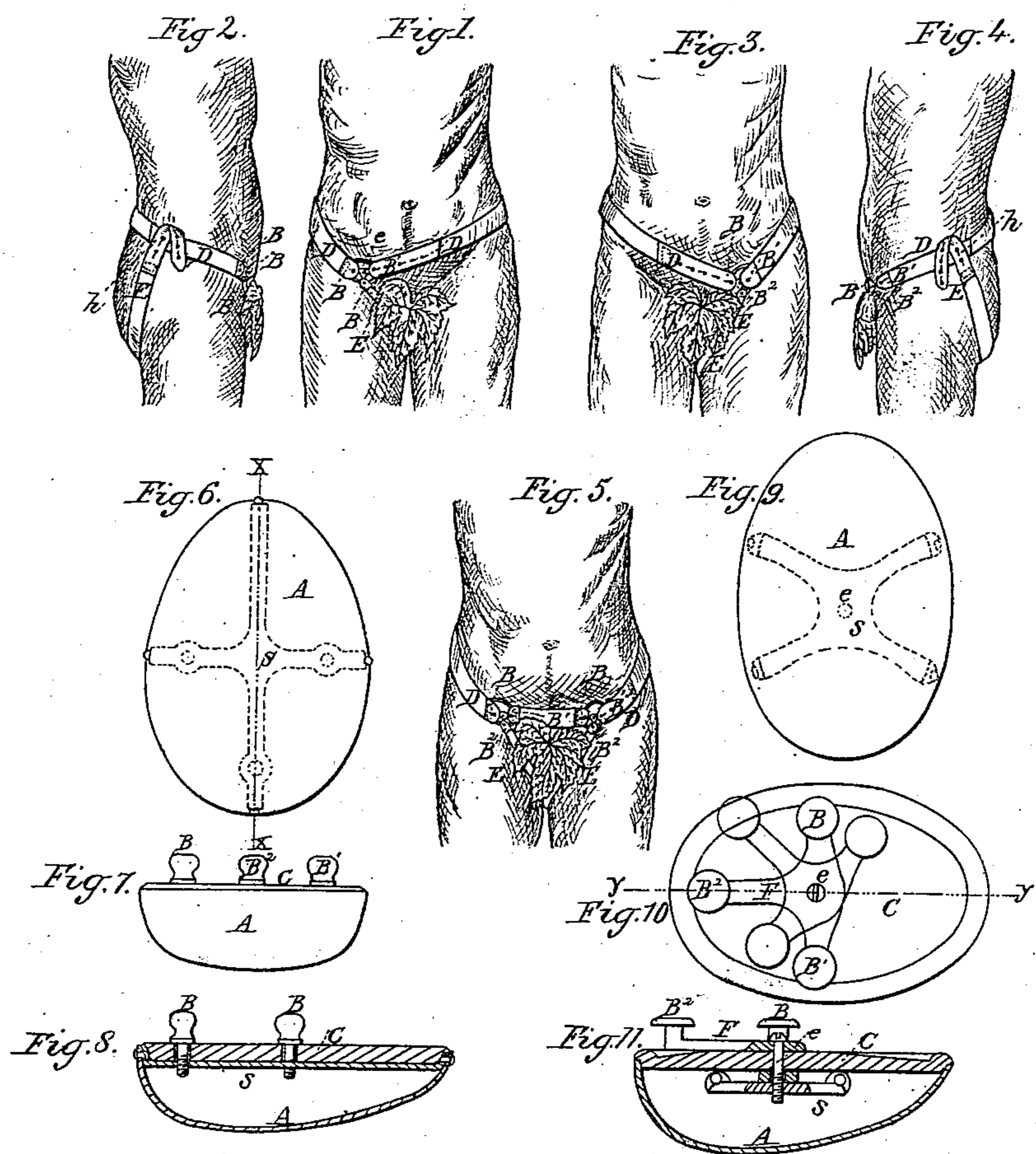


W. Sanborn,

Truss.

N^o 84,769.

