963,469.

C. PENCE.

TRUSS.

APPLICATION FILED MAY 26, 1909.

Patented July 5, 1910.

2 SHEETS—SHEET 1.

Fig. 1.

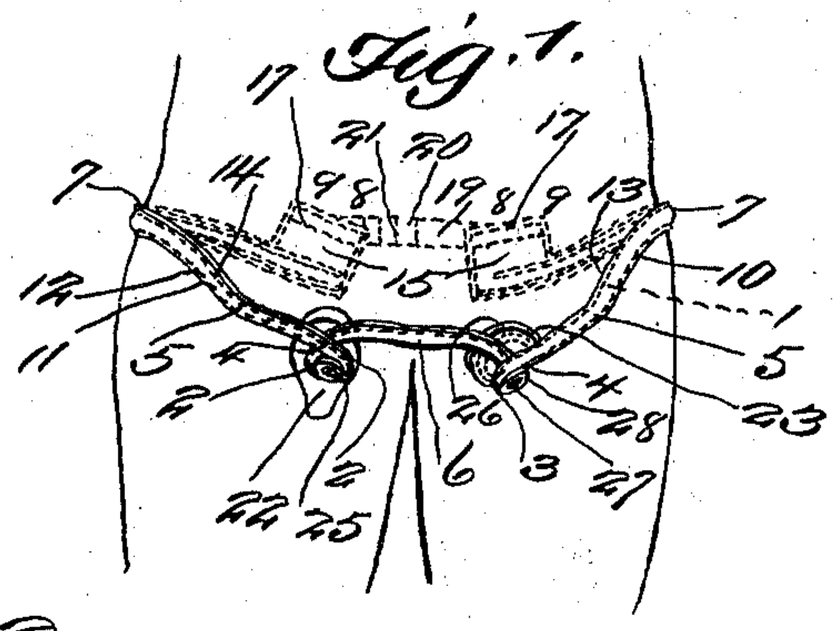


Fig. 2.

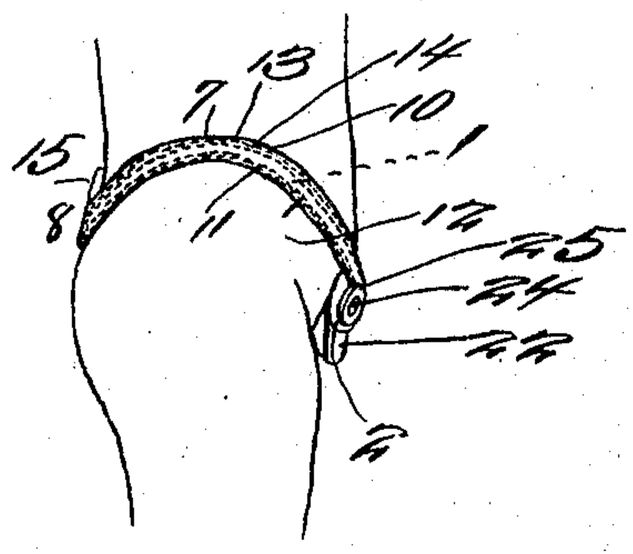


Fig. 3.

