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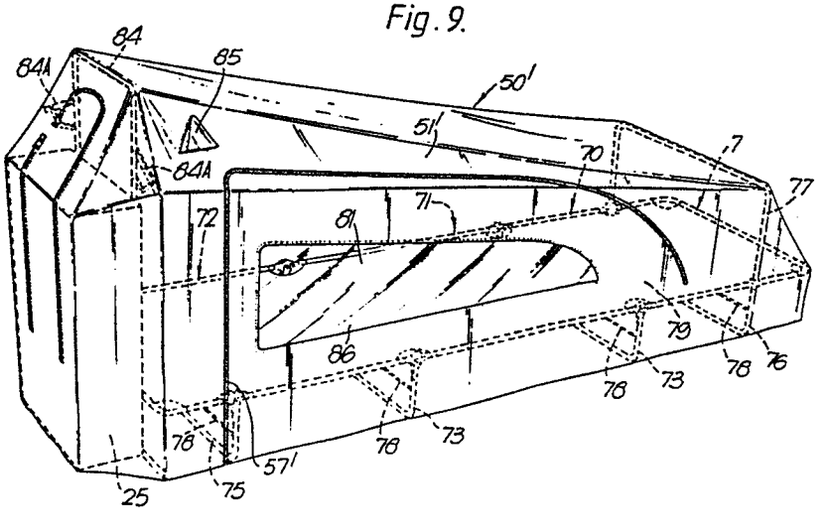
(54) Back-packs.

(57) A back-pack has a multi-part frame length-adjustable from a collapsed state appropriate for framing the back-pack to an extended state for use as a bed-frame in which latter position the pack (25) is secured to the head of the frame and a waterproof cover (50) attachment is locatable over the pack (25) and bed-frame to provide a one-person tent for sleeping outdoors.

Fig. 9.



EP 0 136 376 A1

Croydon Printing Company Ltd

BACK-PACKS

This invention relates to back-packs.

When a hiker or climber rests overnight at a hostel or the like appropriate facilities for sleeping are generally available, but often it is necessary, and frequently intended, to spend the night in the open. The onus is then on the hiker or climber to prepare a resting place for the night and bear in mind the security of his belongings and equipment while asleep.

The object of the present invention is to provide a back-pack having means convertible to afford a sleeping facility.

In accordance with the present invention, a back-pack has means in the form of an elongate frame comprising at least two interconnected parts each of which has a shaped member affording two elbows whereby the frame is three dimensional with width-defining lengths thereof off-set in the same direction from length-defining lengths thereof to provide a depth dimension which remains constant, whereas at least the length-defining dimensions can be changed from and to those appropriate for framing a back-pack to and from those appropriate for a bed-frame.

Embodiments of the invention will now be described, by way of example, with reference to the accompanying diagrammatic drawings, in which:-

Fig. 1 is a perspective view of a back-pack according to one embodiment of the present invention;

Fig. 2 is a perspective view of the back-pack frame as in Fig. 1 but with the back-pack removed;

Fig. 3 is a perspective view of the frame of Figs. 1 and 2 with the length and width dimensions thereof substantially extended to convert same to a bed-frame;

Fig. 4 is a perspective view of the head end of the bed-frame with the back-pack attached thereto;

Fig 5 is a perspective view looking on the rear,

bottom and one side of the inverted back-pack attached and locked to the head end of the bed-frame.

Fig. 6 is a perspective view of an attachment fitted over a pack and a frame according to a second embodiment;

Fig. 7 is a perspective view of a bed-frame according to a third embodiment, movable parts of which are shown in different positions in broken line;

Fig. 8 is a perspective view of a back-pack having a support frame secured thereto and ready for attaching thereto in a collapsed state a bed-frame shown in Fig 7;

Fig 9 is a perspective view of an erected bed-frame shown in Fig 7, a back-pack and an attachment similar to that shown in Fig 6;

Fig 10 is a diagrammatic perspective view of a pack according to a further embodiment; and

Fig 11 is a diagrammatic perspective view of two side-by-side back-packs in bed-frame attitudes.

Referring now to Figs. 1 to 5 of the drawings, a back-pack frame according to a first embodiment comprises four shaped tubular members 10, 11, 12 and 13 and four straight tubular members 14, 15, 16, and 17 within which the end lengths of the members 10-13 are telescoped. The members 10-13 have a central length 18 from which end lengths 19 and 20 extend in spaced and parallel planes through right-angle bends 21 and 22, respectively, the end lengths 19 and 20 being directed at right angles to one another.

When the end lengths 19 and 20 are pushed to the full extend possible into the straight members 14 to 17 the tubular frame is in its most compact form as shown in Fig. 2 to house the back-pack 25 as shown in Fig. 1. The back-pack 25 has various pockets such as shown at 26, 27,28 and 29 closable by sliding-clasp fasteners and intended to accommodate articles such

as maps and a compass and other items to be used en route. The back-pack 25 may be attached to the frame in the manner shown in Fig. 1 or in any other convenient manner. It also has a transverse flap 30 adjacent to and substantially the full width of the upper edge 31 of its rear surface 32, i.e.that against the carrier's back when being carried, this flap 30, with the pack 25 inverted, being foldable around the composite member 17, 20, 20 at the head end of the frame when in the extended bed-frame-forming condition (see Fig. 5), and being connected by a sliding-clasp fastener 33 to the rear surface 32 of the pack, the fastener 33 being secured in the closed condition by a lock 34 preventing surreptitious removal of or opening of the pack 25 while the owner is asleep.

Adjustment in length of the composite side members 19, 14,19 and 19, 15, 19, and the composite end members 20, 16, 20 and 20, 17, 20, is effected by double bayonet joints, longitudinal slots with two spaced offsets being provided in the inner telescopic members and co-operating with appropriately-positioned studs projecting inwardly from the walls of the outer telescopic members.

A centrally-positioned ground support is provided for the frame when in the extended or bed-frame-constituting condition. The central support is tubular and is made up of two L-members 36 and 37 with extended base lengths 38 and 39, reversed relative to one another and telescoping from opposite directions into a straight tubular member 40. The composite central members 38, 40, 39 is adjustable in length in the same way as the composite side members and composite end members. The stems 41 and 42 of the members 36 and 37 are snug fits in depending sockets of locating members 43 and 44 fixed about the straight tubular side members

14 and 15, centrally of the latter.

When the frame is in the pack-housing condition, the central support shortened in the transverse direction is nested adjacent the lower end of the frame as can be seen in Fig. 1. As shown in broken line in Fig. 3, a bed support sheet 45 extends between longitudinal lengths, 19, 14, 19 and 19, 15, 19 and is secured to said lengths by ring clasps 47 threaded around said lengths and passing through eyelets 46 in said sheet 45. A sleeping bag or the like is laid on top of said support sheet.A cover attachment for fitting over said frame to when the back-pack is in its extended bed-frame attitude is shown in Fig 6.

