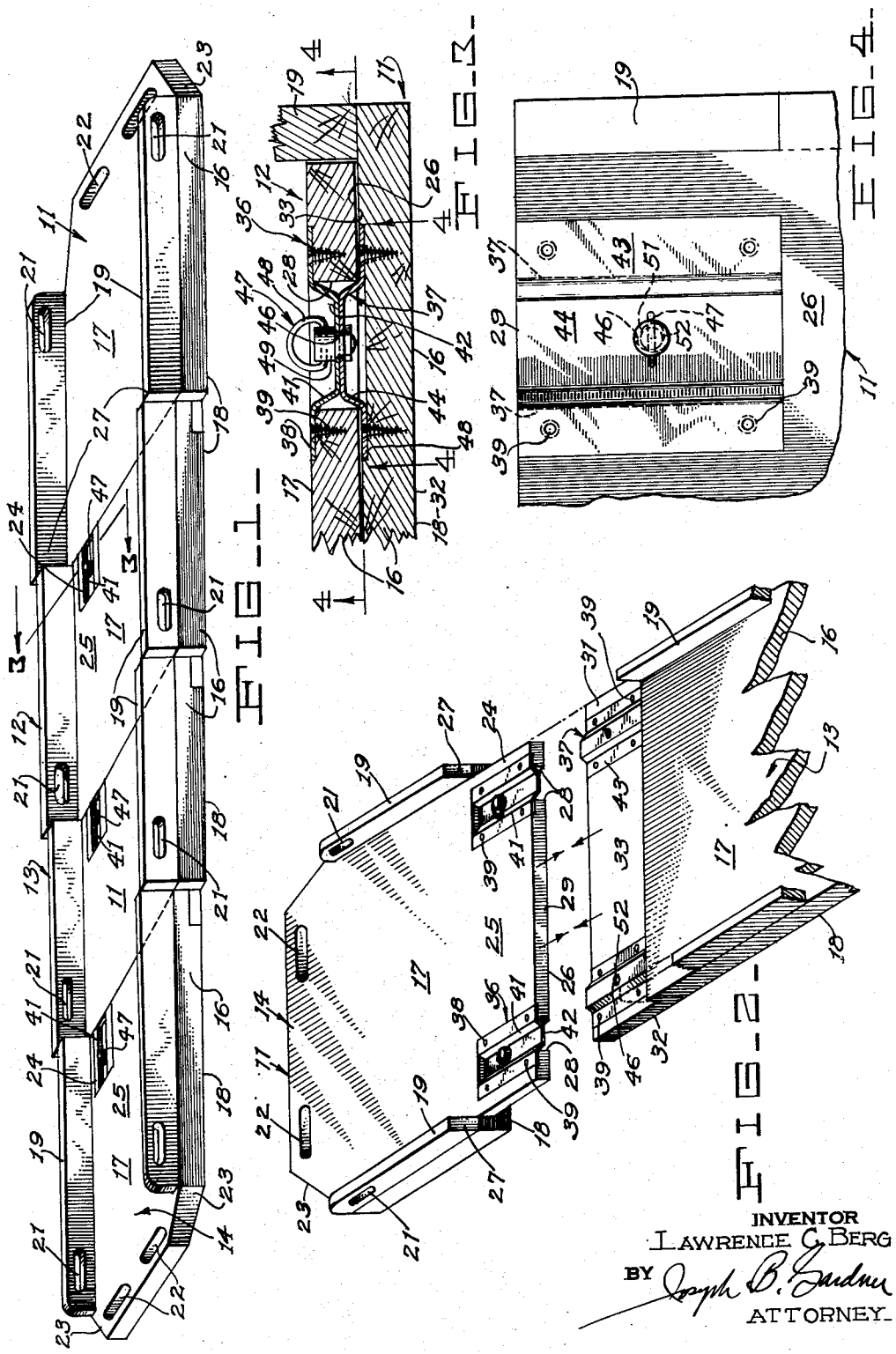
May 4, 1954 L. C. BERG 2,677,159

KNOCKDOWN OCCUPANT SUPPORTING APPARATUS

Filed June 9, 1951



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Patented May 4, 1954

2,677,159

UNITED STATES PATENT OFFICE

2,677,159

KNOCKDOWN OCCUPANT SUPPORTING APPARATUS

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Application June 9, 1951, Serial No. 230,778

1 Claim. (Cl. 20—92.4)

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This invention relates to a structure in the nature of a stretcher, toboggan or the like for supporting an occupant in a prone position, and is particularly directed toward apparatus of the character which may readily be disassembled into a comparatively compact unit.

