June 4, 1940.

F. A. BUNTIN

2,203,045

HANDLING DEVICE FOR INVALID COTS

Filed Aug. 3, 1937

FIG. 1.

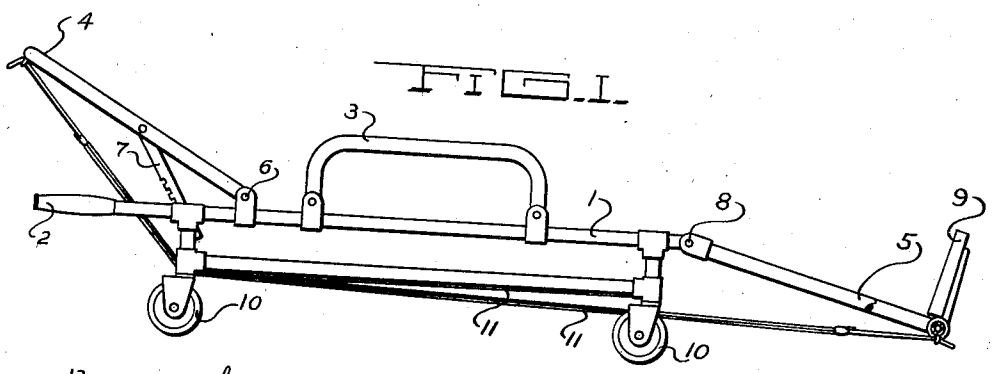


FIG. 2.

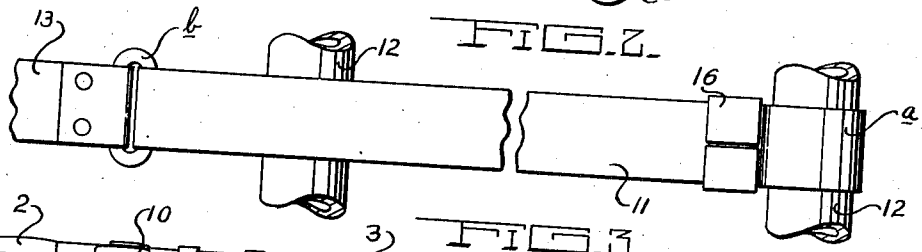


FIG. 3.

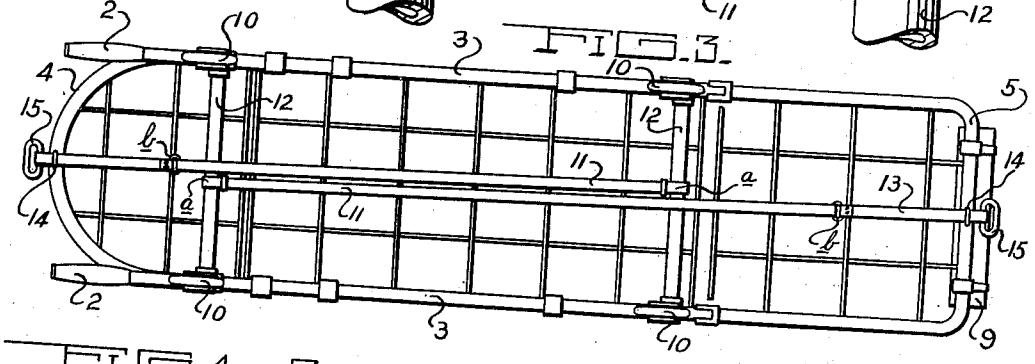


FIG. 4.

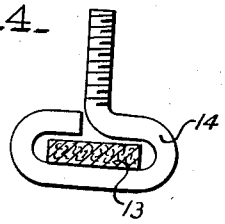
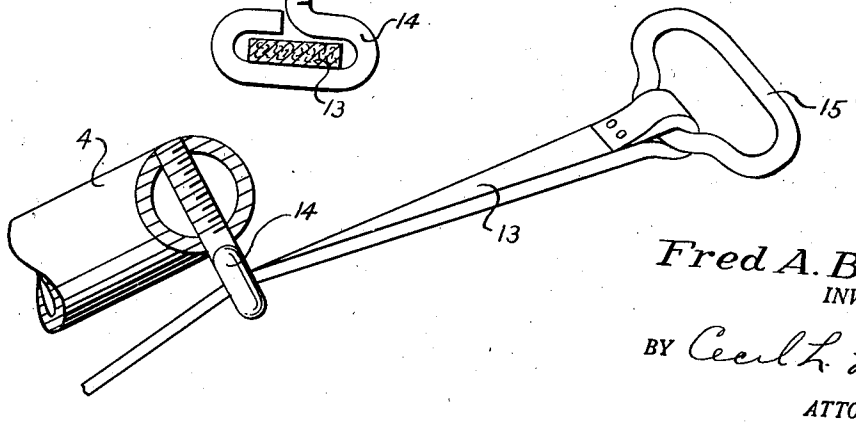


FIG. 5.



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HANDLING DEVICE FOR INVALID COTS

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Application August 3, 1937, Serial No. 157,077

1 Claim. (Cl. 296—20)

This invention relates to hospital and ambulance equipment and it has particular reference to a cot especially designed for the accommodation of invalids indisposed by illness or injuries and who require transportation by ambulance to or from a hospital, or other institution of like character, or which may be utilized for the purpose of transporting patients from one part of a hospital to another and its principal object resides in the provision of a convenient and novel attachment for such cots which will expedite the handling of the same by ambulance or hospital attendants.

