case all the stores, baggage, tents, surgical appliances, etc., are carried in service wagons of different patterns, and in the latter on pack mules. Wheeled transport is used where the nature of the country permits its employment, and pack mule transport under other circumstances, as in mountain warfare. When wheeled transport is available ten ambulance wagons are supplied for the carriage of the wounded, each capable of accommodating an average of nine men, some lying down and some sitting up. When only mule transport can be used cacolets and doolies or Lushai "dandies" are employed.

The working of the first line of med-

ical assistance on the field is carried out in the following manner: The medical officers of corps, accompanied by the trained regimental bearers, twelve for a cavalry regiment and sixteen for an infantry regiment carrying one stretcher for every two men, place themselves in rear of the regiments to which they belong. As men fall wounded they are attended to by the medical officer as far as may be practicable, for it is impossible that he can personally treat them all, and carried to a spot under cover; if one be available at a short distance; if not this first post of assistance must be established under fire in the open field. The surgical treatment at this part of the battlefield must necessarily be of the simplest kind, for it is distinctly laid down by regulation that the medical officer and the bearers "must not lose touch with their regiments," but must keep close to them and advance and change positions as they do. The duties of the regimental aid are strictly confined to those they can perform under these conditions: The application of first field dressings, (which every officer and man carries on his person) to the apertures in the skin; the rebandaging of fractured limbs provisionally immovable, so as to prevent aggravation of these injuries by transport, by the use of extemporized splints, such as swords, bayonets, scabbards, rifles, sticks, etc., all of which are sure to be available; the controlling of serious hemorrhage by surgical means, and, possibly, the injection of morphia in certain cases. Beyond this nothing can be attempted, because touch with the regiment must be kept up. If then, a place under cover is available, the wounded are carried there; if not, they must be left lying on the field. In either case they are picked up later by the bearer company.

The bearer company is, in theory, supposed to work in the rear of the "regimental aid," but practically the two portions of the first line of assistance perform their duties in the same part of the field, close in rear of the fighting line.

The work of a bearer company during battle is carried on in three sections as it were—at the "dressing station," at the "collecting station" and by the stretcher squads in rear of the fight. The medical officer in command selects a place under cover out of range, or out of the line of fire. Here the dressing station is established. An operating tent is pitched; the surgical equipment of dressing materials, instruments, bandages, etc., is opened out. Antiseptic solutions are prepared, water is boiled and everything got in readiness for the numerous operations which may be required, and for the general treatment of the wounded as soon as they arrive. Nourishing food is prepared, and for this purpose a cook forms part of the personnel at the dressing station. A good water supply is almost a necessity, but if one cannot be obtained the water cart of the company must be utilized. All the surgical work at the dressing station is performed by the surgeon major of the bearer company, assisted by one of the junior officers.

The collecting station is the place to where the wounded are carried by the stretcher bearers for transport to the dressing station. It should be as near the fighting line as possible, but under cover or out of the line of fire. The sites for the dressing and collecting stations should be so selected as to have a road between them suitable for the bearer company transport, and connecting the former with the field hospitals in the rear; and they should be close together when possible, so as to lessen the labors of the transport animals. At the collecting station are assembled the ten ambulance wagons for the conveyance of the wounded to the