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Slings assembly

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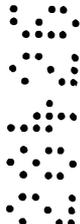
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(56) Related Art
US 4617923
US 4372301
US 5772617

ABSTRACT

Briefly in this invention a sling 10 has a trough-like forearm support 11, a shoulder pad 12, a back strap 13, a front suspension strap 14, and an underarm strap 15.

5 In use, the back strap 13 extends across the back of a user from a rear portion of the shoulder pad 12 and supports the elbow end 20 of the sling 10, the front suspension strap 14 supports the hand end 22 of the sling 10, and the underarm strap 15 extends from a lower end of the rear portion of the shoulder pad 12, between the free arm of the user and his body, and is also attached to
10 the hand end 22 of the sling 10. The sling 10 is thus limited to a small up/down movement and a small transverse movement, but the hand end has more fore/aft movement, and its weight is borne by the shoulders.



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COMPLETE SPECIFICATION

FOR A STANDARD PATENT

ORIGINAL

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Invention Title: "Sling Assembly"

Details of Associated Provisional

Application No: PO 0788 dated 1st July, 1996



The following statement is a full description of this invention, including the best method of performing it known to the applicant.

SLING ASSEMBLY

This invention relates to a sling assembly for supporting an arm of a patient, with the forearm slung to be horizontal across the body.

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Many treatments for damage to a hand or forearm require the forearm to be supported horizontally in front of the body during the convalescent period, and this is traditionally achieved by means of a sling. The sling is quite often passed around the back of the neck, and the weight of the forearm is borne by pressure against the back of the neck. That pressure sometimes causes discomfort to the patient, and the main object of this invention is to provide means whereby the pressure is taken on the shoulder of the other arm, so that discomfort is largely reduced.

15 Another problem which is encountered, particularly if a shoulder strap is used, rather than a traditional sling, is that the upper part of the folded arm applies pressure to the side of the chest and that can also cause discomfort. Thus, a further object of the invention is to provide improvements whereby this secondary discomfort is also addressed.

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The present invention provides a sling assembly having a trough-like forearm support with an elbow end and a hand end, means closing the elbow and further means joining upper edges of the forearm support at the hand end to enable a user's hand to project therefrom, a shoulder pad of size and shape to overlie a user's shoulder above the hand end, a back strap which in use extends across the back of a user from a rear portion of said shoulder pad, and means to support said sling elbow end by the extending end of the back strap, a front suspension strap extending downwardly from a front portion of said shoulder pad, means to support said sling hand end by the extending end of the front strap, an underarm strap which in use extends from a lower end of said rear portion of said shoulder pad, and means to connect the extending end of said shoulder strap to said sling hand end. In this arrangement, the sling is thus

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limited to a small up/down movement and a small transverse movement, but the hand end has more fore/aft movement, and its weight is borne by the shoulders.

5 In a preferred embodiment the sling assembly may have two buckles near the hand, and a shoulder pad of shape and size to be draped over the shoulder alongside the free arm, the shoulder pad preferably being provided with a buckle portion which releasably engages a second buckle portion of the front suspension strap and has one end of the back strap and one end of the shoulder strap secured thereto. In this embodiment, the shoulder pad spreads
10 the weight of the folded forearm contained in the sling.

The sling assembly may also include a chest cushion which is releasably attached to the forearm support on the side adjacent the body of a wearer, preferably so that it engages the lower part of the chest or upper part of the
15 abdomen of the wearer and moves the forearm in the sling a short distance outwardly from the body. This is optional and will not be required by some wearers.

20 Preferably, one end of the back strap is secured by securing studs intermediate the ends of the shoulder pad, and at the other end is secured to the elbow end of the forearm support, such that when used, the back strap extends diagonally across the back of the user. This assists in preventing any possibility of the elbow end of the forearm support from dropping away, and further assists in retaining the elbow upwardly so that the weight of the arm and sling is not solely
25 taken by the upper arm portion of the damaged limb.

Brief Description of the Drawings

30 An embodiment is described hereunder in some details with reference to, and as illustrated in, the accompanying drawings. The description is given by way of illustration only and is not to be interpreted as limiting on the invention.