The attachment comprises a shaped covering 50 to fit over the frame and pack 25 and is for use as a "tent". The covering 50 is waterproofed and has two similar wedged shaped side panels 51, two end panels 52, 54 and a sloping top panel 53, the panels 51, 52 53 and 54 being secured watertightly along contiguous edges. The covering 50, when located over the frame and pack, has its end panel 52 at the head end of the frame and located on the other side of the pack 25 from the frame with the side panels 51 and top panel 53 extending therefrom to the other end of the frame. The covering is supported by the pack in its "tent" attitude. The bottom edges of the side panels 51 are securable by, for example ring clips to the top of the lengths 18, of members 10-13, and stems 41, 42. A zipped opening 57 is provided in either of the side panels 51 to give access into or out of the "tent". A waterproofed glazed portion 58 and an air vent 59 are also incorporated into the covering 50. To give "foot-room" at the bottom end of the bed frame, or to space the top panel 53 from the bottom end of the bed frame, collars 55 are fixed to lengths 18 to receive therethrough limbs of an inverted U-shaped end member 56,

the web of which supports the covering.

The covering 50 is of flexible sheet material and when not in use can be folded and stored in a pocket provided at the bottom of the pack 25 access to which is gained through zipped opening 66.

In a second embodiment shown in Fig. 6 the frame is formed of three parts, namely two similar end parts 60, 61 and a central part 62. The parts 60, 61 are equivalent to members 10, 12, 16 and 11, 13, 17 respectively. The central part 62 comprises two longitudinals 63, 64 equivalent to tubular members 14, 15. The parts are telescopically related, longitudinal lengths of part 61, slidable into corresponding longitudinals 63, 64 which in turn are slidable into longitudinal lengths of part 60. The parts 60, 61 and 62 when extended are secured together by single or double bayonet joints or other equivalent mechanisms. Holes (not shown) are provided in longitudinals 63, 64 and longitudinal length of parts 60 and 61 to be aligned when the parts are fully extended and bayonet joints engaged, these four aligned sets of holes to be engaged each by a stem of a leg bracket to a depth determined by a half-circular washer, the stem in each bracket extending beyond the washer to provide a support to be engaged by tubular limbs of a U-shaped leg 65.

In a third embodiment as shown in Figs. 7, 8 and 9, the frame 7 is in three parts 70, 71 and 72. The parts 70 and 72 are hinged to part 71 and fold-over on top of part 71, part 70 being folded first to be adjacent to part 71 followed by part 72 to be adjacent to part 70. At the hinging joints 74 at each end of part 71, U-shaped legs 73 are provided. Also, at the outer end of part 72, or head end of the bed-frame a U-shaped leg 75 is provided hingedly-mounted to be foldable about its hinges to lie in a parallel

plane with the longitudinals of part 72. Adjacent to the outer end of part 70, or bottom end of the bed-frame, a U-shaped leg 76 is provided hingedly-mounted thereto to be foldable about its hinges to lie in a parallel plane with the longitudinals of part 72. At the same hinge mountings, an inverted U-shaped element 77 is provided in an opposite direction to be foldable about its hinges to lie in a parallel plane with the longitudinals of part 70, element 77 being folded to lie in the same plane as leg 76 but in the opposite direction as shown. Each leg 73, 75 or 76, or element 77, have a tie 78 as shown. A webbing 79 is provided across the back parts of the frame, holes being provided at hinge points and head end member.

Fig. 8 shows a back-pack 25 to which a back frame 80 is mounted, the frame 80 having two tracks transversely spaced apart, the tracks each being formed by two spaced rails 81, 82, the rails 81 being transversely connected by bars 83. An arched tubular member 84 is provided to fit into the tops of rails 81 for use when using an attachment covering 50 to give greater space in the tent above the head end of the bed-frame. Also, the member 84 can be provided with extendable wing portions 84A, these portions 84A being extended outwardly as required and are only for use when an attachment covering 50' is being used to give a greater distance between the lateral side panels 51' of said covering 50' as shown diagrammatically in Fig. 9. Vents 85 and glazed portion 86 are shown in Fig. 9. To fit the frame to the back-pack, the frame is folded into a collapsed state as described above and the longitudinals of part 72 are engaged in and slid down the tracks framed by rails 81, 82. In a modification, one side panel 51.' is removable by a zipper being provided along fold line 90 whereby two back-packs according to this

embodiment can be positioned side-by-side with adjacent side panels from both coverings unzipped and then zipped together to form a two person "tent" as shown in Fig 11.

In the third embodiment, the frame when in its collapsed state could when removed from the pack, serve as a seat. Also, the hinge joints between the parts 70, 71 and 72 may be of a type to enable an adjustable rake for the bed-frame between the parts to be obtained between the horizontal extended bed-frame disposition and the collapsed seat-frame disposition. In this latter case, the bed-frame could be used as a sun lounger in which case a cover attachment would not be in use.

Fig. 10 shows a further form of pack showing carrying straps 100 and straps 101 to which the frame hereinbefore described can be attached, the back-pack carrying the frame. The back panel of the pack can be unzipped by zipper 102 to gain access to the interior of the pack, the opening tag of zipper 102 when closed being located behind flap 30' whereby when the pack is inverted and secured to the frame as hereinbefore described, access to the interior of the pack is denied.

CLAIMS

1. A back-pack characterised in that it has means in the form of an elongate frame comprising at least two interconnected parts each of which has a shaped member affording two elbows whereby the frame is three dimensional with width-defining lengths thereof off-set in the same direction from length-defining lengths thereof to provide a depth dimension which remains constant, whereas at least the length-defining demensions can be changed from and to those appropriate for framing a back-pack to and from those appropriate for a bed-frame, in which latter position, the pack is securable in an inverted attitude to said frame thereby to prevent unauthorised removal of said pack from said frame.

2. A back-pack as claimed in Claim 1, characterised in that the frame comprises three parts, each outer or end part having two shaped tubular members (10, 12 or 11, 13) and a straight width-defining tubular member (16 or 17) and the central part having two straight length-defining tubular members (14, 15) with which end lengths (19, 20) of the shaped members are telescopically related.

3. A back-pack as claimed in Claim 2, characterised in that each outer or end part has an equivalent shape to the two shaped tubular members (10, 12, or 11, 13) and straight width-defining tubular member (16, or 17) one end part having its longitudinal lengths in telescopic relation with the length-defining members of the central part which themselves are in telescopic relation to the longitudinal lengths of the other end part.

4. A back-pack as claimed in Claim 1, characterised in that a back frame is secured to the pack and an extendible frame is securable therein, the extendible frame being in three parts, two outer or end parts

(70, 72) hingedly-connected to respective ends of a central part (71), the end parts (70, 72) being foldable over on top of the central part (71) in a closed attitude.

5. A back-pack as claimed in Claims 1, 2, 3 or 4, characterised in that a cover attachment (50) is provided to fit over the frame when extended into a bed frame and having the pack invertedly secured to one end thereof thereby to serve as a support for said covering (50).

6. A back-pack as claimed in Claim 5, characterised in that the covering (50) has a zipped opening (57).

7. A back-pack as claimed in Claim 5 or 6, characterised in that the covering (50) has a vent (59).

8. A back-pack as claimed in Claim 5, 6 or 7, characterised in that the covering (50) has a glazed portion (58).

9. A back-pack as claimed in Claim 5, characterised in that an inverted U-shaped end member (50) is provided to support the covering (50) at the other end of the frame from the pack.

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Fig. 1.

