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2,489,828

LITTER

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2 Sheets-Sheet 1

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Fig. 2.

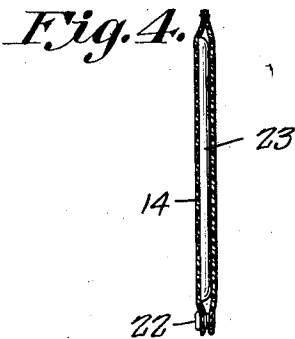
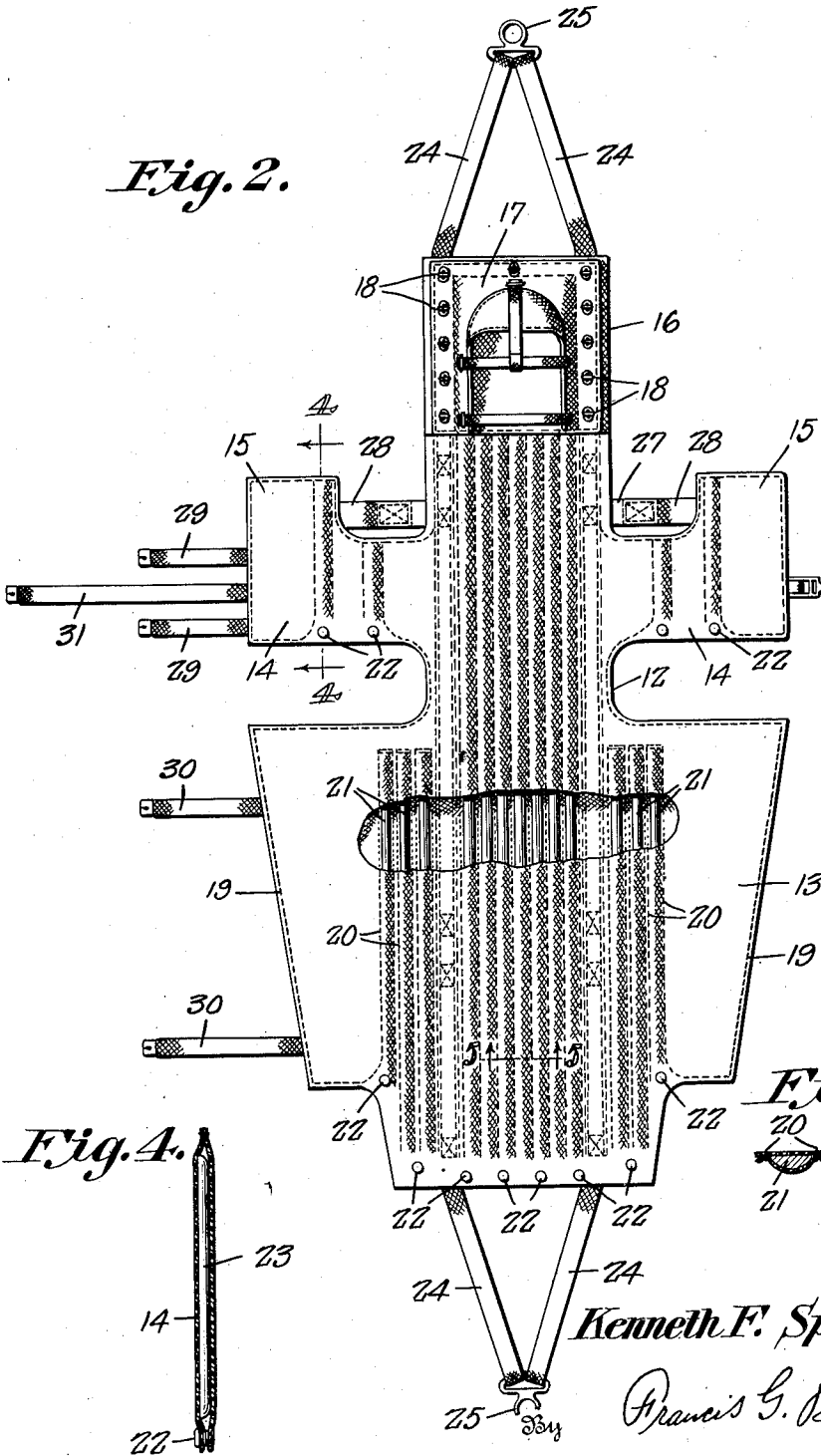


Fig. 5.



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The object of the invention is to provide a litter which combines, in its construction, maximum flexibility and complete safety for the patient, as well as efficient immobilization of fractures of any part of the body; to provide a litter which so securely fixes the position of the patient therein that safety in transit is made possible whether the litter is to be lifted vertically disposed or horizontally; to provide a litter which permits maximum manipulation of the patient without discomfort or danger of additional injury; and to provide a litter which is comparatively light in weight and yet strong, durable, flexible and, when conditions necessitate it, floatable.

With this object in view the invention consists of a construction and combination of parts of which a preferred embodiment is illustrated in the accompanying drawings in which;

Figure 1 is a perspective view illustrating the manner in which the litter is employed to secure a patient in position to be transported;

Figure 2 is a top plan view, partly broken away, showing the construction of the litter;

Figure 3 is a bottom plan view;

Figure 4 is a sectional view on the plane indicated by the line 4—4 of Figure 2; and

Figure 5 is a sectional view on the plane indicated by the line 5—5 of Figure 2.

