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CA 2360898 C 2009/10/20

(11)(21) 2 360 898

(12) BREVET CANADIEN
CANADIAN PATENT

(13) C

(86) Date de dépôt PCT/PCT Filing Date: 2000/02/29
(87) Date publication PCT/PCT Publication Date: 2000/09/21
(45) Date de délivrance/Issue Date: 2009/10/20
(85) Entrée phase nationale/National Entry: 2001/07/25
(86) N° demande PCT/PCT Application No.: US 2000/005208
(87) N° publication PCT/PCT Publication No.: 2000/054843
(30) Priorité/Priority: 1999/03/18 (US09/271,743)

(51) Cl.Int./Int.Cl. *A62B 35/00* (2006.01)
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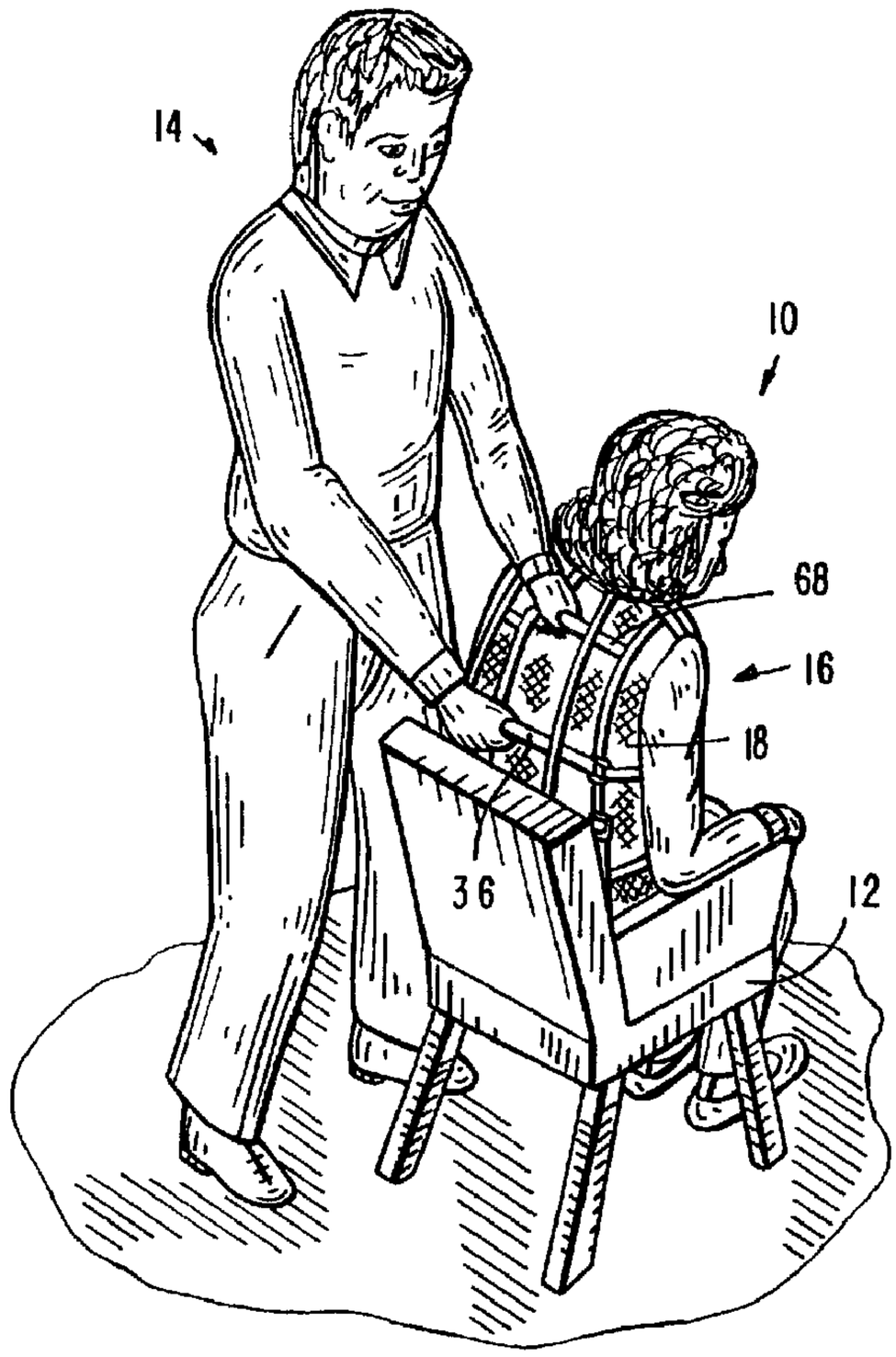
(54) Titre : GILET DE SAUVETAGE
(54) Title: LIFT VEST



(57) Abrégé/Abstract:
A lift vest to enable a caregiver to assist a patient in moving from one position to another includes a base garment having an exterior surface that is shaped to cover at least a substantial portion of the upper torso of a patient, a horizontal waist belt supported to the

CA 2360898 C 2009/10/20

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(57) Abrégé(suite)/Abstract(continued):
exterior surface of the garment and dimensioned to surround the torso of the patient, a horizontal chest belt supported to the exterior surface of the garment and dimensioned to surround the upper torso of the patient, a left shoulder strap supported on the exterior surface of the garment and configured to extend over the left shoulder of the patient is secured at opposed end portions to the horizontal waist and chest belts and a right shoulder strap is supported on the exterior surface of the garment and is configured to extend over the right shoulder of the patient and is secured at opposed end portions to the horizontal waist and chest belts, the belts and straps providing hand holds for use by the caregiver when assisting the patient.

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WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 7 :
A62B 35/00

A1

(11) International Publication Number: WO 00/54843

(43) International Publication Date: 21 September 2000 (21.09.00)

(21) International Application Number: PCT/US00/05208

(22) International Filing Date: 29 February 2000 (29.02.00)

(30) Priority Data:
09/271,743 18 March 1999 (18.03.99) US

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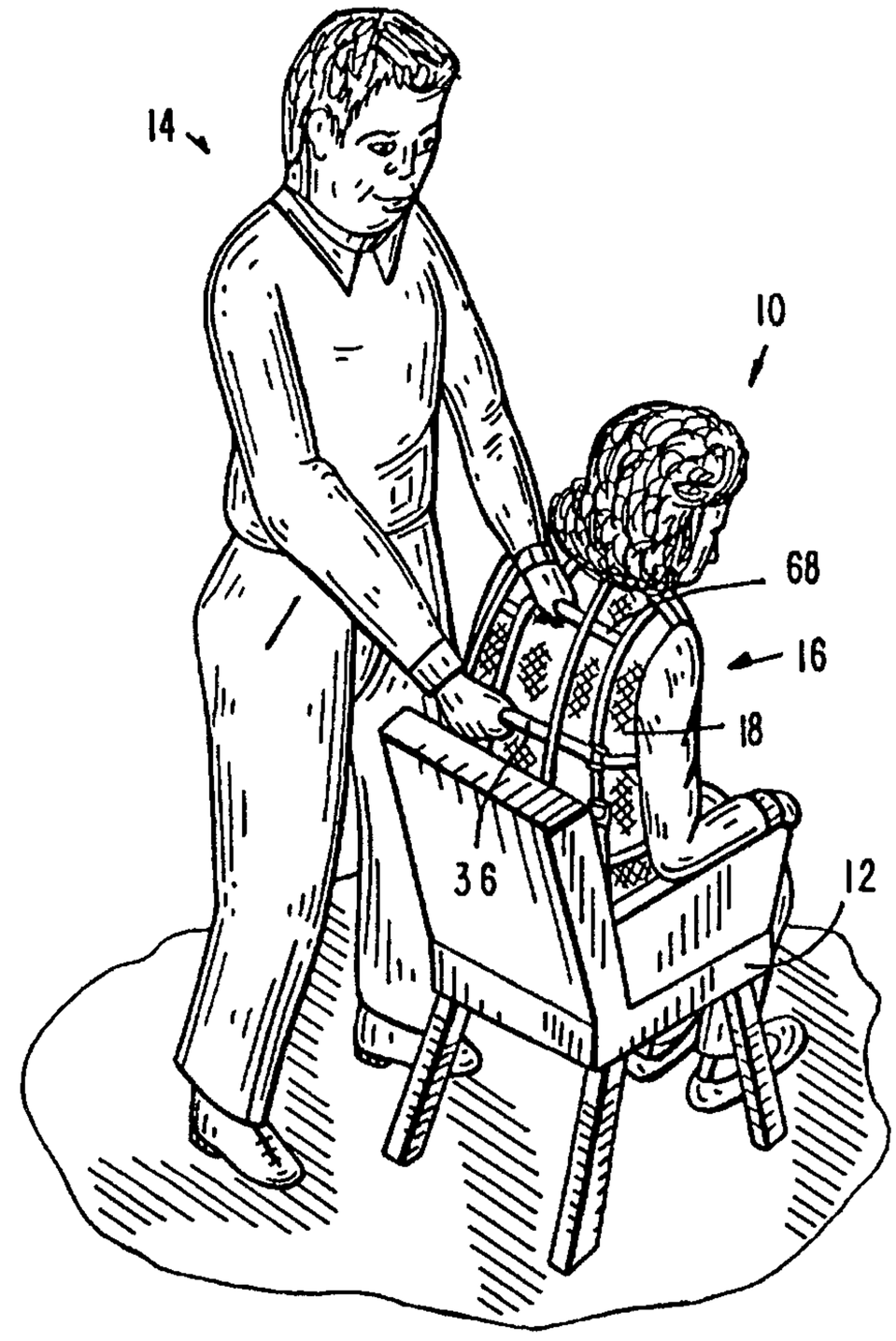
(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published
With international search report.

