(No Model.)

T. J. LOUGHRIDGE.

TRUSS.

No. 458,472. Patented Aug. 25, 1891.

Fig. 1.

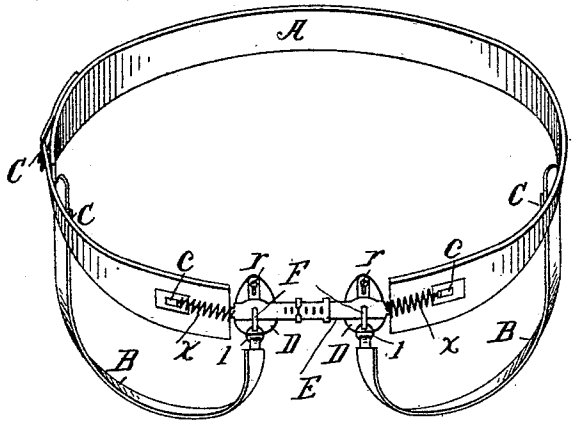


Fig. 2.

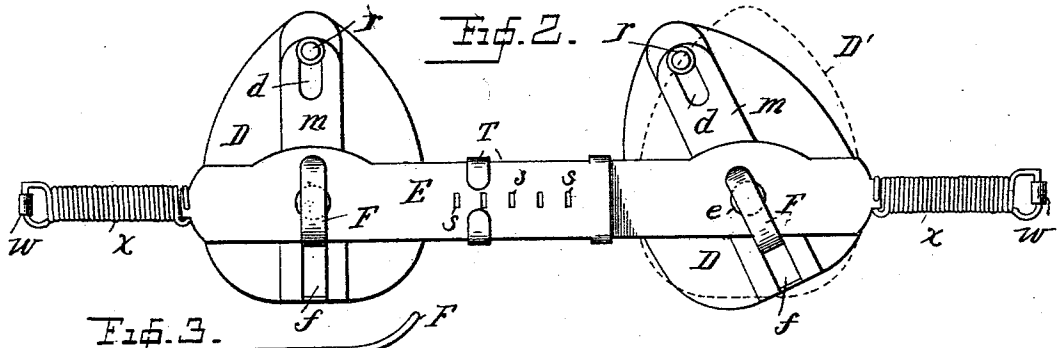


Fig. 3.

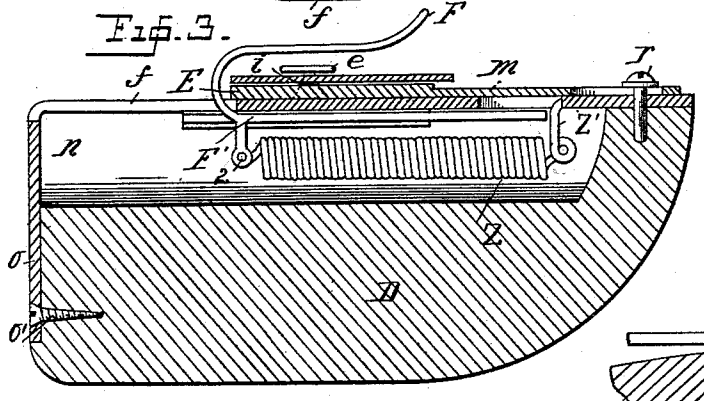


Fig. 4.

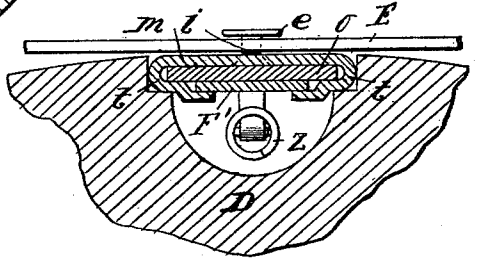
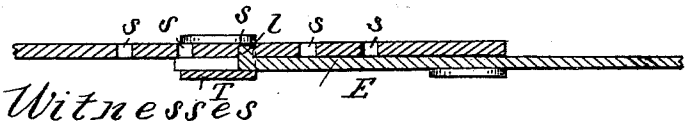


Fig. 5.



Witnesses

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TRUSS.

SPECIFICATION forming part of Letters Patent No. 458,472, dated August 25, 1891.

Application filed March 28, 1891. Serial No. 386,865. (No model.)

To all whom it may concern:

Be it known that I, THEODORE J. LOUGHRIDGE, a citizen of the United States, residing at the city of Oshkosh, in the county of Winnebago and State of Wisconsin, have invented certain new and useful Improvements in Trusses; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to trusses for the relief and cure of hernia; and the objects of my invention are, first, to improve the construction of that type of truss which does away with all india-rubber attachments or appliances; second, to provide an improved take-up device for what are known as the "thigh-straps;" third, to provide an improved means for effecting a constant pressure upon the rupture at all positions of the body; fourth, to produce an effective truss possessing simplicity, durability, and cleanliness, and affording increased general comfort to the wearer.

It is a well-known fact that the life of india-rubber is limited to a few years, especially where worn next to or adjacent to the body, and in trusses heretofore constructed where india-rubber bands or appliances have been used to give adjustment or pressure they have proven uncleanly and not durable, and to the end of obviating the use of such bands both single and double trusses have been contrived, the same being provided with either coiled or flat springs and with bands and straps which themselves are inelastic, and my invention is designed to render such single and double trusses more practical and useful.

In the accompanying drawings, Figure 1 is a perspective view of the complete double truss; Fig. 2, an exterior view of the pads and connections; Fig. 3, a longitudinal section, and Fig. 4 a cross-sectional view of one of the pads. Fig. 5 is a longitudinal section of the adjusting-bar between the pads.

