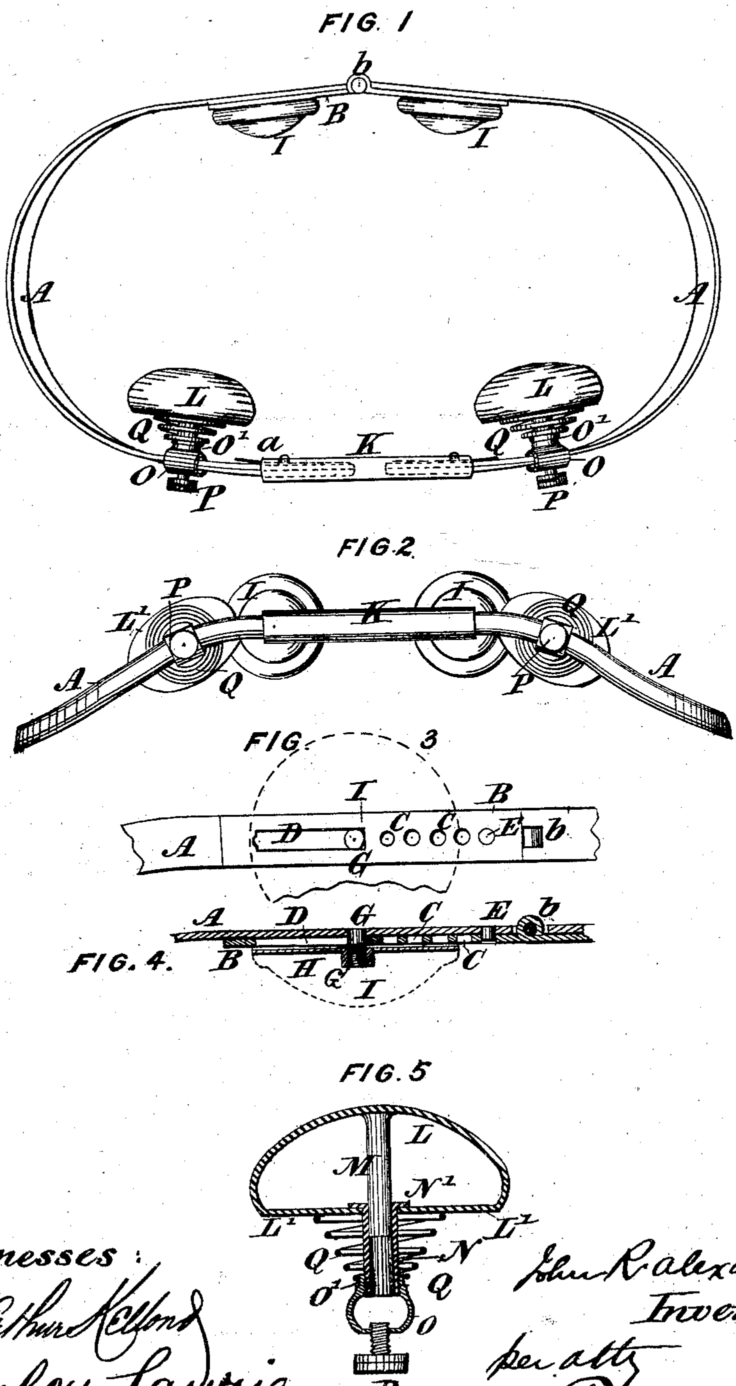
2 Sheets—Sheet 1.

J. R. ALEXANDER.

TRUSS.

No. 192,141 Patented June 19, 1877.



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2 Sheets—Sheet 2.

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TRUSS.

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FIG. 6

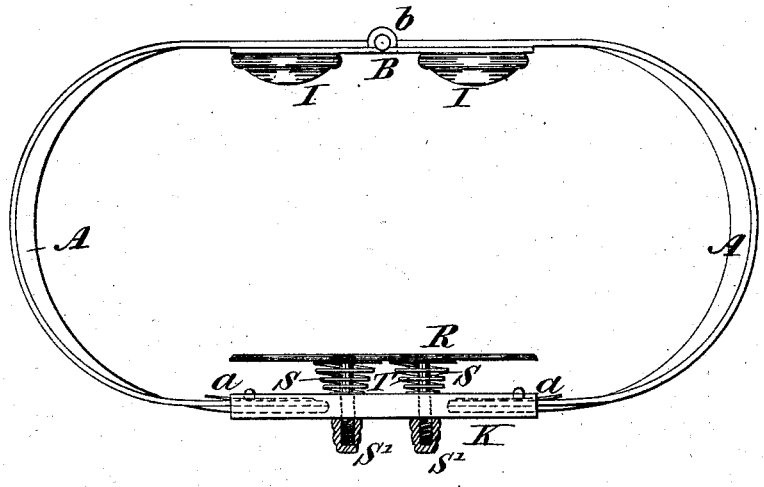
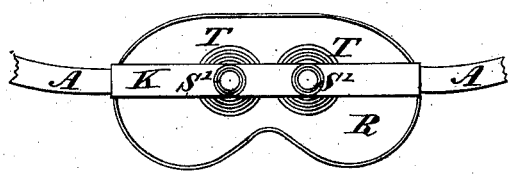


FIG. 7



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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN TRUSSES.

Specification forming part of Letters Patent No. **192,141**, dated June 19, 1877; application filed January 31, 1877.