(54) Title: LIFT VEST

(57) Abstract

A lift vest to enable a caregiver to assist a patient in moving from one position to another includes a base garment having an exterior surface that is shaped to cover at least a substantial portion of the upper torso of a patient, a horizontal waist belt supported to the exterior surface of the garment and dimensioned to surround the torso of the patient, a horizontal chest belt supported to the exterior surface of the garment and dimensioned to surround the upper torso of the patient, a left shoulder strap supported on the exterior surface of the garment and configured to extend over the left shoulder of the patient is secured at opposed end portions to the horizontal waist and chest belts and a right shoulder strap is supported on the exterior surface of the garment and is configured to extend over the right shoulder of the patient and is secured at opposed end portions to the horizontal waist and chest belts, the belts and straps providing hand holds for use by the caregiver when assisting the patient.



LIFT VEST

BACKGROUND OF THE INVENTION

1. Field of the Invention.

This invention provides a garment-type device designed to enable a caretaker to safely assist a patient to move from one position to another. By "patient" is meant any person irrespective of age, sex, health condition, physical impairment or disability that requires, even if only occasionally, assistance in moving. As an example, the device of this invention is a garment that facilitates moving a patient from a wheelchair to another type of seating arrangement, such as an adjacent seat, bathroom stool, automobile, dentist or beautician's chair. Further, the device is particularly useful in assisting a patient in getting out of and rising from a bed or in turning a bed patient from one position to another or assisting a patient who may be unstable when standing or walking.

Many elderly or handicapped persons, and particularly persons confined to wheelchairs, are unable to stand on their own and require the assistance of one or more persons to move them from a wheelchair or other seating arrangement or to a standing position. Grasping a patient to assist him or her in moving from one position to another is difficult. Some health professionals or family caregivers grasp patients by their arms or their belts to assist in hoisting them from a wheelchair or other seated position. Others grab articles of clothing such as a trouser seat or shirt collar, however, these garments are not designed or adapted for easy grasping, and sometimes tear, and require a strong grip on the part of the caregiver. This is not only uncomfortable for the patient, it can also cause bruising or more serious injuries.

Further, because of the difficulty of taking hold of a patient that needs to be moved from one position to another, a caregiver frequently sustains injuries to himself or herself such as an injured back. Injuries to caregivers are particularly likely when it is necessary to quickly move to try to assist a patient that is falling.

2. Prior Art.

For background information relating to devices to be worn by a person to enable another to take hold of him or her, reference may be had to the following previously issued United States patents:

PATENT NO.	INVENTOR	TITLE
1,035,642	Rosse	Invalid Carrier
4,450,991	Gougeon	Fabric Made Chair for Facilitating Transportation of a Disabled Person
4,863,409	Johnson et al.	Method and Apparatus for Aid in Lifesaving Operations on Water
4,922,860	Hutchings	Child or Disabled Person Training Harness
5,101,768	Cates	Torso Harness
5,297,834	Vanarnem	Method for Lifting and Transferring a Disabled Person To and From a Wheelchair
5,514,019	Smith	Life Jacket with Stabilizing Handles
5,619,751	Ray et al.	Safety Vest and Method for Use in Water and Other Applications

SUMMARY OF THE INVENTION

The invention is a device that may be a piece of apparel or a harness, that provides a plurality of hand holds to enable a caregiver assisting a patient wearing the piece of apparel in moving the patient from one position to another. When in the form of an apparel the device may be like a vest or a poncho.

In one embodiment the invention includes a basic vest type garment having on its outer surface a horizontal belt that extends around the mid-section of the torso (the waist) of the patient, below the lower portion of the rib cage. Above and spaced from it is a horizontal chest belt that extends around the torso of the patient below the arms and around the upper rib cage of the patient. Extending over the right and left shoulder of the garment are right and left shoulder straps. These straps are secured to the horizontal waist and chest belts. An upper back strap is also affixed to the right and left shoulder straps. The upper back strap is horizontal and above the horizontal chest belt, that is, between the chest belt and the neckline of the garment. Under the arm, between the front and back portions of the shoulder straps, there is a double belt control that connects the chest and waist belts by means of a belt loop mechanism. The purpose of the double belt control is to provide an even distribution of stress between the various belts and straps.

The horizontal waist and chest belts, the right and left shoulder straps, the horizontal upper back strap and the double belt controls form a superstructure that is loosely secured to the exterior of the garment. The belts and straps provide numerous positions that can be grasped by a caregiver in assisting a patient in moving from one position to another. The interrelationship of the belts and straps to the garment help more evenly transfer force from

the belts and straps to the patient. The garment having the belts and straps thereon is expeditiously positioned onto or removed from a patient.

In one embodiment the use of an underlying garment can be eliminated and a harness is thereby provided formed of horizontal waist and chest belts, vertical left and right shoulder straps, a horizontal upper back strap, and the double belt controls, all secured to each other and each having buckles or other attachment means by which the harness may be positioned onto a patient and adjustments made for the size and shape of the patient.

According to one aspect of the present invention, there is provided a lift vest configured to be worn on the upper torso of a patient that provides hand holds by which a caregiver may assist the patient in moving from one position to another or in standing or walking, comprising: a base garment having an exterior surface and shaped to cover at least a substantial portion of the upper torso of a user; a horizontal belt supported to and surrounding said exterior surface of said garment; a left shoulder strap supported on said exterior surface of said garment and configured to extend over a left shoulder portion of a patient and being secured at opposed end portions to said horizontal belt; a right shoulder strap supported on said exterior surface of said garment and configured to extend over a right shoulder portion of a patient and being secured at opposed end portions to said horizontal belt; a left shoulder lift strap secured at opposite end portions to said left shoulder strap; and a right shoulder lift strap secured at opposite end portions to said right shoulder strap portions.

According to another aspect of the present invention, there is provided a lift vest configured to be worn on the upper torso of a patient that provides hand holds by which a caregiver may assist the patient in moving from one position to another or in standing or walking, comprising: a base garment having an exterior surface and shaped to cover at least a substantial portion of the upper torso of a user; a first horizontal belt supported to and surrounding said exterior surface of said garment; a second horizontal belt supported on said exterior surface of said garment and configured to surround the upper torso of a user, the second horizontal belt being elevationally positioned above said first horizontal belt, a left shoulder strap supported on said exterior surface of said garment and configured to extend over a left shoulder portion of a patient and being secured at opposed end portions to said horizontal belt; a right shoulder strap supported on said exterior surface of said garment and configured to extend over a right shoulder portion of a patient and being secured at opposed end portions to said horizontal belt, said straps providing hand holds for use by a caregiver; said left shoulder and right shoulder straps being secured to both said first mentioned and said second horizontal belts; and a plurality of spaced apart double belt control straps interlinking said first horizontal belt and said second horizontal belt.

According to a further aspect of the present invention, there is provided a lift harness adapted to fit on the upper torso of a patient and to be used by a caregiver to assist the patient in moving from one position to another or in standing or walking, comprising: a horizontal waist belt that encircles a waist area of a patient; a horizontal chest belt that encircles a chest area

of a patient above said waist belt; a left shoulder strap affixed at opposite end portions to said waist belt and attached to said chest belt and extending over a left shoulder portion of a patient; a right shoulder strap affixed at opposite end portions to said waist belt and attached to said chest belt and extending over a right shoulder of a patient, said belts and straps providing hand holds for use by a caregiver when assisting a patient; and a horizontal back strap positioned above said chest belt and extending between said left shoulder strap and said right shoulder strap.

According to yet another aspect of the present invention, there is provided a lift harness adapted to fit on the upper torso of a patient and to be used by a caregiver to assist the patient in moving from one position to another or in standing or walking, comprising: a horizontal waist belt that encircles a waist area of a patient; a horizontal chest belt that encircles a chest area of a patient above said waist belt; a left shoulder strap affixed at opposite end portions to said waist belt and attached to said chest belt and extending over a left shoulder portion of a patient; a right shoulder strap affixed at opposite end portions to said waist belt and attached to said chest belt and extending over a right shoulder of a patient, said belts and straps providing hand holds for use by a caregiver when assisting a patient; and a plurality of spaced apart double belt control straps interlinking said waist belt and said chest belt.

A better and more complete understanding of the invention will be obtained from the following description of the preferred embodiments and the claims, taken in conjunction with the attached drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is an isometric view of a patient seated in a chair with a caretaker standing beside the patient. The patient is shown wearing a lift vest of the type that is subject of this invention and the caregiver is shown grasping the lift vest to illustrate one manner of using the lift vest to assist the patient from a seated to a standing position.

Figure 2 is an isometric view that is a continuation of Figure 1 and shows the patient having been assisted to a standing position with the caregiver continuing to hold onto the lift vest as would be required to ensure that the patient is stable.

Figure 3 is an elevational front view of a lift vest of this invention in which the lift vest is of the "vest" type, that is open down the front. The lift vest of Figure 3 is worn by a patient and put on in the same way that a shirt or jacket is put on with the front open and after the lift vest is on the patient, the front is closed.

Figure 4 is an elevational back view of the lift vest of Figure 3.

Figure 5 is a front elevational view of an alternate embodiment of the invention in which the vest is of a "poncho" type. In the embodiment of Figure 5 the lift vest does not open down the middle, as in Figure 3, but opens on each side so that the lift vest can be placed on the user by extending it over the head of the user and thereafter closing the opposed sides. The embodiment of Figure 5 does not require a patient to be able to extend his or her arms through arm openings as is required in the embodiment of Figure 3. The reverse side of the poncho type lift vest of Figure 5 can have an appearance substantially the same as illustrated in Figure 4.

