

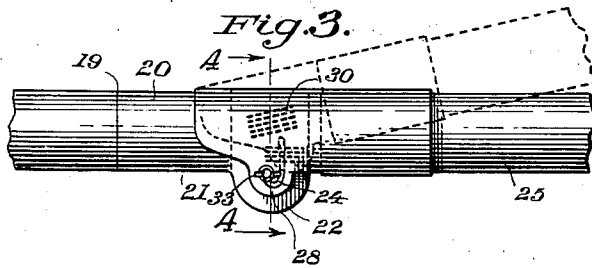
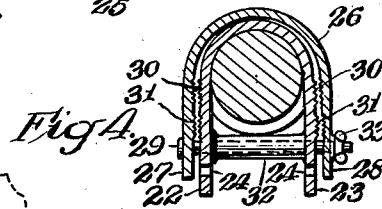
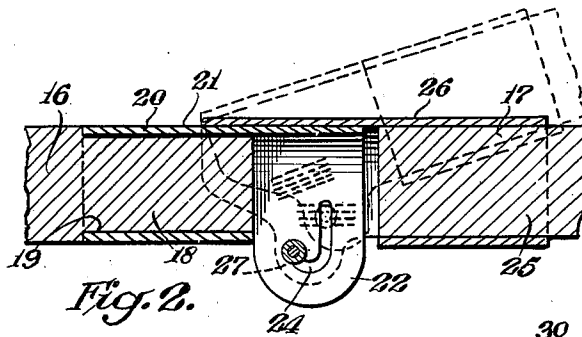
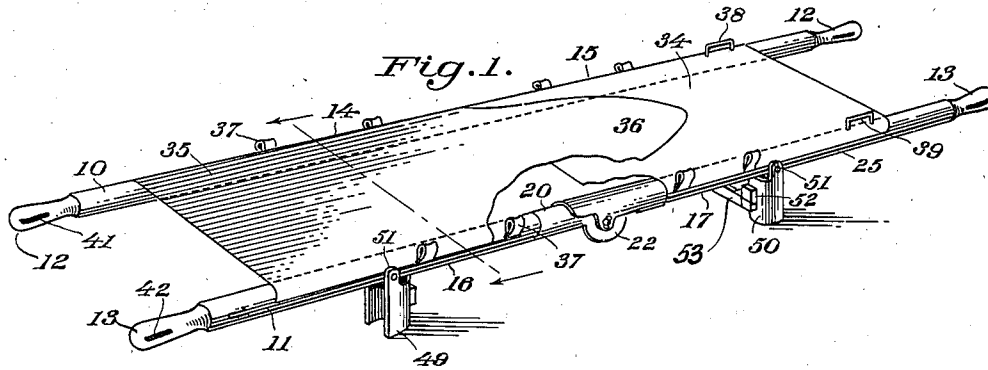
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2,276,256

FOLDING STRETCHER

Filed June 5, 1939



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## FOLDING STRETCHER

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4 Claims. (Cl. 287-99)

Our invention relates broadly to stretchers and more particularly to the collapsible type of stretcher or litter employed in the handling and care of the ill or maimed.

An important object of our invention is the provision of a stretcher that is collapsible in its nature to permit the same to be folded into a compact unit when not in use.

Another object of our invention is to provide a stretcher that is adapted to support the ill or maimed in a comfortable and noninjurious position.

Still another object of our invention is to provide a stretcher that may be quickly and expeditiously converted from a folded to an extended position.

Yet another object of our invention is to provide a stretcher that includes means to permit tractive stresses to be applied to an injured patient to relieve his suffering and to prevent his injuries from being aggravated during his transportation to adequate medical care.

A further object of our invention is the provision of a stretcher that is adjustable in its nature to permit it to properly accommodate itself to varying types of injuries.

A further object of our invention is to provide a stretcher that is light and simple in construction and inexpensive to manufacture.

Other objects and advantages of our invention will be apparent during the course of the following description.

In the drawing, forming a part of this specification, and in which like numerals are employed to designate like parts throughout the same,

Figure 1 is a perspective view, showing parts broken away, of a stretcher constructed in accordance with our invention.

Figure 2 is a fragmentary longitudinal sectional view of the hinged portion of the side members,

Figure 3 is a fragmentary side elevation of the hinged portion of the side members embodying a part of our invention, and

Figure 4 is a vertical sectional view taken on the lines 4-4 of Figure 3.

In the accompanying drawing, wherein for the purpose of illustration, is shown a preferred embodiment of our invention, the numerals 10 and 11 designate side members composed of longitudinally aligning sections 14, 15 and 16, 17 hinged for folding one upon the other and formed at their free ends thereof with handle portions 12 and 13. The inner ends 18 of the sections 14 and

16 are provided with annular recesses 19 which receive the annular shanks 20 of the hinge straps 21 which extend substantially forwardly thereof and are formed with depending ears 22 and 23 provided with substantially helical slots 24. The ends 25 of the sections 15 and 17 have the annular shanks of the companion hinge straps 26 mounted thereon. The hinge straps 26 extend substantially forwardly of the ends of the sections 15 and 17 and include depending ears 27 and 28 positioned in overlapping and embracing relation to the hinge straps 21. The bolts 29 are carried by the ears 27 and 28 subjacent to and transversely of the side members 10 and 11 and extend through the helical slots 24 of the inner ears 22 and 23. The adjacent faces of the overlapping portions of the companion hinge straps are formed with spaced sets of corrugations 30 and 31 which interlockingly engage to securely hold the sections of the side members in the selected angular relation. The sleeve 32 is carried by the bolts 29 intermediate of the ears 22 and 23 and hold the same normally spaced apart when the wing nuts 33 are threaded on the free end of the bolts to move the corrugations 30 and 31 into the interlocking position.

