

No. 789,733.

PATENTED MAY 16, 1905.

W. S. HOBSON.

TRUSS.

APPLICATION FILED SEPT. 11, 1903.

Fig. 1.

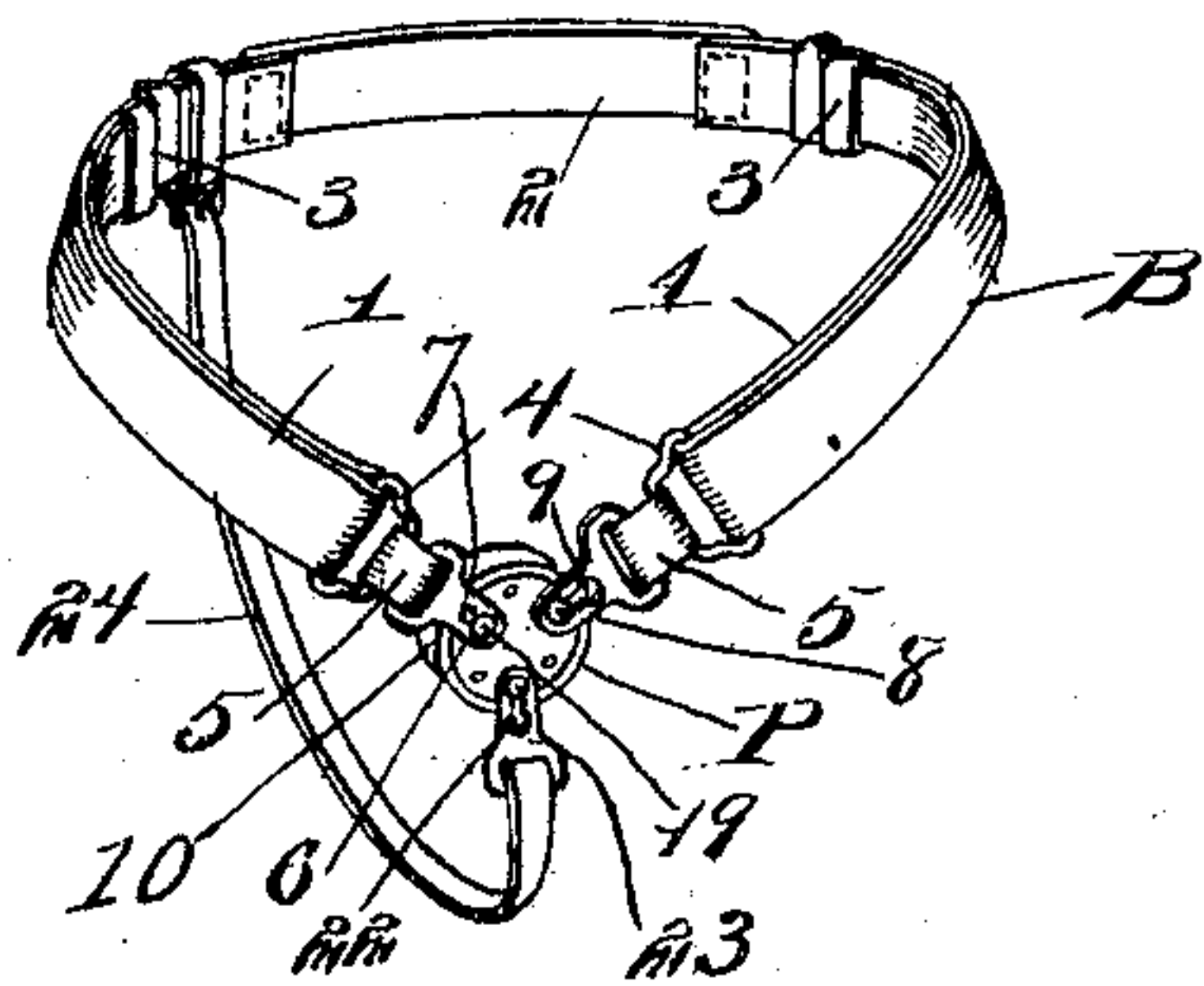


Fig. 6.