Figure 6 is a fragmentary cross-sectional view taken along the line 6-6 of Figure 5 showing how decorative trim **120** on the vest of Figure 5 provides loops for receiving horizontal straps.

Figure 7 is another isometric view showing a caregiver preparing to assist a seated patient to an upstanding position and showing an alternate manner of using the lift vest compared to the manner illustrated in Figure 1.

Figure 8 is an isometric view of a harness that embodies the invention without direct association with a garment.

Figure 9 is an isometric view of the left shoulder portion of a patient showing a left shoulder lift that loops above the left shoulder strap. A similar right shoulder lift would be employed to provide hand holds for caregivers.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Figures 1, 2 and 7 illustrate the application of this invention. In these figures, a patient is indicated generally by the numeral **10**. By "patient" is meant any person that requires assistance in moving from one position to another. Patients that can make use of the invention herein include handicapped, elderly and disabled individuals. While in Figures 1, 2 and 7 the illustrated change in positions is from a seated to an upright position this is by way of example only. The lift vest of this invention can equally as well be employed in transferring a person from a wheelchair to a bathroom stool; from a wheelchair to a bed or vice versa; into and out of a bathtub; into or out of an automobile or other type of conveyance and for moving from one position to another in a bed or stabilize a patient who is walking. In Figures 1 and 7 the patient **10** is seated in a chair **12** and a caregiver **14** is shown standing by the patient preparatory to helping the patient to rise from a seated to an upright position as shown in Figure 2. Patient **10** is shown with a lift vest generally indicated by the numeral **16**, that is the subject of this invention. The function of lift vest **16** is to provide hand holds or places for caregiver **14** to grasp to assist patient **10**. A serious problem normally encountered in assisting a patient is that it is very difficult to grasp or hold onto a human body. The loss of an effective grasp can frequently result in a patient being injured.

The lift vest **16**, as shown on the patient in Figures 1, 2 and 7, is illustrated in detail in Figures 3, 4, 5 and 6 to which reference will now be had. The lift vest can be configured into several basic types, including as examples in a "vest" type, a "poncho" type, a "jacket" type and a "harness" type. A vest type will be first described by reference to Figures 3 and 4. As shown in Figures 3 and 4 the lift vest is shaped as basic fabric garment **18** and

configured to fit the upper torso of a patient. The garment **18** has a right sleeve hole **20** and a left sleeve hole **22**. The vest type garment of Figures 3 and 4 has an open front **24** in the same way that a typical shirt or vest closes down the front. The garment **18** is configured to provide a neck opening **26** that, in Figure 3, by example, is V-shaped at **28**. Further, the garment **18** is optionally provided with pockets **30**. Thus, the basic vest type garment **18** is very similar in all respects to a sleeveless open front shirt or vest.

The garment **18** is transformed into a lift vest by providing a reinforcing skeletal structure surrounding and forming a part of the vest that provides numerous hand hold places that enable a caregiver to assist the vest wearer. A first and an important structure of the vest is a waist belt **32** that is preferably made of webbing that goes around the waist of the patient. Waist belt **32** functions to close the front opening **24** and is provided with a buckle **34**. Buckle **34** is by example, adjustable on both sides (a double adjustable buckle) so that the length of waist belt **32** can easily be adjusted to snugly but comfortably fit around the waist of the patient.

A chest belt **36** that can be formed of webbing is closed in front by a similar double adjustable buckle **38** so that the length of the chest belt **36** can be adjusted to snugly but comfortably fit around the upper torso portion of the patient. Waist belt **32** and chest belt **36** are horizontal and parallel to each other when the patient is in a seated or standing position as shown in Figures 1, 2 and 7.

Extending over the right shoulder of the garment as seen in Figure 3 is a right shoulder strap **40**. In the illustrated arrangement of Figure 3 the right shoulder strap **40** includes, as part of a length thereof, a ring **42** that can be made of metal or plastic, the ring serving to slidably receive chest belt **36**. The lower end of the right shoulder strap **40** forms

a loop **43A** that receives waist belt **32**. Positioned between loop **43A** of shoulder strap **40** and ring **42** is a slider **44** that is made of metal or plastic in the form essentially of a square with a cross bar across the middle. One end of the lower portion of right shoulder strap **40** is attached to the cross bar while the other end of the webbing passes through ring **42** and then back through slider **44** and down into the belt loop **43A**. The purpose of slider **44** is to allow the lower portion of the right shoulder strap **40** to be adjusted so as to fit the individual wearing the garment.

The upper portion of right shoulder strap **40**, that is the portion above ring **42**, includes a strap lock **46** which can also be known as a "ladder lock" or a "single tab lock". The strap lock **46** is a type of buckle which allows for easy adjustment and release. It is typically made of three components, that is a plastic strap lock having one end of the webbing forming the right shoulder strap affixed to it with another end of the right shoulder strap extending through the strap lock and over a cross member in the strap lock. The forward end portion **48** of the right shoulder strap extends through the strap lock to permit adjustability of the length of the right shoulder strap to thereby fit the patient.

Figure 4 illustrates the right shoulder strap **40** as seen from the rearward view of the garment. Figure 4 shows that chest belt **36** includes two rings **50** and **64** and that right shoulder strap **40** is affixed to ring **50** and left shoulder strap **54** is affixed to ring **64**. The lower end of the right shoulder strap, as seen in the back view of Figure 4, has a belt loop **43B** around waist belt **32**. Positioned between the waist belt **32** and chest belt **36** is a slider **52** permitting adjustment of the length of the lower rearward side of the right shoulder strap. The slider **52** functions in the same way as has been described for the slider **44** employed in the front portion of the right shoulder strap.

A left shoulder strap **54** is in all respects identical to the right shoulder strap **40** and includes, as seen in Figure 3, a ring **56**; a slider **58** corresponding to the slider **44** of the right shoulder strap; a strap lock **60** functioning the same as described for strap lock **46** of the right shoulder strap; a shoulder strap portion **62** that functions as described for the right shoulder strap portion **48**; and as seen in Figure 4, a ring **64** functioning like ring **50** as previously described and a slider **66** that has the same function as slider **52** employed on the right shoulder strap. Left shoulder strap **54** has at the lower front end a belt loop **45A** that receives waist belt **32** and at the lower back end a belt loop **45B** through which waist belt **32** passes.

These basic elements, that is waist belt **32**, chest belt **36**, right shoulder strap **40** and left shoulder strap **54** provide the superstructure for lifting a patient. An additional important element of the lifting superstructure is an upper back strap **68** as seen in Figure 4. This strap, which is preferably made of webbing, is attached horizontally to the opposed right and left shoulder straps **40** and **54** and is positioned so that it will ride just above the shoulder blades of the patient, thus providing a place to hold when lifting a person from a wheelchair or similar seating.

Secured to each side of the lift vest is a double belt control **70** (see Figures 3 and 4) which is essentially a double belt loop. It is made up of a strap of webbing which has been doubled and stitched on both ends to create upper loop **72** that receives chest belt **36** and a lower loop **74** that receives waist belt **32**. A double belt control **70** is placed under each of the arm holes **20** and **22** of the garment so that the waist belt **32** and chest belt **36** are threaded through the loops. The function of double belt controls **70** is to equalize lifting force between the two belts **32** and **36**.

As shown in Figures 3 and 4, there is provided over each shoulder area of the vest a shoulder epaulet, the epaulet over the right shoulder being indicated by numeral **84** and over the left shoulder by **86**. The epaulets are secured at their opposite ends to garment **18** but form loops that receive right shoulder strap **40** and left shoulder strap **54** respectively.

Decorative trims **88** and **90** employed on the front of the vest as illustrated in Figure 3 create a series of loops which act as guides for the horizontal waist and chest belts which pass underneath the trims. In the back of the vest, as illustrated in Figure 4, decorative trims **92** and **94** extend over the outside of waist belt **32**, chest belt **36** and upper back strap **68** and provides loops for receiving each of these items. Thus, in addition to a decorative purpose, the trims serve a functional purpose to more securely anchor the basic structural elements **32**, **36** and **68** to garment **18**. Decorative trim can be used at other places on the garment either for aesthetic purposes only or for a combination of aesthetic and functional purposes.

Turning now to Figure 5 the embodiment of the invention wherein the garment is of a "poncho" style is illustrated, that is the front view of the poncho style of the vest is illustrated.

In this embodiment the vest is placed on the patient by positioning it over the patient's head with an integral front and back portion connected at the shoulders. The lift vest of Figure 5 has a rounded neck opening **96** and is open at the opposed sides **98** and **100**. The vest is designed to provide a right sleeve opening **20** and a left sleeve opening **22** as in the embodiment of Figures 3 and 4.

The poncho type lift vest of Figure 5 includes the same essential features of that of Figure 3 including a waist belt **32 (32A)** and a chest belt **36 (36A)**; a right shoulder strap **40A** and a left shoulder strap **54A**. In the poncho style the waist belt **32 (32A)** is provided

with two spaced apart single adjustable buckles **102** and **104**. Each of buckles **102** and **104** is permanently attached to a front portion of waist belt **32 (32A)** and is releasably attached to a back portion of the belt **32 (32A)**. Buckles **102** and **104** provide for adjusting the length of waist belt **32 (32A)**.

In like manner, front chest belt **36A** in the poncho style has buckles **106** and **108** that are single adjustable buckles so that the length of chest belt **36** can be adjusted to fit the patient.

On the poncho type vest the front portion of chest belt **36A** and the front portion of waist belt **32A** are stationary in length and therefore not adjustable however the overall lengths of the waist and chest belts are adjustable by way of buckles **102**, **104**, **106** and **108**.

