

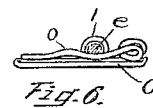
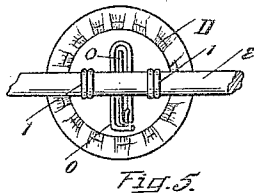
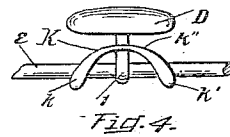
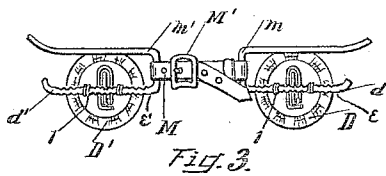
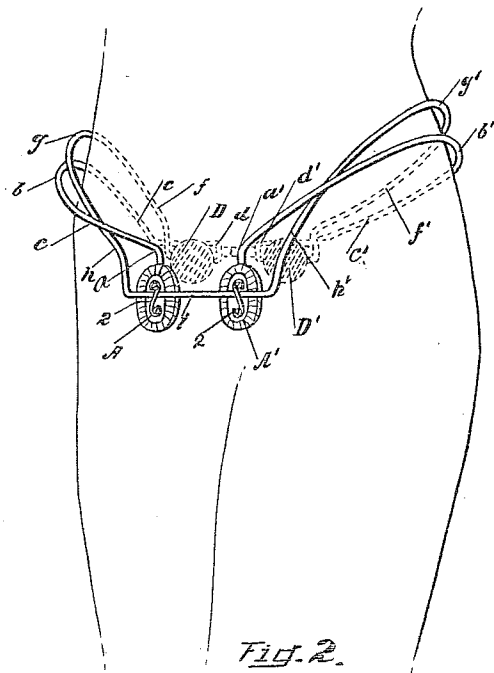
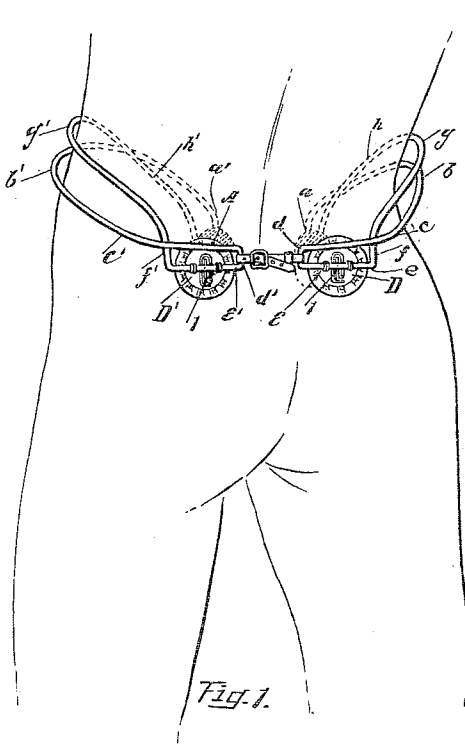
G. R. HARDING.

TRUSS.

APPLICATION FILED SEPT. 30, 1908.

953,691.

Patented Apr. 5, 1910.



Witnesses.

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TRUSS.

953,691.

Specification of Letters Patent.

Patented Apr. 5, 1910.

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To all whom it may concern:

Be it known that I, GEORGE R. HARDING, a citizen of the Dominion of Canada, residing at Utica, in the county of Oneida and State of New York, have invented certain new and useful Improvements in Trusses, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention relates to an improved truss, and I declare the following is a full, clear, concise and exact description thereof, sufficient to enable one skilled in the art to make and use the same, reference being had to the accompanying drawings, in which like reference characters refer to like parts throughout.

In the drawings Figure 1 is a view of the truss from the rear; Fig. 2 is a view from the front; Fig. 3 is an enlarged detail of a portion of the rear; Fig. 4 is a detail view of one of the pads looking at its edge, and showing means of mounting the same and one means for securing it in given position. Figs. 5 and 6 are detail views of different such means.

The peculiarity of the invention is in its simplicity of construction and lightness, together with the elasticity whereby it may be used to fit different persons and the adjustability of its different parts, all of which will be more clearly seen from a study of the drawings and the specifications.

