L. T. J. LUBIN.

Truss.

No. 202,842. Patented April 23, 1878.

FIG. 1.

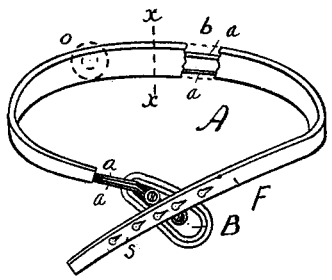


FIG. 2.

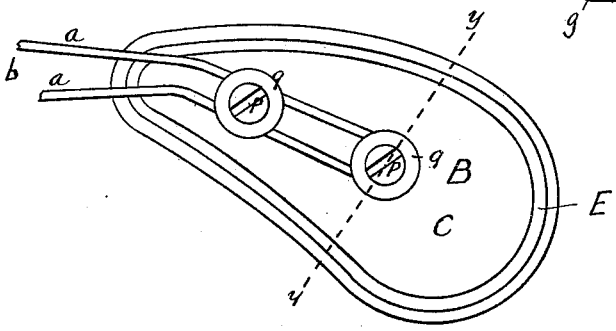


FIG. 3.

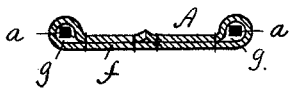


FIG. 4.

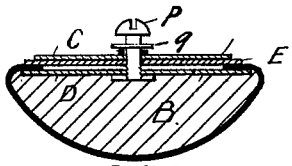


FIG. 6.

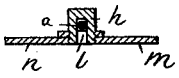


FIG. 5.

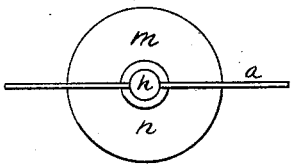


FIG. 7.

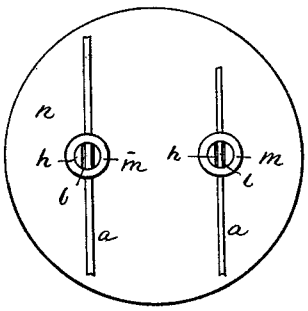
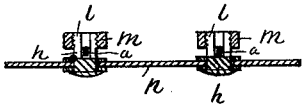


FIG. 8.



WITNESSES.

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UNITED STATES PATENT OFFICE.

LEON T. J. LUBIN, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN TRUSSES.

Specification forming part of Letters Patent No. **202,842**, dated April 23, 1878; application filed July 12, 1877.

To all whom it may concern:

Be it known that I, LEON T. J. LUBIN, of Boston, in the county of Suffolk and State of Massachusetts, have invented an Improved Surgical Bandage, of which the following is a specification:

This invention relates to an improved surgical bandage, and to the attachment thereto of surgical appliances, such as hernia and other truss-pads, ankle-supporters, and spinal and other instruments for deformities and other physical complaints.

The invention consists of a surgical bandage, which is made of two or more spring wires or bands, arranged side by side, but more or less separated along their length, said spring bands or wires being incased in leather or other suitable flexible casings, which casings may be made, and be all connected in one piece, of leather, &c., suitably formed therefor, or of separate pieces of leather, &c., and either connected or not, all substantially as hereinafter described.

The invention further consists of a screw-threaded stud, suitably slotted to receive either one or more of the spring arms or bands of my improved bandage, in combination with a screw-threaded nut, for the attachment of said improved bandage to a hernia or other truss-pad, or an ankle-supporter, &c., all substantially as hereinafter described.

In the accompanying plate of drawings this invention is particularly represented in connection with a hernia-truss, Figure 1 being a front view of a hernia-truss and my improved bandage, in about the position of use on a person; Fig. 2, an enlarged face view of the back of a hernia-pad; Fig. 3, an enlarged cross-section on line *x x*, Fig. 1; Fig. 4, a cross-section on line *y y*, Fig. 2; Figs. 5, 6, 7, and 8, views in detail.

In the drawings, A represents a surgical bandage, made of two spring arms or bands, *a a*, arranged side by side, and more or less separated along their length, as shown at *b* in Figs. 1 and 2, and by the cross-sectional view, Fig. 3.

