United States Patent [19]

Nordwig

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[54] **INVALID CARRYING SLING**

[75] Inventor: **Louis F. Nordwig,** Menomonee Falls, Wis.

[73] Assignee: **Invalid Carrier Inc.,** Menomonee Falls, Wis.

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[52] **U.S. Cl.** **5/89,** 5/82

[51] **Int. Cl.** **A61g 1/02**

[58] **Field of Search** ..... 5/81, 82, 89, 92, 317 R; 294/81 R

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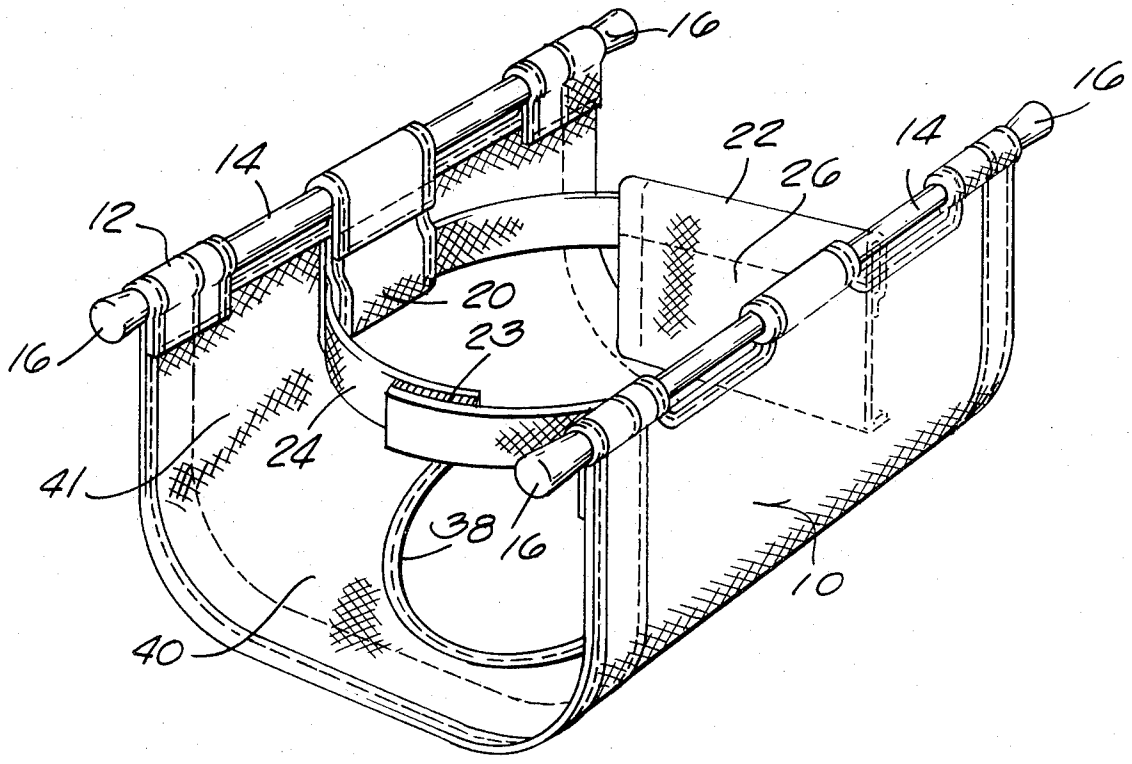
Primary Examiner—Casmir A. Nunberg

Attorney, Agent, or Firm—Joseph P. House, Jr.

[57] **ABSTRACT**

A substantially rectangular sheet of flexible material has longitudinally aligned loops formed along opposite edges for receiving a pair of rigid, elongated handles. The adjacent loops are spaced far enough apart to permit a hand to be inserted between the adjacent loops for the purpose of grasping the exposed portion of the handles to support a person seated on the sheet of flexible material as it hangs downwardly from the handles to function as a sling. A belt is fastened to the upper surface of the sheet by suitably positioned loops and passes around the seated person's waist to prevent the person from sliding off the sling. The edges of the sling are preferably reinforced with folded fabric tape strips to strengthen the edges and prevent fraying. An opening may be provided in the center of the sling to permit the occupant of the sling to be placed on a toilet seat without the need for subsequently removing and then replacing the sling.