In the drawings:



Figure 1 is a frontal view of a user showing his forearm in a sling assembly in accordance with a preferred embodiment of the present invention, the sling being carried by a front strap supported from a shoulder pad at its hand end; and

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Figure 2 is a perspective view of the sling assembly of Figure 1, which illustrates the configuration of the assembly with its forearm support, shoulder pad, back strap and chest cushion.

10 In this embodiment, a sling assembly 10 comprises a trough-like forearm support 11, a shoulder pad 12, a back strap 13, a front suspension strap 14, a shoulder strap 15, and a chest cushion 18.

The forearm support 11 has an elbow end 20 and a hand end 22, the elbow end 20 being closed by a sewing seam (not illustrated) that joins two wall portions of the forearm support 11, and at the elbow end 20 the lower end of the back strap 13 is secured by buckle 21. The hand end 22 of the forearm support 11 is not fully sewn but has an opening so that when the forearm support is positioned as illustrated in Figure 1, the patient's hand can project outwardly from the hand end 22.

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A loop 23 of strapping terminates with an upwardly extending buckle portion of buckle 24 and a rearwardly extending buckle portion 25. The shoulder pad 12 thus has three straps 13, 14 and 15 secured to it. Straps 14 and 15 extend from its ends and strap 13 is secured by press studs 27. There are two pairs of press studs 27, one for right hand usage and one for left hand usage. Similarly there are two buckles 25 at the hand end 22 of the forearm support 11. (The back strap 13 is shown in dashed lines where used for a right arm support, in full lines for a left arm support).

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As shown, it is desirable that effective strap lengths are adjustable at the buckles in a conventional manner.



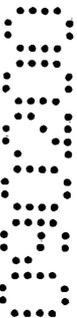
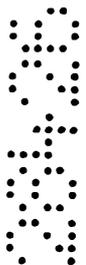
A prototype which was made in accordance with this invention was tested by the Applicant and was found to relieve much of the fatigue which is otherwise felt with the more commonly used sling which hangs from the back of the user's neck.

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The invention as described herein is susceptible to variations, modifications and/or additions other than those specifically described and it is to be understood that the invention includes all such variations, modifications and/or additions which fall within the spirit and scope of the following claims.

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For example, the lower end of the back strap may be sewn permanently to the forearm support.



The claims defining the invention are as follows:

1. A sling assembly having a trough-like forearm support with an elbow end and a hand end, means closing the elbow end and further means joining upper
5 edges of the forearm support at the hand end to enable a user's hand to project therefrom,

a shoulder pad of size and shape to overlie a user's shoulder above the hand end,

a back strap which in use extends across the back of a user from a rear
10 portion of said shoulder pad, and means to support said sling elbow end by the extending end of the back strap,

a front suspension strap extending downwardly from a front portion of said shoulder pad, means to support said sling hand end by the extending end of the front strap,

15 an underarm strap which in use extends from a lower end of said rear portion of said shoulder pad, and means to connect the extending end of said shoulder strap to said sling hand end.

2. A sling assembly according to claim 1 further comprising a strap loop
20 extending around said forearm support adjacent its hand end, said means joining upper edges of the forearm support comprising upper ends of said strap loop which terminate in a buckle portion releasably attachable to said front suspension strap.

25 3. A sling assembly according to claim 1 or claim 2 wherein said shoulder pad comprises fastening means intermediate its ends and said back strap has complementary fastening means at one of its ends releasably engageable with said should pad fastening means.

30 4. A sling assembly according to claim 3 wherein said fastening means comprise press studs arranged at different positions along said shoulder pad to accommodate requirements for right/left hand usage.

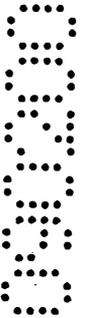
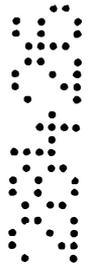


5. A sling assembly according to any one of the preceding claims wherein each said strap extending from said shoulder pad terminates in a respective buckle portion which is securable to a complementary buckle portion on said forearm support.