To install the poncho type lift vest of Figure 5 buckles **102**, **104**, **106** and **108** are released allowing the two portions of the vest to be spread fully apart to permit the vest to be lowered down over the head of the patient with the patient's head extending through neck opening **96**. Thereafter the opposed ends of the waist and chest belts are buckled and the lengths are adjusted if necessary so that the garment fits comfortably but snugly around the patient.

The lower ends of right shoulder strap **40A** and left shoulder strap **54A** are provided with belt loops **110** and **112** respectively which are attached to solid loop mechanisms **111** and **113** that can be made of plastic or metal, securing them to the front portion of waist belt **32A**. A slider **114** is placed on right shoulder strap **40A** and in like manner slider **116** on the left shoulder strap **54A**. The sliders allow the webbing harness to be adjusted so that the total length is compatible with the patient.

Each of the shoulder straps also includes a strap lock **118** and **120** respectively that have the same purpose as strap locks **46** and **60** on the left and right shoulder straps of the vest type lift vest as seen in Figure 3. Strap locks **118** and **120** permit adjustment of the length of shoulder straps **40A** and **54A**.

The poncho type lift vest of Figure 5 has a decorative strip **120** down the center which appears to be two pieces but can be one piece since in the poncho type lift vest the front does not open. The decorative strip **120** is sewn to the front portion of the garment except in areas that receive waist belt **32A** and chest belt **36A**, that is, the decorative strip provides loops **122** and **124** to receive the horizontal belts. This is seen in Figures 5 and 6 wherein the front portion **126** of the garment that has the decorative strip **120** attached to it provides a loop **122** that receives chest belt **36A** and a loop **124** that receives waist belt **32A**. Similar loops are provided by decorative trims **88** and **90** in Figure 3; **92** and **94** in Figure 4 and **99** and **101** in Figure 5. Cross-sectional view Figure 6 illustrates chest belt **36A** passing underneath loop **122** in decorative trim **120** that is affixed to the garment front portion **126**.

The rearward view of the poncho type lift vest has substantially the appearance as seen in Figure 4, it being understood that the particular use of the rings **50** and **64** to interconnect the chest belt and shoulder straps is optional and this feature can vary without departing from the basic concept of the invention.

The invention has been described wherein the lift vest includes a garment which supports a horizontal waist belt, a horizontal chest belt, an upper back strap and opposed vertical left and right shoulder straps each of which provides opportunity for a caregiver to grasp to assist a patient. Double belt controls interlink the waist and chest belts. The

garment helps transfer force from the belts and straps to the patient however it is understood that the basic concepts of the invention can be practiced in an embodiment in which a garment is not employed and a lift vest harness is made up of a horizontal waist belt, a horizontal chest belt, opposed left and right shoulder straps, an upper back strap and double belt controls, all interconnected with each other and that can be assembled on a patient and adjusted to the patient. A harness may be of the type that is employed with a vest type embodiment as in Figure 3 or a poncho type embodiment as in Figure 5 as either provides the same end result of affording readily available hand holds for a caregiver to assist a patient.

In Figures 1 and 2 the lift vest **16** may be either of the vest or the poncho type since the rearward appearance is substantially the same. Figure 7 shows the patient **10** with a lift vest **16** that is of the open front or vest type as shown in Figure 3.

The lift vest system as illustrated and described herein provides for substantially improved convenience and safety when a caregiver must assist a patient moving from one position to another in a way to substantially reduce the strain on the caregiver and on the patient while reducing the possibility of the caregiver losing his or her grip on the patient.

Figure 8 illustrates an embodiment of the invention in which the lift vest is in the form of a harness, as contrasted with the invention as illustrated in Figures 3 through 5 in which the invention includes a garment. The harness of Figure 8 is completely independent of any associated garment. The harness of Figure 8 includes essentially all of the same components as have previously been described with reference to Figures 3, 4 and 5, except it does not include any underlying garment, the only other significant difference being that the left and right shoulder straps **40** and **54** do not have, in the back portions thereof, rings

such as rings **50** and **64** as shown in Figure 4 but instead, have short length straps **128A** and **128B** that provide a passageway for chest belt **36**. It should be understood that this is an option only as the harness embodiment of Figure 8 could employ rings at **50** and **64** as described with reference to Figure 4.

The harness of Figure 8 is adapted to fit over a variety of upper body garments, such as shirts, blouses, sweaters, or so forth, or even over a patient having no undergarment. The embodiment of the invention illustrated in Figure 8 can very quickly be placed on a patient in an emergency when it is necessary to move or to assist in movement of a patient when time might not otherwise permit installing a lift vest that incorporated a garment.

Figure 9 illustrates an embodiment of the invention that adds additional hand holds. Figure 9 shows the left shoulder **130** of a patient wearing a lift vest **18**. The left shoulder strap **54**, strap lock **60** and left epaulet **86** all have been previously described. In addition to these elements, a shoulder lift strap **132** is added. Affixed to opposed ends of shoulder lift strap **132** are solid loops **134A** and **134B** that receives left shoulder strap **54**. The use of solid loops **134A** and **134B** is optional as the opposed ends of lift shoulder strap **132** could be secured directly to left shoulder strap **54**.

Left shoulder lift strap **132** is provided with slack, as illustrated, so that a caregiver can insert his or her hand **136** under the shoulder lift strap to assist in lifting, moving or guiding a patient.

Obviously, a mating right shoulder lift would be applied to the right shoulder strap of the lift vest or lift harness.

Figures 3 and 4 illustrate the lift vest without sleeves, it being understood that garment **18** could have sleeves if desired. The lift vest could be part of a jacket to be worn outdoors in cool or rainy weather.

Whereas, the present invention has been described in relation to the drawings attached hereto, it should be understood that other and further modifications, apart from those shown or suggested herein, may be made within the spirit and scope of this invention, such as the attachment and sewing of the harness directly to the garment and the addition of sleeves to the garment to create a jacket.

Further Velcro® (hook and loop) and other similar closures can be used instead of buckles.

The claims and the specification describe the invention presented and the terms that are employed in the claims draw their meaning from the use of such terms in the specification. The same terms employed in the prior art may be broader in meaning than specifically employed herein. Whenever there is a question between the broader definition of such terms used in the prior art and the more specific use of the terms herein; the more specific meaning is meant.

79678-3

CLAIMS:

1. A lift vest configured to be worn on the upper torso of a patient that provides hand holds by which a caregiver may assist the patient in moving from one position to another or in standing or walking, comprising:

a base garment having an exterior surface and shaped to cover at least a substantial portion of the upper torso of a user;

a horizontal belt supported to and surrounding said exterior surface of said garment;

a left shoulder strap supported on said exterior surface of said garment and configured to extend over a left shoulder portion of a patient and being secured at opposed end portions to said horizontal belt;

a right shoulder strap supported on said exterior surface of said garment and configured to extend over a right shoulder portion of a patient and being secured at opposed end portions to said horizontal belt;

a left shoulder lift strap secured at opposite end portions to said left shoulder strap; and

a right shoulder lift strap secured at opposite end portions to said right shoulder strap portions.

2. A lift vest according to claim 1 wherein said horizontal belt is adjustable in length.

3. A lift vest according to claim 1 wherein said horizontal belt has opposed end portions that are attachable to and detachable from each other.

4. A lift vest according to claim 1 wherein said horizontal belt and straps are supported to said exterior surface of said base garment by loops affixed to said garment wherein said left and right shoulder straps are adjustable.

5. A lift vest according to claim 1 wherein said left and right shoulder straps are adjustable.

6. A lift vest according to claim 1 including:

a second horizontal belt supported on said exterior surface of said garment and configured to surround the upper torso of a user, the second horizontal belt being elevationally positioned above said first mentioned horizontal belt, said left shoulder and right shoulder straps being secured to both said first mentioned and said second horizontal belts.

7. A lift vest according to claim 6 including a plurality of spaced apart double belt control straps interlinking said first mentioned horizontal belt and said second horizontal belt.

8. A lift vest according to claim 1 wherein said garment has a front and a back portion that overlies a front and a back portion of the upper torso of a user, comprising:

a horizontal back strap positioned above said horizontal belt and overlying said garment back portion and being affixed at opposed end portions to said left shoulder strap and said right shoulder strap.

9. A lift vest configured to be worn on the upper torso of a patient that provides hand holds by which a caregiver may assist the patient in moving from one position to another or in standing or walking, comprising:

a base garment having an exterior surface and shaped to cover at least a substantial portion of the upper torso of a user;

a first horizontal belt supported to and surrounding said exterior surface of said garment;

a second horizontal belt supported on said exterior surface of said garment and configured to surround the upper torso of a user, the second horizontal belt being elevationally positioned above said first horizontal belt,

a left shoulder strap supported on said exterior surface of said garment and configured to extend over a left shoulder portion of a patient and being secured at opposed end portions to said horizontal belt;

a right shoulder strap supported on said exterior surface of said garment and configured to extend over a right shoulder portion of a patient and being secured at opposed end portions to said horizontal belt, said straps providing hand holds for use by a caregiver;

said left shoulder and right shoulder straps being secured to both said first mentioned and said second horizontal belts; and

a plurality of spaced apart double belt control straps interlinking said first horizontal belt and said second horizontal belt.

