No. 718,149. PATENTED JAN. 13, 1903.

H. W. PELL.

ABDOMINAL TRUSS.

APPLICATION FILED MAY 25, 1901.

NO MODEL.

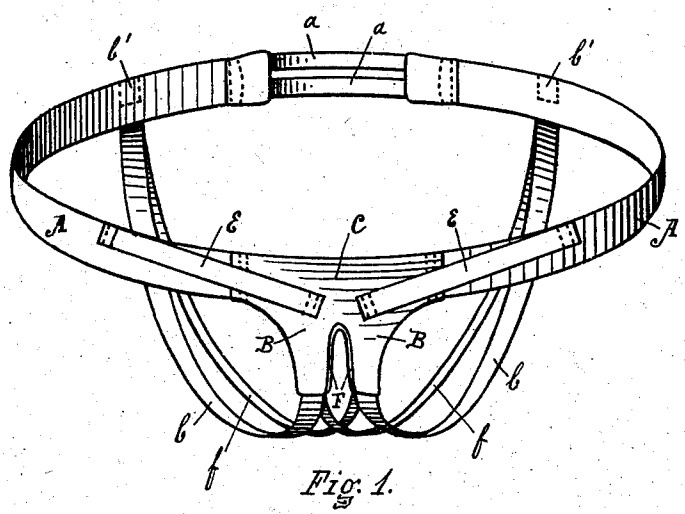

Fig. 1.

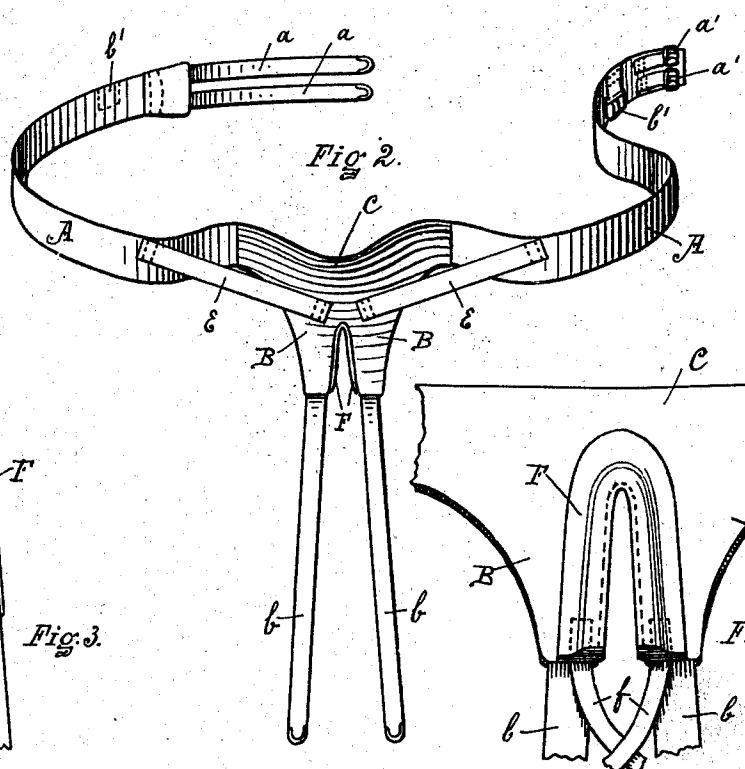

Fig. 2.

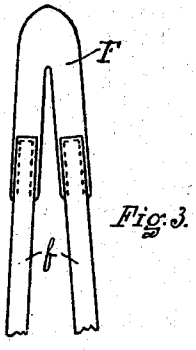

Fig. 3.