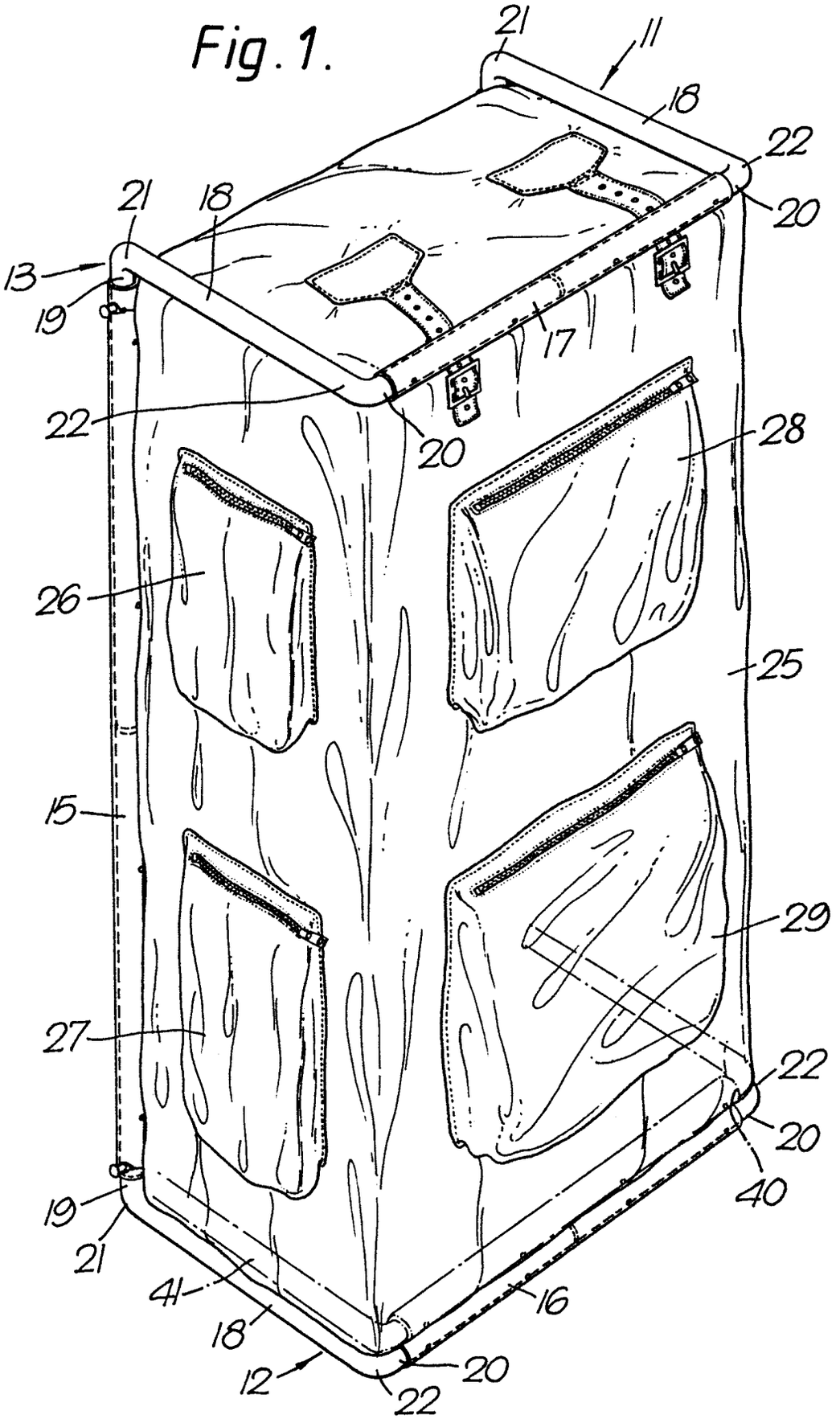

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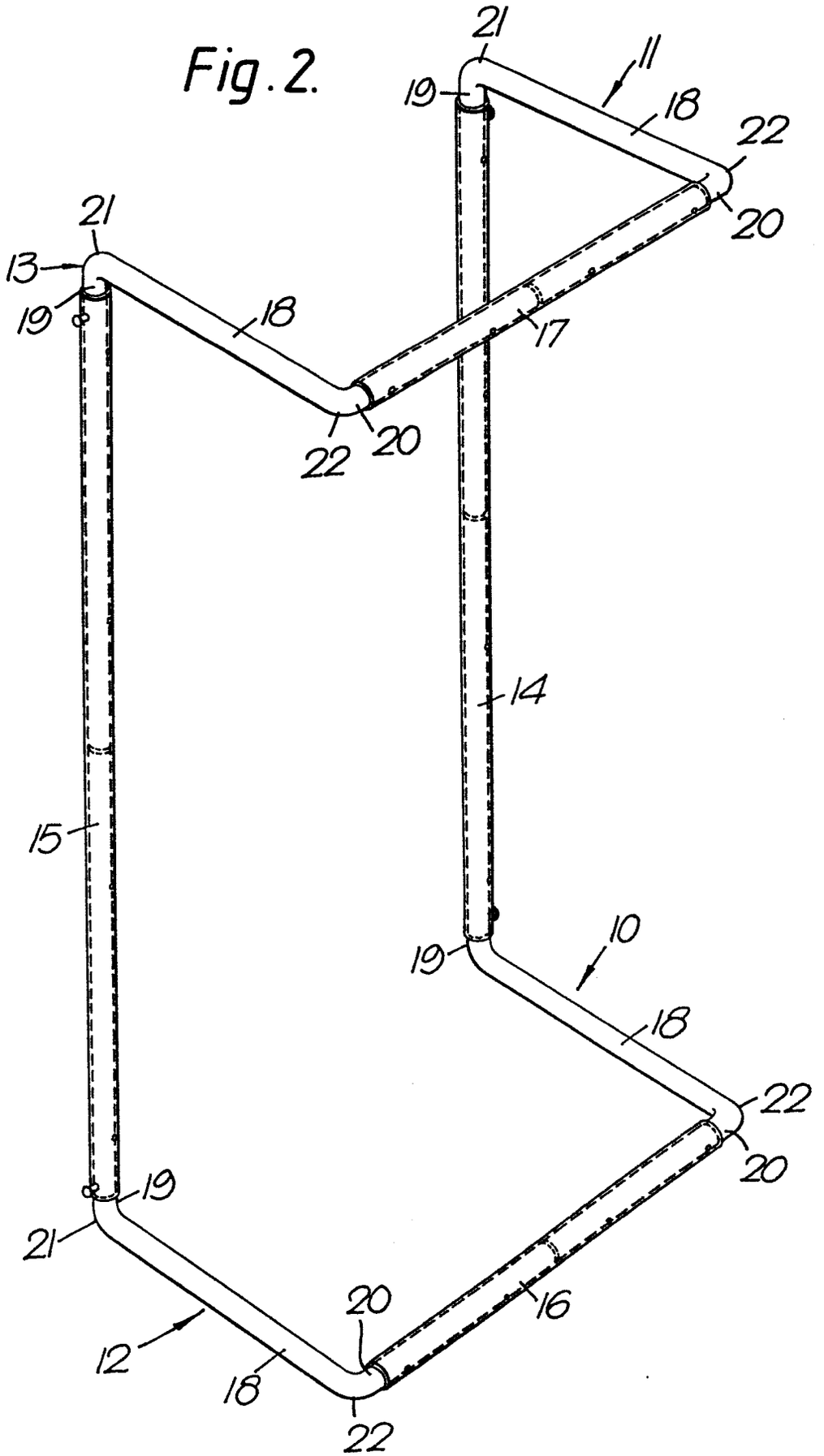
Fig. 2.



