No. 646,579. Patented Apr. 3, 1900.

I. E. JOHNSON.

TRUSS.

(Application filed July 12, 1898.)

(No Model.)

Fig 1

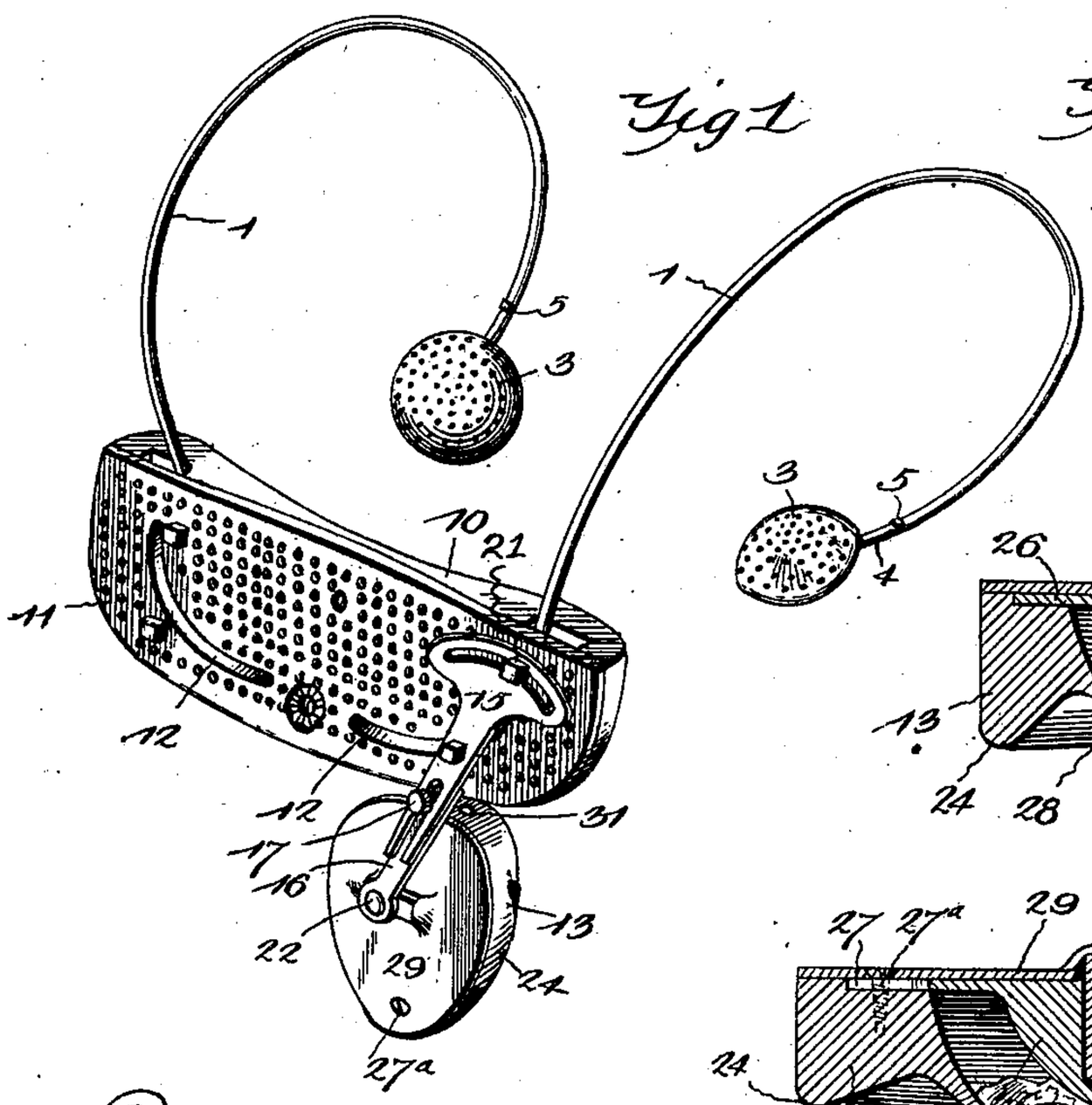
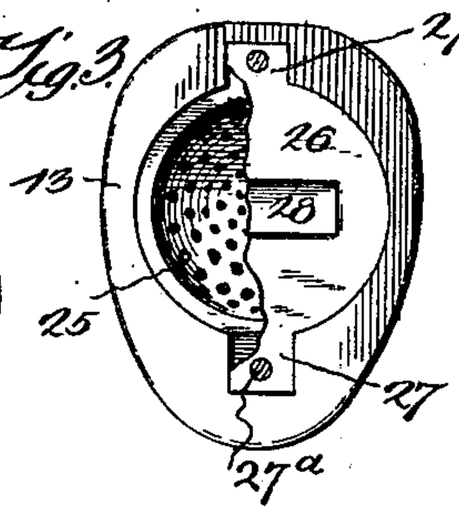