Patented Dec. 8, 1868.



Witnesses.

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UNITED STATES PATENT OFFICE.

WOODBURY SANBORN, OF CHELSEA, ASSIGNOR TO HIMSELF AND BAILEY WEST, OF CHICOPEE, MASSACHUSETTS.

IMPROVED TRUSS.

Specification forming part of Letters Patent No. 84,769, dated December 8, 1868.

To all whom it may concern:

Be it known that I, WOODBURY SANBORN, of Chelsea, in the county of Suffolk and Commonwealth of Massachusetts, have invented a new and Improved Truss; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, and to the letters of reference marked thereon, in which—

Figure 1 is a view of the middle portion of the human figure having said truss applied to a hernia upon the right side, and Fig. 2 is a side view of the same. Fig. 3 shows the application of said truss to a hernia upon the left side, and Fig. 4 is a side view of the human figure, showing the same application. Fig. 5 shows the application of a modified form of said truss in a case of hernia upon each side. Fig. 6 is a reverse-plan view of the pressure-pad, which makes a part of said truss, showing one form of the metallic frame or spider within the shell of the pad. Fig. 7 is an end elevation of the same, showing fixed knobs attached to the pad. Fig. 8 is a sectional view, the plane of section being indicated by the line *x x* in Fig. 6. Fig. 9 is a reverse-plan view of the pressure-pad, showing another form of spider within the shell. Fig. 10 is a plan view of the same, showing the knobs attached to an adjustable T-shaped piece of metal, and constituting another means of attaching the pad to the supporting-straps. Fig. 11 is a sectional view, the plane of section being indicated by the line *y y* in Fig. 10.

My invention consists in the construction of the pressure-pad, which forms an essential part of nearly all trusses, and also in the combination, with a pad having the proper holding-knobs or buttons, of the described arrangement of supporting straps or bands by which the pad is kept in place over the seat of the hernia.

Said truss is designed to be worn in cases of inguinal and femoral hernia, and the pad alone may be applied also in cases of umbilical hernia or other kinds of ventral rupture, being in such case held in position by any suitable arrangement of straps or springs.

The construction of my invention is as follows: The pressure-pad A, I construct of a sheet of horn or shell about one-sixteenth of

an inch in thickness and somewhat in the form of a prolate spheroid, divided longitudinally, and slightly flattened, so as not to present too convex a surface to the seat of the hernia.

The conformation of the pad is fully shown by the drawings, and is suited to a large proportion of the cases of inguinal hernia; but its form may be varied in convexity or otherwise to suit peculiar cases.

Where an unusually extensive lesion of the tissues or relaxation of the parts exists, I apply a pad of the general form before described, but considerably enlarged in its bearing-surface.

The shell of the pad is struck up in suitable dies, like other concave articles of horn or shell, and the convex surface is then carefully polished.

To strengthen the shell, and also to support the cover and the knobs or buttons by which the straps are attached to the pad, a metallic spider, S, Fig. 6 or Fig. 9, is applied within the shell, and small flanges are formed at the outer ends of the spider-arms, which are riveted directly to the shell, thus securing the spider firmly in place and preventing any warping of the shell.

A cover, C, of the same material as the shell, Figs. 7 and 8, is made to fit closely within the shell, so as to close the top and rest upon the spider. The cover may also be made, as shown in Figs. 10 and 11, having a rabbet cut around its periphery, which receives the upper edge of the shell.

The supporting-straps may be applied either to fixed buttons B B¹ B² or to like buttons attached to a T-shaped piece, F, which is attached to the spider by a screw, *e*, around which it can be turned as a pivot, and can be set by turning in the screw when adjusted to the proper point. The cover is thus held down by the pressure of the T-shaped piece upon it. If fixed buttons are used, as seen in Figs. 6, 7, and 8, they are made with screw-shanks, and are inserted through holes in the cover and screwed tightly into the spider, thus holding the cover securely and completing the pad. The cover is only desirable as closing the shell against the entrance of lint and dirt, and also preventing the sides of the shell from being

bent outward by the pressure of the straps upon the edge.