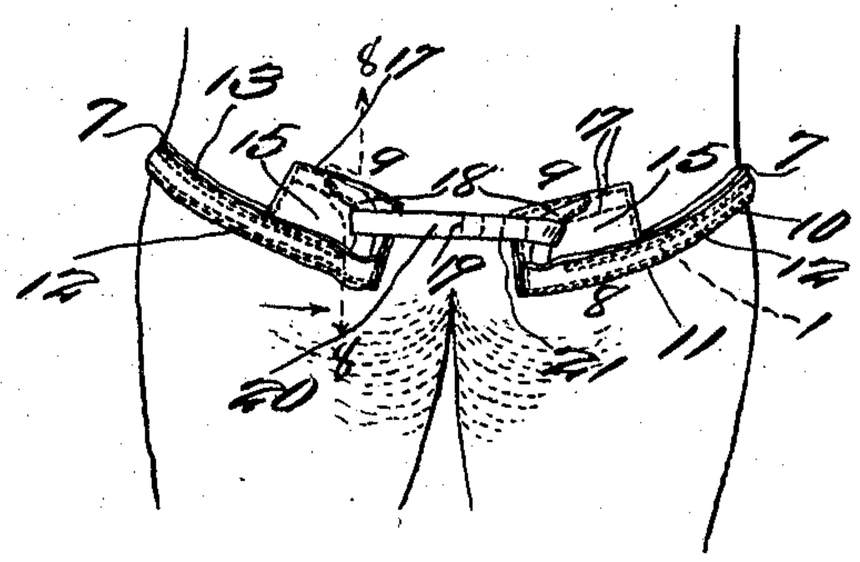
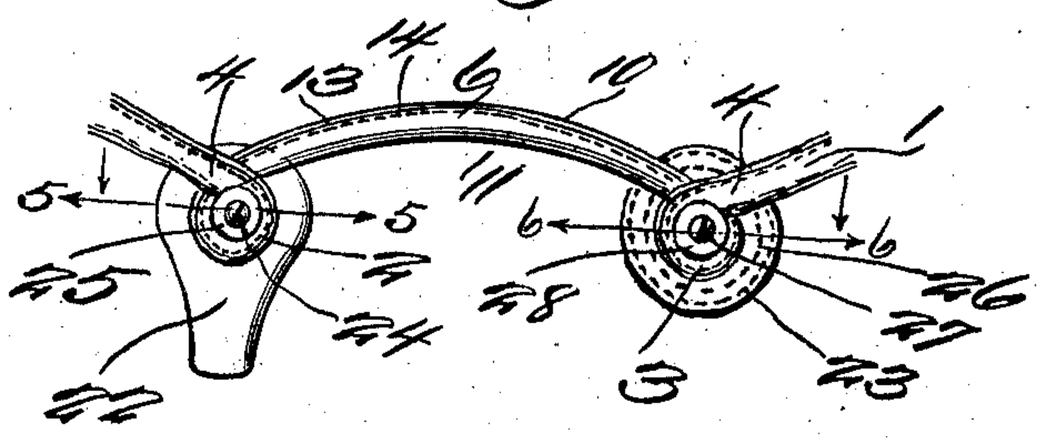


Fig. 4.



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2 SHEETS—SHEET 2.

Fig. 5.

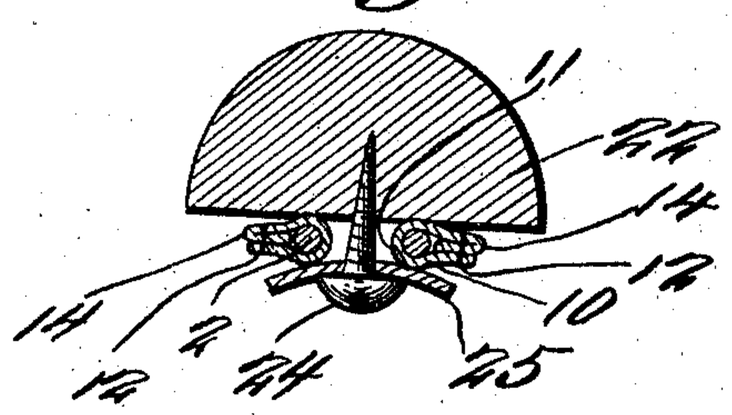


Fig. 6.