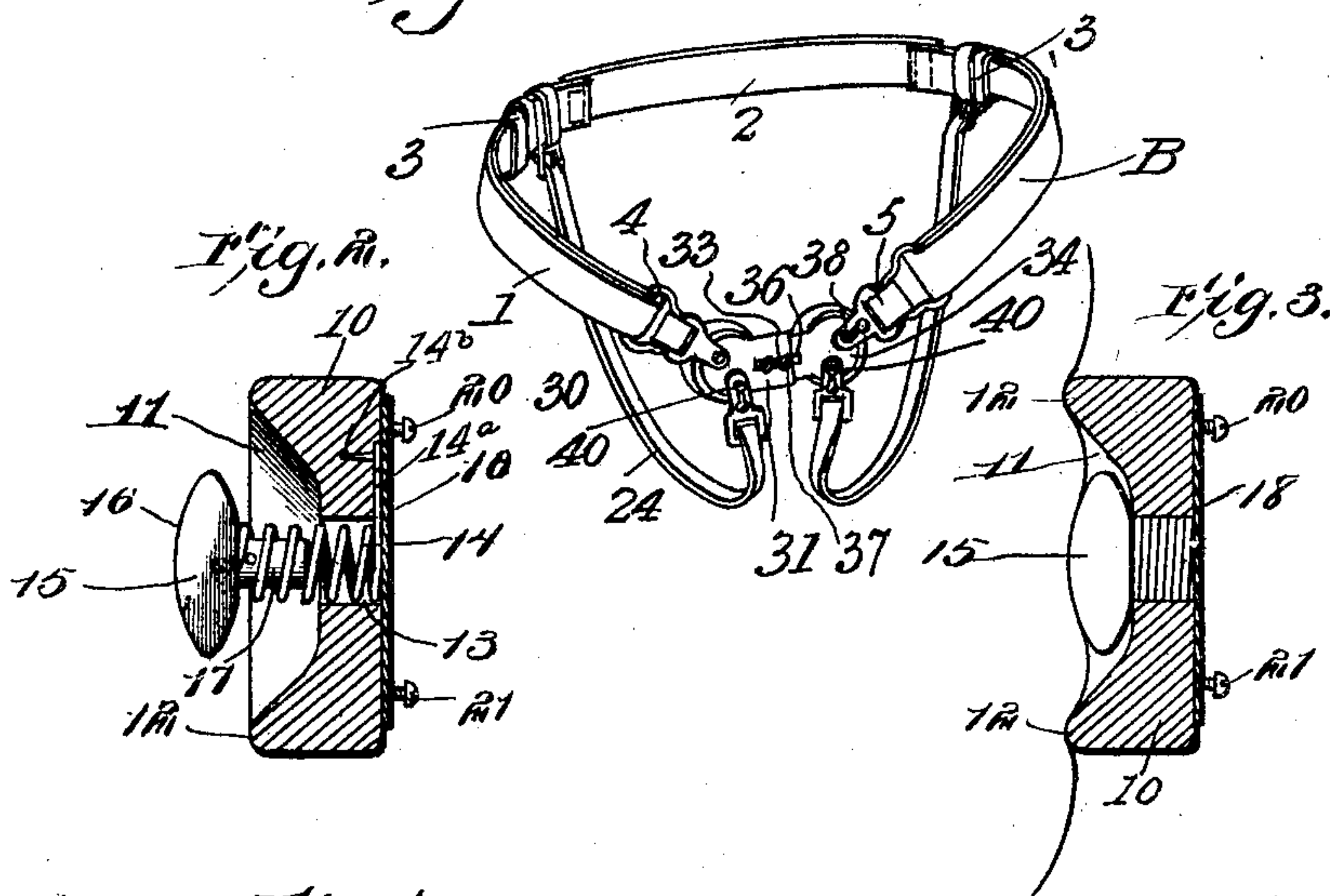


Fig. 2.