10. A lift harness adapted to fit on the upper torso of a patient and to be used by a caregiver to assist the patient in moving from one position to another or in standing or walking, comprising:

a horizontal waist belt that encircles a waist area of a patient;

a horizontal chest belt that encircles a chest area of a patient above said waist belt;

a left shoulder strap affixed at opposite end portions to said waist belt and attached to said chest belt and extending over a left shoulder portion of a patient;

a right shoulder strap affixed at opposite end portions to said waist belt and attached to said chest belt and extending over a right shoulder of a patient, said belts and straps providing hand holds for use by a caregiver when assisting a patient; and

a horizontal back strap positioned above said chest belt and extending between said left shoulder strap and said right shoulder strap.

11. A lift harness according to claim 10 wherein at least said waist belt and said chest belt are adjustable in length.

12. A lift harness according to claim 10 wherein said waist belt and said chest belt each has opposed end portions that are attachable and detachable from each other.

13. A lift harness according to claim 10 wherein said waist and chest belts are supported to an exterior surface of a base garment.

14. A lift harness according to claim 10 including a left shoulder lift strap secured at opposite end portions to said left shoulder strap and a right shoulder lift strap secured at opposite end portions to said right shoulder strap.

15. A lift harness according to claim 10 wherein said left and right shoulder straps are adjustable.

16. A lift harness according to claim 10 including a plurality of spaced apart double belt control straps interlinking said waist belt and said chest belt.

17. A lift harness adapted to fit on the upper torso of a patient and to be used by a caregiver to assist the patient in moving from one position to another or in standing or walking, comprising:

a horizontal waist belt that encircles a waist area of a patient;

a horizontal chest belt that encircles a chest area of a patient above said waist belt;

a left shoulder strap affixed at opposite end portions to said waist belt and attached to said chest belt and extending over a left shoulder portion of a patient;

a right shoulder strap affixed at opposite end portions to said waist belt and attached to said chest belt and extending over a right shoulder of a patient, said belts and straps providing hand holds for use by a caregiver when assisting a patient; and

a plurality of spaced apart double belt control straps interlinking said waist belt and said chest belt.

SMART & BIGGAR
PATENT AGENTS
OTTAWA, CANADA

FIG. 2

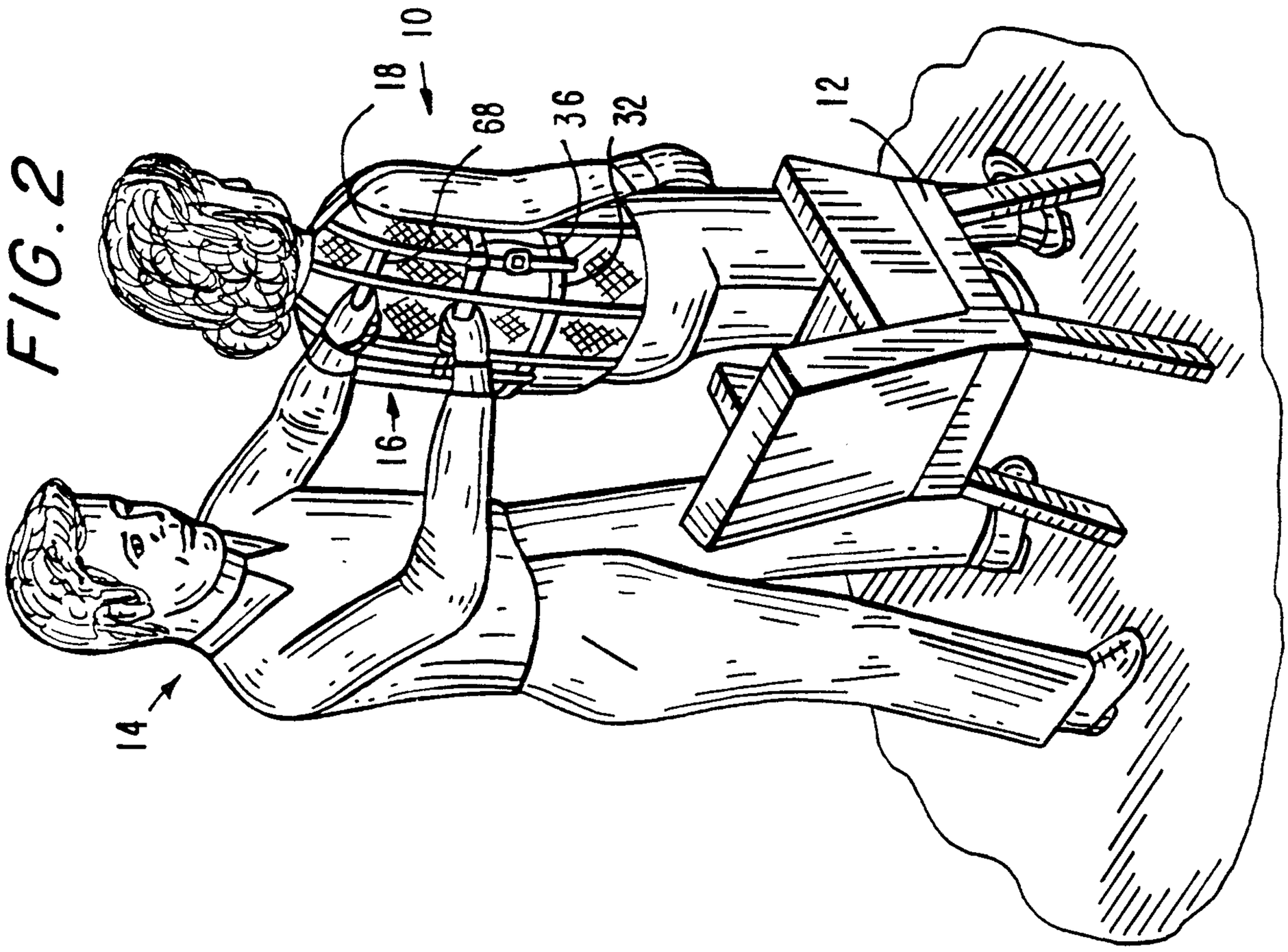
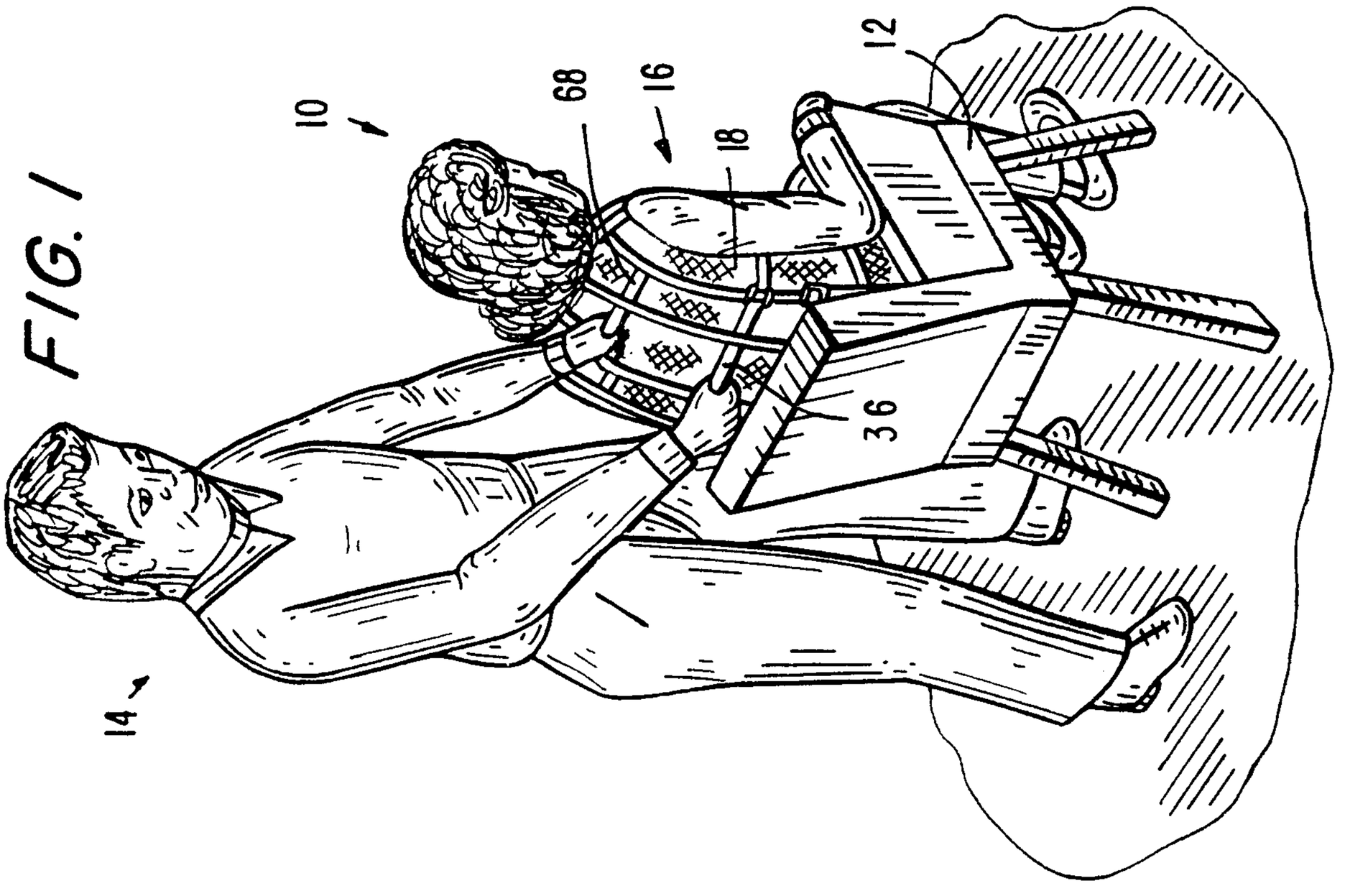