In general terms I may define the truss as comprised of a frame and pads, the former acting to support the device on the person with a given degree of pressure and also to support in adjustable position the bearing surfaces of the pads. The frame is formed of wire of suitable size, pliability and elasticity so that when bent into a certain form it tends to keep such form, yielding however to muscular movements of the body, but maintaining a constant and fixed pressure at given points. It can be shaped to different formations, maintaining in such given shape the same quality of elasticity, so that the same truss is by the very nature of its form and substance adaptable to different sized persons and can be adjusted by slight changes of shape to different conditions of the wearer.

The device is formed of a single piece of wire so shaped as to present two loop or hip portions on each side of the body, having a portion at the front which supports

the hernia pads and the straight portion at each side of the back for carrying the supporting pads. Tracing this wire from one end to another, it will be seen that it starts at the point *a* from pad *A* at the front of the body whence it passes upward and to one side to about the point of the hip *b*, thence toward the rear and downwardly in the part *c* to a point at one side of the center of the back. After approaching toward the center of the back it turns downwardly in part *d* and then outwardly in part *e* for a distance, as shown. It then passes upwardly in part *f* and over the hips in a second loop, as at *g*, and thence across the front of the body in section *h* which extends downwardly and inwardly, and at a point short of the center turns inwardly in section *i*, and thence across the front of the body in a straight portion. At the other side it is bent up in a section *h'* corresponding to *h*, and thence in sections corresponding to those of the other side and indicated by reference letters *g'*, &c., back to point *a'* where it is attached to hernia pad *A'*. On the portion *e* and likewise on the portion *e'* are mounted pads *D* and *D'*, respectively, by eyelets *l*, or other suitable means, to allow each pad to be slid along sections *e* and *e'* to bring it in proper position for the proper support of the truss for the convenience of the wearer. It is desirable that when these pads *D* and *D'* have once been adjusted in place to suit the wearer they should be retained there. The eyelet *l* may have such a tight mounting on the section of the wire as normally to retain the pad in given position, but this is not altogether desirable as one feature of the invention is that these pads are mounted at the central point of the pad with a pivotal bearing on the truss frame. In other trusses such pads are frequently, if not generally, mounted with a rigid bearing, whereby they are often uncomfortable to the wearer. By having them on pivotal bearing they adapt themselves to the surface of the body and yield under the play of the muscles in movement of the body.

In Fig. 3 I show the sections *e* and *e'* by curved or crinkled lines to indicate that the wire may be made with slight curves or waves or even with notches so that the pads will normally retain a given position. In Fig. 4, however, I show one of the pads mounted on wire *e* by eyelet *l*, with a clip

K, also on wire *e*. This clip is formed with a double loop, *k* and *k'*, with intermediate portion *k''*, which is a spring.

In the position of the clip shown in Fig. 4 the sides *k* and *k'* bear closely against the bar *e*, but by pressing them together they are brought more nearly transverse the line of bar *e*, so they can be slipped with pad D to any position. Being released, they fly back into oblique position relative to the bar *e* and hold the pad where placed. At the point where the wire returns on itself in the rear, as at *m* and *m'*, such ends are connected by strap and buckle M and M' or other suitable means, so that these ends can be brought together with a desired degree.

In Fig. 5 is shown a different means for holding the pad. A clip O is provided to rest on the pad with a spring end bearing on the wire *e* and fashioned with a swell *o* by pressing which such bearing is released.

The pads A and A' are slidably mounted on the section *i* by eyelets or other suitable means represented by 2, so that they can be slid along said bar to any point of adjustment, the mounting being such as to retain them normally in given position. It will be understood that the same or like means employed for mounting of the rear pads may be here used.