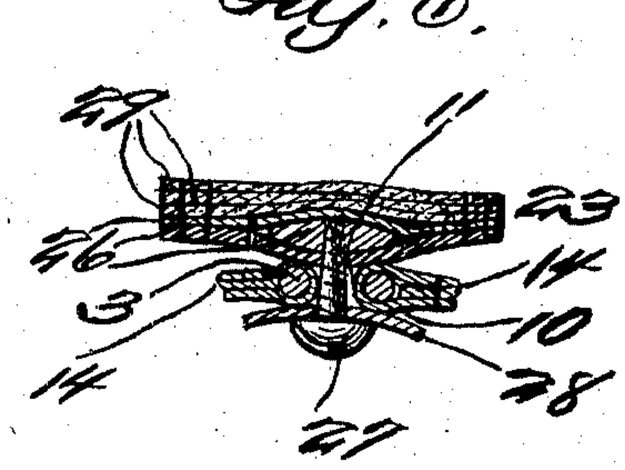


Fig. 7.

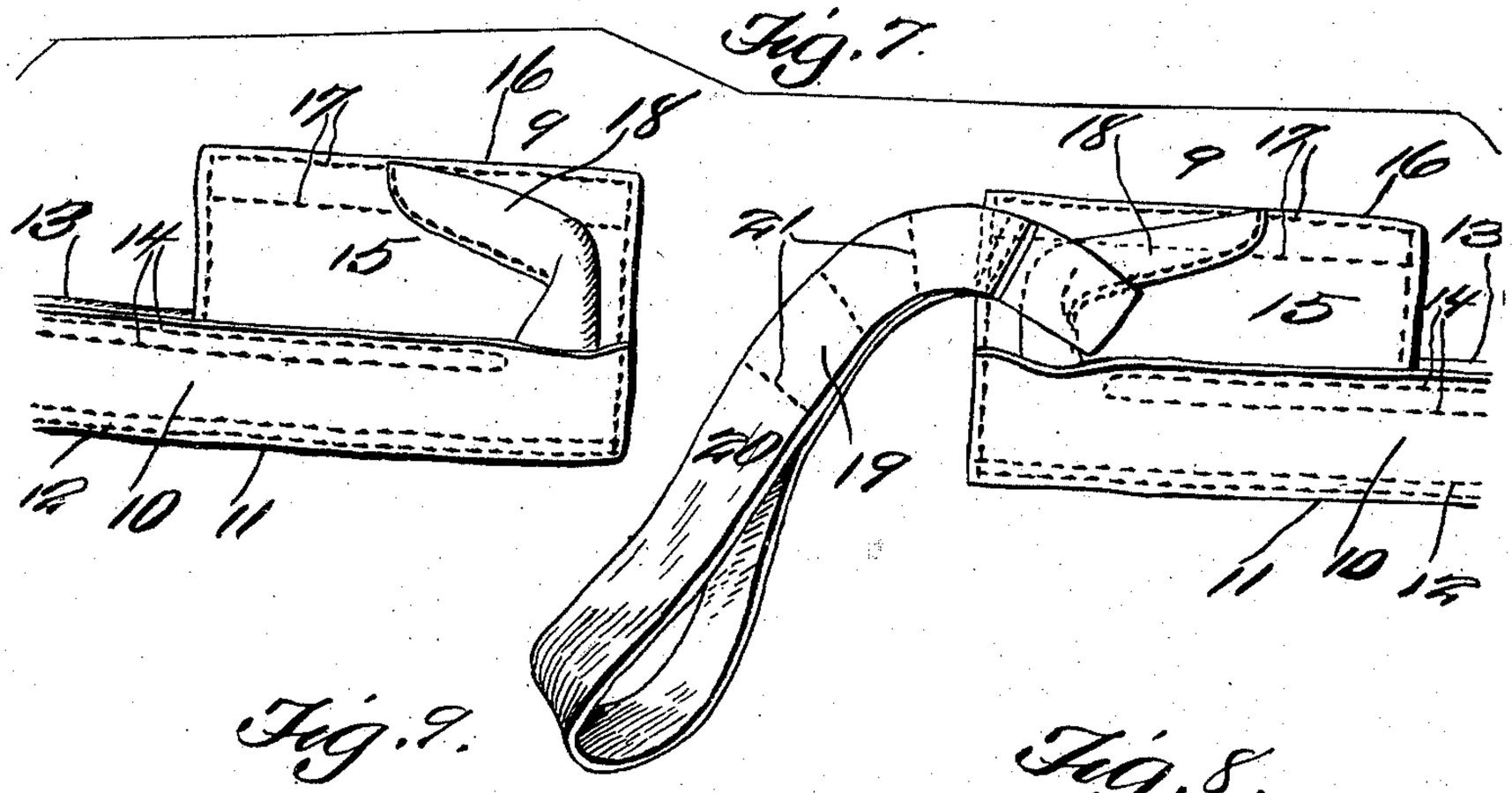


Fig. 9.

