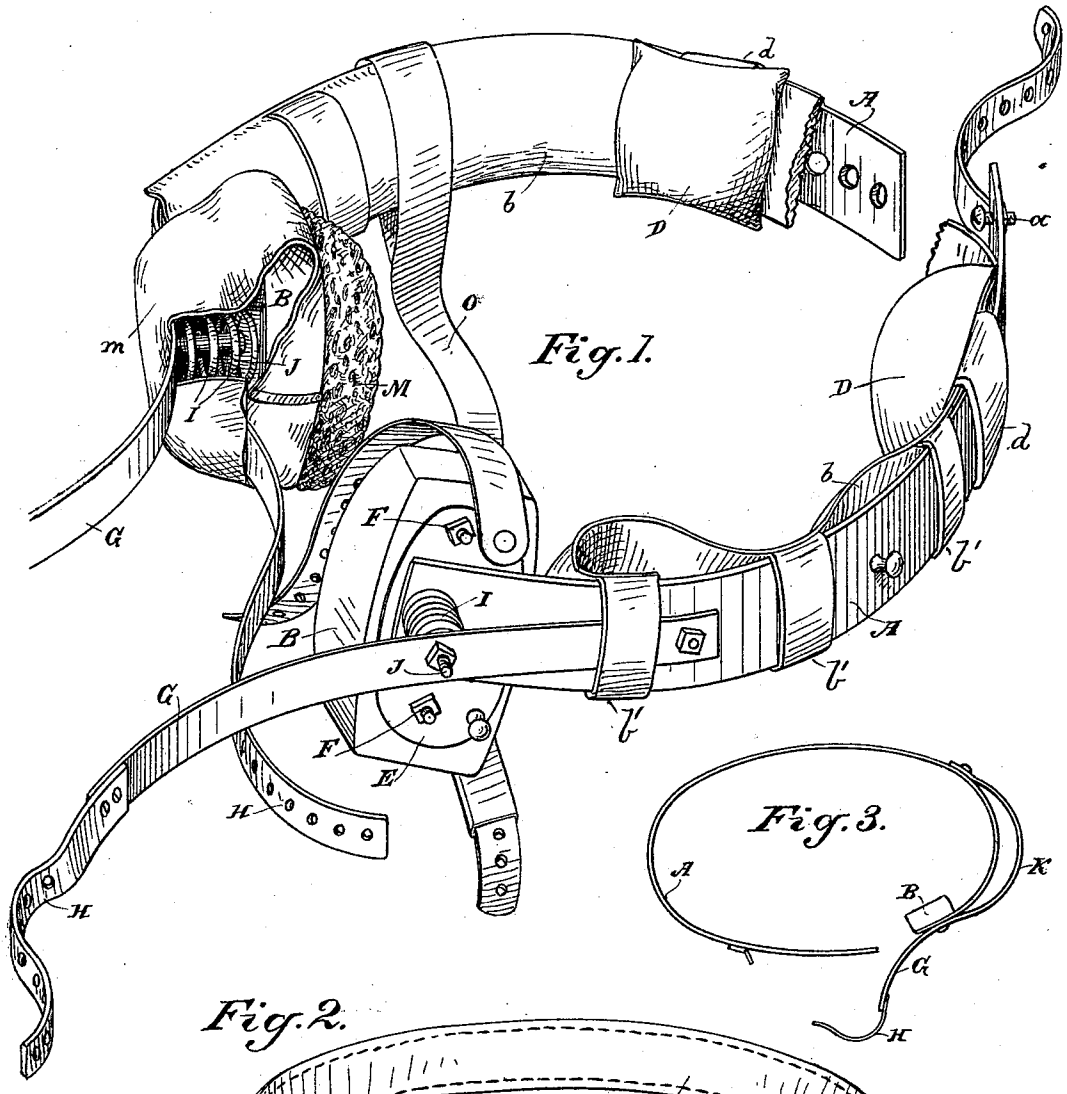
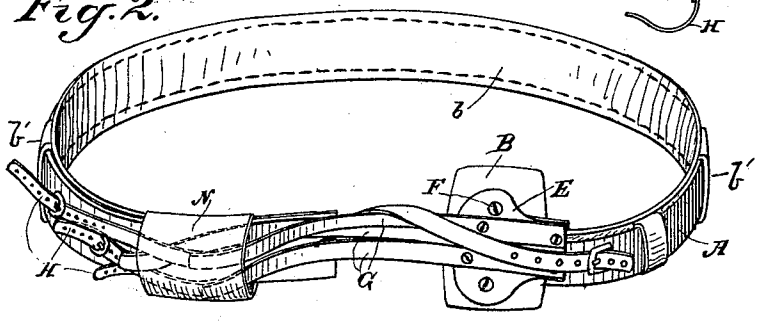
(No Model.)