These bands, preferably, are made of steel, but may be made of other metal or metals, or of hard vulcanized india-rubber, or of other suitable material; and they are made of a shape and size to be bent, or to bend of themselves readily and independently of each other, to the shape of the part of the person against which they are in contact when in use, and yet at the same time to act, as desired, either to hold the bandage in place, or to press or to exert pressure upon the person, or both, according to the purpose for which the bandage is used—as, for instance, when used with a hernia-truss or with an ankle-supporter, &c.—to hold the truss or ankle-supporter, &c., to its position and work on the person of the wearer.

f, a casing of leather. This casing *f* is made of one piece of leather, doubled upon itself, and then so stitched or otherwise secured together as to leave at each edge along its length a case or tube, *g*, of suitable shape and size to receive and tightly cover the spring bands or wires *a a*. This casing *f* may be made of cloth, rubber, or of other flexible material in lieu of leather; and, again, it may be divided for each spring band or wire—that is, so that each casing will be separate and distinct from the other; and in any case the casing *f* may be adapted for the whole or a part or parts of the spring wires or bands, according as may be deemed best or desirable. The casing *f* may be shaped along its length to give any desired spread to the bands along their length—as, for instance, to have them parallel, or more or less diverging from or converging toward each other.

h, a screw-threaded stud, having a slot, *l*, at one end, of suitable shape and size to receive and hold a spring-band, *a*, and for a screw-threaded nut, *m*, to be then screwed down upon it, thus firmly securing the band in all directions to and in the stud.

Through this combination of slotted stud *h* and nut *m* the bandage is to be secured to the surgical appliance in connection with which it is to be used—as, for instance, to a pad-plate, *n*, as shown in detail, Figs. 5, 6, 7, and 8, or to the proper part of an ankle-supporter, &c.

At *o*, Fig. 1, by dotted lines, a pad is shown as applied by said combination of slotted screw-threaded stud and nut to the bandage, at a part of it which bears against the back of the wearer; and in this case the leather casing is punched so that one tine of the stud *h* can pass through it on the inner side of the spring-

band, the other tine of the stud being on the outside of the leather and band at same place.

B is a hernia-pad of the usual form, and made of leather, which is stuffed and secured in the usual manner to a metallic plate, C, which in turn is secured to another metallic plate, D, between which and the attachment of the pad to the inner metallic plate is a layer of leather, E, which projects at and along the edge of the outer plate C, so as to give a neat and tasty finish thereto.

The bands or wires of the bandage A are shown as fastened by screws P and washers *q* to the back plate of the hernia-pad B; but, instead of that, my described combination of slotted stud and screw-nut may be used. As the bands or wires are shown in the drawings, they are in one piece, which is bent to give the two bands described; but obviously each band may be of a separate piece of metal.

F, a strap connected with the bandage, for connecting it at its end *s* to the hernia-pad.

A slotted screw-stud may be adapted to receive all the spring bands or wires *a*, and one nut then be all that is necessary for fastening them therein.

The bandage A, herein described, may be made of more than two bands or wires; but two are sufficient, probably, for all cases; and, again, if desired, the bandage may be used without casings to its wires or bands.

My improved bandage possesses advantages as follows, to wit:

First, it is light.

Second, it is flexible and elastic in all directions.

Third, it is self-adjustable transversely and longitudinally to the parts of the person which it covers.

Fourth, it can be readily bent by hand to any shape desired, and thus be made to conform in shape to the person or to the work to be done by it, or by the pad or other surgical appliance which it carries, &c.

Fifth, it divides its pressure on the person, while at the same time it exerts its combined and whole pressure on the hernia or other truss-pad which it carries.

Having now described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A surgical bandage consisting of the two independent detached spring-bands *a a*, arranged side by side and separated along their length, and constructed to act automatically and independently of each other in a transverse and horizontal direction, and being inclosed in a suitable casing or confining device for the separated ends thereof, the whole constructed and combined substantially as and for the purpose set forth.

2. The combination of the slotted screw-stud *h* and screw-nut *n* with the bandage, all substantially as described, for the purpose specified.

LEON T. J. LUBIN.

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