Fig. 3.



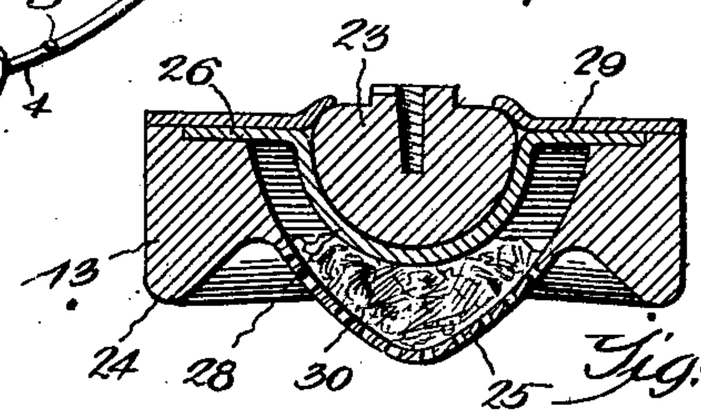


Fig. 5.

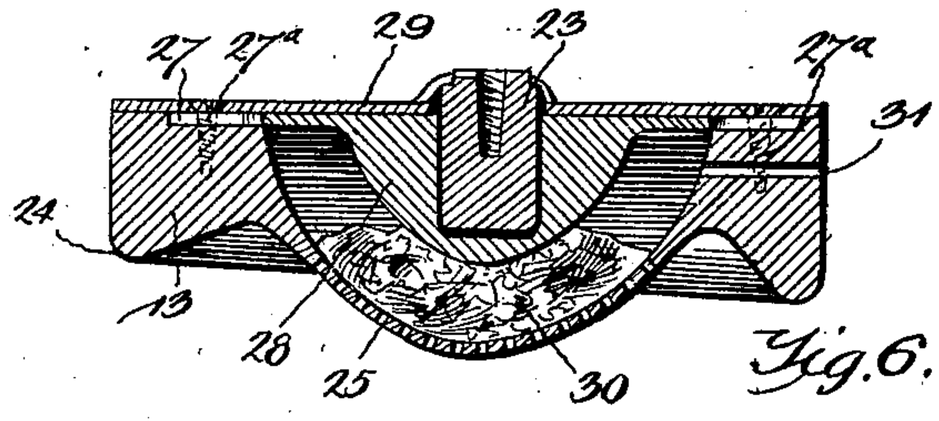


Fig. 6.

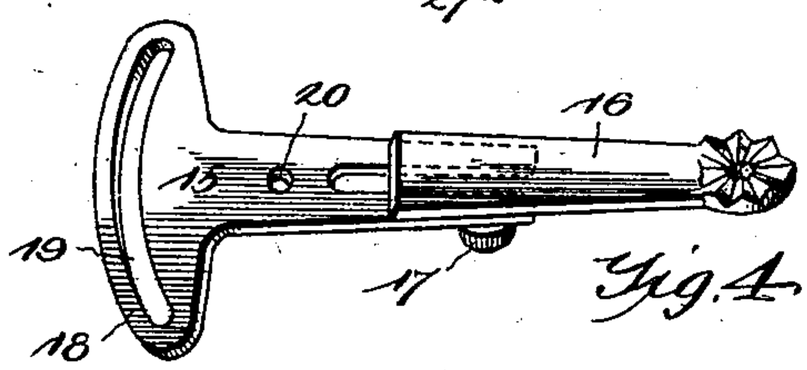


Fig. 4.

