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Told that suitable apparatus was not available I purchased some carmine in the city and attempted a colorimetric estimation in my own laboratory. I concluded that the sample was saturated to the extent of between sixty per cent and seventy per cent. This would be equivalent to about 0·3 per cent of carbon monoxide gas in the atmosphere of the "pill-box," but being so short of chemical equipment and having to improvise apparatus, I can't vouch for the accuracy of the quantitative analysis.

The qualitative test described above could easily be done at the bedside in cases of suspected CO poisoning. A cubic centimetre of the patient's blood should be taken and diluted to make a five per cent solution. The reagents, already mixed in a test tube, could be quickly added and the test completed in a few minutes. A control would not be necessary if one were familiar with the characteristic reddish-brown colour.

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A SUSPENDED STRETCHER DESIGNED FOR THE CARRIAGE OF BADLY WOUNDED AND FRACTURE CASES BY MOTOR AMBULANCE.

By Captain A. H. Coleman.
Royal Army Medical Corps.

AND

Acting Quartermaster-Sergeant C. W. Newell.
Royal Army Medical Corps.

The evacuation of cases of fractures and gunshot wounds of the lower limbs and pelvis, and gunshot wounds of the chest and abdomen by motor ambulance is a serious problem. Some cases of this type were tried by mule litter, but at best this is a slow and tedious method, and could not be used for the removal of large numbers of cases.

The condition of the patient after a journey by motor ambulance has not been as good as desired. Even when motor ambulances are driven very slowly and over good roads there is a certain amount of vibration which cannot be avoided, and the patient rolls about in all directions and independently of the stretcher.

This new arrangement has been designed to clasp the patient to the stretcher so that he moves with the stretcher and to reduce the vibration to a minimum.

DESCRIPTION.

The apparatus consists of four broad clamps to fix the patient to the stretcher, four strong straps to suspend the stretcher in the middle of the ambulance and four straps to fasten the stretcher to the floor of the ambulance. Two strong springs are let into each strap to absorb the vibrations.

Clamps (see Diagram 1).—Each clamp consists of a plate (six inches by five inches (A) curved to the shape of the lower limb and well padded. To the plate is attached a square adjusting arm (B), six inches long, with countersunk
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FRACTURED LIMB CLAMPS.

Diagram 1.—Scale: Half full size.

Diagram 2.—Scale: Quarter full size.

DETAILS OF STRAPS.

Diagram 3.—Scale: Quarter full size.
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holes for the adjusting screw (D). This slides through the boss in stretcher clamp (C) and can be adjusted as required. Stretcher clamp (C) is made to fit on the average stretcher and is fixed by the locking screw (E). One clamp is fixed on either side opposite the hip-joint and one on either side below the knees.

Side Straps (see Diagram 2).—Four straps are used for suspending the stretcher. Each strap is composed of a strap (A) twenty-six inches long, and fastens round the stretcher rack support about the middle of the rack. Attached to this by means of a ring (D) is a shorter strap (B), fourteen inches long, ending in a “D” ring to which the spiral springs are fastened. On the upper part of this strap is a buckle for securing the safety strap. The lower half is a strap (D), eighteen inches long, which fastens round the handle of the stretcher. On the upper part of this strap there is a “D” ring to attach to the spring (E). On this strap, at the top, a safety strap (C), twelve inches long, is fixed. After the springs are hooked up, this strap is loosely buckled to strap (B) to allow the springs plenty of play and to act as a support in case a spring breaks. To prevent the stretcher swinging about it is fastened by four straps to four ring bolts let into the floor of the ambulance, two at the front and two at the rear of the car. A spring is let into each strap. The stretcher should be well pressed down while these straps are being fastened.

These measurements are for a 1914 Sunbeam Ambulance, but could be made to fit any car. The cost of the whole appliance is very small and could be made in the workshop of any motor ambulance corps.

The advantages of the suspended stretcher are:

1. That the patient, being firmly clamped to it, moves wherever the stretcher moves.

2. The stretcher is suspended on springs in every direction, and although all movement is not eliminated it is reduced to a minimum and is fairly gentle and even.

3. There is no loss of space because the ambulance can take sitting cases up to its full capacity, who could help to steady the stretcher over very rough roads.

4. Patients can be evacuated soon after the injury is received, and at the ordinary speed laid down for motor ambulances.

The cases that have been evacuated by this method include fractured femur cases, gunshot wound of knee-joint, multiple gunshot wounds of buttock, in which case the patient rested on his side, and gunshot wounds of the thigh; and none of these cases felt any pain or fatigue from the journey, and their condition was as good on being taken out of the ambulance as it was when they were put in.

A car fitted in this way would not prevent it being used for ordinary cases at any time.