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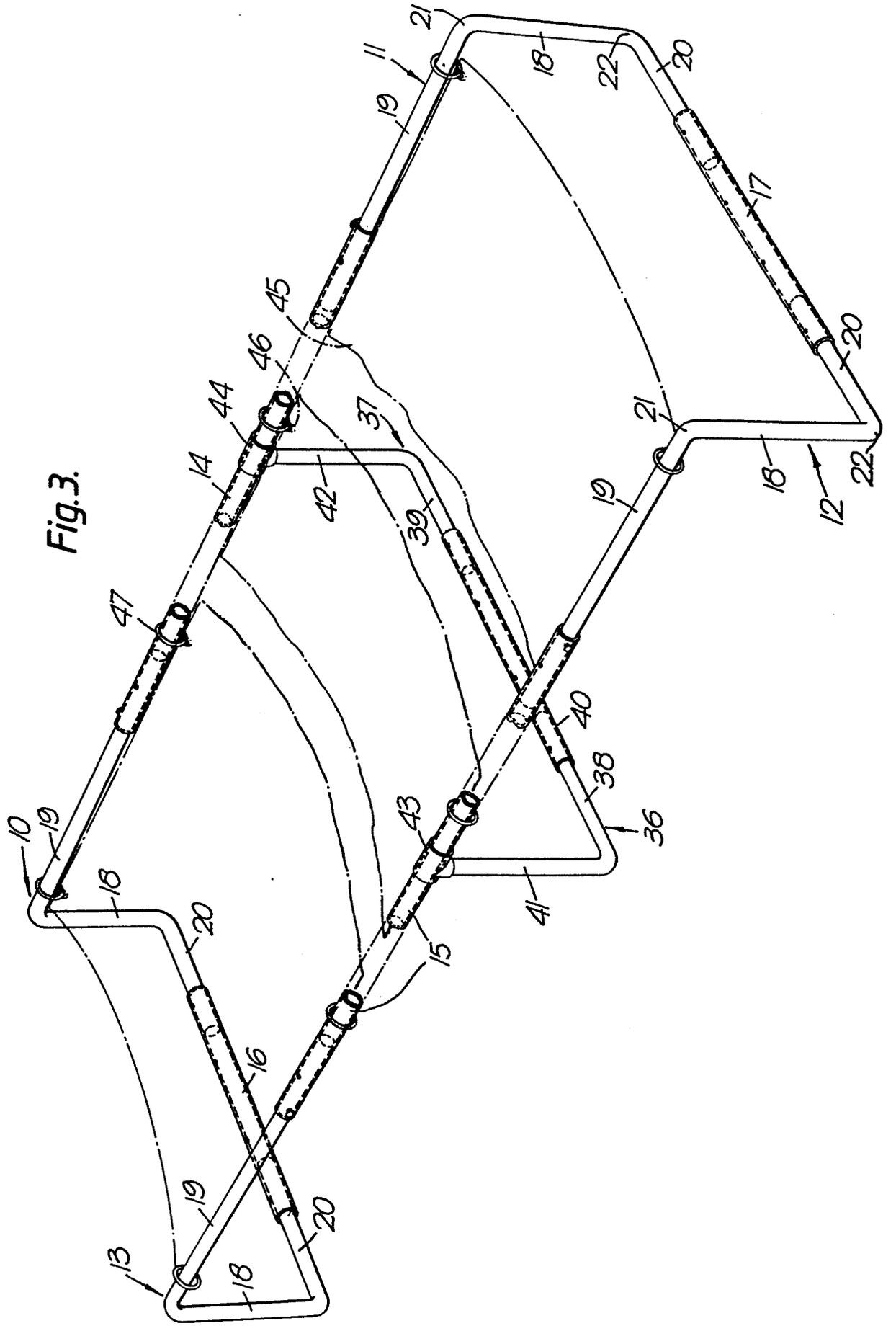

Fig.3.

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Fig.4.