Similar letters and figures refer to similar parts throughout the several views.

A is the body-belt, made of inelastic webbing or other inelastic material; B B, the leg or thigh straps of like or other suitable material, and C C C are buckles for attaching the same.

c c are hooks attached to the body-belt A, upon which are hooked the springs X X upon each side. The springs X X connect with the cross-piece E, and are for the purpose of giving pressure to the pads D D. These pads are pivoted to the cross-piece E by means of the pivots *e e*, a shoulder being provided at *i* to allow the pads to more freely turn upon the pivots without striking the cross-piece.

The dotted position D′, Fig. 2, illustrates the manner in which the pad D may turn to adapt it to changed positions of the body.

The thigh-straps B B are provided with rings 1 1 upon the lower ends, which hook over the hooks F F. Each pad is provided with a longitudinal recess or cavity *n*, covered by a plate *o*, extending down the side of the pad and attached by a screw at *o′*. An opening is provided in this plate at *f*. Above the plate *o* is a plate *m*, an integral part thereof extending around the plate *o* upon each side and also around the sliding bar F′, integral with the hook F, Fig. 4. By this means a double raceway is formed for the sliding of both the plate *m* and the bar F′. The hook F is attached to the spring Z at 2, the opposite end of the spring being permanently fixed at Z′ to a portion of the face-plate *o*. The hook F travels in the slot or opening *f* in the plate *o* and is governed by the spring Z. The object of the spring Z is to take up the thigh-strap when the person bends forward. When the truss is first adjusted to a person standing erect, the hook F is drawn down to the lower end of the opening *f*. When the person bends forward, the thigh-strap becomes slackened and the spring Z takes up the slack as it raises the hook F upward, thereby giving a uniform pressure at all times, and by means of this spring the pad is retained in the same position relative to the rupture as when first adjusted. The power of the spring Z equalizes the power of the springs X X and prevents them from then drawing the pad upward off from the rupture. The spring Z is covered and concealed and not interfered with in its operation by contact with clothing.

I have heretofore described the construc-

tion of the raceways and the manner of sliding the plate *m* upon the plate *o*. The pivot *e*, securing the pad, is permanently fixed in the plate *m* of each pad, and as the plate *m* slides upon the plate *o* a means of vertical adjustment of the pad relative to the cross-piece E is afforded to adapt the truss to different persons. A slot *d* is provided in the plate *m* and a set-screw *r* to secure the plate at the desired adjustment.

Fig. 5 is a longitudinal section of the cross-bar E, which is in two sections, each section sliding upon the other and capable of lateral adjustment by means of the spring-hook *l* entering either of the eyes *s s s s*, the hook being held in the eye by the loop T.

In my invention the elasticity and pressure are all provided at a common center, where desired, by means of the springs X X and Z, and at the same time the springs X X, by being independent of the spring Z, are free to serve their special office, and the same is true of the spring Z, being free to perform its work independently of the springs X X, and while this is so the several springs co-operate with one another at such times as are necessary. The springs X X as arranged do not come in contact with the body; but, if thought desirable, a cover can be provided to surround them.

My invention is cheap, simple, and durable, and is especially easy to repair, as I only provide a common web belt and straps, which may be renewed or replaced at a trifling cost and with little trouble. Therefore

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a truss, the combination of the pad D, having a spring-reception cavity *n*, and a cover-plate *o*, having a slot for the hook to move in, a pad-supporting bar, the plate *m*, constructed to form a double raceway, a hook F, formed with a guiding-bar F′ between its hooking portion and its spring-connection lug and fitted in the slot of the plate *o* and in the raceway formed by the plate *m*, the spring Z, inclosed in the pad and attached by one end to the front portion of the cover-plate and by its other end to the lug of the hook, and the inelastic thigh-strap B, substantially as described.

2. In a truss, the combination of the pad D, having a spring having a reception-cavity *n*, and a slotted cover-plate *o*, provided with a slot for the hook to move in, the cross-piece, the adjusting slotted sliding plate *m*, constructed to form a double raceway, screw *r* for holding the sliding plate in its adjusted positions, a hook F, formed with a guiding-bar F′ between its hooking portion and its spring-connection lug and fitted in the raceway formed by the plate *m*, spring Z, inclosed in the cavity and attached by one end to the front portion of the cover-plate and by its other end to the lug of the hook, and a thigh-strap B, substantially as described.

3. In a truss, the combination of the pads pivoted at *e* to the pad-supporting bar E and to the plates *m*, the hooks F F′, the plates *m*, forming a double raceway, the springs, as Z, attached to the pads D and hooks F F′, and springs X, attached to the inelastic body-belt and to the supporting-bar, substantially as described.

4. A truss having its pad connected by springs to an inelastic body-belt and to inelastic thigh-straps and pivoted at *e* to the cross or supporting bar, and means whereby it is made adjustable in both a horizontal and vertical direction and held in the different positions to which it is adjusted in said directions, the spring connections of the pad at the same time admitting of the belt and straps accommodating themselves to the positions of the body, substantially as described.

5. In a truss, the combination of the two-part supporting cross-bar, one part lapping upon the other and one having holes and a loop and the other an angular fastening *l*, a clasp T, the two pads each having a cavity and a slotted cover-plate *o* and attached, respectively, to an adjustable slotted sliding plate *m*, forming a double raceway, the hooks F, having sliding bars F′, and the springs, as Z, connected to the hooks, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

THEODORE J. LOUGHRIDGE.

Witnesses:

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A. L. TUTTLE.