There has long existed a need for a sectionalized litter on which a physically incapacitated person may be placed for either carrying above the ground or for sliding over snow or like material. In my prior Patent No. 2,464,016, a sectionalized toboggan was disclosed which is particularly arranged for sliding movement over snow covered terrain, but which is not constructed in a manner which particularly lends itself to be used as a litter; for, as will be understood, while specific apparatus may be adequate for movement along the surface of the ground, certain problems of construction present themselves when the apparatus is only supported at its ends as when used as a stretcher.

It is therefore an object of the present invention to provide sectionalized apparatus which may be selectively assembled or disassembled, and which, in its assembled form, may be utilized as a stretcher for carrying a physically incapacitated person.

Another object of my invention is to provide apparatus of the type described which includes a substantially coplanar upper or occupant-supporting surface and a like lower or ground engaging surface so as to add to the comfort of the person lying on the upper surface and to permit the apparatus to be supported over a large surface when it is placed on the ground.

A further object of the invention is to provide a structure of the character described which is constructed so as to afford maximum rigidity for the length of the assembled sections, and which, in its knocked down condition, may be conveniently packed into a compact bundle for carrying to the site of an incapacitated person.

A still further object of my invention is to provide sectionalized apparatus of the type above described in which novel means are utilized for releasably interconnecting the sections, and in which such means are disposed below the plane of the upper or occupant-supporting surface so as to not interfere with the person lying on such surface.

The invention possesses other objects and features of advantage, some of which, with the foregoing, will be set forth in the following description of the preferred form of the invention which is illustrated in the drawing accompanying and

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forming part of the specification. It is to be understood, however, that variations in the showing made by said drawing and description may be adopted within the scope of the invention as set forth in the claim.

Referring to the drawing:

Figure 1 is a perspective view of the apparatus of my invention.

Figure 2 is a perspective view of two adjacent sections shown in detached relationship.

Figure 3 is a cross-sectional view illustrating the method of interconnecting adjacent sections, the plane of the view being taken substantially along the line 3—3 of Figure 1.

Figure 4 is a plan view taken substantially in the plane indicated by the line 4—4 of Figure 3.

Figure 1 best illustrates the complete structure of the apparatus of the present invention which, as will be seen, includes a headboard section 11, a plurality of intermedaite sections 12 and 13, and an end section 14, all of which sections being arranged to be connected together to form an elongated unitary structure. For purpose of simplifying the drawing, I have shown the headboard section as a flat member, but if it is desired to utilize the structure disclosed herein as a toboggan, it would be preferable to add a coextensive upwardly curved portion to the leading edge of the section to form the bow of the toboggan.

Each of the several sections is constructed preferably from an integral flat rectangular panel 16 of plywood or like material to provide an upper surface 17 arranged to receive the body of the occupant and a lower surface 18 which will form a ground engaging tread surface when the apparatus is used as a toboggan. It will be noted that the respective sections are progressively narrower as they approach the end of the structure, and in this manner, all of the sections may be nested one within the other and placed in the headboard section 11, whereby the dismantled unit may be lashed together and easily carried by a single person. In order to lend additional longitudinal rigidity to the sections, each has rails 19 secured thereto, along its opposed side edges, and such rails may be formed of a rectangular shape as disclosed in the drawing or of any other particular form. The rails 19 also furnish means for manually holding the apparatus by providing slots 21 disposed on one or all of the rails through which a person may conveniently place his hand for carrying the structure with a person lying thereon. Similar slots 22 are placed adjacent the leading edge of the headboard panel and trailing edge of the end panel so

as to permit the stretcher to be lifted by persons standing at the ends of the structure. Also, if desired, the corners of the headboard and end sections may be rounded or beveled as indicated by the numeral 23, to eliminate the possibility of sharp corners injuring the litter bearers.