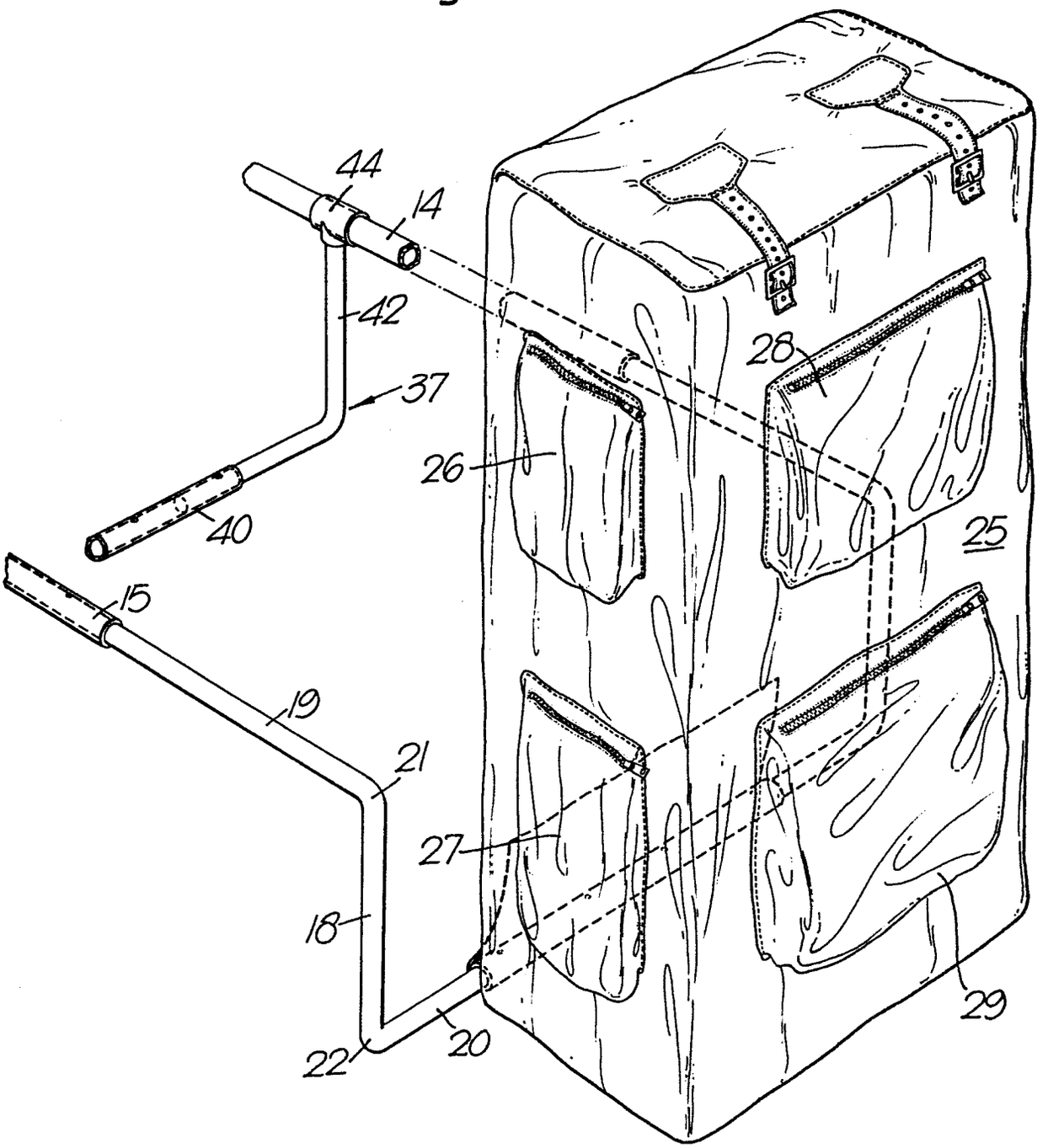

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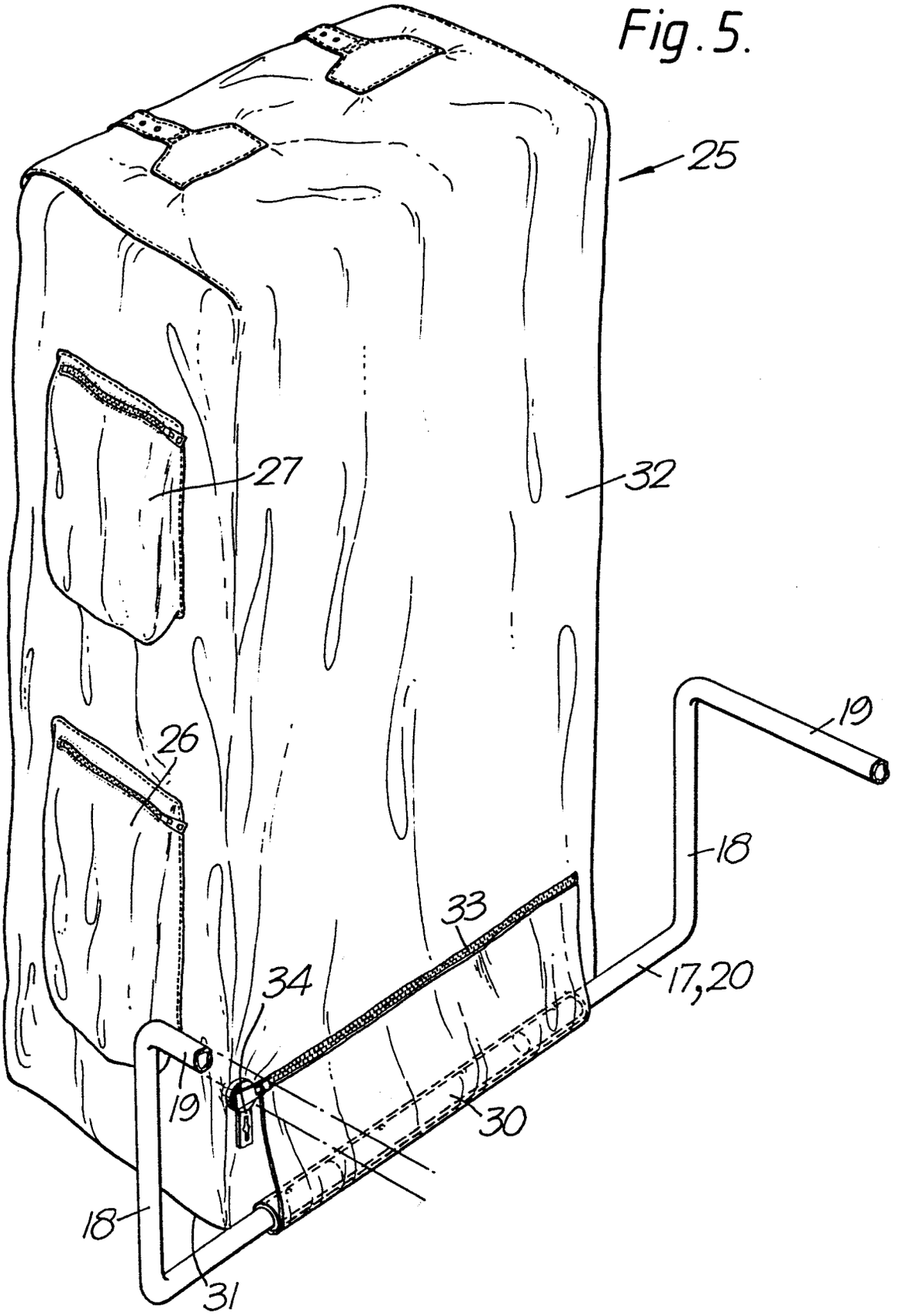
Fig. 5.