FIG. 1



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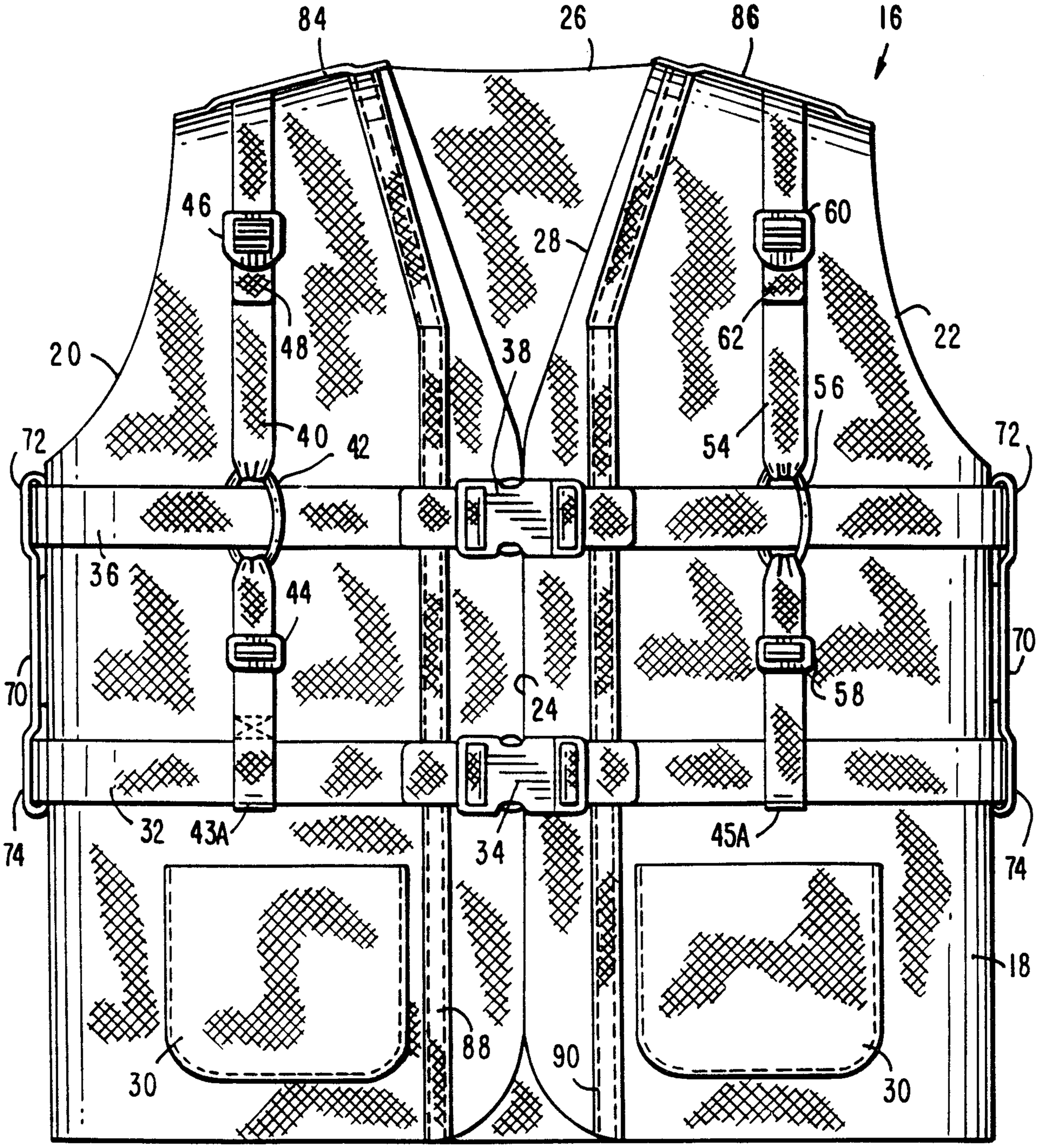
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FIG. 4

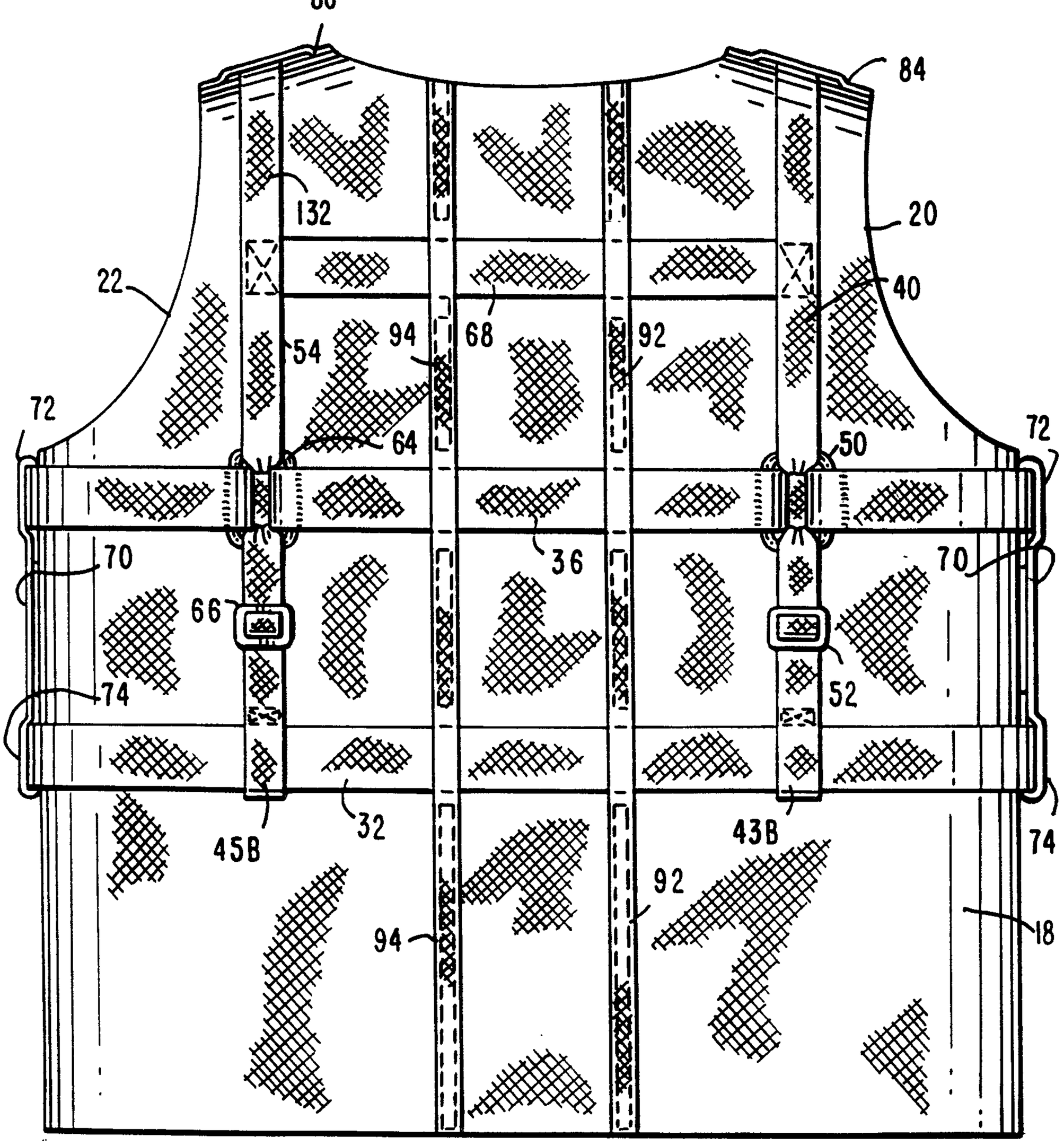
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FIG. 5