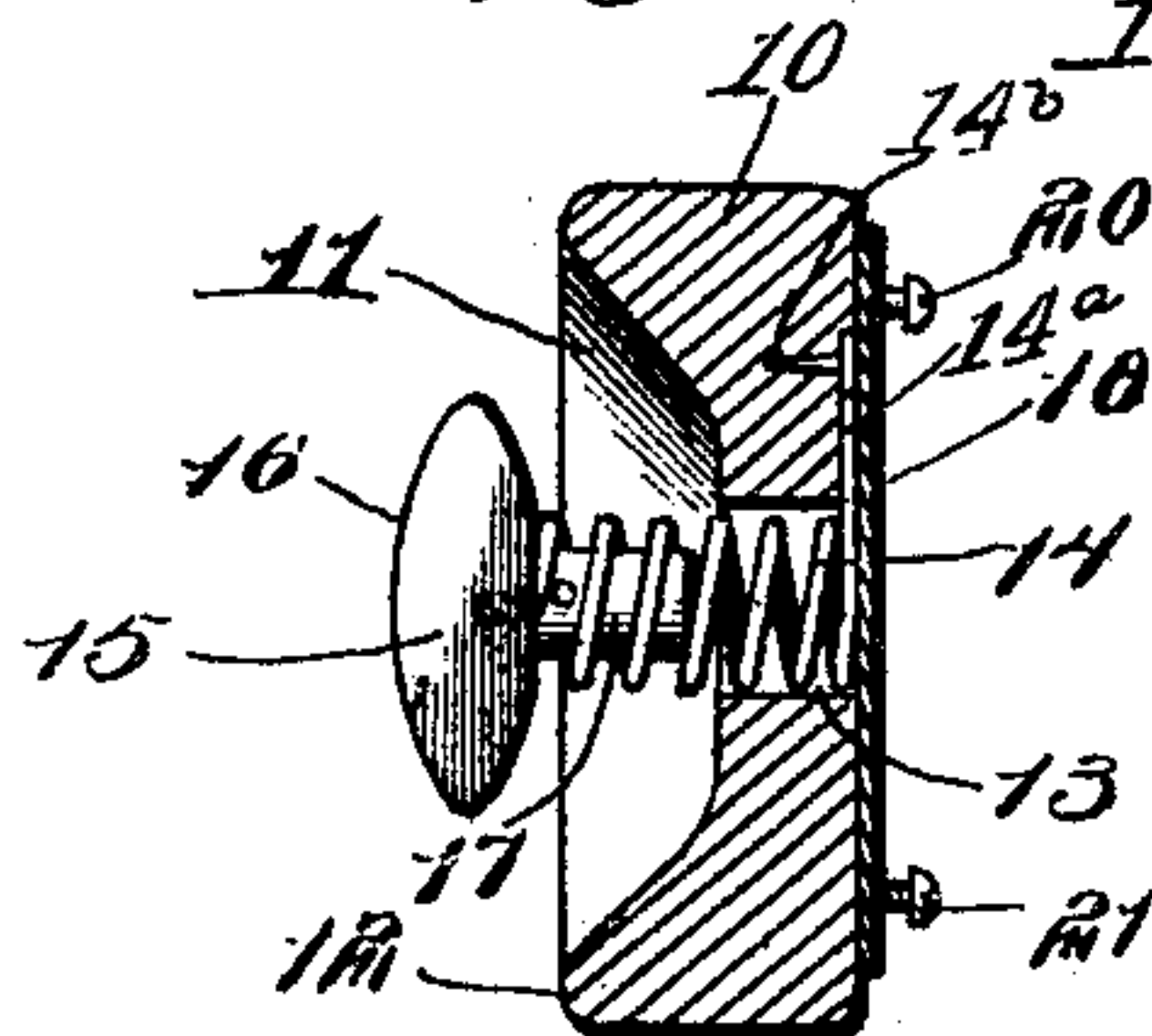


Fig. 3.