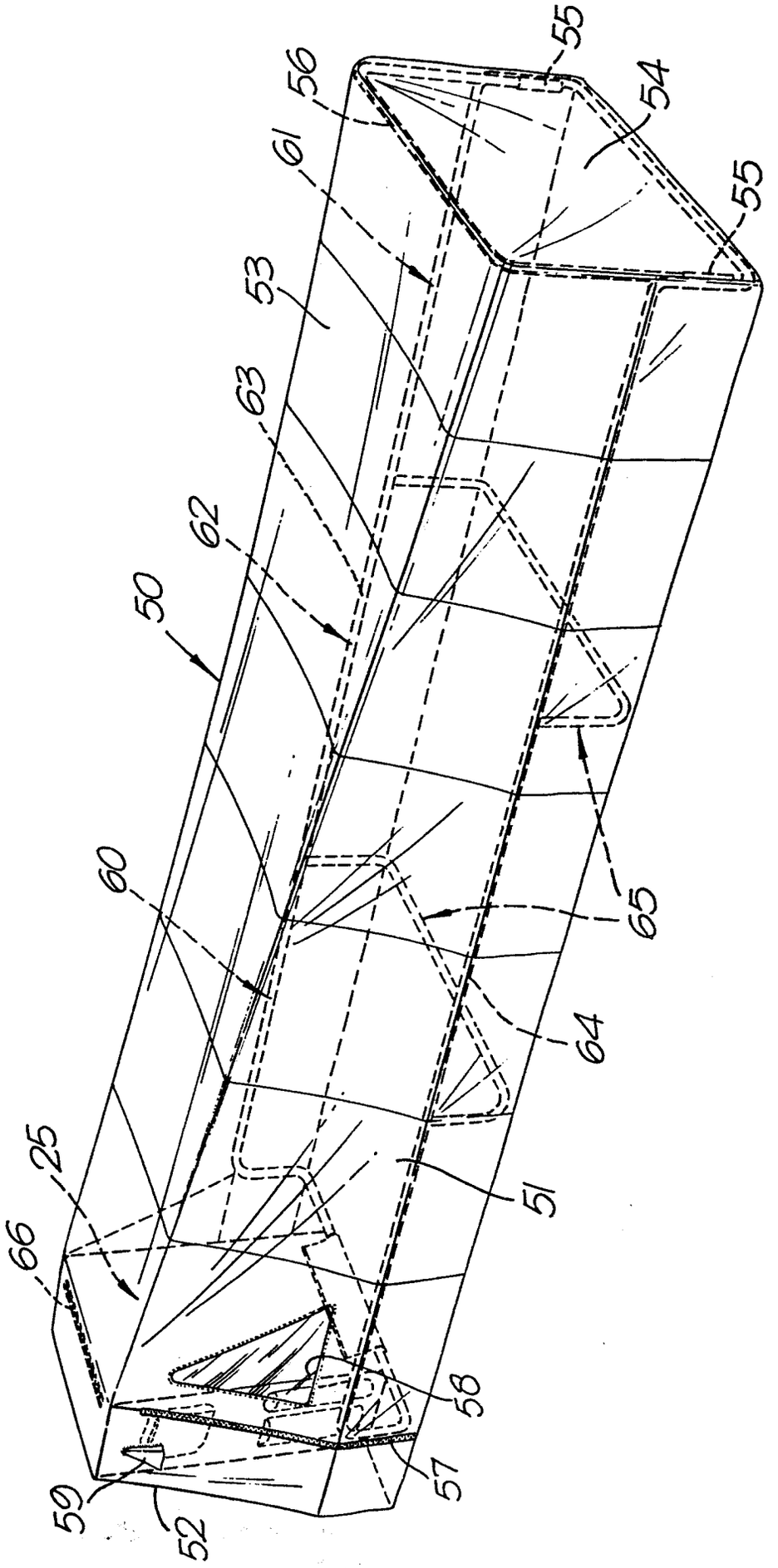


Fig. 6.

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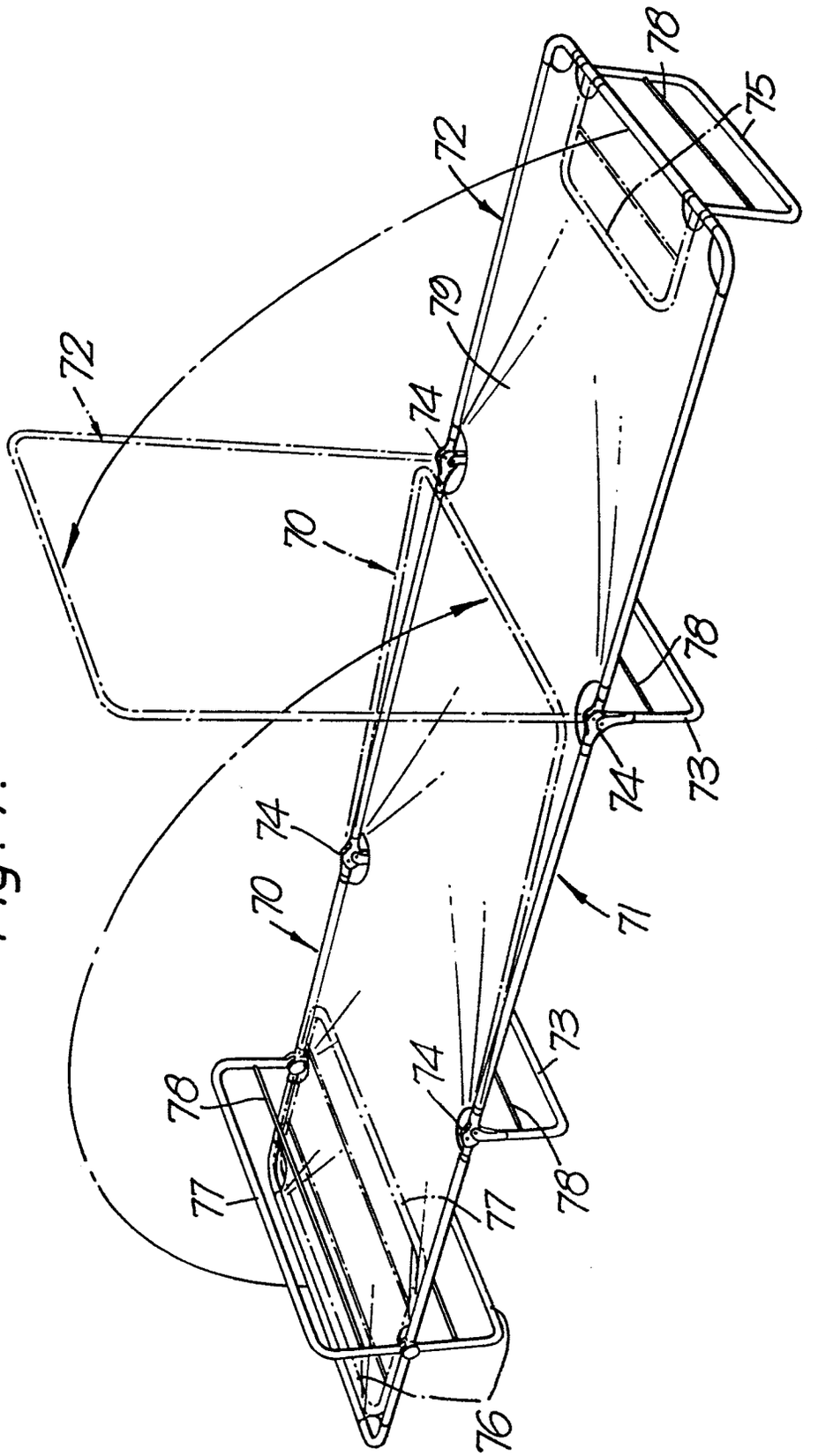

Fig. 7.