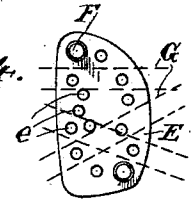
C. B. RÖSTEL.

TRUSS.

No. 517,194. Patented Mar. 27, 1894.







Witnesses,
P. Howse
H. F. Aschenck

Inventor,
Carl B. Röstel
By Dewey & Co.
Attys

THE NATIONAL LITHOGRAPHING COMPANY,
WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

CARL B. RÖSTEL, OF JACKSONVILLE, OREGON.

TRUSS.

SPECIFICATION forming part of Letters Patent No. 517,194, dated March 27, 1894.

Application filed September 29, 1893. Serial No. 486,796. (No model.)

To all whom it may concern:

Be it known that I, CARL B. RÖSTEL, a citizen of the United States, residing at Jacksonville, Jackson county, State of Oregon, have invented an Improvement in Trusses; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to improvements in trusses for the support of abdominal rupture. It consists in certain details of construction which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is a view of a truss with double pads attached to it. Fig. 2 is one with a single pad. Fig. 3 shows the application of an S formed spring. Fig. 4 is a detail view of the adjustable spring plate.

The object of my invention is to provide an elastic truss belt which is adjustable in length to suit the size of the person, and for the purpose of placing the pad or pads at the proper point, without altering their position upon the belt; to provide a pad or pads with an elastic pressure device, the tension of which is adjustable to any part of the pad, and to any degree of strength; and to provide certain relieving pads to prevent soreness at points where the belt passes around the body.

A is an elastic steel or other metal band of sufficient size, which is adapted to pass around the body of the patient and to have the pressure pad or pads B attached to one or both ends as the case may be.

Where only a single rupture is to be treated, a single pad may be used, but if there are two, one upon each side, there must be a pad upon each end of the band. In such a case it is necessary to adjust the size of the band from a point between the pads, in order to bring each pad to a proper position to act upon the part which is to be operated upon. In order to do this I make my belt or band in two parts having holes made through them, and bolts or clamps *a* by which the two parts of the band may be caused to overlap more or less, and be secured at any desired point, thus separating the pressure pads to the exact degree necessary to bring them to their proper points of bearing on the person. This metal band or belt is inclosed in any suitable soft material, *b*, such as buckskin or other suitable material having the interior surface padded so as to present a soft surface of contact where the band surrounds the body. This covering is loose and moves freely on the belt by means of loops *b'* so as to prevent friction on the body, and it may be taken up at the ends, or let out to suit the length and adjustment of the belt.

At points just behind the hips, I place supplemental adjustable pads D which relieve the pressure of the inflexible band, and prevent its pressing upon blood vessels or tender parts of the body so as to cause soreness or injury. The pads D are rendered adjustable along the loose covering *b* by loops *d* through which both the covering *b* and belt or band A freely pass.

The pads B are attached to the end of the band A by means of plates E which are secured to the pad, and have holes *e* made through them for the reception of fastening bolts F by which the pad may be attached to the end of the band at any desired angle to fit the part to be treated, and it also allows the pad to be transferred to either end of the belt to fit upon the right or left side as may be necessary.

Independent movable surfaces M of sponge or other soft pliable material may be attached to the truss pads B with a containing cover *m* which allows these supplemental attachments to move freely and thus prevent the body from being chafed by frictional contact.