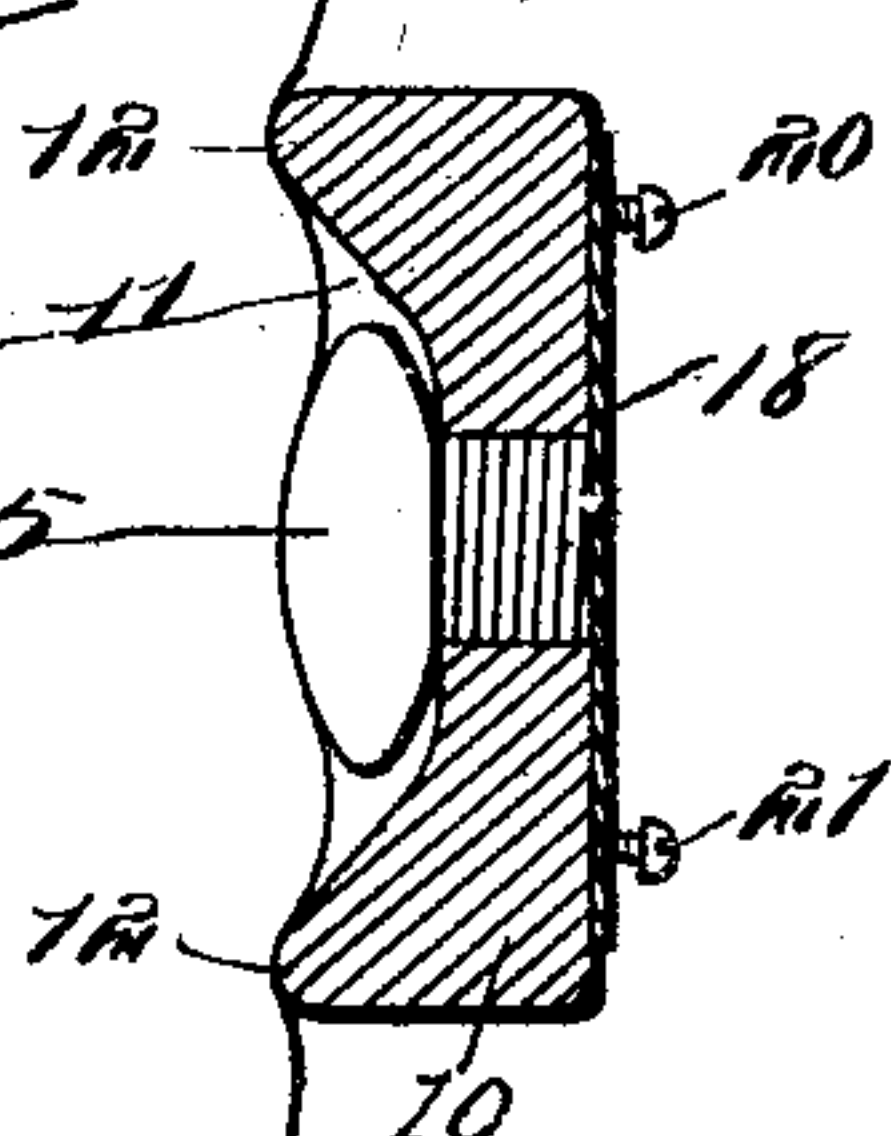


Fig. 4.