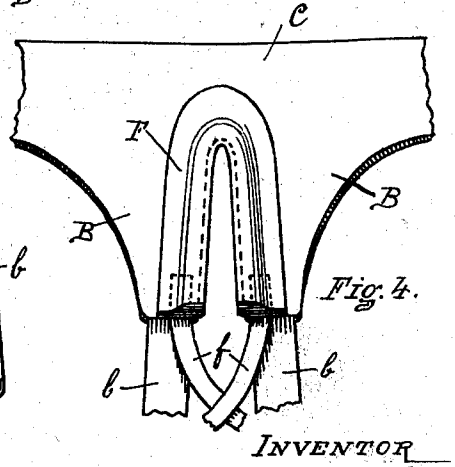

Fig. 4.

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ABDOMINAL TRUSS.

SPECIFICATION forming part of Letters Patent No. 718,149, dated January 13, 1903.

Application filed May 25, 1901. Serial No. 61,834. (No model.)

To all whom it may concern:

Be it known that I, HENRY W. PELL, a citizen of the United States of America, residing at Rome, in the county of Oneida and State of New York, have invented certain new and useful Improvements in Abdominal Trusses, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to an improvement in abdominal trusses; and I do declare that the following is a clear, full, and exact description thereof, such as to enable one skilled in the art to make and use the same, reference being had to the accompanying drawings, in which like letters refer to like parts throughout.

Figure 1 is a perspective view of my truss as it appears in use. Fig. 2 is a perspective view of the same removed from the body. Fig. 3 is a plan view of a portion of the truss. Fig. 4 is a perspective view of the same, showing its manner of adjustment to the belt of the truss.

The particular advantage and utility which I claim with my truss is that it will fit the human body more exactly and will hold a rupture or hernia in places which cannot be reached by any other truss or bandage which I have seen. It is especially adapted to hold an inguinal or a femoral hernia or any rupture or breach in the region of the groin.

I have examined a large number of trusses and abdominal bandages and am acquainted with the state of the art relating to the same, and believe that my invention covers a truss which is both new and useful and superior to anything now known, especially since it has been applied in a large number of cases where other appliances have failed to accomplish the desired result.

The features which I claim as new and desire to secure by Letters Patent are those generally stated and which will be more fully explained below.

Referring to the figures more in detail, A represents a belt to pass about the body at the hips or thereabout. The belt proper is substantially straight and is of suitable width for the purpose. It is preferably made of material which is slightly elastic, so as to conform to the lines of the body and to yield to the movements of the wearer. It is not, however, so elastic as to lose any of the firmness which should belong to such an appliance. For connecting the ends of this belt I provide two straps a a at one end adapted to engage with corresponding buckles a' a' at the other end. These straps have a certain degree of elasticity also. Of course any suitable means of connecting the ends of the belt about the body may be employed. At the middle portion of the belt proper and where it fits the front portion of the body are two extension-flaps B B, which are preferably integral with that portion of the belt. The edges of these flaps which are adjacent are substantially straight, and at the point near the belt proper they are united, having a small piece of felting or other soft material connecting them, which permits the two flaps to be fitted closely to the body without inconvenience to the wearer. The other edges of these flaps are curved, from their extremities upward and toward the ends of the belt, until the lines of the curves fall in with the line of the under edge of the belt. The peculiarity of these flaps is that this curve is made to conform exactly to the curve of the groin of the human body, the curve being always adapted to fit that portion of the body. The upper parts of these flaps are connected with the lower edge of the belt, or the flaps may be made integral with the belt. The flaps and the portion of the belt shown at C are, however, reinforced and stiffened and strengthened by the use of suitable materials, so that that portion of the belt is sufficiently strong to hold a rupture or hernia and to press flatly and firmly against the walls of the abdomen and still cause no pain or inconvenience to the wearer. The entire surface is finished with soft material of some kind, which makes the wearing-surface agreeable to the touch. These flaps B B extend below the lower line of the belt proper a suitable distance to reach and hold any hernia or breach that may exist in that region, and they are made so wide, according to the needs of the person to be fitted, that they completely fill the portion of the abdomen between the lower limbs and the spermatic canal. In this manner I am able by my truss to hold an inguinal or a femoral hernia or to hold any rupture or breach which may force its way into

