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Zeide et al.

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[54] **MEDICAL LIMB HARNESS**

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[52] **U.S. Cl.** **128/94;** 128/94

[51] **Int. Cl.²** **A61F 5/40**

[58] **Field of Search** 128/94, 133, 134, 135

[56] **References Cited**

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Primary Examiner—Lawrence W. Trapp

[57] **ABSTRACT**

A new type of lockable limb harness which when attached to an arm or leg securely prevents the limb from slipping out of position, while not obstructing blood circulation at the point of attachment. This new invention consists of two loops made out of fabric or fabric type material joined together plus a ring placed in position so it can traverse the length of the larger loop. The small loop is slipped over a fixed object such as an extending hook from a wall, or an arm extending from an intravenous bottle post, while the larger loop is place around the limb to be supported. The ring, already in position at the top of the large loop is slipped down to securely lock the limb to the harness, with a noose type of hold.

1 Claim, 5 Drawing Figures

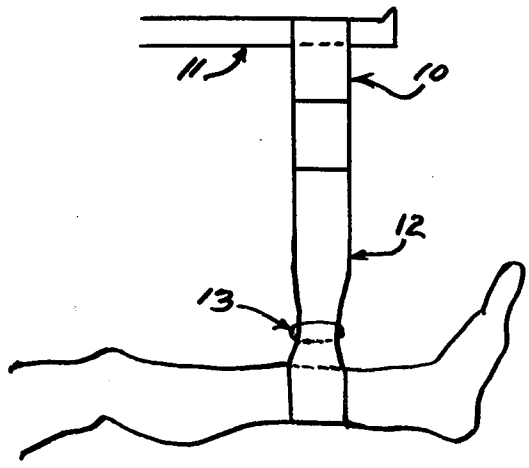


Fig 1

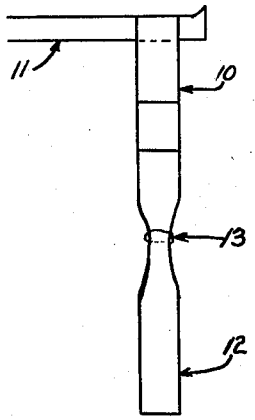


Fig 2



Fig 3

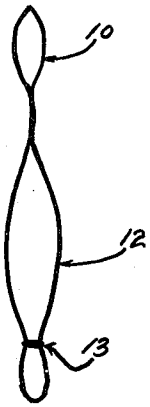


Fig 4

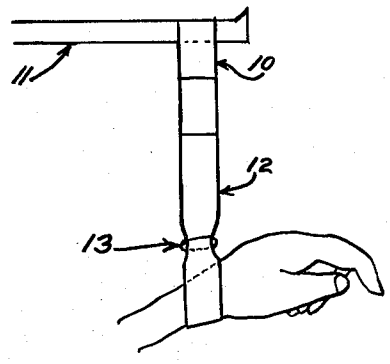
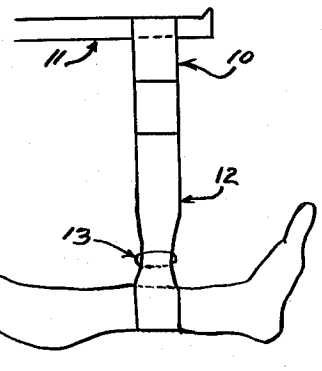


Fig 5



MEDICAL LIMB HARNESS

BACKGROUND OF THE INVENTION

A number of different methods are now used to harness and support the limb during the scrubbing procedure prior to an operation or for use as a support during an operation. These devices are specifically used to elevate the limb so that work on it can be performed in a position that permits easy accessibility to the one performing the functions. The major hazards that exist with the presently known devices is the ease at which the limb can slip out of the harness, and the problem of stopping blood circulation when the supporting cords of the harness are tied too tight in an effort to prevent slippage of the limb from the harness. So far as is known, this new and simple arrangement in combination of using fabric type loops joined together, and a sliding ring as described and claimed herein has not been known heretofore.

SUMMARY OF THE INVENTION

This invention relates to a mechanism which when attached to a limb of the body acts as a limb harness and securely supports the arm or leg without the danger of the limb slipping out or the stoppage of blood circulation. Still more, particularly this invention employs a new and not previously known method of preventing the slippage of the limb in a limb harness. Since there are very few limb harnesses designed especially for operating room procedures, this invention initiates and incorporates the concept of design, using wide fabric loops in conjunction with a sliding ring tightening method which easily permits the securing of the limb to the harness by merely sliding the ring closer to the already positioned limb within the loop, and easily unlocking the limb by reversing the procedure and sliding the ring away from the limb.

DESCRIPTION OF THE DRAWINGS

FIG. **1** is an overall front view of the invention with the tightening ring in the upper or open position.

FIG. **2** is an overall side view of the invention with the tightening ring in the upper or opened position.

FIG. **3** is an overall side view of the invention with the tightening ring in the lower or locking position.

FIG. **4** is an overall view of the invention in position supporting the arm.

FIG. **5** is an overall view of the invention in position supporting a leg.

THE PREFERRED EMBODIMENT

The invention may be understood by turning first to FIG. **1** wherein it shows the upper loop **10** in position mounted on a horizontally fixed bracket **11** while the lower loop **12** is open to permit entrance of a limb as can more easily be understood by examining the lower loop **12** in FIG. **2.** In both FIG. **1** and FIG. **2,** we show the bottom loop **12** in the open position with the tightening ring **13** in the upper portion of the loop **12.** In FIG. **3** we show the tightening ring **13** placed in the lower or locking position. More specifically FIG. **4** and FIG. **5** show how the harness is positioned when supporting an arm FIG. **4,** and a leg FIG. **5** in the locked position with the tightening ring **13** in the lower or locked position.

As stated in the abstract of the disclosure, it is a particular objective of the invention to provide a method of preventing the limb from slipping out of the harness and also prevent the blockage of blood circulation during the time of support by the harness.

The features and advantages of the invention is a sliding device, the ring, which when pushed down to the lower or locking position, locks itself by means of the downward pressure that is exerted by the weight of the limb on the fabric loop. The locking of the sliding tightening device is achieved by using a width of fabric on the loop which is wider than the inside width of the sliding tightening device so that downward pressure exerted by the supported limb tends to expand the width of the fabric loop within the confines area inside the sliding tightening device, causing the sliding tightening device and the fabric loop to bind. Since the full width of the loop is basically maintained on the area that is in contact with the epidermis, the pressure from the limb is applied to a large area of fabric which does not tend to press into the epidermis nor to constrict blood circulation.

We claim:

1. In a medical limb harness the combination comprising of two loops connected together, made out of fabric or materials with fabric like properties, and a sliding tightening device designed in any geometrical shape, with said sliding tightening device capable of traversing the lengths of said loops while encompassing the width of said loops.

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