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(54) **Lifting slings**

(57) A lifting sling (10) can be used with either an invalid hoist (11) which includes lifting studs or a hoist (12) having a coat-hanger type support (13). The sling (10) includes a main body portion which is shaped to support the back and thighs of a patient and is provided with four-point suspension means (15), two at the sides of the sling (10) in the shoulder region and two at the bottom end of the main body portion of the sling (10). The material forming each suspension means (15) has one or more elongated slots (20A, 20B, 20C and 20D) for engagement with either the lifting studs or the coat-hanger type support (13).

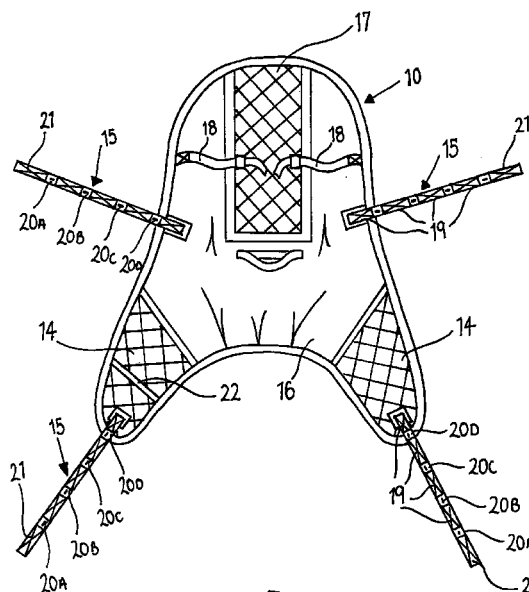


FIG. 3

EP 1 031 339 A2

Description

Field of the Invention

[0001] This invention relates to lifting slings for use with invalid hoists, and is particularly concerned with one-piece lifting slings for this purpose. Such slings support the back and thighs of a patient and are suspended from the hoist by suspension means which are readily attached to and detached from the hoist.

[0002] Such one-piece lifting slings are formed from flexible material, normally a synthetic textile fabric, which conforms to the shape of the body of the patient. Four-point attachment of the suspension means is normally required, two at the sides of the sling in the shoulder region and two others at the bottom end of the sling. In some instances, attachments from the hip regions of the patient may also be required and the term "four-point suspension means" as used herein is accordingly to be interpreted as including suspension means at at least four points.

[0003] One prior form of sling, for use with a hoist having a hanger with fixing studs, is described in British Patent Specification No. 2 195 978 and includes connecting elements in the form of key-hole plates which hook on to the fixing studs. Such an arrangement is, however, not suitable for use with a hoist having a coat-hanger type support for the sling.

[0004] It is thus not unknown for a patient to be fitted with two different slings at the same time, to enable him or her to be lifted by means of different types of hoist.

[0005] It is accordingly an object of the present invention to provide an improved form of sling having attachment means which is such that the sling can be attached to more than one kind of hoist.

Summary of the Invention

[0006] According to the present invention there is provided a lifting sling for use with invalid hoists, which sling includes a main body portion which is shaped to support the back and thighs of a patient and is provided with four-point suspension means as defined, two at the sides of the sling in the shoulder region and two at the bottom end of the body portion of the sling, characterised in that the material forming each of said suspension means has a plurality of elongated slots for attachment either to a hoist having lifting studs or to a hoist having a coat-hanger type support.

[0007] There are preferably at least three elongated slots in each suspension means.

[0008] Each suspension means is preferably formed from webbing and each elongated slot is preferably in the form of a button hole.

[0009] The webbing forming each suspension means may be of double thickness for at least the part(s) in which the button-hole slot(s) is or are formed.

The webbing is preferably of double thickness throughout the length of each suspension means and the parts of the webbing between the button holes are preferably connected together, for example, by sewing, but with a layer of contrast material wrapped around the two thicknesses of the webbing, i.e. a material of a colour which contrasts with that of the webbing. The layers of contrast material wrapped around the two thicknesses of the webbing are preferably of different colours for ease of identification of the individual button-hole slots.