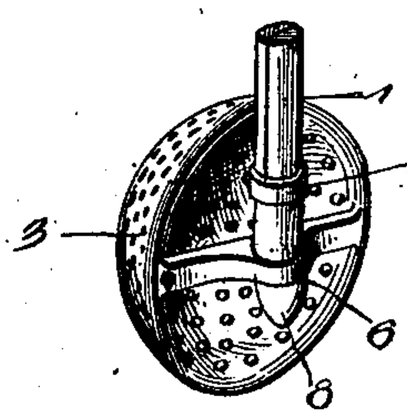


Fig. 7.

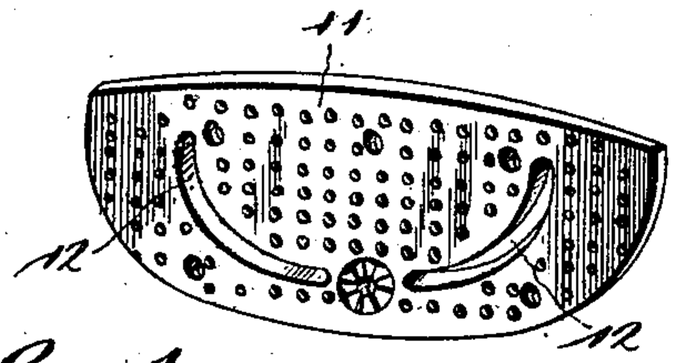
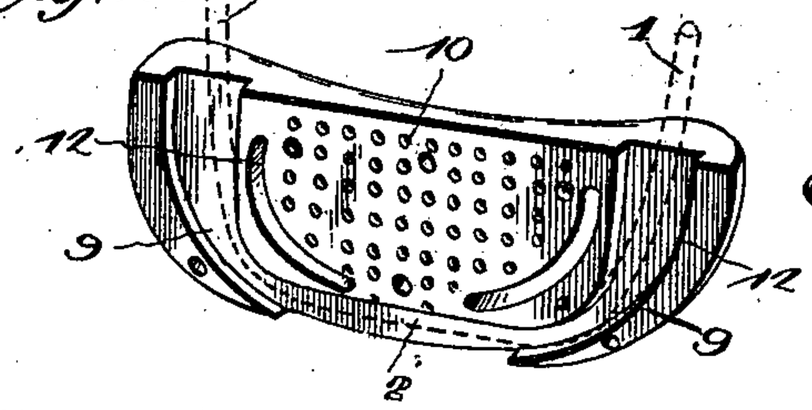


Fig. 2.



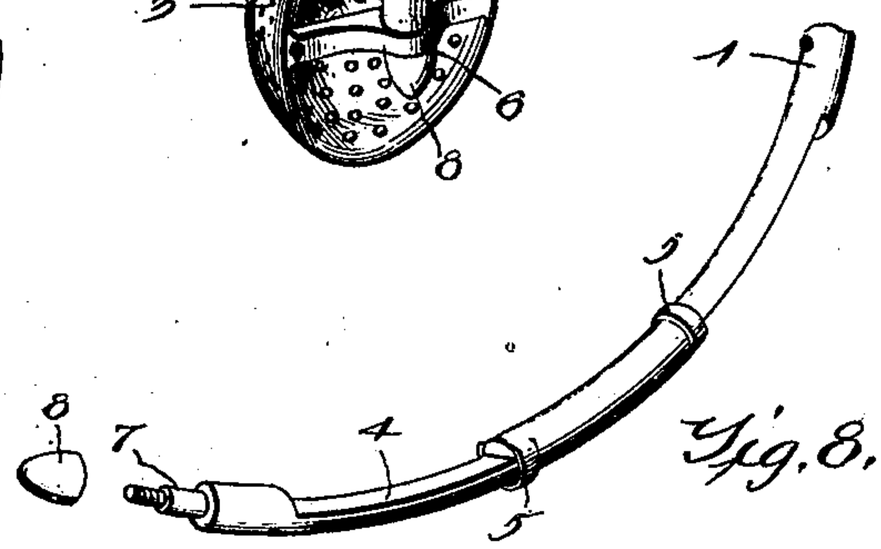


Fig. 8.