the spermatic canal or which may exist in that region. To these flaps I attach flap-straps *b b*, which pass beneath the abdomen, each on its corresponding side of the body, and are secured to the back of the belt by buckles *b' b'*. Of course any suitable means of attachment may be employed. These belts are elastic, so as to permit free movement of the body without any unnecessary restraint, but still of such stiffness and strength as to form a substantial connection. At the front of the belt I provide two elastic straps E, each of which is attached at or near the upper portion of the flaps, one on each, and extend thence toward the ends of the belt proper, upward and outward, where they are secured at the upper edge of the belt. Each of these straps is shorter than the distance on the belt proper between their points of attachment. The result is that when the belt is in place and the wearer bends forward the relaxation which would naturally occur in the flaps and the flap-straps is prevented, since the straps E draw from a point about the top of the hip-bones to a point at the head of each flap and take up the looseness which might result from the bending forward of the body, and thereby the flaps are kept in close contact with the injured part. These flaps and flap-straps may be used singly or in a pair, as the wearer elects; but the elastic straps E should be used in pair.

Instances exist in which a hernia or rupture is so close to the spermatic canal as to be exceedingly difficult to treat and restrain. As a further utility in such cases I provide ribs F F, which are united at one end, as shown in Fig. 4. They are made of felt or other soft material and are of a substantial thickness at their inner edges, while the margin of the piece is much thinner. The purpose of these ribs is to press more closely against the spermatic canal than can be well done by the flaps themselves, and it is to accomplish that that the adjacent and inner edges of the ribs are thicker than the margin. For the same reason the distance between the inner edges of the flaps is not so small as that between the inner edges of the ribs, and when the belt is worn the ribs are therefore pressed in more closely against the injured parts than the flaps themselves could be pressed. These ribs may be sewed or otherwise attached to the flaps, so that they can be readily removed or shifted, if desired, and either one of them may be used singly, according to the location of the injured part. At the ends of the ribs are provided elastic straps *f f*, which are designed to be crossed below the body and carried up to the buckles *b' b'* or other suitable attaching means. The purpose of this is that these ribs may come together about the opening of the scrotum as closely as needed and give a full and complete support. These ribs of course may be used singly, or both may be used as occasion requires. The portion which forms these ribs is stitched on the inner surface of the belt on each side, so that one rib is on one flap and the other is on the other in such a manner that the distance between the two flaps is made less. These may be removed in case of rupture which does not require them.

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

1. In a truss, a belt adapted to be supported about the body, flaps depending therefrom adapted to fit the groin, means of holding the flaps in contact with the body, elastic straps passing from the heads of the flaps upward and outward to the top edge of the belt and being under tension when the truss or belt is in use and adapted to hold the flaps close to the body in its movements, in combination, substantially as set forth.

2. In a truss, a belt, flaps depending therefrom, curved at their extreme edges to fit the groin, the inner edges being adapted to fit the line of the spermatic canal and extending laterally to cover the groin portion of the abdomen, straps holding the flaps in contact with the body, elastic straps attached to the belt at points farther apart than the length of such straps between the points of attachment and adapted to reinforce the belt and hold the flaps in position, in combination, substantially as set forth.

3. In a truss, a belt with suitable supporting connections, flaps depending at the middle portion, said flaps and the adjacent portion of the belt being reinforced, the flaps being extended and formed to fit the surface of the abdomen between the curves of the lower limbs, ribs attached to the inner edges of the flaps adapted to fit closely the scrotal opening, straps attached to the ribs, adapted to draw the same together below the scrotum, in combination, substantially as set forth.