[0010] The free end portion of each suspension means, i.e. the end thereof remote from the body portion of the sling, preferably provides a hand-grip which can be grasped to facilitate use of the sling.

Brief Description of the Drawings

[0011]

Figure 1 shows a sling in accordance with the invention being used for lifting a patient by means of a hoist having fixing studs,

Figure 2 shows the sling of Figure 1 being used for lifting a patient by means of a hoist having a coat-hanger type support, and

Figure 3 is an underneath view of the sling.

Description of the Preferred Embodiment

[0012] Figure 1 of the drawings shows the sling 10 being used in combination with a known type of hoist 11, which includes lifting by means of fixing studs, whereas Figure 2 of the drawings shows the sling 10 being used with another known type of hoist 12, which includes a coat-hanger type support 13.

[0013] The sling 10 is shown in Figure 3 and includes two quilted leg areas 14, to each of which a suspension means 15 is attached. The quilted leg areas 14 fit between the legs of the patient and provide padded support for the patient's legs. The lower part 16 of the main body portion of the sling 10 is formed with a number of darts (as shown in Figure 3) so that the shape of the sling 10 conforms to that required to fit comfortably to the trunk of the patient, so as to support the back and thighs of the patient.

[0014] The upper part 17 of the main body portion of the sling 10 includes a layer of thick wadding positioned to support the head and neck of the patient. Adjustable straps 18 are positioned one on either side of the layer of wadding at upper part 17 such that, by appropriate adjustment of the lengths of the straps 18, the upper part 17 of the main body portion of the sling 10 can be caused to conform to the shape of the head and shoulders of the patient.

[0015] A suspension means 15 is also attached to each side of the main body portion of the sling 10 in the

shoulder region, i.e. just at or below a position corresponding to that of a shoulder of the patient, to provide a total of four suspension points. In some instances (not shown in the drawings) two additional suspension means may be provided, one attached to each side of the sling 10 at positions corresponding to the hips of the patient.

[0016] Each suspension means 15 is formed from webbing and, in particular, from commercially available webbing which has a series of button holes extending along its centre line. The webbing is folded in two and the two thicknesses of webbing are then sewn together at the positions 19 indicated by the "X's" in Figure 3. Before sewing together the two thicknesses of webbing, contrast material is wrapped around the two thicknesses of webbing, such contrast material being of different colours, for ease of slot identification.

[0017] As will be seen, each of the suspension means 15 includes four button-hole slots 20A, 20B, 20C and 20D which have not been sewn up. The contrast material located inwardly of each of the slots 20D will be of one colour, for example, blue, while the contrast material located outwardly of each of the slots 20D will be of another colour, for example, red, while the contrast material located outwardly of each of the slots 20C will be of a third colour, for example, yellow. The contrast material located outwardly of each of the button-hole slots 20B will be of a fourth colour, for example, green, and the contrast material located outwardly of the slots 20A will be of a fifth colour, for example, black.

[0018] The lengths of the button-hole slots 20A, 20B, 20C and 20D are such that, when it is desired to attach the sling 10 to a hoist having fixing studs, the studs can be passed through the appropriate button-hole slots 20A, 20B, 20C or 20D.

[0019] Each of the suspension means 15 terminates in a double-thickness portion around which the contrast material is wrapped so that a hand-grip 21 is provided. The arrangement is thus such that, when it is desired to attach the sling 10 to a hoist having a coat-hanger type support, it is possible to use the hand-grips 21 when engaging the appropriate button-hole slots 20A, 20B, 20C or 20D with the support. The hand-grips 21 can also be used to facilitate handling of the sling 10, particularly when attaching the sling 10 to a hoist having studs (as shown in Figure 1) or when detaching the sling 10 from the hoist.