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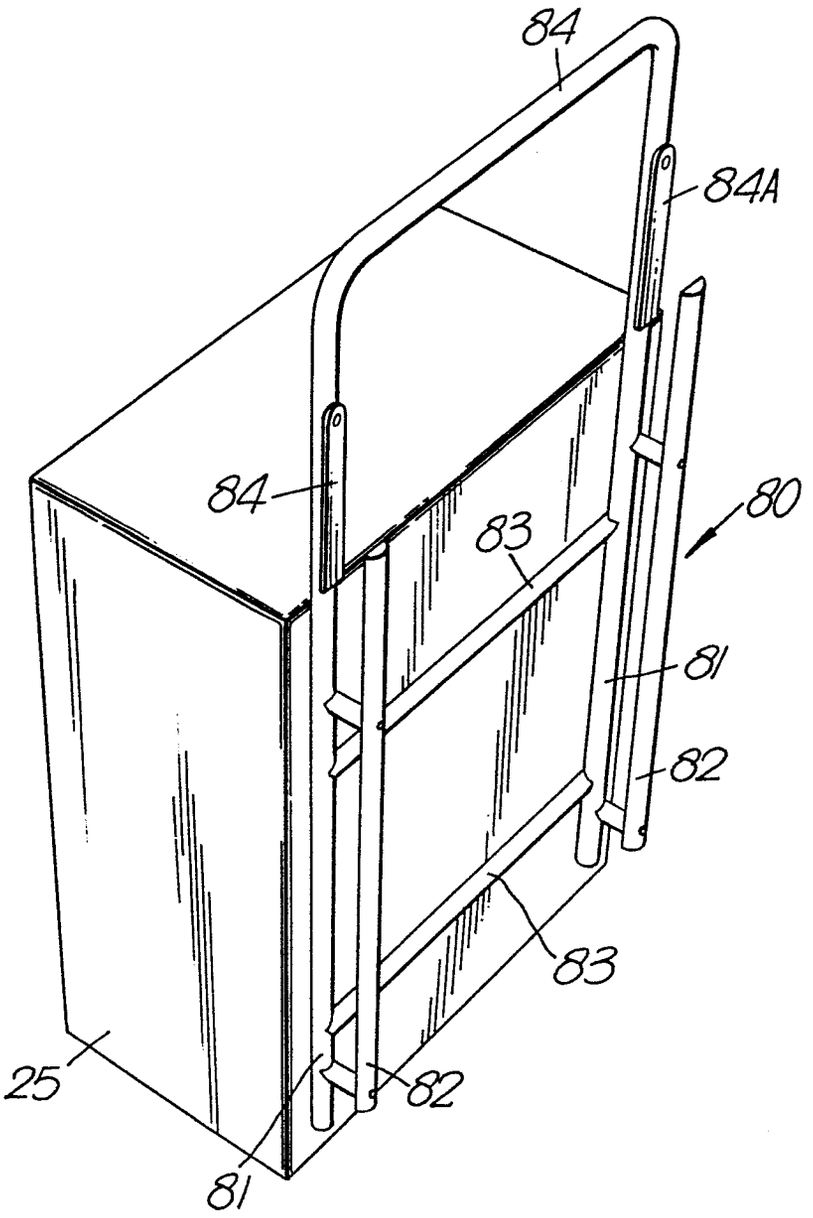
Fig. 8.



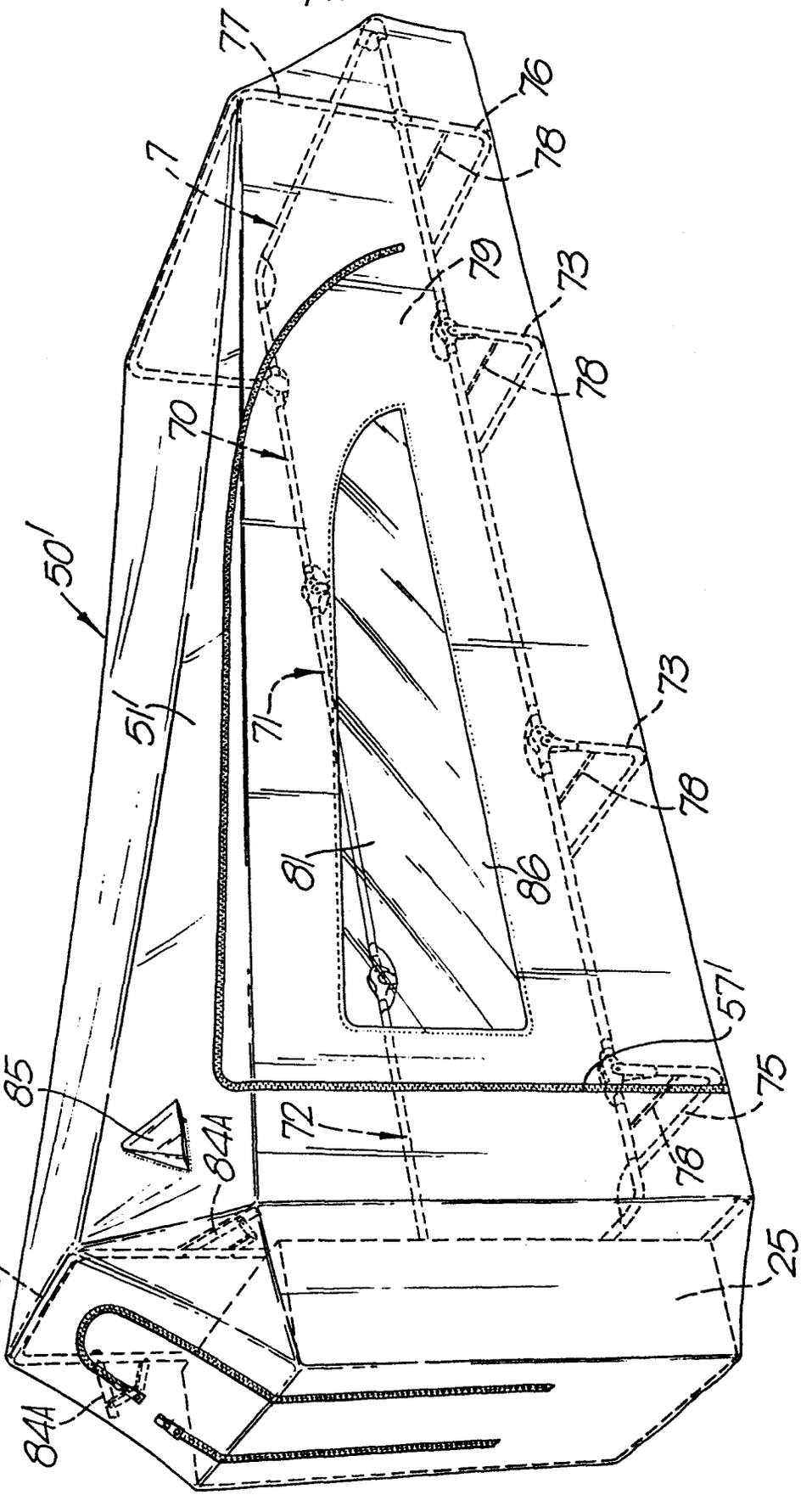


Fig. 9.