The litter is constructed of two plies 10 and 11 of fabric, preferably canvas, cut, as illustrated in Figures 2 and 3 of the drawings, to provide a body portion 12, leg wings 13 and side wings 14 which are extended on the upper edges, as indicated at 15, to provide breast flaps, the upper end 16 of the body portion being the head zone in which the headpiece 17 is positioned and removably secured in place with the fasteners 18. The headpiece is identical with that disclosed in Patent No. 2,361,328, issued December 26, 1944. The breast flaps 15 of the side wings are formed as continuations of the latter at their free edges and are spaced from the body portion 12, so that clearance spaces for the arms are provided when the side wings overlap and embrace a contained patient and the breast flaps cover his chest. Similarly the leg wings 13, at their upper edges, are spaced from the lower edges of the side wings thereby providing for exposure of the abdominal region of the contained patient.

The two plies are marginally secured together with a line of stitching, as indicated at 19, and are additionally secured one to the other by the spaced lines of stitching 20, so as to provide sleeves in which the bars 21 are received, these bars being preferably wooden and flat on one face and

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rounded on the opposite face. The flat faces of the bars are disposed next to the ply 10 which contacts the body of the patient and the outer ply 11 is cut full enough so that all of the bulge due to the inclusion of the bars exists in this ply, as clearly shown in Figure 5.

The marginal stitching is omitted at the lower ends of the two plies to provide for removal of the bars in case of necessity, as when one or more are broken and must be replaced. But the access opening resulting from the omission of the stitching is closed by means of snap fasteners 22 of which companion elements are secured respectively to the two plies. This mode of construction is also employed in the side wings 14 and leg wings 13 each of which carries bars 23 shorter than but otherwise identical to bars 20. In the leg wings the bars are confined to those portions adjoining the body portion of the litter, being omitted from those portions which overlap when confining a patient. In the side wings the bars are positioned one adjacent the inner edge of and extending into the breast flap and the other between the first bar and the body portion of the litter. In the patient embracing position, therefore, there are bars lying against the ribs of the patient on either side beneath the arms and on the chest.

For use in hoisting and lowering the litter is provided with the longitudinal straps 24 which are sewed to the litter on the outer face of the under ply 11 at the edges of the body portion 12. These straps extend beyond the ends of the body portion and their extremities are connected with the fall rings 25 whose bight receiving eyes are of the shape of an isosceles triangle so that there will be no tendency of the ends of the straps to be forced together on the application of tension to the straps when the litter is being hoisted or lowered.

Loops 26 of the same material as the straps 24 are secured to the latter just above the side wings 14 and at intermediate points in the length of the leg wings 13. These loops constitute means, when the litter is being transported horizontally, for the reception of bars or guns so that the litter may be supported thereon without possibility of sliding longitudinally.

Additionally to provide transporting means straps 27 are sewed on the outer face of the under ply 11 and, extending transversely of the litter, are terminated in hand loops 28.

To secure the patient in the litter the straps 29 and 30 are employed, the former in the area of the side wings 14 and the latter in the area of the leg

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wings 13. These straps are secured to the litter but their extremities are free so that the one end may be readily engaged with the buckle carried by the other end.

A strap 31 is attached to the litter transversely thereof and is disposed between the two straps 29. This strap is wider than the straps 29 but is provided with terminal sections of the same width as the latter. The function of the strap 31 is to bind the arms of the patient closely to his sides when he has otherwise been secured in the litter.

Figure 1 of the drawings clearly discloses the manner of securing the patient in the litter and when thus secured he may be readily transported either by carrying in a horizontal position by the carriers grasping the hand loops 28 or by passing bars or gurneys through the loops 26 and using the former as handles. Lowering or raising through a shaft or otherwise where the horizontal position is impracticable may be accomplished by tackle attached to the rings 25 of which the upper will carry the weight and the lower serve as a means for guiding the lower end. In either method of handling the patient fractures are efficiently immobilized by reason of the incorporation of the bars or battens 21 in the litter itself. Also while the patient may have relatively complete freedom of movement of parts of the body, the body itself will not shift. Where necessity requires it the litter may be readily floated by securing appropriate buoyant members in the loops 26 and 28 or otherwise attaching them.

The invention having been described, what is claimed as new and useful is:

1. A litter comprising dual plies of fabric, bars disposed between the plies and extending longitudinally of the litter in laterally spaced relation, means connecting the plies marginally and between the bars, flexible dual ply leg and side wings formed as lateral integral extensions of the litter, the side wings having breast flaps formed as upwardly directed continuations thereof but spaced from the edges of the litter to provide clearance spaces for the arms of a contained patient, and straps secured to the underside of the litter in the areas of the leg and side wings and designed to encircle the latter when they embrace the patient, one of said straps being exterior to the arms of the patient.

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2. A litter comprising dual plies of fabric, bars disposed between the plies and extending longitudinally of the litter in laterally spaced relation, means connecting the plies marginally and between the bars, flexible dual ply leg and side wings formed as lateral integral extensions of the litter, the side wings having breast flaps formed as upwardly directed continuations thereof but spaced from the edges of the litter to provide clearance spaces for the arms of a contained patient, bars incorporated in the leg wings but only adjacent to the litter, bars incorporated in the side wings one adjacent the inner edge of the breast flap and continuing into the latter and the other between the first and the edge of the litter, and straps secured to the underside of the litter and adapted to encircle the wings when embracing the patient.

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