Witnesses
J. Graufleulverwell.
U. B. Hillyard.

Irven E. Johnson, Inventor
By Mfg Attorneys,
C. A. Snow & Co.

UNITED STATES PATENT OFFICE.

IRVEN E. JOHNSON, OF WOODVILLE, TEXAS, ASSIGNOR OF ONE-HALF TO A. M. HILL, OF SAME PLACE.

TRUSS.

SPECIFICATION forming part of Letters Patent No. 646,579, dated April 3, 1900.

Application filed July 12, 1898. Serial No. 685,775. (No model.)

To all whom it may concern:

Be it known that I, IRVEN E. JOHNSON, a citizen of the United States, residing at Woodville, in the county of Tyler and State of Texas, have invented a new and useful Truss, of which the following is a specification.

This invention is designed to provide a truss for giving relief in case of rupture and effecting a cure in most cases both by exerting pressure upon the hernia and by applying medicine thereto, said truss being adjustable, so as to be applicable to different-sized persons, and the pad being movable, so as to be shifted to reach any point below the navel and above the pubis bone, thereby adapting the truss for inguinal or umbilical rupture.

For a full understanding of the merits and advantages of the invention reference is to be had to the accompanying drawings and the following description.

The improvement is susceptible of various changes in the form, proportion, and the minor details of construction, without departing from the principle or sacrificing any of the advantages thereof, and to a full disclosure of the invention an adaptation thereof is shown in the accompanying drawings, in which—

Figure 1 is a perspective view of the truss. Fig. 2 is a detail view of the abdominal plates. Fig. 3 is a rear view of the hernial pad, the rear plate being removed and the socket-plate having a portion broken away. Fig. 4 is a detail view of the adjustable arm. Fig. 5 is a transverse section of the hernial pad. Fig. 6 is a longitudinal section of the hernial pad. Fig. 7 is a detail view of the hip-pad applied to a terminal of the body-band. Fig. 8 is a detail view of an end portion of the body-band.

Corresponding and like parts are referred to in the following description and indicated in the views of the drawings by the same reference characters.

The body-band is formed of a length of spring-wire of desired gage, according to the size of the truss and the condition of the patient. This wire has its end portions bent, forming side loops 1 and a connecting-bar 2, the latter receiving the abdominal plate and the terminals of the wire receiving pads 3. The intermediate portions of the loops are shaped to pass over the hips and below the lowermost ribs and cause the pads 3 to become firmly seated in the hollow of the hip-joints and the front portion to bear against the inguinal region directly over the pubis bone. The end portions of the body-band are adjustable, so as to be capable of being lengthened or shortened, thereby adapting the truss for different-sized persons. The adjustable sections 4 are halved, so as to match the corresponding parts of the body-band, which are correspondingly halved, the halved sections when matched completing the circular outline of the wire. A loop 5 is provided at the opposite terminals of the sections 4 and the body-band, and these loops serve to hold the adjustable sections in place when moved to the required position. The friction between the parts in contact will be sufficient under ordinary conditions to hold the sections 4 in an adjusted position; but should it become necessary positive means may be employed to prevent possible movement of the parts 4 when adjusted.

The pads 3 applied to the terminals of the body-band may have any desired shape, but are preferably of concavo-convex form and are perforated, so as to admit of free respiration, and are formed with eyes 6, which receive the reduced terminals 7, which are threaded and are supplied with clamp-nuts 8, by means of which the pads are secured upon the parts 7 in an adjusted position. The portion of each hip-pad having the eye 6 is confined between a nut 8 and a shoulder at the inner end or base of the part 7 in such a manner as to admit of the hip-pads turning freely to adapt themselves to the surface against which they press.