To all whom it may concern:

Be it known that I, JOHN ROBINSON ALEXANDER, M. D., of the city of Montreal, in the district of Montreal and Province of Quebec, Canada, have invented certain new and useful Improvements in Trusses and Abdominal Supports; and I do hereby declare that the following is a full, clear, and exact description of the same.

The object of my invention, which I term an "electro-galvano-magnetic truss or abdominal support," is to provide for the treatment of hernia, prolapsus uteri, and like complaints. It relates, primarily, to trusses the band of which is made of untempered metal straps.

My improvement may be briefly described as consisting, mainly, of a metallic band, fitting the body, and made in two parts, joined together at the back by a hinge, arranged so as to be adjustable as to length, and secured together in front by a sleeve, and upon this band is placed the pressure-pads; but, for fuller comprehension of the invention, reference must be had to the annexed drawings, in which—

Figure 1 is a plan view of the truss. Fig. 2 is a front view of the truss. Fig. 3 is an enlarged detail view of the back hinge. Fig. 4 is a section through the back hinge. Fig. 5 is a sectional elevation of pressure-pad. Fig. 6 is a view of my invention arranged as an abdominal support. Fig. 7 is a front view of an abdominal support.

Similar letters of reference indicate like parts.

A A are the pieces which form the band or fulcrum of the truss, made preferably of metal, and arranged so as to fit easily and comfortably around the body and over the hips. If desired, this may, for greater ease to the wearer, be covered with chamois leather or other soft substance. These pieces A A are secured together at the back by means of a piece, B, hinged as shown at *b*, on either side of the hinge being formed, as shown in Fig. 3, any suitable number of holes, C, and, farther from the center, a slot, D. Upon each of the pieces A is formed a pin, E, projecting slightly beyond its face, so that when the parts are in position it will just catch in any one of the holes C. G G are screws secured to the pieces A A in such positions as to be adjustable in the slots D, tapped so as to pass through them, and threaded into eyes G′ formed in plates H, covered with chamois leather or other suitable substance, as at I, so as to form pads, which press on either side of the spine of the wearer.

When it is required to adjust the length of the band A all that is necessary to be done is, by turning the plates H, to slightly loosen the screws G sufficiently to release the pins E from those particular holes C in which they are caught, transfer them to the others, thus either loosening or tightening up the band, and then, by turning the screws, again securing all the parts in place.

K is a junction-piece, which, when the truss is in position, will fit on the center of the front of the body, hollow to receive the front ends of the pieces H, which, in this case, are secured therein by springs *a*, as shown. Instead of these springs, screws may be used; but the former will be found by the wearer a far more simple and convenient way of fastening on the truss. L are the pressure-pads for hernia, of metal, the composition of which will be presently described. The pad proper L, which is generally of some such form as that shown in the drawings, but may be altered to suit varying requirements of patients, has secured inside it, and projecting somewhat beyond the outside face, a pin, M, on which plays a sleeve, N, having one end turned down, as shown at N′, within the body of the pad, and a thread being cut on the other to screw into the screwed extension O′ of a ring, O, sliding upon the band A, and secured thereon in any desired position by means of a set-screw, P. Q is the spring which gives the necessary pressure to the pad, bearing against the face L′, the whole arrangement of the pin, sleeve, and spring being such as to exert a uniform and steady pressure on the injured part, never varying in direction, and incapable of being displaced by any motion of the body. The spring used may be either, as shown in the drawings, pyramidal, or an oval flat spring, or a full or semicircular spring, and of the strength required by the necessities of the wearer.

The pressure-pads L L may be of metal producing no medical effect; but I prefer, in

nearly all cases, to render them either magnetic or galvanic in their action—in the former case by making the pad of any of the magnetic metals and then magnetizing it; but in the latter instance, or where galvanic action is required, the pads will be composed in equal proportions of any two or more metals which, in combination, are, respectively, electro-positives and electro-negatives to each other.

Although I have mentioned that the two metals—*i. e.*, the electro-positive and electro-negative—will, in the galvanic pad, be equal to each other, it must be clearly understood that I do not confine myself exactly to these proportions, as they may be altered to suit varying conditions of age, sex, disease, and strength of patient.

The construction of my invention when used as an abdominal support will be precisely similar to that for the treatment of hernia, with the exception that the pressure-pads L L are omitted and a plate, R, is attached to the piece K (in this case made somewhat longer) by pins S passing through it, and having caps or nuts S′ on the outside, the necessary pressure being given by means of springs T, of the kind already described for the pads L. This plate R may be either of plain metal, magnetic, or galvanic, as before described, and may be varied in shape to suit the form of the wearer.

Having thus described the nature and construction of my invention, what I claim is as follows:

1. A truss or abdominal support the band of which is composed of two untempered metal straps, (not springs,) hinged together at one end and adjustably connected together at the other end, substantially as and for the purpose specified.

2. In any truss or abdominal support, the combination, with the junction-piece K, of the pieces A A, received therein and secured by springs *a*, substantially as described.

3. In any truss or abdominal support, the combination, with the side pieces A A, each provided with a pin and screw, of the piece B, hinged and perforated, and the plates H, with or without pads I, all substantially as herein set forth, and for the purposes described.

4. The combination, substantially as specified, of the pad L, the central pin M, fixed thereto, the fastening-ring O O′, the flanged sleeve N, secured to said ring, and the spring Q.

5. The combination, with the band A and junction-piece K, of the abdominal support R, secured thereon by pins S and nut S′, and provided with springs for pressure, substantially as herein described.

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Witnesses:
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