4. In a truss, a belt with suitable supporting connections, flaps depending at the middle portion, said flaps and the adjacent portion of the belt being reinforced, the flaps being extended and formed to fit the surface of the abdomen about and between the lower limbs and the scrotal opening, ribs attached to the inner edges of the flaps adapted to fit closely the scrotal opening, straps attached to the ribs, adapted to draw the same together below the scrotum, means for holding the flaps and ribs in adjustable contact with the body, in combination, substantially as set forth.

5. In a truss, a belt with supporting connections, flaps depending from the belt in front and extended to be supported in the rear, ribs attached to the flaps and provided with independent suitable connections to the belt in the rear, the flaps being each constructed to conform closely to the edges of the wall of the abdomen adapted to fit closely the lower abdomen, the ribs being separately adapted to closely fit the scrotal opening, in combination, substantially as set forth.

6. In a truss, a belt with connecting-sup-

ports, a flap adapted to cover the lower portions of the abdomen, a rib attached to the flap adapted to restrain an inguinal or scrotal hernia, said flap being extended to be supported from the belt, an elastic strap adapted by upward tension to hold the flap and rib closely to the body, in combination, substantially as set forth.

7. In a truss, a belt with connecting-supports, a flap formed to closely fit and cover the lower abdomen between the groin and the scrotum, a rib attached at one end of the flap and adapted to restrain an inguinal or scrotal hernia, the flap and the rib being separately extended to be separately supported from the belt in the rear, in combination, substantially as set forth.

8. In a truss, a belt with connecting and restraining straps, a flap constructed coterminous with the abdominal surface, a rib adjustably attached to the flap, straps adapted to permit the adjustment of the flap and the rib relatively to each other and hold the same in contact with the body, in combination, substantially as set forth.

9. In a truss, a belt with supporting connections, flaps with curved edges adapted to fit and cover the inguinal regions of the abdomen, ribs attached to the flaps adapted to press the spermatic opening and restrain a scrotal hernia, straps holding the flaps and the ribs in continual contact with the body, elastic straps adapted by upward and diverging tension to hold the flaps and ribs closely to the body, in combination, substantially as set forth.

10. In a truss, a belt with suitable supporting connections, flaps depending at the middle portion, said flaps and the adjacent portion of the belt being reinforced, the flaps being extended and formed to fit the surface of the abdomen between the curves of the lower limbs, ribs attached to the inner edges of the flaps adapted to fit closely the scrotal opening, straps attached to the ribs, adapted to draw the same together below the scrotum, means of holding the flaps and ribs in adjustable contact with the body, in combination, substantially as set forth.

11. In a truss, a belt with connecting-supports, an inguinal-fitted flap depending therefrom, a flexible rib removably attached on the inner face of the flap adapted to cover and restrain an inguinal or scrotal hernia, said flap being extended to be supported from the belt, an elastic strap adapted by upward tension to hold the flap and rib closely to the body, in combination, substantially as set forth.

12. In a truss, a belt with connecting-supports, an inguinal-fitted flap depending therefrom, a flexible rib depending on the inner face of the flap adapted to cover and restrain an inguinal or scrotal hernia, said flap and said rib being extended to be rearwardly and separately supported from the belt, in combination, substantially as set forth.

13. In a truss, a belt provided with a plane substantially inelastic inner surface and provided with supporting connections, a substantially inelastic flap provided with a plane surface depending from the front portion of the belt and formed to fit and cover the surface between the groin and scrotum, a strap adjustably connecting the flap with the belt in the rear, a flexible rib attached to the flap having its edge projecting over the inner edge of the flap and secured at its upper end to the flap and provided at its lower end with a strap adapted to adjustably support the same on the belt in the rear, in combination, substantially as set forth.

14. In a truss, a belt adapted to be suitably supported about the body, formed at its lower front edge to closely fit and cover the body between the lines of the lower limbs, means of holding the same in continuous close contact with the body comprising elastic straps passing from the lower front portion of the belt upwardly diverging, in combination, substantially as set forth.

