

(No Model.)

L. T. J. LUBIN.

TRUSS.

No. 301,504.

Patented July 8, 1884.

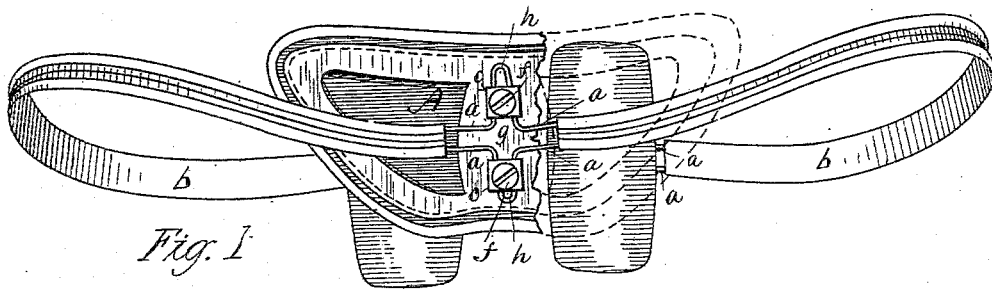


Fig. 1

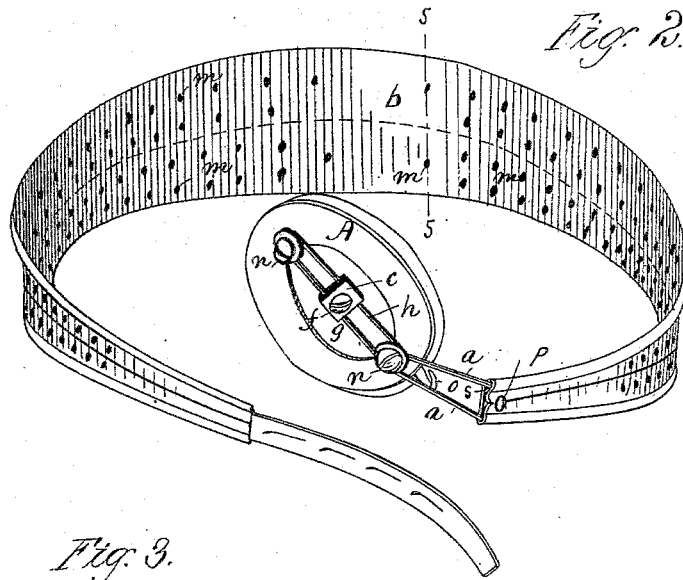


Fig. 2.

Fig. 5.

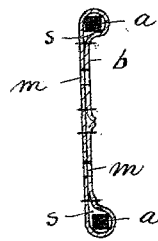


Fig. 3.

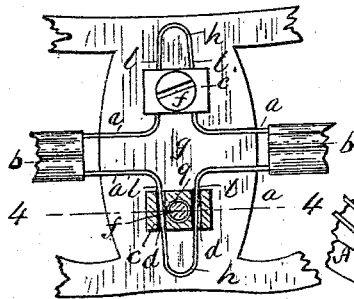


Fig. 4.

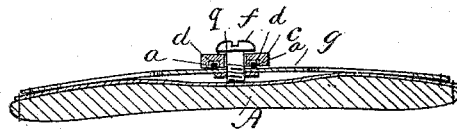
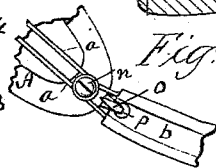


Fig. 6.



Witnesses
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UNITED STATES PATENT OFFICE.

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

TRUSS.

SPECIFICATION forming part of Letters Patent No. 301,504, dated July 8, 1884.

Application filed August 25, 1881. (No model.)

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 certain new and useful Improvements in Trusses, of which the following is a full, clear, and exact description:

This invention more particularly relates to surgical bandages—such as hernia and other trusses, ankle, abdominal, and spinal supporters, &c.—of the class shown and described in the schedule annexed to the Letters Patent of the United States issued to me dated April 23, 1878, No. 202,842.

Under this invention the body-encircling and pad-carrying spring band or wire has a fold or folds, in and along its length running in a direction relative to the length of the band and to its action as a spring, to secure a leverage through such fold or folds when pressure or resistance is applied thereto—as, for instance, when such fold properly provided with a hernia or other pad is through such pad resting at or upon the place of rupture, &c. Again, the pads are attached to their carrying-bands by a fastening of novel construction; and, lastly, the flexible belt for the spring-encircling wire or wires is held against movement along the length of the wires by a hook-and-eye fastening applied in a suitable manner therefor, all as will hereinafter fully appear.