In adjusting the T-shaped piece F for use upon the right side of the wearer, the screw *e* is loosened and F is turned into the position shown by the blue lines in Fig. 10, though this position may be varied to suit the form of body to which it is applied, and bring the pad into the proper line with the groin. In some subjects the piece F will adjust itself relatively to the pad if the screw *e* is left loose enough for some play of F about its pivot. If the truss is to be applied to a hernia upon the left side, the T-shaped piece will be pushed in the opposite direction from that shown in Fig. 10. The fixed knobs may also be set in the oblique position which they take in Fig. 10; but in such case the same pad cannot be used indifferently for both right and left handed hernia, as in the case of that shown in Figs. 10 and 11.

The pad constructed and mounted in either of the ways above described is both strong and durable, and not liable to become foul from contact with the body, while its material and construction make it light and firm and entirely harmless to the tissues to which it is applied.

I am aware that plates of horn slightly curved have been heretofore used for truss-pads; but the same, so far as I have knowledge, were constructed without any spider or metallic frame for strengthening the shell, and therefore could only be made of very thick and heavy horn, and without much convexity. I do not, therefore, claim as my invention the mere employment of horn or shell for a pad; but I believe that a light convex pad of sheet-horn, shell, or other suitable smooth, light, and tough material is new when provided with a metallic frame or spider fastened to the shell for strengthening the pad and affording a support for the knobs or buttons, whether the shell is provided with a cover or not.

The supporting-bands consist of the body-strap D and thigh-strap E, both composed of leather or of webbing, and, if the latter, having the ends strengthened with leather for the button-holes, or otherwise secured against wear. In some cases straps of elastic rubber webbing may be advantageously applied instead of the more rigid straps before mentioned. That portion of the thigh-strap which passes between the legs of the wearer is to be sewed in a tubular form, to prevent chafing the flesh. A single button-hole is formed in one end of both D and E, while several are formed in the opposite ends, to permit adjustment to different girths of thigh and abdomen.

If the hernia is upon the right side, and the pad is to be applied as shown in Figs. 1 and 2, one end of D is applied to the button B, and the other end passed around the body from right to left, above the hips, and buttoned to the pad at B¹, the proper button-hole being used to draw the pad closely against the place of the hernia. One end of the thigh-strap E is then buttoned to B², and the other end passed around the leg and secured to the button *h*, which is fastened to the body-strap. The pad is thus subject to a draft in three different directions, and, when thus arranged, is found to keep its place, notwithstanding the flexions of the body, and to constantly exert the proper retaining pressure upon the hernia.

To apply the truss to a hernia upon the left side, the only adjustment required after setting the T-shaped piece F (if that is used in preference to the fixed knobs) is to shift the button-hole in the end of the body-strap from the button B¹ to B, the thigh-strap being still attached to B², and then apply the truss substantially as shown in Figs. 3 and 4.

In cases of inguinal or femoral hernia upon each side two pads are applied, one over the seat of each hernia, and adjusted by the body-strap and two thigh-straps, as shown in Fig. 5. A connecting-strap, G, is necessary in such an application, its ends being buttoned to the knobs B and B¹ on the respective pads.

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

1. The shell A, having a metallic frame or spider attached to the inner side thereof, and provided with knobs attached to said spider, either with or without the cover C, the whole constituting a truss-pad, and constructed of the material and substantially in the manner set forth.

2. The combination of the shell A, the metallic frame or spider rigidly attached to said shell, and the T-shaped piece F, pivoted to said spider and mounted with knobs or buttons, the whole constructed substantially as specified.

3. The construction and arrangement, in combination with a truss-pad, substantially of the kind herein described, of the flexible body-strap D and thigh-strap E applied to said pad, substantially as set forth and shown.

In witness whereof I have hereunto set my hand this 12th day of October, A. D. 1868.

WOODBURY SANBORN.

Witnesses:

J. P. BUCKLAND,
E. J. SOMMER.