15. In a truss, a belt adapted to be suitably supported about the body, formed at its lower front edge coterminous with the surface of the abdomen, means comprising elastic straps passing from the lower front part of the belt upwardly and diverging whereby the belt is held in continuous close contact with the body in its movements, in combination, substantially as set forth.

16. In a truss, a belt adapted to be suitably supported and held about the body, formed at its lower front edge to closely fit and cover the body between the lines of the lower limbs, ribs attached to the inner surface of the lower front portion of the belt and adapted to cover and restrain an inguinal or scrotal hernia, the belt and the ribs being separately extended to be separately supported from the belt, in combination, substantially as set forth.

17. In a truss, a belt with suitable means of support about the body, a flap depending therefrom formed to closely fit and cover the abdomen between the groin and the scrotal region, a rib adapted to fit and hold a hernia or rupture, means for adjusting the flap and the rib separately in close and continuous contact with the body in its movements, in combination, substantially as set forth.

18. In a truss, a belt adapted to be suitably supported and held about the body, formed at its lower front edge to closely fit and cover the body between the lines of the lower limbs, the lower front portion of the belt being extended to be supported in the rear, means of holding the belt in continuous close contact with the body in its movements the means comprising elastic surfaces passing from the lower front to the upper side portions of the belt, in combination, substantially as set forth.

19. In a truss, a belt adapted to be suitably supported and held about the body, formed at its lower front edge to closely fit and cover the body between the lines of the lower limbs,

ribs attached to the inner surface of the lower front portion of the belt and adapted to cover and restrain an inguinal or scrotal hernia, the belt and the ribs being separately extended to be separately supported from the belt, means of holding the belt in continuous close contact with the body in its movements the means comprising elastic surfaces extending from the lower front to the upper side portions of the belt, in combination, substantially as set forth.

20. In a truss, a pliable inelastic surface adapted to conform to the abdominal walls and to prevent the protrusion of a breach or hernia beyond the same, elastic adjustable connections adapted to adjust and hold the contact-surfaces closely against the abdominal walls, in combination, substantially as set forth.

21. In a truss, a belt adapted to be suitably supported and held about the body provided at its front portion with an extended plane surface, ribs attached to the belt adapted to be fitted closely to the scrotal opening and extended to be supported in the rear, in combination, substantially as described.

22. In a truss, a belt adapted to be suitably supported and held about the body, ribs depending from the front portion thereof adapted to fit closely the scrotal opening and extended to be adjustably supported rearwardly, means for holding the parts in continuous close contact with the body comprised of elastic portions under tension when the belt is worn, in combination, substantially as described.

23. In a truss, a belt adapted to be suitably supported and held about the body, ribs depending from the front portion thereof adapted to fit closely the scrotal opening and be crossed below the same and extended to be adjustably supported rearwardly, means for holding the parts in continuous close contact with the body comprised of elastic portions under tension when the belt is worn, in combination, substantially as shown.

24. In a truss, a belt adapted to be suitably supported and held about the body, ribs depending from the front portion adapted to fit closely the scrotal opening and to be crossed below the same and extended to be adjustably supported rearwardly, in combination, substantially as shown.

25. In a truss, a belt adapted to be suitably supported and held by the body and provided at its front portion with an extended plane surface to hold a breach or hernia in line with the face of the adjacent abdominal walls, the lower front portion of the belt being extended to be supported in the rear, means comprised of elastic portions under tension when the belt is worn whereby the parts are held in continuous close contact with the body, in combination, substantially as set forth.

26. In a truss, a belt adapted to be suitably supported and held about the body provided with a plane surface adapted to conform to the abdominal walls and hold a breach or hernia from protrusion beyond the face of the adjacent abdominal walls, an inguinal-fitted flap, a scrotal-fitted rib, straps extending therefrom to separately and rearwardly support the flap and the rib, in combination, substantially as set forth.

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

HENRY W. PELL.

Witnesses:
A. L. PELL,
W. B. PELL.