10 Claims, 5 Drawing Figures



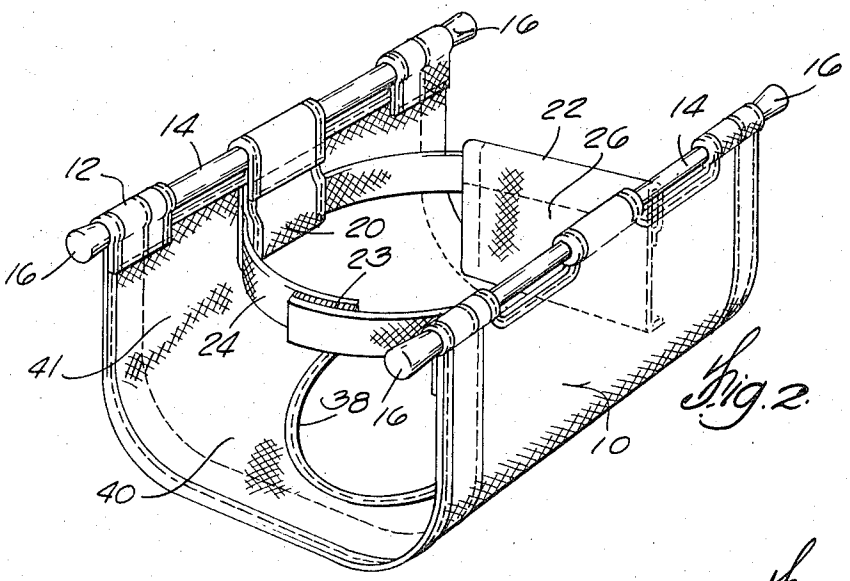
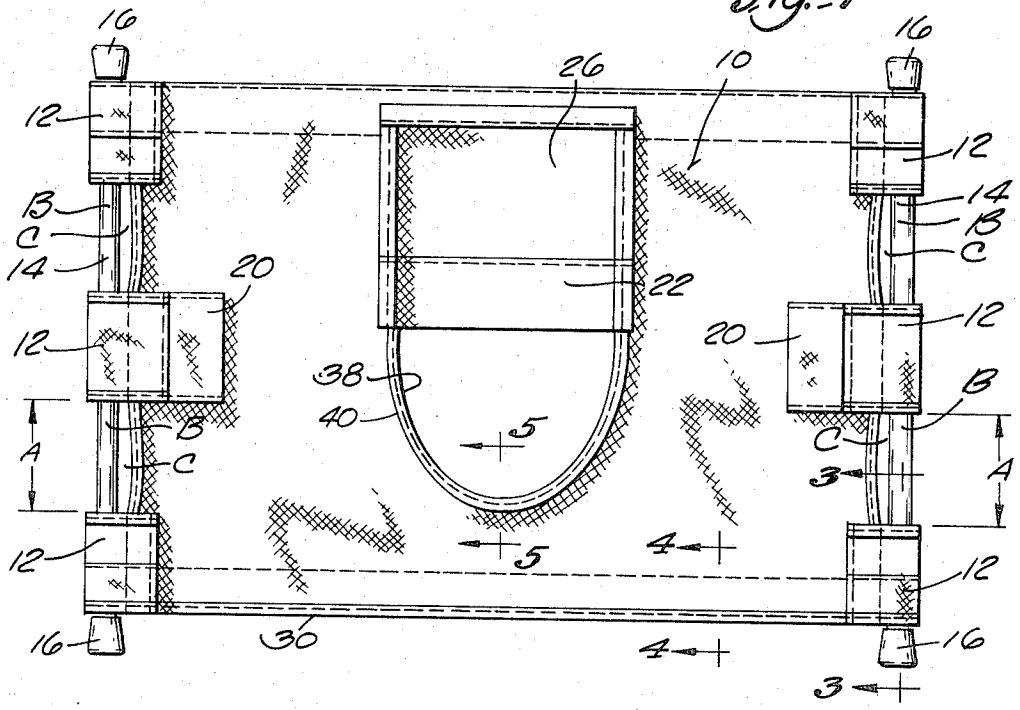


Fig. 2.