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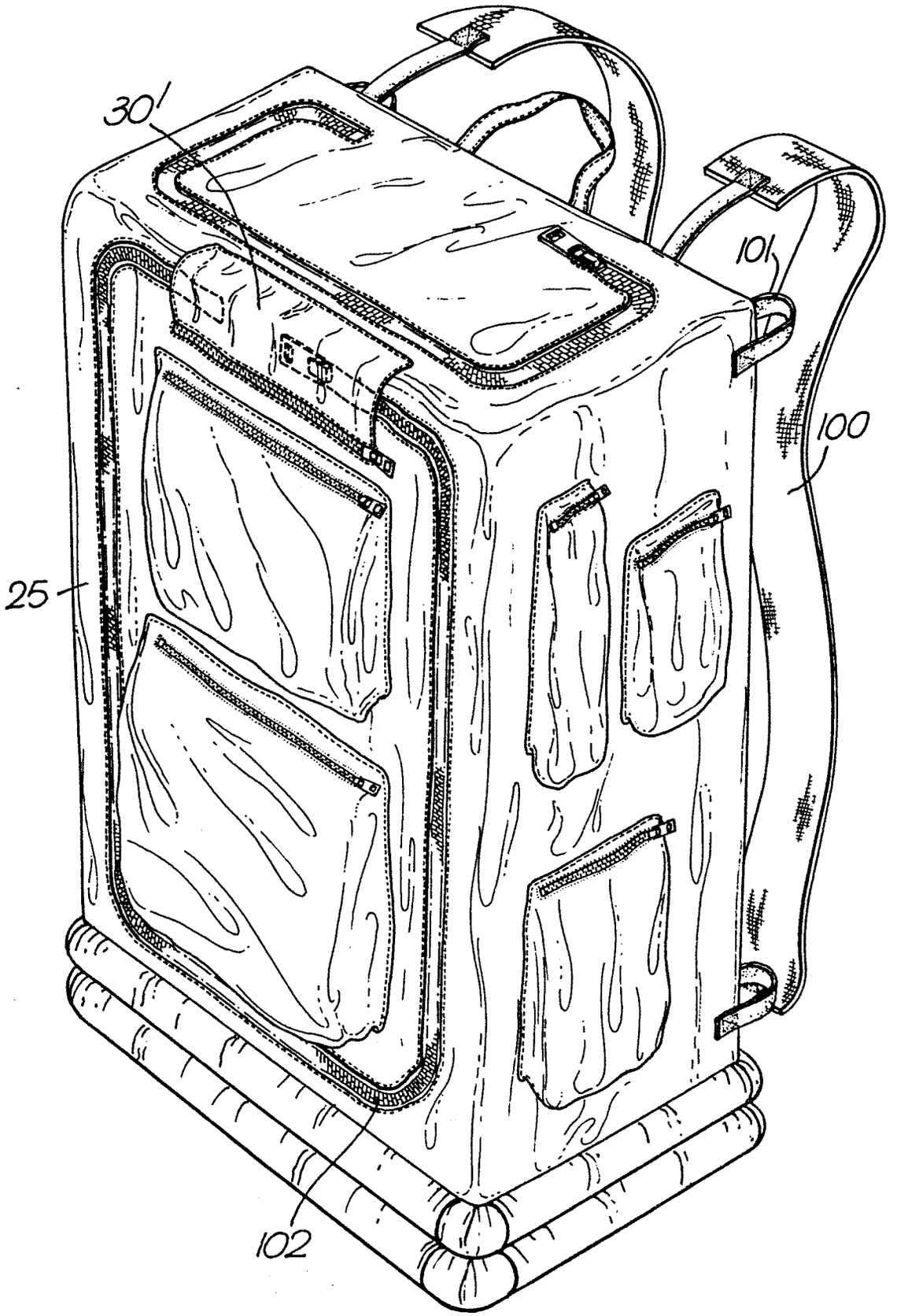
Fig. 10.



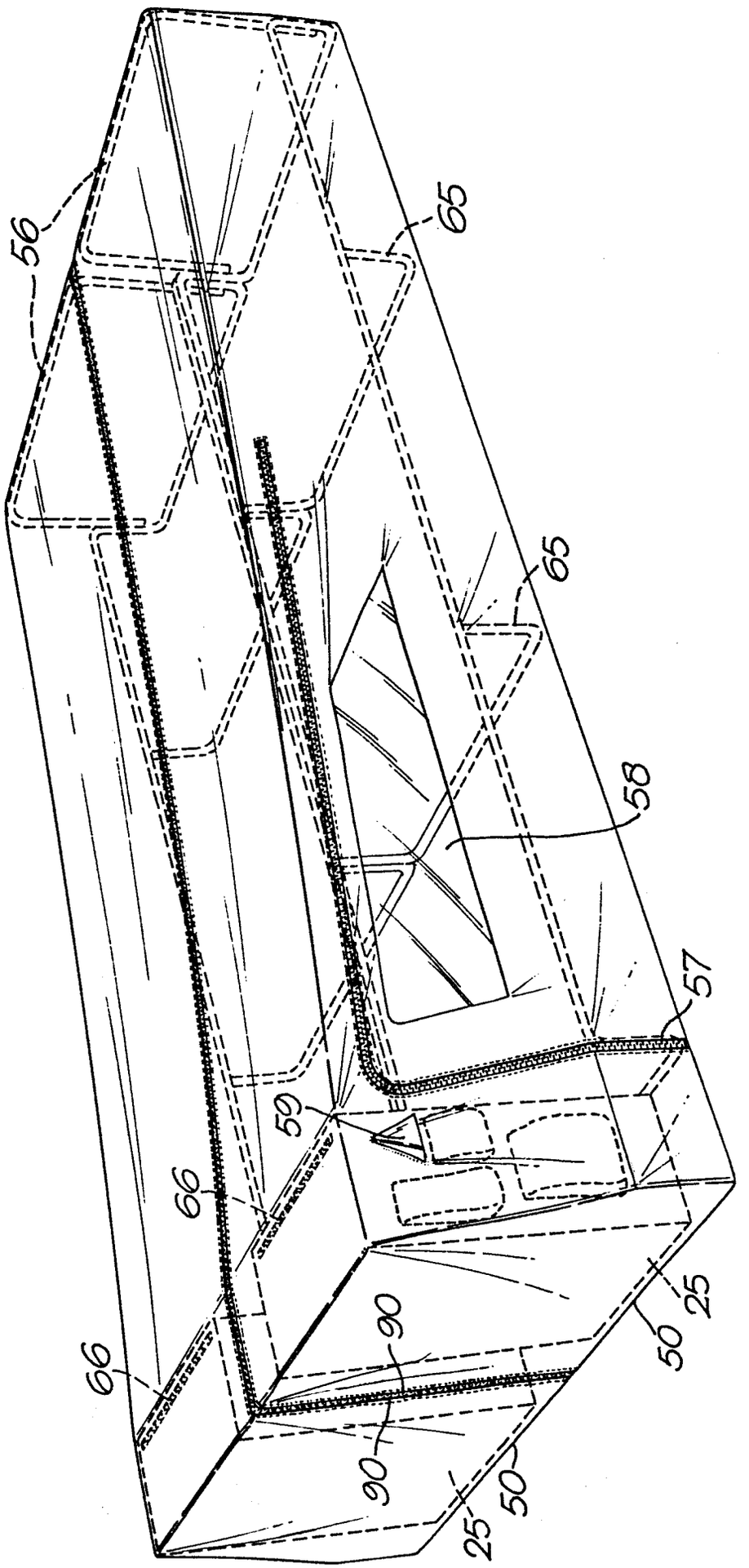


Fig. 11.

European Patent Office

EUROPEAN SEARCH REPORT

0136376
Application number

EP 83 30 5212

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. ³)
A	EP-A-0 056 361 (BARCAROLI) * Page 4, line 4 - page 10, line 10; figures 1-10 *	1,2,4-6,9	A 45 F 4/02
A	FR-A-2 331 301 (VISCARO) * Whole document *	1-3	
A	FR-A-2 361 842 (DE BRUYN) * Page 2, line 35 - page 5, line 39; figures 1-5 *	1-3	
A	US-A-2 964 222 (RAINWATER) * Whole document *	1,2	
A	US-A-3 971 495 (VELAZGUEZ) * Figures 1-3 *	1,4,9	TECHNICAL FIELDS SEARCHED (Int. Cl. ³)
A	FR-A-2 481 589 (SANGOUARD) * Claim 7 *	7	A 45 F A 45 C
E	GB-A-2 115 275 (COOKE) * Whole document *	1-9	

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	25-04-1984	SIGWALT C.

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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