[0020] When the sling 10 is attached to a hoist, it is necessary that the lengths of the suspension means 15 should be the same, i.e. that each of the suspension means 15 should be attached to the hoist using the same button-hole slots 20A, 20B, 20C or 20D. Identification of the slots 20A, 20B, 20C and 20D is facilitated by the use of the different colours for the contrast materials sewn around the two thicknesses of webbing. These thus provide a readily visible colour coding for ensuring correct positioning of the patient.

[0021] A modesty strap 22 is attached to one of the

quilted leg areas 14 for engagement with the other quilted leg area 14 so as to hold the two leg areas 14 together and thereby prevent inadvertent separation of the patient's legs.

[0022] It will be appreciated that, for an authority or hospital having hoists of different types, i.e. some as shown in Figure 1 and others as shown in Figure 2, the sling 10 of the present invention will offer substantial advantages since any of the patients who require lifting can be provided with a single sling which can then be used in conjunction with any of the hoists.

Claims

1. A lifting sling (10) for use with invalid hoists, which sling (10) includes a main body portion which is shaped to support the back and thighs of a patient and is provided with four-point suspension means (15) as defined, two at the sides of the sling (10) in the shoulder region and two at the bottom end of the main body portion of the sling (10), characterised in that the material forming each of said suspension means (15) has a plurality of elongated slots (20A, 20B, 20C and 20D) for attachment either to a hoist (11) having lifting studs or to a hoist (12) having a coat-hanger type support (13).
2. A lifting sling as claimed in Claim 1, characterised in that there are at least three elongated slots (20A, 20B, 20C, 20D) in each suspension means (15).
3. A lifting sling as claimed in claim 2, characterised in that each suspension means (15) is formed from webbing.
4. A lifting sling as claimed in Claim 3, characterised in that each elongated slot (20A, 20B, 20C, 20D) is in the form of a button hole.
5. A lifting sling as claimed in Claim 4, characterised in that the webbing forming each suspension means (15) is of double thickness for at least the parts in which the button-hole slots (20A, 20B, 20C, 20D) are formed.
6. A lifting sling as claimed in Claim 4, characterised in that the webbing forming each suspension means (15) is of double thickness throughout its length.
7. A lifting sling as claimed in Claim 5 or Claim 6, characterised in that the parts of the webbing between the button hole slots (20A, 20B, 20C, 20D) are connected together, with a layer of contrast material wrapped around the two thicknesses of the webbing.
8. A lifting sling as claimed in Claim 7, characterised in that the layers of contrast material wrapped around

the two thicknesses of webbing are of different colours for ease of identification of the individual button-hole slots (20A, 20B, 20C, 20D).

9. A lifting sling as claimed in any one of the preceding claims, in which each suspension means (15) has a free end portion which forms a hand-grip (21).

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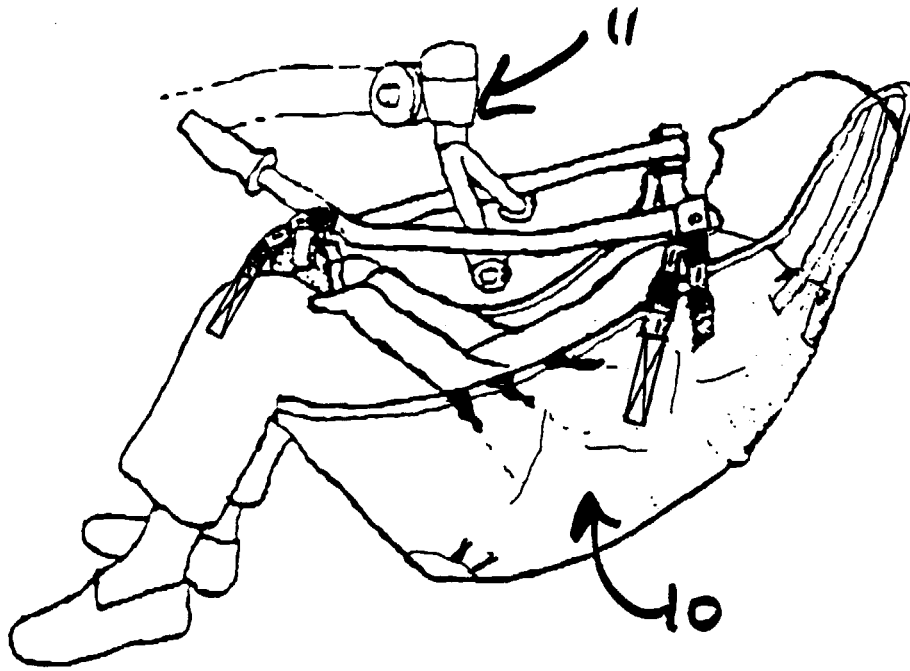