It will be seen that from the very construction of the truss there is a spring pressure between the front and the rear portions, the degree of which is determined by the form of curvature given to the loops at the hip portions. These loops are not in contact with the body but lie so close to it as to be out of the way of any inconvenience to the wearer. By shaping these loops a greater or less degree of pressure between the front pads and the rear pads can be applied as the wearer may desire, and the same truss may be used by different persons within a certain variation of size. The rear pads being connected by the strap, when the truss is adjusted, remain in place. As the truss may be, by such strap adjusted, to different conditions, the rear pads are suitably positioned and held normally in given place, as desired. The side portions of the truss being integral in front and drawn together at the back form a frame circling the body of a given compass or size, with a given resiliency or pressure between the front and the back which maintains the truss in proper position with suitable pressure at the point of rupture. The pads themselves it should be noted do not require any resiliency in their construction, being as a matter of fact made practically solid with suitable covering. The front pads are of a form which has been found most adaptable for use and are adjustable laterally on the supporting rod, the pressure being applied through each

loop on each side of the body. By bending portion *a* or *a'* the front pads may be further adjusted to bring pressure to bear at the proper point.

It will be noticed that the crossing of the strands in the front and the rear adds to the stiffness of the truss, and by changing the relative positions of these strands the position of the several pads may be altered. As the strands are double around the body, the wire does not need to be of such heavy material as otherwise would be necessary, and the strands crossing each other and being integral form a more rigid truss than as though they were separate and parallel (not lying against each other at the point of crossing), and that the pads are less likely to be disarranged or the truss to be misplaced.

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

1. A truss comprising a resilient metallic frame in two hip strands on each side the same crossing each other at the front and rear, with pads slidably mounted on the frame, and means for adjustably connecting the ends of the frame at the rear, substantially as described.

2. A truss comprising a metallic frame of resilient material formed of a single piece of metal having its front, side and rear portions integral and formed with a double strand throughout except at the medial front portion, with the side portions of the same being brought to the rear of the hip and there provided with means for adjustably connecting them, substantially as described.

3. A truss having at the front an integral transverse pad-supporting member, pads thereon adjustable of the length thereof, the said frame being extended in one portion from the said straight section around each side of the body to the rear, and returning from the rear in a like side section on each side of the body and terminating in a pad adjustably mounted on said transverse member, substantially as described.

4. A truss having at the front a straight transverse pad-supporting member, pads adjustably mounted on said straight portion, the said frame being extended in one portion from the said straight section around each side of the body to the rear and returning from the rear in a like side section on each side of the body twice crossing the former section and terminating in a pad mounted at the front, and a pad mounted in adjustable support on the rear portion of the truss, one on each side of the back, substantially as described.

5. In a truss, a pad slidably mounted on a section thereof, a clip having an eye on each side of the mounting of said pad nor-

5 mally bearing against the pad-supporting section of the truss but adapted to be released from such contact whereby to alter the position of the pad on the truss, substantially as described.

10 6. In a truss, a pad slidably mounted thereon and a clip mounted in operative connection with the pad and having means normally engaging the adjacent portion of the truss and releasable by pressure on the clip whereby to alter the position of said pad, substantially as described.

15 7. A truss having a frame formed of a wire with its middle portion forming a pad-carrying bar at the front of the wearer, each end portion being bent thence upward around the hip to the back, one portion around each side, and at the back forming a pad-carrying bar at one side of the center of the back, and thence each being bent upward and around the hip and at the front having a pad, substantially as described.

20 8. A truss having a frame formed of a wire bent in double strands on each side of the body, the said strands crossing each other at the front and back, the strands being formed with a straight portion at the back, one on each side and a pad slidably mounted

on each said portion, a bar consisting of an integral strand of wire, its medial portion 30 being formed of a straight pad-carrying section at the front and being bent thence upward around the hip with a loop portion at the back providing on each side of the back a straight pad-carrying portion, the said 35 strand being bent from the back to the front and at the front having a pad adjustably mounted on the front pad-carrying portion, and means for adjusting the said several pads to give fixed positions, substantially as 40 described.

9. A truss formed of a wire bent into two hip-circling portions, the ends being brought to the front and carrying pads adjustably mounted on the middle portion of the wire 45 at the front, and means adjustably connecting the ends in the back at the point of the return bend of each hip-circling portion of the wire, substantially as described.

In testimony whereof I affix my signature 50 in presence of two witnesses.

GEORGE R. HARDING.

Witnesses:

CRASO A. OWEN,
E. T. DE GIORGI.