The abdominal plate may be of any length and width and comprises two members or parts which are secured together and clamp the lower front end portion of the body-band between them, one of the plates or parts being grooved or channeled, as shown at 9, to receive the portion of the body-band coming between the parts of the plate. The pressure-plate 10 or the member making contact with the body is plano-concavo and is formed with the groove or channel 9, and the clamp-plate 11

or backing is secured by machine screws or bolts to the pressure-plate in such a manner as to admit of it being removed when it is required to substitute a plate or support of different shape for the plate 11. The members or parts 10 and 11 comprising the abdominal plate are perforated to secure lightness and admit of free respiration. Curved slots 12 are formed in the end portions of the plates 10 and 11 and coincide when said plates are brought together and are designed to receive the shank portion of the connection by means of which the hernial pad 13 is secured to the abdominal plate when properly positioned to exert a pressure upon the hernia.

An arm 14 has adjustable connection with the abdominal plate and is reversible, so as to adapt the truss for umbilical and scrotal rupture. This arm is composed of an inner section 15 and an outer section or member 16, both members having their opposing end portions overlapped and held together in an adjusted position by a clamp bolt or fastening 17, passing through the slotted end portion of the part 15. Upon loosening the fastening 17 the arm can be lengthened or shortened, and upon retightening the fastening the parts 15 and 16 have their relative positions fixed. The inner end of the arm is expanded, as shown at 18, and is formed with an arcuate slot 19, concentric with an opening 20, and receives a clamp-screw 21 for holding the arm 14 when turned to any relative angle with reference to the abdominal plate, so as to bring the hernial pad in position opposite the rupture. This arm 14 can be shifted from one end of the abdominal plate to the other and can be moved so as to project above and below said plate, according as the hernia is umbilical or scrotal. The outer end of the arm 14 is transversely apertured to receive a clamp-screw 22, and the side facing the hernial pad is corrugated or toothed, so as to match with corresponding teeth or corrugations upon the outer end of the shank of the segment-coupling 23, whereby the hernial pad can be secured at any angular adjustment.

The hernial pad is of oblong form or may be of any desired shape, according to the nature of the rupture, and comprises an outer ring 24 and a central cup-shaped portion 25, which is perforated and has its middle portion projecting beyond the plane of the ring 24, so as to exert a pressure directly upon the orifice and effect a healing and retain the parts in place. The rear side of the pad is recessed and receives a plate 26, which is formed with ears 27, apertured for the passage therethrough of the fastenings 27^a. A segmental socket 28 is formed in the plate 26 and receives the segment-coupling 23, whereby the pad is enabled to move laterally to equalize the pressure upon the hernia, but is incapable of vertical movement, thereby maintaining the adjusted position, so as to properly apply the pressure. The back plate 29 is secured to the rear side of the pad 13 and retains the plate 26 and the couplings 23 in place, said plate having an opening through which the shank portion of the coupling 23 protrudes. Sponge 30, or suitable absorbent material, is placed in the space formed between the inner side of the part 25 and the opposing wall of the socket portion 28 and contains medicine to be applied to the rupture for effecting a speedy healing thereof. A duct or opening 31 is formed in the upper end of the pad 13, and the medicine is supplied to the sponge or absorbent material through this passage by means of a small syringe or in any manner found most convenient.

By shifting the arm 14 from one end of the abdominal plate to the other the hernial pad can be made to press upon the rupture upon one side or the other, and by reversing the position of the arm an umbilical or scrotal rupture can be treated. An inguinal hernia can be treated by applying a hernia-pad directly to the abdominal plate, the shank portion of the coupling 23 passing through one of the curved slots 12 and being secured in the desired position by the clamp-screw employed for holding the pad to the arm 14.

For the sake of cleanliness, lightness, cheapness of construction, and durability it is preferred to manufacture the truss from aluminium, thereby avoiding corrosion and preventing the parts from absorbing gases and fluid given off during the process of respiration. It is to be understood that any suitable material commonly employed in the construction of this class of articles may be employed in the manufacture of trusses in accordance with this invention.

Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is—

1. A truss comprising a body-band including side loops adapted to engage over the hips, and an abdominal member consisting of two detachably-united sections between which said band is received and held, and extending continuously from one side loop to the other, substantially as described.

2. A truss comprising a body-band including side loops adapted to engage over the hips and an abdominal member consisting of two detachably-united plates between which said body-band is received and extending continuously from one side loop to the other, and the inner face of the member being concaved, substantially as described.