FIG. 1.

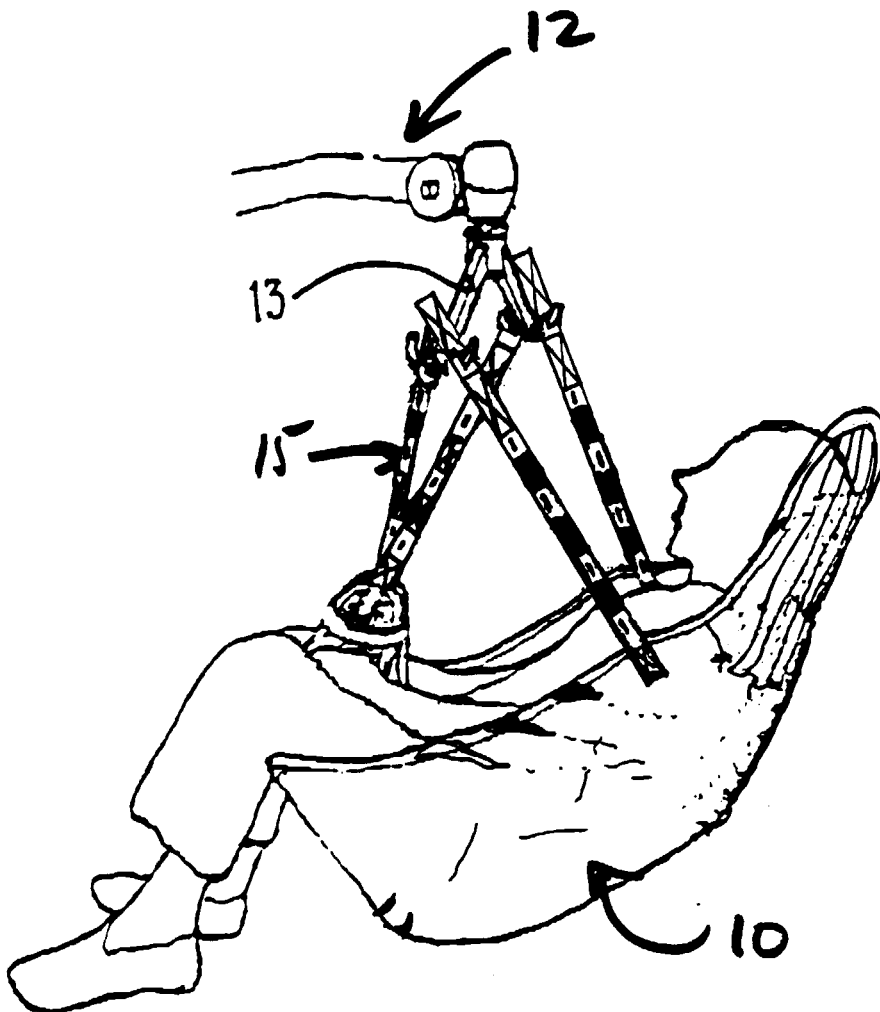