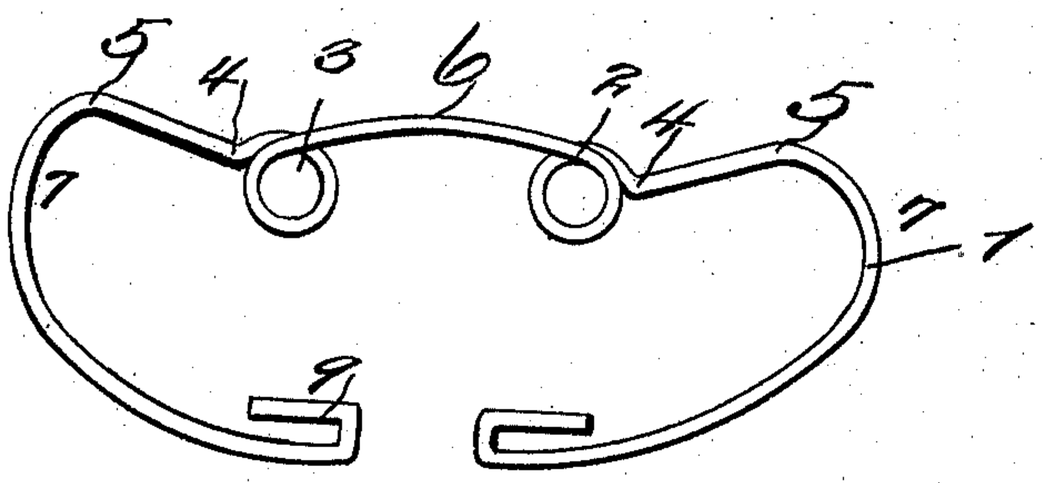
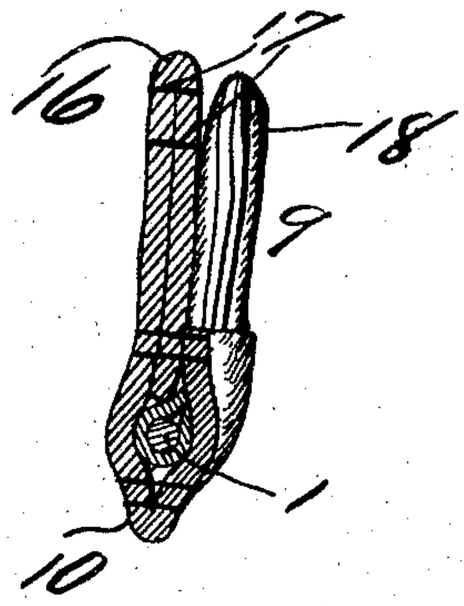


Fig. 8.



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UNITED STATES PATENT OFFICE.

CHARLES PENCE, OF GALENA, KANSAS.

TRUSS.

963,469. Specification of Letters Patent. **Patented July 5, 1910.**

Application filed May 26, 1909. Serial No. 498,567.

To all whom it may concern:

Be it known that I, CHARLES PENCE, a citizen of the United States, residing at Galena, in the county of Cherokee and State of Kansas, have invented a new and useful Truss; and I do hereby 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.

