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SURGICAL TRACTION DEVICE FOR STRETCHERS

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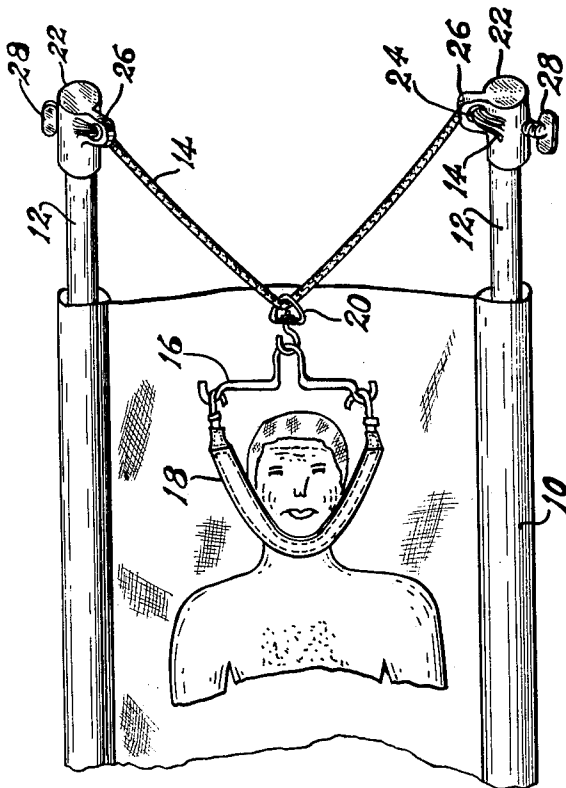


FIG. 1

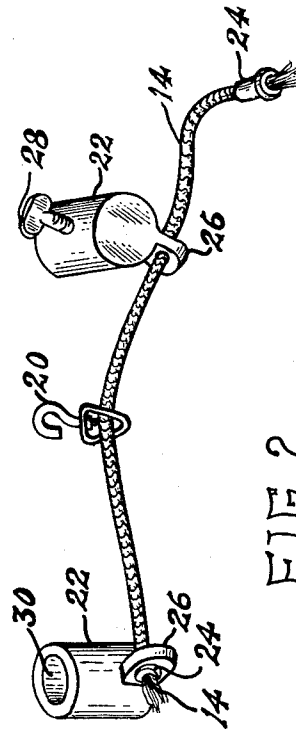


FIG. 2

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3,139,883 SURGICAL TRACTION DEVICE FOR STRETCHERS

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4 Claims. (Cl. 128-75)

(Granted under Title 35, U.S. Code (1952), sec. 266)

The invention described herein may be manufactured and used by or for the United States Government for governmental purposes without payment to me of any royalty thereon.

This invention relates generally to an attachment for stretchers and litters, and more particularly to one which is capable of providing traction for a patient placed thereon. It is very useful where combat casualties or accident victims in need of immediate traction to alleviate pain or to prevent further injury are being evacuated from the field or at the site of an accident.

Briefly, the device comprises a resilient cord stretched between the handles of a field litter which may be attached to a strap or other connection to a patient in need of traction. It occupies a minimum of space, is easily stored or carried in ambulances or other evacuation devices, is simple to operate and extremely economical to manufacture.

The need for such a device in the armed forces or for civilian defense is obvious; however, it finds utility wherever common litters are used for removing casualties or accident victims. It provides a lightweight, economical, simple and quickly attachable means for supplying traction where it is needed and avoids the use of springs or pulley elements which are apt to be cumbersome and dangerous.

This invention, therefore, has for its object the furnishing of a lightweight, easily stored traction device for use on common litters.

It has the further object of furnishing an economical and easily applied traction device which can be used by the usual ambulance attendants.

Another object is to provide a traction device which can be easily, cheaply and economically produced in mass production of readily obtainable materials.