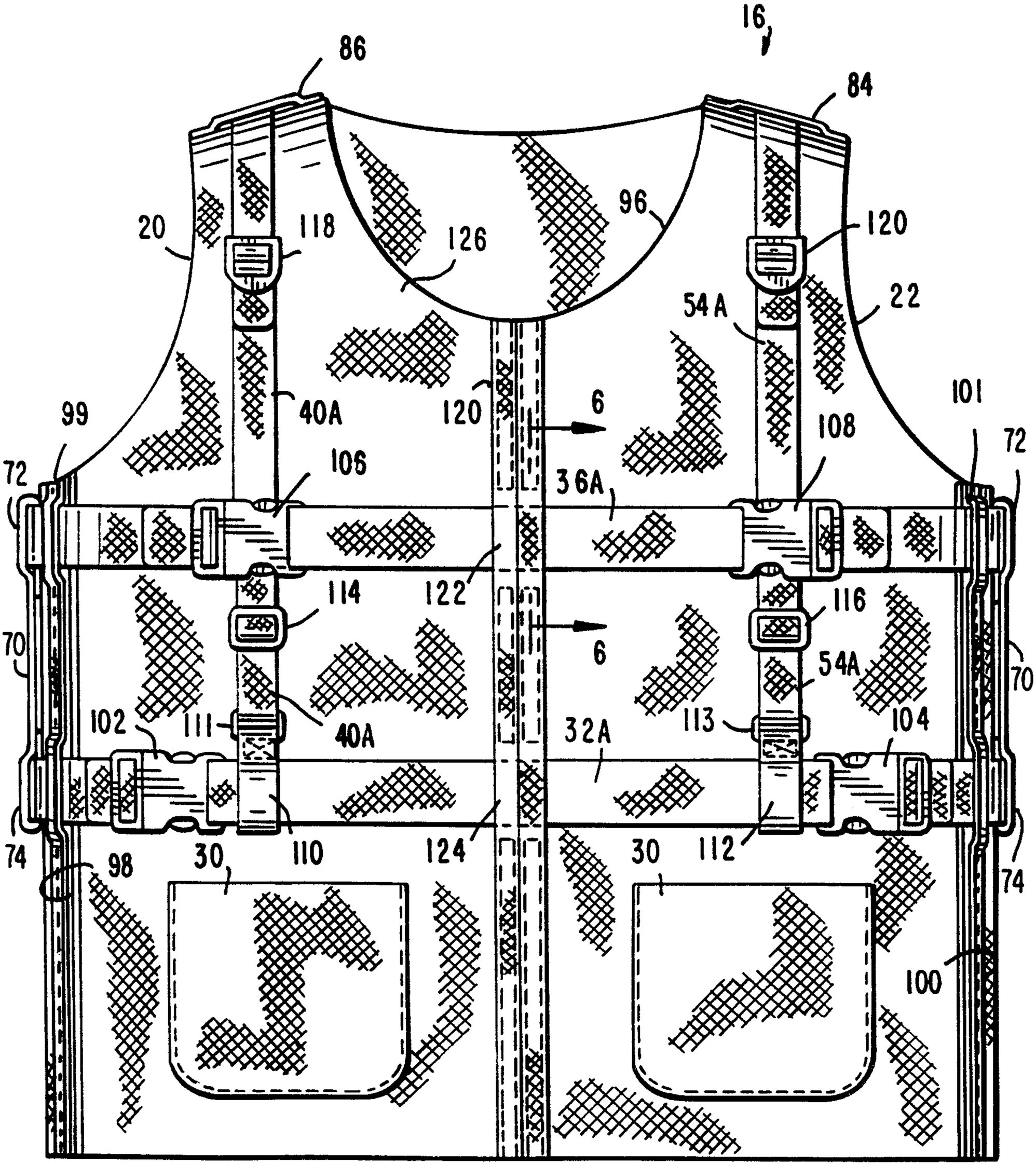
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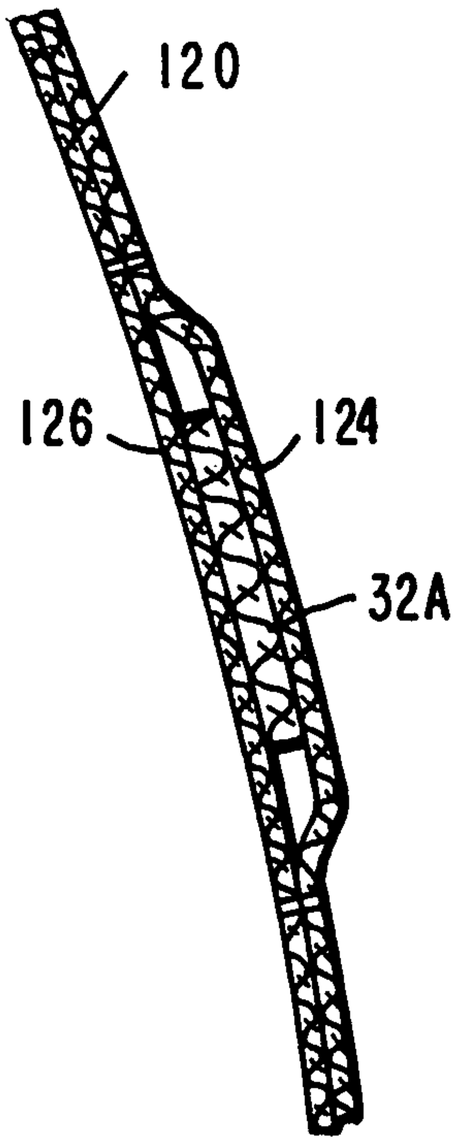
FIG. 6