The invention, about to be set forth and claimed, belongs to the art of surgical appliances, and it particularly pertains to a new and useful device of that sub-class, which is designed to relieve and cure extrusions of the abdominal viscera through the walls of the abdomen, such abnormal condition, in the medical profession, being known as "hernia" or "rupture." Such ruptures or extrusions, in the great mass, are classified generally under the term of "inguinal hernia" which when fully developed consist of two "rings" or "ruptures," the internal and external,—the internal "rupture" or "ring," when it occurs, becomes a "complete hernia," after having passed obliquely down the "inguinal" canal, through the external ring.

The primary object of this invention or truss is to permanently close the "internal" (upper) ring and thus preclude the possibility of the contents of the abdomen entering the "inguinal canal" and passing through the external ring, thus permanently closing the rupture. This permanent cure of the rupture is accomplished through the medium of a suitable pad, together with the natural movements of the surrounding muscles and parts of the abdomen upon the pad.

The invention aims as a further object to produce a novel truss, that is light and neat in appearance, comfortable in wearing, and may be readily manipulated to fit the varied forms, and the varied locations of ruptures of different patients of even measurements around the hips.

The features, elements and the arrangement thereof, which constitute the above entitled invention, may be changed and varied, that is to say, in an actual reduction to practice with the understanding that the changes and variations accruing from said reduction to practice are comprehended by the appended claims.

Referring to the drawings, Figure 1 is a front elevation of the truss, as applied to, and adjusted upon the wearer's body. Fig. 2 is a side elevation of the device. Fig. 3 is a rear elevation of the truss. Fig. 4 is an elevation of the front part of the truss, illustrating the means for attaching the pads to the truss-frame. Fig. 5 is a sectional view on line 5—5 of Fig. 4. Fig. 6 is a sectional view on line 6—6 of Fig. 4. Fig. 7 is an enlarged detail perspective view of the rear ends of the truss. Fig. 8 is a sectional view through one of the rear ends of the truss upon line 8—8 of Fig. 3. Fig. 9 is a detail view of the length of wire 1.

In regard to the annexed drawings, wherein similar reference characters indicate corresponding parts in the several views, 1 designates a length of wire, of any suitable metal, preferably steel, which possesses strength, rigidity and resiliency, and of such length as to form the various curvatures, coils, and angles and to conform to the front contour of the body, from one side of the "sacrum" or base bone to the other. This length of wire is formed into two coils 2 and 3, and the metal or wire which extends from the coils, from either side thereof is shaped into two obtuse angles 4 and 5, which affords the proper shape of truss, to fit the contour of various bodies. The wire or metal between the two coils is bent at an angle, as shown at 6, so that the truss at this portion of its shape or formation will fit neatly and comfortably over the pubic bone. The metal or wire merging from the obtuse angles 5, upon either side of the said coils are extended upward and around the body of the wearer, and over the hips thereof, as shown clearly in Figs. 1, 2 and 3 of the drawings. The wire or metal, after being shaped over the hips as shown at 7, is extended downwardly to the rear, and toward the center of the wearer's body, as shown at 8, and is then formed into two rectangular hooks 9. These hooks embrace, and are designed for acting upon the muscles just below the projections of the upper and rear portions of the hip bone on either side of the wearer's body. This constitutes a fulcrum and a support, with sufficient pressure in front on the abdominal walls, in order to hold the truss in its proper position.

The entire length of the wire or metal may be covered or coated in any suitable manner, and of any suitable material, such