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6. A sling assembly according to claim 1 substantially as hereinbefore described with reference to and as illustrated in the accompanying drawings.

10 DATED: 9 February 2000
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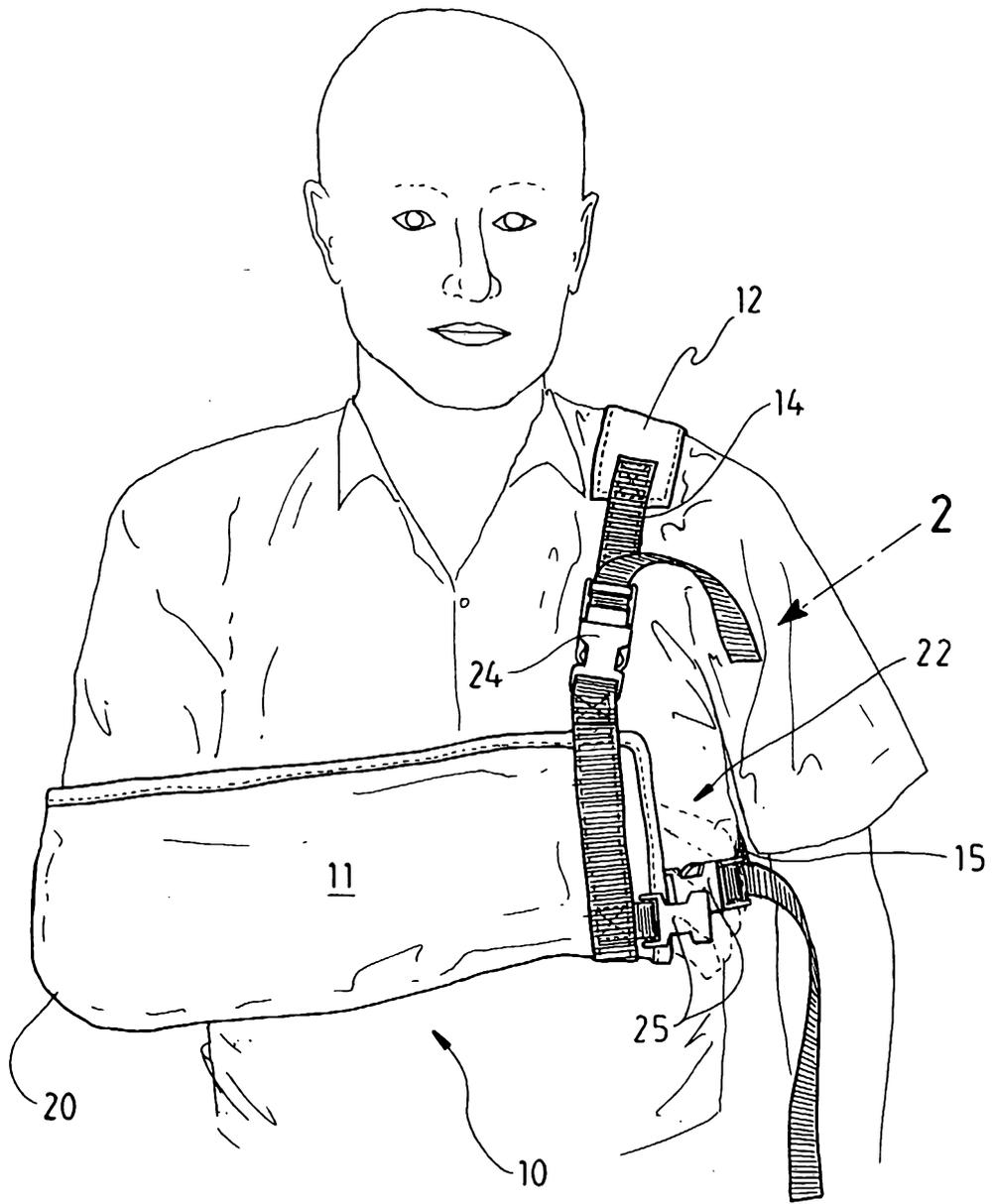


FIG 1