FIG. 2

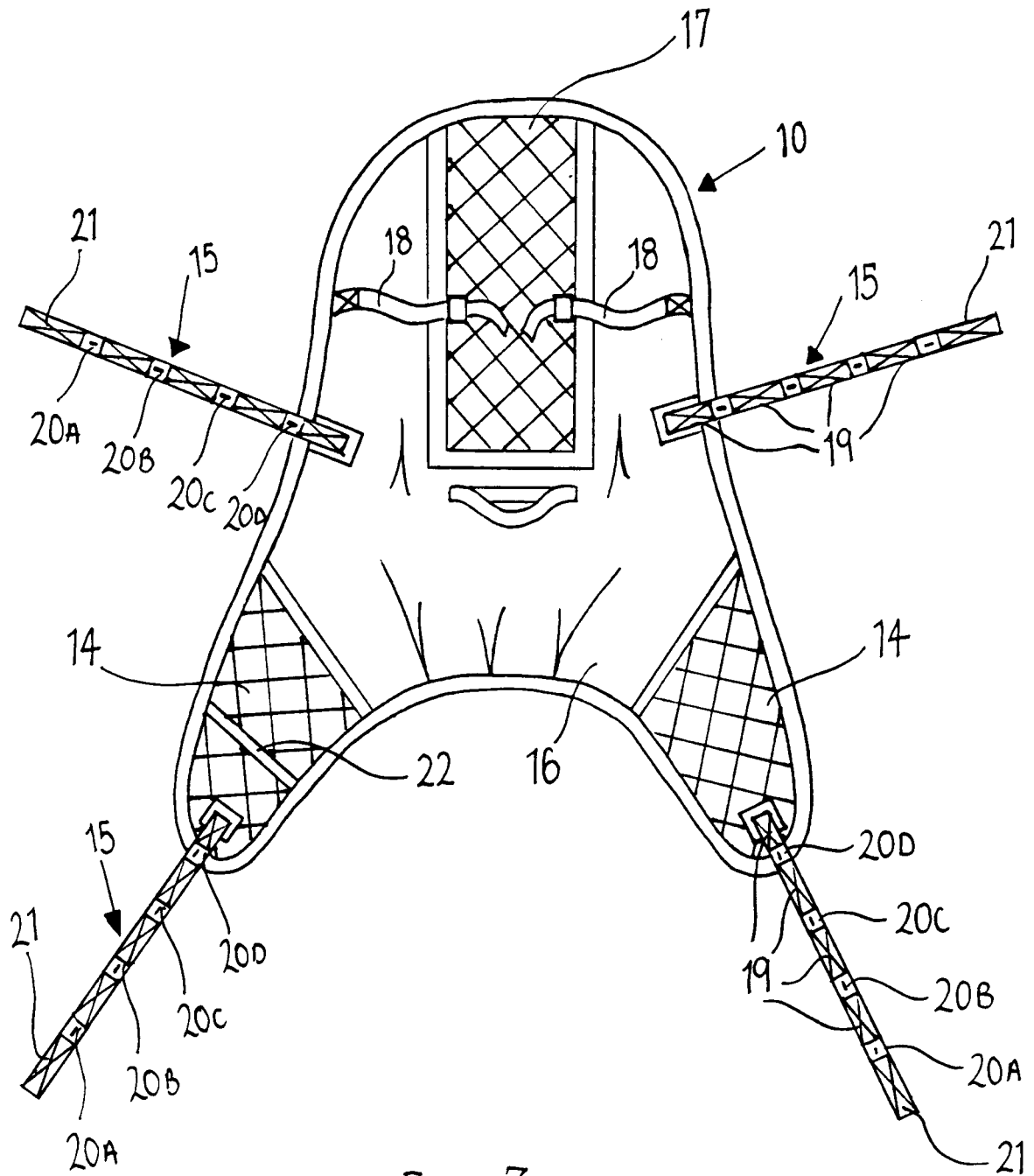


FIG. 3