G G are elastic springs having one end fixed to the pad plate, or to the band A, and these springs are curved outwardly so that the outer ends must be drawn inwardly by the exercise of force. The outer ends of these springs have flexible straps H attached to them, and corresponding buckles and buttons are fixed upon the opposite side of the belt A through which these straps are passed so as to draw the outer ends of the springs down toward the belt. This causes the inner convex portion of the spring to press upon the pad B, and thus force it against the body with greater or less pressure, according to the stiffness of the spring and the degree to which it is drawn down by the strap and buckle. If it is desired to increase the pressure upon either side of the pad, I employ two or more of these springs placed side by side, so that by bringing the greater strain upon

the upper one, the upper end of the pad will receive the greatest pressure, or by bringing the pressure upon the lower spring, the lower end of the pad will receive the pressure.

In some cases I find it advisable to supplement the action of these springs by that of a coil spring I, one end of which rests against the back of the pad, and the other abuts against the inside of the flat spring or springs G, so that the pressure of the flat spring is brought upon the outer end of the coil spring and through this is transmitted to the pad. This allows the pad to adjust itself to movements of the person, and while maintaining a steady and constant pressure, to allow of movement without an uncomfortable pressure.

A guiding stem J extends outward from the pad and passes through a hole made in the flat spring, and the coil spring surrounds this stem.

In order to relieve the pressure upon the hips, I have found it advisable to make the spring G with a reverse curve or **S** form, as shown at K, so that the outer part of this plate will pass around the hip bone, and inclose it and prevent undue pressure there, while the inner part may be bent as before described to produce the necessary pressure upon the pad.

In cases where it is desired to apply an electrical treatment to the rupture, it is done by the use of any well known or suitable electric pad, or an ordinary pad having a metal plate or moistened porous substance to form contact, and connecting with it the poles of an electrical belt or battery in the usual form of such devices.

The ends of the springs where they are connected with the flexible straps are preferably covered by a flexible piece of buckskin N or other material to prevent the tendency to spring outward, from forcing them against the clothing and wearing it.

Straps O may be attached to the body belt to pass beneath the thighs if found necessary or desirable.

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

1. A truss band provided with a spring pressed pad B, having a loose covering *m*, the soft movable facing M for said pad, the spring G secured to the truss and crossing and bearing upon the said pad, and provided with means for securing its outwardly projecting end to the opposite end of the truss band, substantially as herein described.

2. A truss consisting of a flexible metallic band, plates adjustably attached to its ends carrying truss pads adapted to press upon the part to be treated, flexible metallic bands G attached to one end of the truss band having an inward curvature between the ends, and straps and buckles by which the outer ends are drawn down against the opposite end of the truss band whereby the convex portion of the spring is caused to press upon the truss pad and hold it yieldingly in contact with the part, substantially as herein described.

3. A truss consisting of a flexible metallic band with inclosing protective case, plates secured to its end with truss pads adjustable thereon with relation to the band, and adapted to press upon the part to be treated, springs G having one end attached to one end of the truss band curving inwardly with the convex portion adapted to press upon the truss pad, and the outer end provided with a flexible strap adapted to connect with buckles upon the opposite end of the truss belt whereby the springs are drawn down, in combination with coil springs interposed between the truss pad and the flat springs, whereby the pressure of the latter is transmitted through the coil springs to the pads, and the latter are allowed to automatically adjust themselves to movements of the person, substantially as herein described.

4. A truss consisting of a flexible metallic band, with suitable inclosing and protective casing, truss pads and adjusting plates by which they are attached to the ends of the truss band, spring pressure plates having one end connected permanently with one end of the truss belt, and the other provided with flexible strips which are connected with buckles upon the opposite end of the belt, said spring plates having an inward curvature at the point where they connect with the truss pad, and an outward or convex curvature forming a reverse curve which passes over and around the hip at the point of attachment to the truss belt, substantially as herein described.

In witness whereof I have hereunto set my my hand.

CARL B. RÖSTEL.

Witnesses:
S. H. NOURSE,
H. F. ASCHECK.