The sections 15 and 17 are joined by a piece of canvas fabric, or the like, 34 either longitudinal edge of which is securely fastened thereto to hold the same in spaced parallel relation, and the sections 14 and 16 are joined by a similar piece of fabric 35 secured thereto in the same manner and formed with a tab 36 which overlaps the fabric 34 when the sections are in the extended position, as illustrated in Figure 1. The fabric covering for the stretcher is formed in two sections to permit a taut supporting surface to be effected at all times when the sections of the side member are in the extended position, and to permit the same to be easily moved to the folded position. The looped eyelets 37 are secured to the outer edges of the side members 10 and 11 at spaced intervals therealong and comprise means for attaching bandages or straps.

It is frequently necessary, when transporting an injured person, that certain members such as an arm or leg be held in a particular position, and when this is necessary straps may be wrapped around the injured member and secured to the looped eyelets 37 to hold the said member against accidental displacement.

Supporting pairs of legs 49 and 50 are semi-circular in cross section, and are formed with upwardly extending tabs 51 pivotally attached to opposite sides of the supporting members 10 and

11 in a manner whereby they may be folded upwardly into close fitting appressed relation with the side members. Suitable spreader bars 53 are interposed between the pairs of legs 49 and 50 and the opposite ends thereof are secured to the legs.

When the bolts 29 are positioned in the curved lower end of the helical slots 24 and with the spaced corrugated sections 30 and 31 mutually interlocking, the sections 14, 15 and 16, 17 of the side members will be positioned in longitudinal alignment. When the thumb nut 33 is loosened the ears 27 and 28 will spring apart to disengage the corrugated sections 30 and 31 and to permit the bolt to be slidably actuated into the upper portion of the slot 24 and to position sections 14, 15 and 16, 17 of the side members in acute angular relation with respect to each other. The latter position of the stretcher is advantageous if a person is suffering from a fractured or broken back it is necessary that he be carried face downward in a prone position and that he be securely held on the stretcher to prevent the fractured edges of the spine from impinging and aggravating the injury.

When the thumb nuts 33 have been loosened to disengage the corrugated portions 30 and 31, the sections 14, 15 and 16, 17 may be folded one upon the other and fabric sections 34 and 35 wrapped around the entire device to hold the same in a small compact unit.

It may thus be seen that the device may be easily and expeditiously converted from the folded to the extended position or vice versa, and that when it is in the extended position, the fabric will be held in a taut condition to prevent the injured persons from contacting the spreader bars 53.

It is to be understood that the form of our invention, herewith shown and described, is to be taken as a preferred example of the same, and that various changes in the size, shape and arrangement of parts may be resorted to without departing from the spirit of our invention, or the scope of the appended claims.

Having thus described our invention, we claim:

1. In a collapsible stretcher of the type including a pair of side members composed of two sections, means for joining the sections comprising hinge elements carried by one of the said sections and formed with depending ears having helical slots and corrugated portions, hinge elements carried by the other of the said sections in embracing overlapping relation to the first-mentioned hinge elements and formed with depending ears having corrugated portions to lockingly engage the corrugated portions of the first-mentioned ears, a transverse pintle carried by the ears of the second-mentioned hinge elements and received in the helical slots of the first-mentioned hinge elements adapted in one position to hold the sections in longitudinal alignment and in another position to retain the same in acute angular relation, and a nut member threadedly received by the said pintle to engage the last-mentioned hinge element and to hold the corrugated portions of the ears in firm interlocking engagement.

2. A construction comprising separate sections, a hinge member connecting the said sections in end to end relation, said hinge including ears carried by and projecting from one of the sections, each of said ears having a slot extending transversely of the section, one end of said slot being arcuately curved and the said curved portion having an extension disposed in spaced parallel relation with the first-mentioned portion of the slot, and transverse projections carried by the other of the said sections and riding in said slots, whereby the projections may be moved into the extensions to hold the sections in longitudinal alignment, into the arcuately curved portion to position the sections in parallel relation, or into the said first portion to position the sections in slight angular relation with each other.

3. A construction comprising separate members, hinge means connecting the members in end to end relation including ears projecting longitudinally and laterally of one of the members, each of said ears having a slot in the laterally projecting portion thereof, and each of said slots having a middle portion provided at its opposite ends with branches extending in spaced parallel relation transversely of the member, at least one of the said branches extending into the portion of the ears projecting longitudinally of the member, and transverse projections carried by the other of the said members extending through the said slots, whereby the projections may be positioned in one of the branches to position the members in longitudinal alignment, in the middle portion of the slot to position the members in parallel relation and into and in the other of the said branches to position the members in slight angular relation with each other.

4. In a collapsible stretcher of the type including a pair of side members composed of two sections, means for joining the sections comprising a hinge element carried by one of the said sections, said element being formed with depending ears having helical slots and corrugated portions, a hinge element carried by the other of the said sections disposed in embracing overlapping relation with the first-mentioned hinge element, said last hinge element being formed with depending ears having corrugated portions adapted to lockingly engage the corrugated portions of the first-mentioned ears, a transverse pintle carried by the ears of the second-mentioned hinge element received in the helical slots of the first-mentioned hinge element adapted in one position to hold the sections in longitudinal alignment and in another position to retain the same in acute angular relation, a nut member threadedly received by the said pintle to engage the last-mentioned hinge element and to hold the corrugated portions of the ears in firm interlocking engagement, stationary parts extending transversely of the said ears and contacting the inner surfaces thereof, and means for holding the ears and stationary parts in mutually pressed relation.

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