Another object of the invention resides in the provision of a device which consists of a means affording a retractible handling or guiding means for each end of a cot, designed for the purposes hereinabove enumerated, which may be arranged in such a manner thereon as to enable the operators or attendants to direct the movement of the cot, which is conventionally provided with castors, to any desired place without the customary inconvenience of stooping or bending over the ends thereof in order to conduct the same to the ambulance or from the latter to the point of destination, such as a hospital bed, or the like.

A still further object of the invention is manifest in the provision of a handling device that is entirely contained within the length of the cot yet capable of extending a sufficient distance beyond the ends thereof to provide a convenient guiding or lifting medium while the attendants are standing erect and such handling device is of a character and design as may be readily attached to any cot of conventional design and manufacture.

Broadly, the invention seeks to comprehend the provision of a flexible and expansible arrangement whereby the expeditious, yet careful handling of helpless patients may be accomplished with considerably greater ease than ordinarily experienced by the manipulation of the conventionally designed equipment.

While the foregoing objects are paramount, other and lesser objects will become manifest as the description proceeds, taken in connection with the appended drawing wherein:

Figure 1 is a side elevational view of a conventional ambulance cot showing the retractible handling apparatus attached and illustrating the said cot in one of its variable positions.

Figure 2 is a fragmentary illustration of the expansible portion of the flexible handling attachment, illustrating the means of attachment to the cross-members of the frame of the said cot and to the non-expansible portion of the handling device.

Figure 3 is an inverted plan view of the said cot, illustrating the handling device attached thereto.

Figure 4 is a detailed illustration of one form of guide or eye-bolt through which the flexible handling strap operates and which is attached to the anterior portion of the ends of the frame of the said cot, and

Figure 5 illustrates a fragmentary portion of the flexible strap extending through the eye-bolt which latter is shown fastened to one end of the cot shown in cross-section.

Of necessity ambulance cots, and those of like character, are designed so that they are of minimum height to avoid lifting the patient a greater distance than necessary, particularly when the person is painfully injured, and for this reason it is highly desirable to effect a practical medium for conducting the cot to and away from the ambulance and which will permit persons handling the cot to assume an upright position which not only affords greater comfort but will also provide better vision.

Accordingly, therefore, the device shown in Figure 1 to be attached to a conventional cot 1 which is provided with conventional handles 2 projecting rearwardly of the said cot, as well as other handling attachments 3 extending upwardly from either side thereof. The cot illustrated in the drawing herewith is shown to be provided with a frame constructed of a tubular material and which is provided with a head 4 and a foot 5, as shown in Figures 1 and 3, the head 4 being capable of vertical adjustment from a horizontal plane at the pivot point 6 and fastened in varying positions by notched brackets 7. The foot portion 5 is pivoted at 8 for vertical movement, as shown in Figure 1, and is also provided with a foot board or brace 9 which is also adjustable with respect to a vertical plane. The cot is also provided with swivelling castors 10. The foregoing arrangement, however, is conventional, as previously stated.

The handling device hereinabove referred to primarily consists of a pair of elastic bands 11, one end of each of the said bands being secured at *a* to the cross-members 12 of the frame 1 of the cot, as shown in Figure 3. The opposite ends of the bands 11 are connected at *b* to straps 13 of leather, or the like, which extend through eye-bolts 14 secured to the ends 4 and 5 of the frame 1, in the manner shown in Figure 5.

Attention is directed to the form of the eye-bolt illustrated in detail in Figure 4, showing the strap 13, in cross section, arranged therethrough. The outer ends of the straps 13 are fastened to convenient handles 15 such as that illustrated in Figure 5.

When the cot is arranged in its normal position, that is, when the head portion 4 and the foot portion 5 are arranged horizontal and parallel with the main portion of the said cot, very little tension is exerted on the elastic bands 11. However, when the handles 15, or either one of them are grasped, the elastic bands 11 will expand to allow the straps 13 to extend a sufficient distance beyond the ends of the cot, as illustrated in Figure 5, to function for the proper handling of the said cot. The adjustments of the cot, illustrated in Figure 1, may be accomplished without exerting undue stress upon the bands 11.

The elastic bands 11 are preferably secured to the cross-member 12 of the cot by passing the bands 11 over the member 12 and placing a clamp 16 around the bands 11 in close proximity to the member 12 to prevent the connection from being easily displaced. The opposite ends of the bands 11 are passed beneath the other cross-member 12, in the manner illustrated in Figures 2 and 3, and are allowed to slide thereon freely.

Obviously, other expansible and contractible means may be utilized providing elasticity to the handling device herein just described, such as springs, or the like, which may be attached to the ends of the straps 13 at *b* and to certain parts of the frame 1 of the cot. This arrangement, however, is not illustrated since the form herein shown is considered most desirable.

The straps 13 are contained well within the length of the cot, as illustrated in Figure 3, and are extended only when the operators grasp the handles 15 and draw the straps outwardly through the eye-bolt 14 until the connecting ring at *b* engages the eye-bolt 14 and functions as a stop to limit the extension thereof.

Manifestly, the structure shown is capable of considerable modification by those skilled in the art and such modification as may be resorted to from time to time which may be considered within the spirit and intent of the invention may be also considered as falling within the scope of the appended claim.

What is claimed is:

In combination with an invalid cot having a frame, a set of casters and a pair of cross members forming a part of the said frame, elastic bands attached to each of the said cross members and positioned so that each will extend beneath the opposing cross members, straps having handles at the outer ends thereof, and eye-bolts secured to each end of the said frame slidably embracing and guiding the said straps in operation.

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