These and other advantages will be apparent upon consideration of the following detailed description, especially when taken in conjunction with the accompanying drawings, in which:

FIG. 1 is a plan view showing the device attached to a litter with traction applied to a human patient requiring traction on the neck or spine, and

FIG. 2 is a detailed pictorial drawing showing the main features of the invention.

A standard litter 10 which may be equipped with a spreader bar (not shown) is depicted with the extension of the side rails, or handles 12, attached to a transverse elastic cord 14 which is attached to the said handles by means of cup elements 22. These cup elements are shown in more detail in FIG. 2 as being hollow to fit over the ends of the said handles 12. Securing of the cups to the handles is by means of thumb screws 28. The transverse cord 14 can be any type of elastic cord; but in this particular embodiment, it is of natural rubber with a woven cotton covering which is known in the Air

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Force as stock number 8305-267-3119, and called a bungee cord. About 18 inches in length of the $\frac{5}{16}$ inch diameter cord is utilized with a standard litter. At this length, when the cord is properly applied, it will exert traction of approximately 10 pounds to the patient. The cord 14 is attached to the cups 22 through rings 26 formed on the cups and prevented from slipping through said rings, by a metal collar 24 crimped or otherwise secured to the ends of the cord.

There is attached to the bungee cord 14, between the two cups 22, a swivel hook 20 which can be fastened to a traction bar 16, which in turn is fastened to a head harness 18. The thumb screws used for attaching cups 22 to the handles of the side rails 12 of the litter 10 have an enlarged portion at the inside end of the screws to hold them captive in the said cups so that they will not become disengaged and misplaced.

To use the device, the attendant slips the cups 22 over the ends 12 of the litter 10 and places the patient thereon in a position which will bring the traction bar of the head harness parallel with the edge of the canvas at the end of the litter. He then stretches the bungee cord in the direction of the patient and by means of the swivel hook 20 joins the bungee cord to the traction bar on the head harness. With this arrangement, the patient will receive approximately 10 pounds of traction from the stretching of the bungee cord. The same procedure may be followed by applying traction to the lower extremities.

From the description and the drawings, it is clear that this invention meets the objectives set for it, and that it supplies in the simplest possible form a traction device which is much needed in the field. Its simplicity, its economy of production, and the ease with which it can be stored places it apart from any other known invention of this type. While the amount of traction is not exact, it will be sufficient to supply needed traction until the patient can be taken to a hospital or other field station where a device, such as is described in my Patent Number 3,009,461, can be used. The tension applied to a patient is controlled by the positioning of the patient on the stretcher; however, since the type of cord utilized has a tension of approximately one pound for each three quarters inch of extension of the cord some variation could also be achieved by knotting the ends of the cord to reduce its length.

It is to be understood that the above-described arrangement is merely illustrative of the principles of this invention, and that numerous other arrangements may be devised by those skilled in the art without departing from the spirit and scope of this invention.

What I claim is:

1. A traction device for use with a common litter having side rails and handles extending therefrom, said traction device comprising a cord resilient in an axial direction, means on said cord for attaching the said resilient cord to the said handles transverse to the length of said litter, said means having a transverse portion adapted to abut the ends of said handles and means on said cord for attaching the said resilient cord to a traction bar.

2. A device as described in claim 1 wherein said means for attaching said cord to the handles of said litter comprises cup-shaped elements, each of a size to fit over a handle of the said litter, a ring secured to each cup-shaped element of a size to allow passage of said cord,

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and means attached to said cord for inhibiting passage of said cord through said rings.

3. A device as described in claim 2 including means extending through each of said cup-shaped elements to engage said handles thereby securing said elements.

4. A traction device for use with a traction bar and a litter having side rails and handles, said device comprising a pair of elements for engagement with the handles of said litter, said means having a transverse portion adapted to abut the ends of said handles, a ring on each of said

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elements, a resilient cord extending between said elements and through said rings, and means preventing movement of the ends of said cord through said rings.

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