In the accompanying plate of drawings, Figure 1 is a side view of an abdominal supporter, and Fig. 2 a perspective view of a hernia-truss; Fig. 3, an enlarged face view in detail of the attaching parts upon the abdominal pad and the spring wires or bands shown in Fig. 1; Fig. 4, an enlarged section on line 4 4, Fig. 3; Fig. 5, an enlarged section on line 5 5, Fig. 2; Fig. 6, a view illustrating in detail the hook-and-eye fastening for the flexible belt.

In the drawings, A represents a pad shown in Figs. 1 and 4 as an abdominal pad, and in Fig. 2 as a hernia-pad.

a a are two spring wires or bands arranged alongside of each other. Each band, *a*, lies within a separate pocket, *s*, of a common leather belt, *b*, which, between said pockets, is provided with a series of perforations or openings, *m*, at suitable distances apart, and for the purposes of ventilation of the belt when

being worn. The pad A in each instance is attached to the bands *a a*, which, for that purpose, are left exposed or uncovered for a sufficient portion of their length—as, for instance, for the abdominal pad at or about midway of the whole length of the bands, and for a hernia-pad at one end of the bands. The two bands for the abdominal pad are in separate lengths and for the hernia-pad in one length, which is doubled over to form the two lengths. As shown in Figs. 1, 3, and 4, each band intermediate of its length has a fold or bend, *h*, running at right angles and in opposite directions, relative to the length of the bands, and the pad is attached to each of such folds or bands. This attachment in the present instance, and which constitutes a part of this invention, consists of a nut or plate, *c*, having two grooves, *d*, one for each leg of the bend or fold *h*, and a center hole, *g*, and of a fastening-pin, *f*, preferably a screw-pin. Each leg of the fold *h* lies within a groove, *d*, and the screw-pin *f* passes loosely through the center hole, *g*, of the nut *c*, and enters and screws into a plate, *g*, attached to the pad or other suitable part of the pad, and thus by properly turning the screw *f* the pad and band can be tightly and rigidly attached together, and as the screw-pin *f* can be removed the two parts can be detached or separated, if so desired—an advantage, as is obvious. The bend *h* of the wires and the attachment of the pad to such bend secures a leverage upon the pad from the action of the spring of the wires, and this leverage may be made more or less by increasing or decreasing the length of such bend. Again, as the bend *h* is at right angles to the length of the wire, and the attachment of the pad is made at and upon such bend, the pad cannot move in the direction of the length of the wires, and is thus secure against slip under any strain in such direction, and otherwise, as is obvious, the attachment of the pad described is most firm and strong. The hernia-pad A and spring band or wire shown in Fig. 2 are secured together by a grooved nut and fastening-pin, as described, for the abdominal pad and the two spring-bands in Figs. 1 and 3; but in this case, as the two legs of the fold of the band run in the direction of the length of the band, it is preferable to use a steadying-pin, *n*, at each side of the

washer or nut, and thus prevent the turning of the washer or nut from the strain upon the wire and secure a greater resistance to the longitudinal pull of the band through the nut.

5 These steadying-pins *n* screw into the pad, and are brought firmly against the band to bind it to the pad.

The leverage secured to the spring wires or bands *a*, as herein described, is not dependent 10 upon any particular form of the attachment of the pad to the band. Again, it is the same whether the pad is attached to either one or both legs of the fold or bend, and is only 15 changed in degree by variation of the line of direction of the fold relative to the length of the wire, but obviously is the greatest in degree under a given length of leg to the bend when such bend is substantially either in a 20 part or the whole of its length at right angles to the length of the wire or bend. Furthermore, the fold or bend *h* may even have a direction substantially parallel to the length of the wire, as shown in Fig. 2, and leverage obtained through it upon the pad by the attachment 25 of the pad to the proper leg thereof. The two grooves of the nut may be made into one groove of sufficient width to receive and

hold the two lengths of the band and prevent their spreading, and while this is practical, yet it is preferable to have a distinct groove for 30 each length or leg of the band.

o is a hook secured to the pad, and *p* is an eye in one end of the band-belt *b*. The eye *p*, placed upon the hook *o*, holds the belt against 35 movement along the length of the band, and when the two are separated from each other the belt is free to be detached at pleasure.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, 40 is—

In combination with a truss or other pad of 40 two lengths of a spring band or wire, *a*, each having a bend or fold, *h*, at right angles to its length, a plate or nut, *c*, having grooves *d* on its under side for said band or wire, and an attaching-pin, *f*, substantially as and for the 45 purpose specified.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

LEON T. J. LUBIN.

Witnesses:

EDWIN W. BROWN,
WM. S. BELLOWS.