Fig. 1



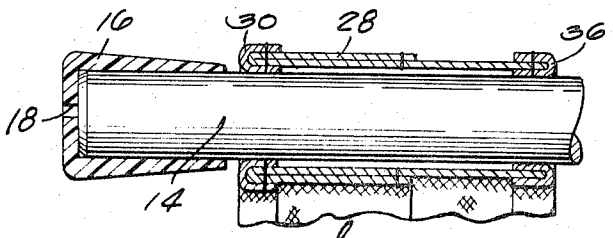


Fig. 3

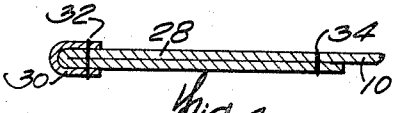


Fig. 4

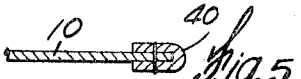


Fig. 5

INVALID CARRYING SLING

BACKGROUND OF THE INVENTION

This invention relates generally to means for carrying invalids or other persons who cannot walk. More specifically, this invention relates to a carrying sling for carrying such incapacitated persons in a seated position. This invention is particularly useful in application where a wheel chair would be awkward or inappropriate, e.g. in carrying the incapacitated person from bed to the toilet, or up and down stairs, or into an airplane or other vehicle.

SUMMARY OF THE INVENTION

A substantially rectangular sheet of flexible material has longitudinally aligned loops formed along opposing side edges for receiving a pair of rigid, elongated handles. The adjacent loops are spaced far enough apart to permit a hand to be inserted between the adjacent loops for the purpose of grasping the exposed portion of the handles to support a person seated on the sheet of flexible material. A belt is fastened to the upper surface of the sheet by suitably positioned loops and passes around the seated person's waist to prevent the person from sliding off the sling. The edges of the sling are preferably reinforced with folded fabric tape strips to strengthen the edges and prevent fraying. An opening may be provided in the center of the sling to permit the occupant of the sling to be placed on a toilet seat without the need for subsequently removing and then replacing the sling.

One object of this invention is to provide an invalid carrying sling that is sturdy and includes means for strapping the occupant to the sling to prevent sliding off.

Another object of this invention is to provide an invalid carrying sling which can be rolled up and stored in a relatively small space.

A further object of this invention is to provide an invalid carrying sling which is particularly adapted for carrying an invalid to the toilet.

An additional object of this invention is to provide an invalid carrying sling which is reinforced on all its edges to strengthen the sling and prevent fraying on the edges.

Other objects and advantages of the invention will be apparent to those skilled in the art from the description which follows.

DESCRIPTION OF THE DRAWINGS

FIG. 1 is a plan view of one illustrative embodiment of the invention spread out flat.

FIG. 2 is a perspective view of the embodiment of FIG. 1 in an upright position.

FIG. 3 is a fragmentary vertical sectional view taken along the line 3—3 of FIG. 1.

FIG. 4 is a fragmentary vertical sectional view taken along the line 4—4 of FIG. 1.

FIG. 5 is a fragmentary vertical sectional view taken along the line 5—5 of FIG. 1.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Although the disclosure hereof is detailed and exact to enable those skilled in the art to practice the invention, the physical embodiment herein disclosed merely exemplifies the invention which may be embodied in other specific structure. The scope of the invention is defined in the claims appended hereto.

Referring to FIG. 1, the preferred embodiment of the invalid carrying sling of the invention includes a generally rectangular web or sheet 10 of flexible material such as canvas or the like which has longitudinally aligned loops 12 formed in opposite side edges thereof for receiving rigid elongated handles 14. The adjacent loops 12 are spaced apart by a distance A which is large enough to admit a hand for the purpose of grasping the exposed portion B of handle 14 to support the sheet 10 and the person seated thereon. A gap C is provided between the exposed portion B of handle 14 and the adjacent side of sheet 10 to permit the carrier's fingers to be comfortably warapped around the exposed portion B of handle 14. Three of the loops 12 are preferably provided on each side of sheet 10 to provide two exposed hand holds B so that the sheet 10 may be supported by two persons, one at each side of the sling, grasping the exposed hand holds B with both hands.

The handles 14 are preferably cylindrical in shape and may be made out of wood or metal tubing. Resilient protective end caps 16 which are larger than the loops 12 are force fitted on the ends of handles 14 to prevent the handles from sliding out of the loops 12. At least one of the end caps 16 on each handle 14 has an air vent 18 (FIG. 3) to prevent an air lock and thus to facilitate removal of end cap 16.