In my said Patent No. 2,464,016, means were disclosed for securing respective sections together to provide a unitary toboggan structure. Although such means were suitable for securing the sections together for use as a toboggan, two conditions were prevalent which I desire to overcome by the apparatus presently to be described. One disadvantage in my prior structure which rendered it somewhat unsatisfactory for use as a litter was the longitudinal flexibility present at the section joints thereby making it very difficult to carry the device from the ends thereof. Another shortcoming in my patented structure was due to the overlapping of the respective sections whereby the toboggan was supported only along a plurality of transverse lines rather than along its entire bottom surface, and the upper surface of the toboggan on which the injured person was placed was not only interrupted by the lapped joints of the sections, but was obstructed by the latching means as well. In accordance with the present invention, these difficulties are overcome, and the litter possesses a far greater degree of longitudinal rigidity than might be expected from a sectionalized structure, and both the upper and lower surfaces of the unit are each substantially coplanar. As here shown, the foregoing is accomplished by constructing and interconnecting the sections in the following manner. With the exception of the leading edge of the headboard section 11, each of the respective panels 16, adjacent the forward end thereof, is provided with an integral tongue portion 24 having an upper surface 25 coplanar with the panel surface 17 and a lower surface 26 disposed substantially medially of the surfaces 17 and 18 of the panel. It will be noted that the tongue portion 24 extends forwardly of the panel and the distal ends 27 of the rails 19, and extends transversely to lines forming continuations of the inner surfaces of the rails. Slots 28 are formed in the tongue portion and are disposed substantially parallel and adjacent to each side edge thereof, the slots extending for substantially the length of the tongue and terminating at the leading edge 29 thereof. The rearward ends of each of the aforesaid panels, with the exception of the end panel 14, are provided with a complementary integrally formed tongue portion 31, having a lower surface 32 coplanar with the panel surface 18, and an upper surface 33 disposed substantially medially of the panel surfaces 17 and 18. From the foregoing, it will be understood that adjacent panels may be brought together with the respective tongues placed in overlapping relation so as to cooperate in forming the continuous upper and lower surfaces heretofore discussed.

Means are provided in the tongue portions for releasably securing the adjacent panels against relative movement therebetween, and it is important that such means be capable of rapid actuation, and at the same time not interfere with the upper or occupant-supporting surfaces 17 of the litter. As here shown, such means include

upper and lower brackets 36 and 37 respectively, the former being secured to tongue portion 24 and the latter to tongue portion 31. Brackets 36 are provided with flanges 38 secured to the upper surface 25 of tongue 24 by means of screws 39 or the like, and preferably, and as here shown, the surface 25 is recessed to receive such flanges in order to eliminate the otherwise present projections on such surface. The flanges extend along the slots 28 and are joined by an integral channel section 41 whose lower surface 42 extends substantially medially of the thickness of tongue 24. Brackets 37 are likewise provided with flanges 43 but with an upwardly extending channel portion 44, the upper surface of the latter extending above the surface 33 of its associated tongue portion a distance approximately one-half the thickness of tongue portion 24. Thus, when the panel sections are brought together, not only will the respective surfaces 26 and 33 be placed in intimate relationship, but the brackets will likewise be placed in contacting relationship. Journaled in an aperture 46 formed in bracket 36 is a locking pin 47, the latter including a swingable handle portion 48 and a shank 49. The distal end of the shank is provided with an eccentric portion 51 which may enter an aligned aperture 52 formed in bracket 37 in one position of rotation of the pin. Thus, by merely rotating the shank by means of the handle 48, the eccentric will bind against the lower bracket 37 and securely but releasably hold the sections together.

From the foregoing description, it will be seen that I have provided a stretcher or litter which may be conveniently assembled or knocked down, which may easily be utilized as a toboggan, and which is extremely simple to manufacture, thereby reducing the cost thereof to the purchaser.

I claim:

Apparatus of the type described, comprising a pair of separate longitudinally aligned sections, one of said sections having a substantially flat upper surface and a lower surface having a stepped up portion, the other of said sections having a substantially flat lower surface and an upper surface having a stepped down portion, said portions being disposed in overlapping relation whereby the sections present substantially coplanar upper and lower surfaces, and means engageable with said portions for releasably securing said sections together, said means including plate members secured to said respective portions, the plate on said one section being disposed intermediate the surfaces of said stepped up portion and the plate on said other section being disposed intermediate the upper surface of said stepped down portion and the upper surface of the section, said plates being disposed in contiguous overlapping relation when said sections are secured together.

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