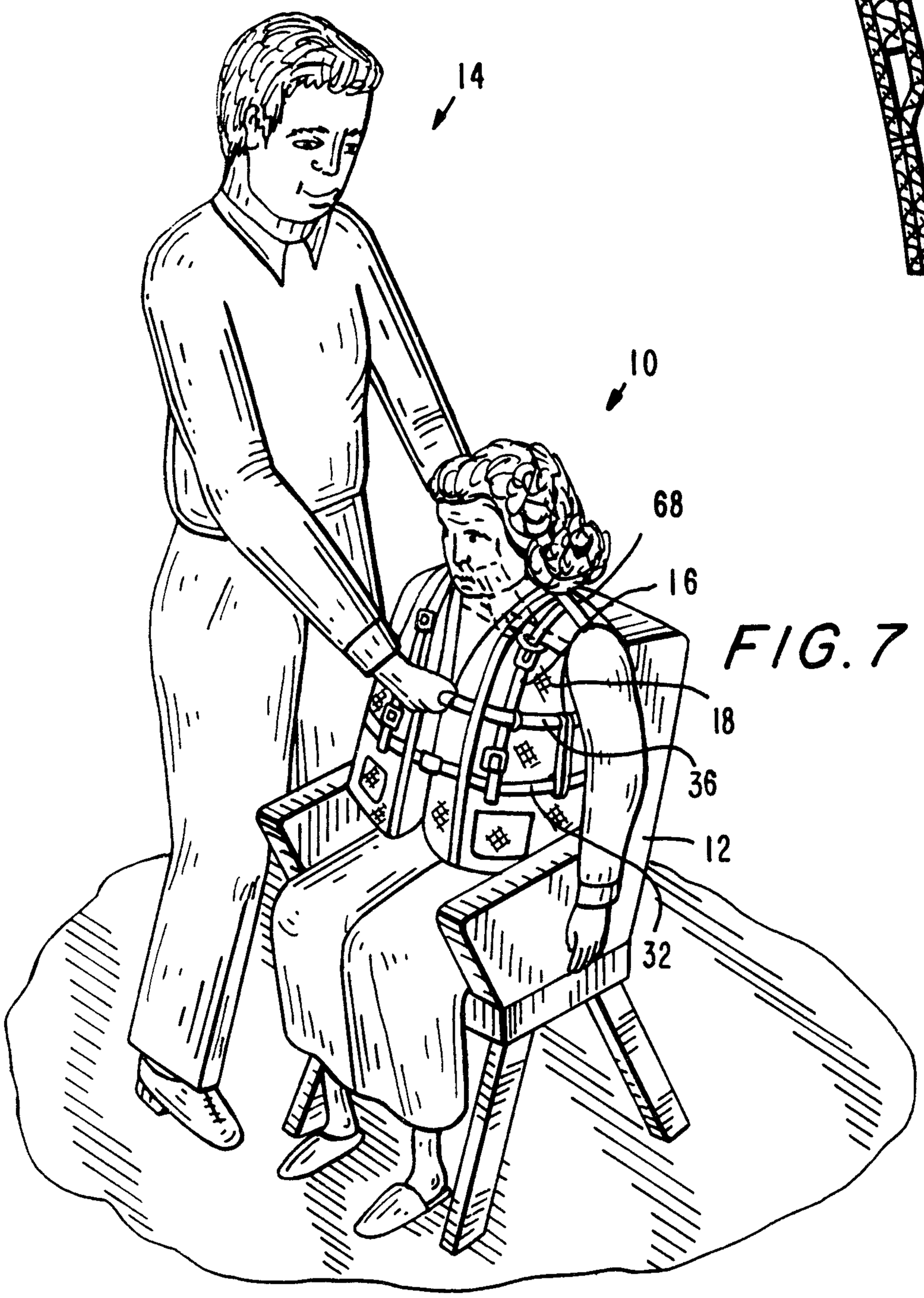


FIG. 7

FIG. 8

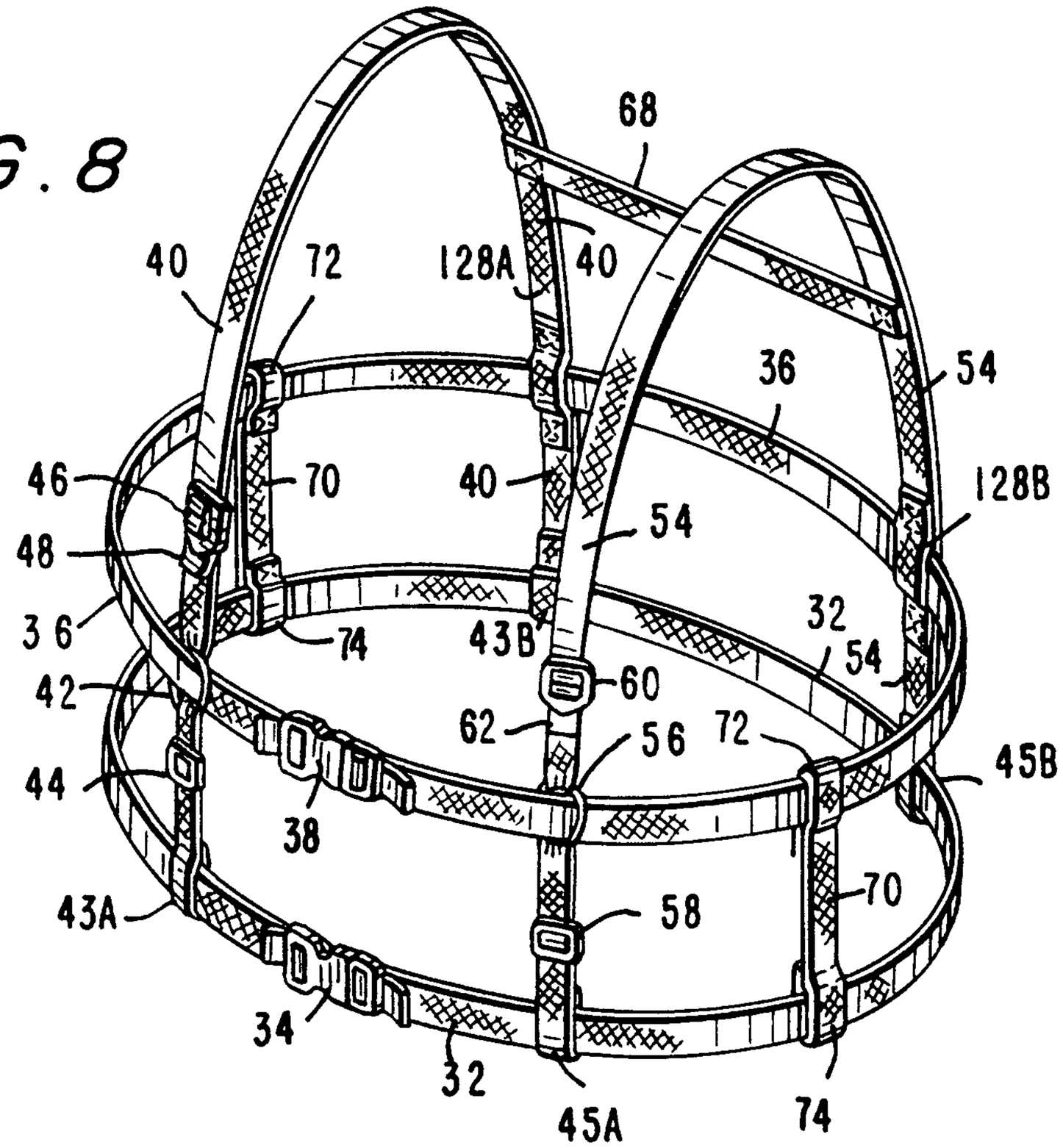

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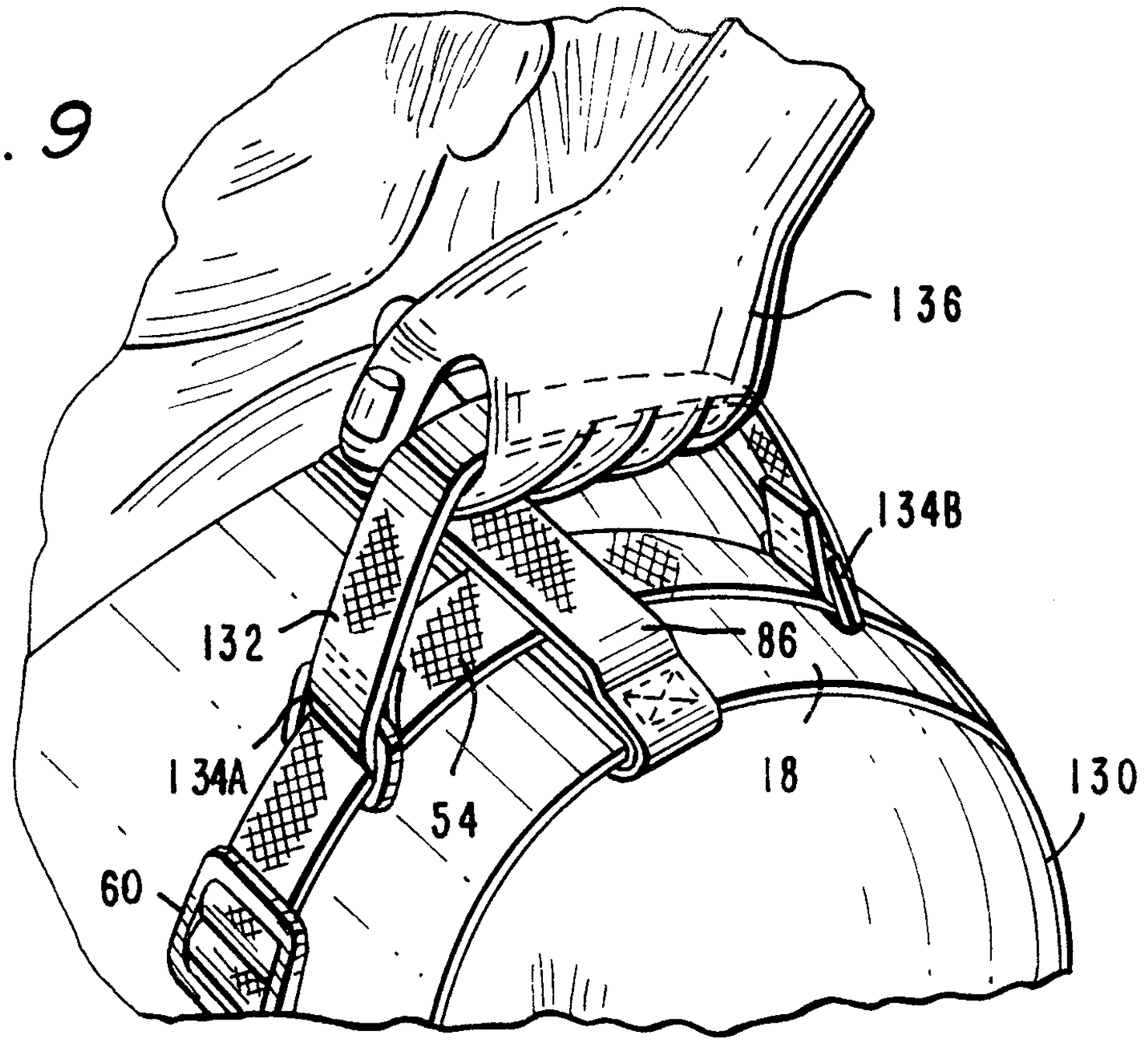
FIG. 9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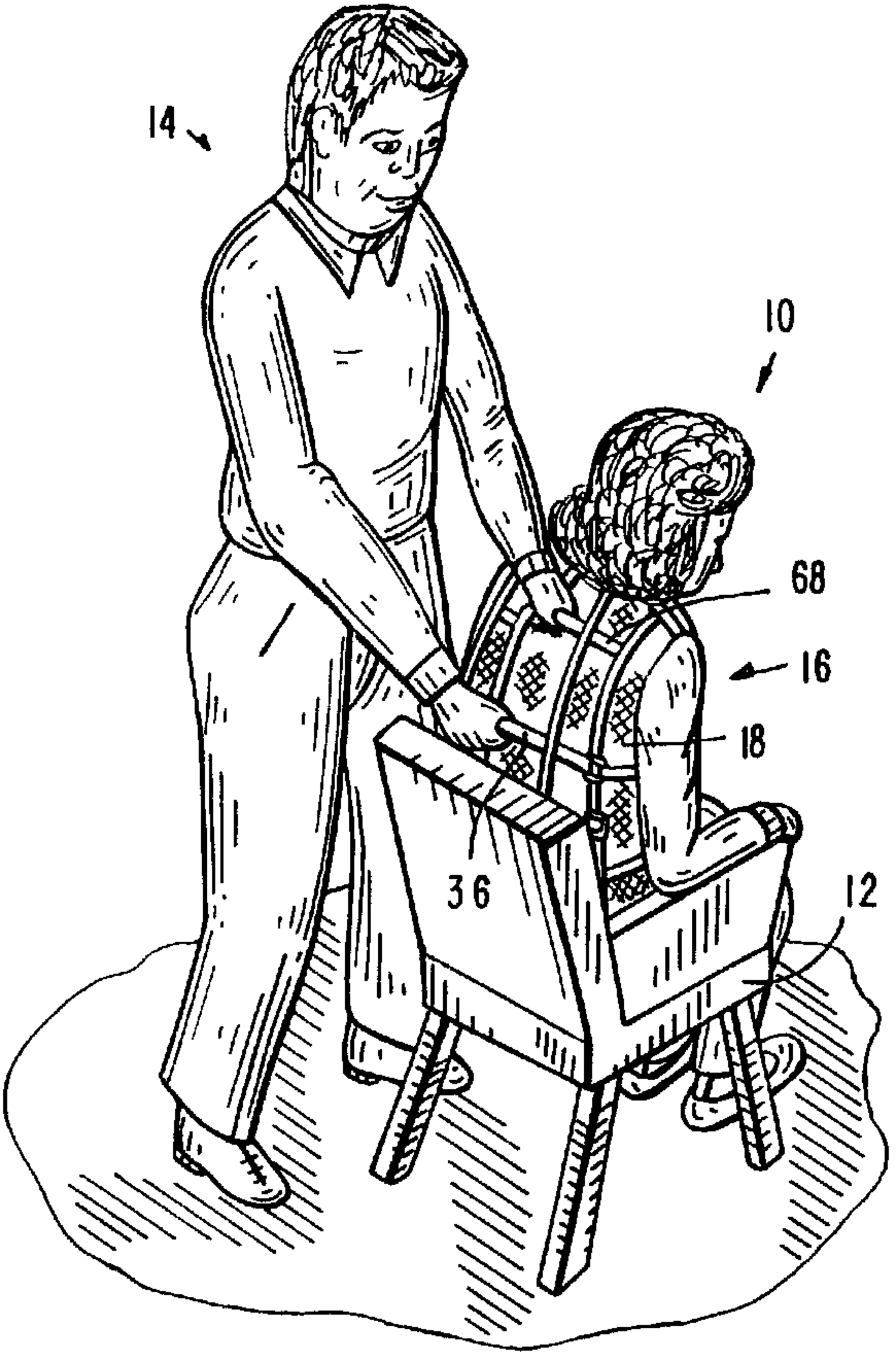
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