as silver, nickel, &c.,—which will resist corrosion by contact with perspiration or other moisture exuded by the body. In addition to the silver, nickel, or oxidizing plate, the metal is covered by a continuous sheath 10, of tubular form of leather, rubber, cloth, or any other suitable fabric or material, in order to protect the body of the wearer, and his or her clothing from direct contact with the frame. This tubular sheath of covering is formed of a suitable length of material, such as above named, which is bent upon itself longitudinally as shown at 11, and is provided with one or more rows of stitching, as shown at 12, adjacent to the bent or folded portion of the material. This material, in this state, is then applied to the metal, after which one of the folded portions of the material is folded upon itself, as shown at 13, and the other folded portion is placed adjacent or next to this last named folded portion, and provided with one or more rows of stitching as shown at 14. In this manner, a very neat appearing cover or sheath is provided, as shown in the drawings, and which will prevent bruising of the wearer's body. The rear portions of the last named folded portion of the cover or sheath, is finally stitched, the upward extensions 15 which are provided integral therewith, are folded as shown at 16 and supplied with one or more rows of stitching as shown at 17, and the extremities of these extensions are inserted between the folded portions of the material forming the sheath or covering. These extensions when folded as shown in the drawings form suitable paddings to engage the wearer's body, and between it and the rectangular formed hooks. These hooks are also covered with any suitable fabric as shown at 18, and are designed for the purpose of being engaged by a suitable loop 19 of fabric or other material 20, so as to secure the truss to the body of the wearer. This loop is stitched transversely at several locations, as shown at 21, so as to adapt it for the purpose of adjusting the truss, to bodies of various measurements and contours.

This truss is provided with two new and novel pads 22 and 23, one of which is made of porous wood or other material. This pad 22 of porous wood or other material is of the shape of a small gourd, which is a very desirable general pad, and is especially adapted for direct operation upon hernias, the bulb closing opening and the neck reaching over make a compress on the external ligaments, for the purpose of obtaining a quick cure of rupture. This pad 22 is fastened adjacent to the coil 2 by means of a wood screw or other fastening means 24, as shown in the drawings. This screw extends through the coil and is threaded into the pad, and between the coil and the head of the screw a suitable washer 25, of leather or other fabric is disposed, which prevents the head of the screw from being pulled through the coil. The pad 23 is composed of one or more pieces of leather, fabric or other material 26; there being in this present form of construction three pieces of leather or other fabric, two of the same diameter, and one of a smaller diameter, all of which are concentrically positioned. The smaller piece acting as anchoring means, for the screw 27, which is threaded into it. This screw 27 is inserted through the coil 3 of the truss, and between its head and the said coil a washer 28 of leather or other suitable fabric is positioned, so as to prevent the head of the screw from being pulled through the coil. The pieces of fabric of the same diameter, which partly form the pad 23, has stitched thereto one or more pieces of fabric such as felt, velvet or plush or other suitable material 29, which is designed for direct contact with the wearer's body, for the purpose of healing the last stages of rupture, after being otherwise treated. The smaller piece of leather or fabric is stitched to the pieces of the same diameter, and separate from the felt, velvet or plush pieces. This is done so to prevent displacement of the smaller piece. This pad 23 is designed for a double purpose, that is to say for healing as above stated, and as a support, when only one side of a person's body is ruptured, so as to engage the unruptured or well side, so as to balance the truss frame and hold it in position. When there is a double rupture this pad 23 may be removed, and in lieu thereof a pad similar to the pad 22 may be employed.

It will be clearly manifest that a novel and efficient truss is provided, and which serves not only to cure a double rupture but to perform the function of an abdominal support, therefor, there is a truss provided embodying the features of three trusses.

Having thus fully described the invention, what is claimed, as new and useful, is:—

1. In a truss, a frame of resilient wire shaped to fit the contour of a person's body, having its end portions terminating in rectangular hooks and provided with centrally disposed coils, a continuous tubular sheath composed of a single length of leather folded upon itself longitudinally and over said wire and conforming to the shape of the coils, said sheath terminating into pads with which the hooks contact, separate coverings or sheaths for said hooks, and pads carried by said coils.

2. A truss comprising a single portion of wire formed to fit the body of a wearer and provided with two coils spaced apart from each other adapted to be held near the for-

ward part of the body of the wearer, and also provided with ends terminating in rectangular hooks, said hooks being disposed at angles to the back engaging parts of the wire portion, a sheet of flexible protecting material covering the wire portion provided with pads adapted to be held between the hooks and the wearer's body, coverings for the hooks, pads adapted to be held on the coils, screws extending through the coils into the pads, and washers positioned between the heads of the screws and the coils.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES PENCE.

Witnesses:
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