3. In a truss, the combination of a body-band comprising side loops to engage over the hips, and having the end portions of the spring-wire comprising the body-band halved, adjustable sections correspondingly halved to match the halved ends of the body-band and completing the cross-sectional outline thereof, means for securing the adjustable sections in place, and hip-pads applied to the outer terminals of the adjustable sections, substantially as set forth.

4. A truss comprising a body-band including side loops adapted to engage over the hips, pads adjustably secured to the terminals of the body-band, and an abdominal member consisting of two detachably-united perforated plates between which said body-band is received and held, and the inner one of said plates being concaved upon its inner surface, substantially as described.

5. In a truss, the combination of a body-band formed of spring-wire bent to provide side loops and a connecting-bar, the side loops being adapted to engage over the hips and their rear terminals become seated in the hollow opposite the hip-joints, and an abdominal plate applied to the intermediate portion of the body-band and consisting of complementary parts or members between which the body-band is clamped by the same means securing the members together, substantially as set forth.

6. In a truss, a body-band having an intermediate depressed portion, and an abdominal plate secured to said depressed portion and the parts of the body-band contiguous thereto, and having oppositely-curved slots in its end portions, in combination with a hernial pad, and means for adjusting said pad to the abdominal plate through the instrumentality of either of the curved slots therein, substantially as and for the purpose set forth.

7. In a truss, the combination with the body-band comprising said loops and an intermediate connecting-bar, of an abdominal plate secured to the intermediate portion of the body-band and comprising complementary members having corresponding perforations, and means for connecting said members and clamping the body-band between them, substantially as specified.

8. In a truss, the combination with the body-band formed of a length of spring-wire bent to form side loops and an intermediate connecting-bar, of an abdominal plate comprising complementary members between which the body-band is placed, one of the members having a groove or channel to receive the body-band, said members having corresponding perforations and curved slots, and means for connecting the parts comprising the plate and clamping the body-band between them, substantially as described.

9. In a truss, a body-pad, an abdominal member consisting of two detachably-united perforated plates between which said body-band is secured, in combination with an arm bearing a hernial pad and said arm being adjustably connected with the abdominal member, and means for maintaining said arm in an adjusted position, substantially as described.

10. In a truss, a body-band, and an abdominal plate secured to the intermediate portion of the body-band, in combination with an arm having an arcuate slotted portion and bearing a hernial pad, means for pivotally connecting the arm to any required portion of the abdominal plate, and a fastening operating in the arcuate slot of said arm to secure the latter in any desired angular position.

11. In a truss, a body-band, and an abdominal plate secured to the intermediate portion of the body-band and having oppositely-curved slots in its end portions, in combination with an arm having its inner end expanded and formed with an arcuate slot and having a hernial pad applied to its outer end, a pivot connection adjustably securing the arm to the abdominal plate, and a fastening operating in a slot of the arm and securing it in any angular adjusted position, substantially as and for the purpose set forth.

12. In a truss, the combination with the body-band provided with an abdominal plate, of an arm comprising inner and outer sections having their opposing ends overlapping and slotted, the inner section having an end portion expanded and formed with a curved slot, means for adjustably connecting the sections of the arm, and a hernial pad applied to the outer end of the arm, substantially as described.

13. A hernial medicament-receiving pad comprising an outer ring portion and a central portion of cup form perforated, and said ring having a duct for receiving a medicament, a socket secured to the ring portion and extending into the cup, a coupling device disposed in the socket for movement in one direction the wall of the socket serving to prevent movement of the coupling device in the opposite direction, an abdominal member, and a connection between said abdominal member and the coupling device, substantially as described.

14. In a truss, the combination with an abdominal plate adapted to be secured to the body-band, of a two-part extensible arm, one part of the arm being adjustably connected to the said abdominal plate to move in the arc of a circle, a hernial pad rotatably mounted on the other part of the said arm and adapted to be held in fixed adjustment thereon, and means for preventing transverse movement of the arm.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

IRVEN E. JOHNSON.

Witnesses:
J. K. P. MILLER,
J. R. POLK.