The loops 12 in this embodiment are formed by folding back and stitching suitably shaped side portions of the sheet 10. Two additional side loops 20 and a rear loop 22 are sewed in place on the upper side of sheet 10 and are positioned to receive a belt 24 (FIG. 1) that passes around the occupant's waist to secure him to the sling. The ends of belt 24 in this particular example are fastened together with Velcro fasteners 23, but a buckle or other conventional type of fastener could be used, if desired. The rear loop 22 is formed on the end of a rear flap 26 which is sewed on the sheet 10 near its rear edge. The flap 26 is lifted as shown in FIG. 1 to form a rear panel which prevents the occupant of the sling from sliding out the rear of the sling. Rear flap or panel 26 also provides an anchor via belt 24 to prevent the occupant from sliding out the front of the sling. The respective loops 20, 22 are so located that belt 24 will be horizontal when the sling is erected. For this purpose rear flap 26 extends upwardly from the seat portion of the sling to dispose loop 22 at the same level as loops 20 which hand down from rods 14.

As illustrated in FIG. 4, the front edge of sheet 10 is preferably folded over at 28 and reinforced by a canvas or like tape 30 which is folded over the front edge of the fold 28. The two folded edges are stitched at 32 and 34 to form a double hem which strengthens the front edge of sheet 10 and protects it against fraying. Similar reinforcing tapes 36 (FIG. 3) are stitched around the exposed hand holds B of handles 14 to strengthen the exposed edges and prevent fraying. The rear edge of sheet 10 may be either doubly hemmed, as shown in FIG. 4, or singly hemmed, if desired, since it is not subject to friction from the occupant's legs.

If the sling is to be used for carrying the incapacitated person to the toilet, an oval opening 38 may be formed in the central portion of the sheet 10 so that the occupant can be placed on a toilet seat without the need for removing and then replacing the sling. The opening 38

is preferably reinforced by canvas type **40** as shown in FIG. **5**, to strengthen the edge and prevent fraying.

When in use, as indicated in FIG. **2**, the sheet **10** hangs down from the handles **14** to shape itself into a seat portion **40** and side portions **41**. For storage, the rear flap **26** is laid over the seat portion **40** of the sheet **10** and the sling is rolled up about one or both of the handles **14**. The absence of any sling back, other than the flap **26**, facilitates this rolling process.

I claim:

1. An invalid carrying sling for carrying an incapacitated person in a seated position, said sling comprising a flat, generally rectangular sheet of flexible material, a first plurality of loops longitudinally aligned along one side edge of said sheet, a second plurality of loops longitudinally aligned along the opposing side edge of said sheet, a first rigid elongated handle extending through said first plurality of loops, a second rigid elongated handle extending through said second plurality of loops, the individual loops of said first and second plurality of loops being spaced apart from the nearest adjacent loop by a distance which is sufficient to admit a hand between the adjacent loops for the purpose of grasping the exposed portion of the handle to support the sling, a third plurality of loops attached to said sheet and positioned to slidably receive a flexible belt for attaching said incapacitated person to said sling, and a belt extending through said third plurality of loops, a rear panel made of flexible material and attached at one end to said sheet near the rear edge thereof, one of the loops of the third plurality of loops being formed at the other end of said rear panel whereby the rear panel will be supported by said flexible belt to serve as a back for the sling, said rear panel being foldable flat against said sheet to facilitate rolling the sling about one or both of said handles.

2. The combination defined in claim **1** and further comprising gaps between the exposed portions of said handles and the adjacent edge of said sheet, said gaps each being large enough to admit the fingers of a hand between the handle and the adjacent edge of said sheet.

3. The combination defined in claim **1** wherein said first and second plurality of loops each comprises three spaced loops providing two exposed portions of said handle whereby each handle may be grasped and supported by two hands.

4. The combination defined in claim **1** and further comprising an opening formed in the central portion of said sheet.

5. The combination defined in claim **1** and further comprising resilient caps on both ends of said handles, said resilient caps being larger than said loops to prevent the handles from sliding out of the loops.

6. The combination of claim **5** in which at least one cap on each handle has an air vent in its end to prevent air lock when the cap is removed.

7. The combination defined in claim **1** and further comprising a reinforcing tape folded over the front edge of said sheet and attached thereto to reinforce the edge and prevent fraying.

8. The combination defined in claim **7** wherein the front edge of said sheet is hemmed and said reinforcing tape forms a second hem.

9. The combination defined in claim **4** and further comprising reinforcing tape material folded over the edges of said opening and attached thereto to reinforce the edge and prevent fraying.

10. The combination defined in claim **1** wherein said flexible sheet is made of canvas and said handles are made of wood.

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