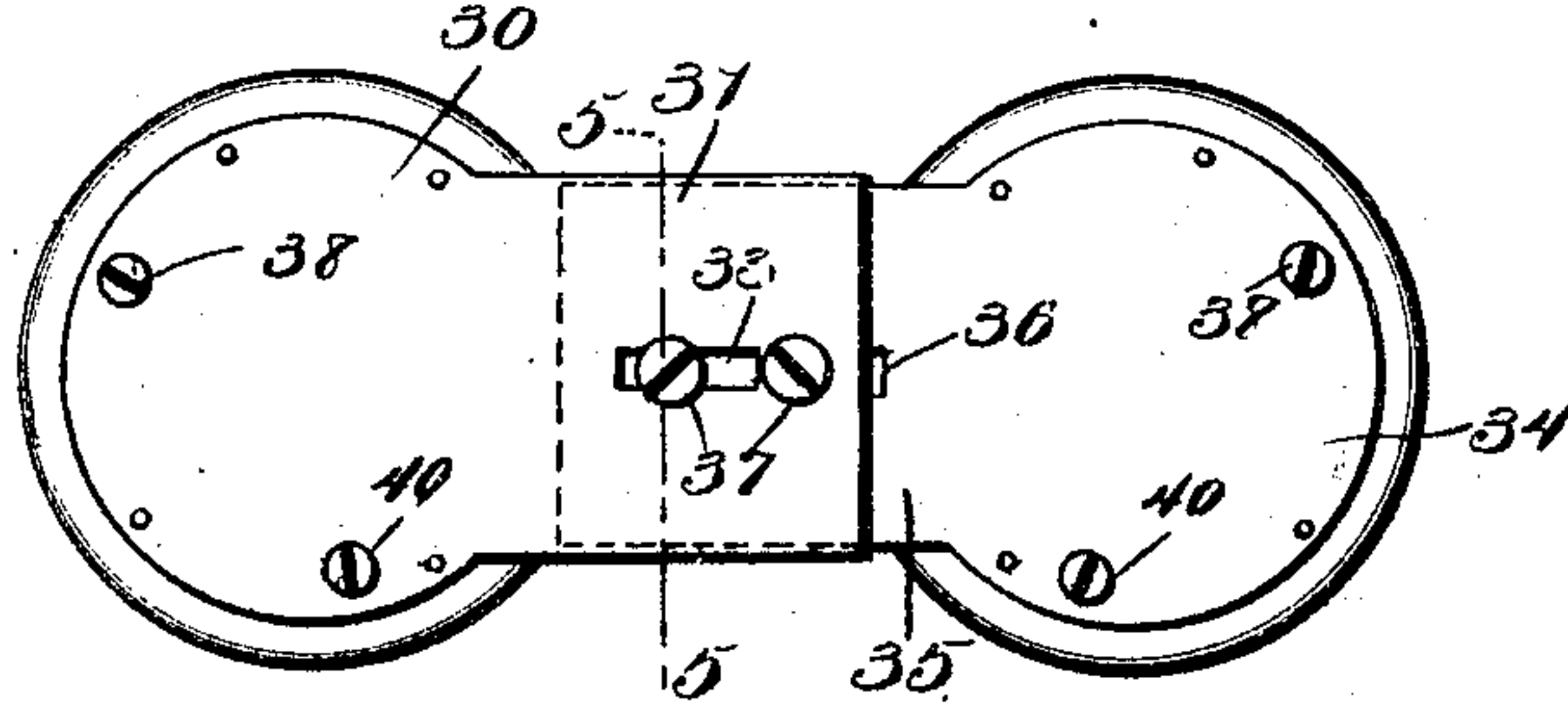
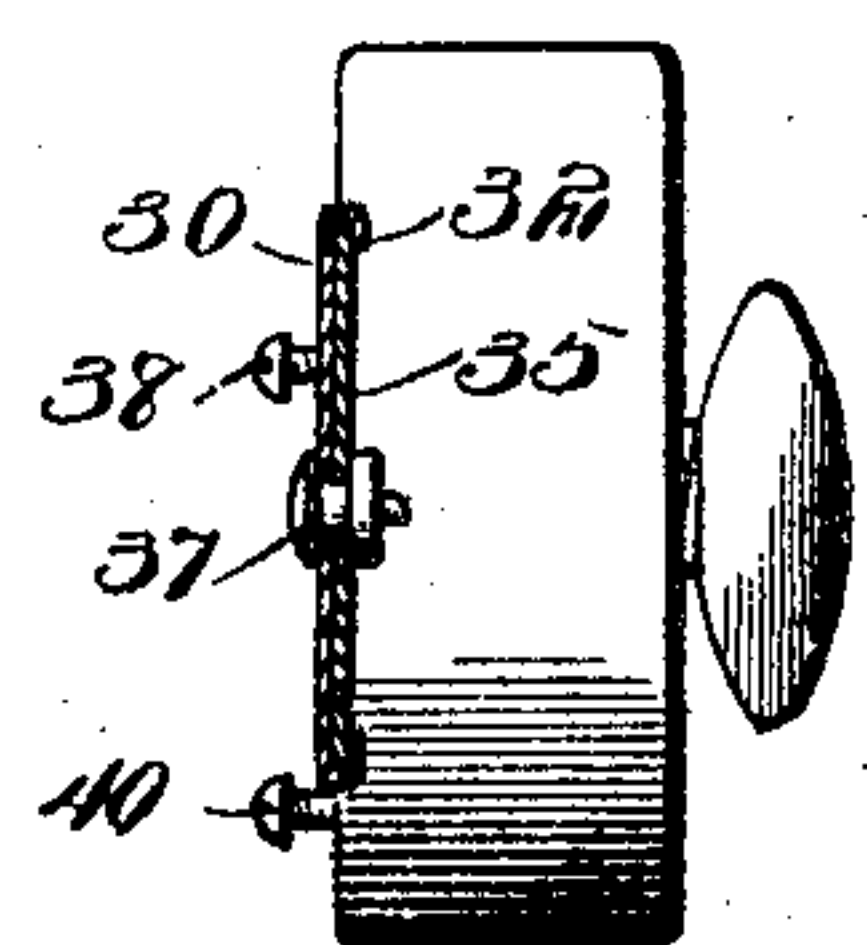


Fig. 5.



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UNITED STATES PATENT OFFICE.

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TRUSS.

SPECIFICATION forming part of Letters Patent No. 789,733, dated May 16, 1905.

Application filed September 11, 1903. Serial No. 172,793.

To all whom it may concern:

Be it known that I, WILLIAM S. HOBSON, a citizen of the United States, residing at Aberdeen, in the county of Monroe and State of Mississippi, have invented a new and useful Truss, of which the following is a specification.

This invention relates to hernial trusses, and more especially to trusses designed for the treatment of single or double inguinal hernia.

The principal object of the invention is to produce a truss by means of which hernia may be not only temporarily relieved and strangulation of the viscus prevented, but a permanent cure of the hernia effected.

Minor objects of the invention are to improve the construction of trusses by providing a truss-pad which will in a measure automatically adapt itself to the surface to which it is applied and provide an improved form of belt to support a truss-pad which may be easily and quickly adjusted in length to suit persons of different sizes and to correspond to the ordinary variation in the size of the same person.

With the objects above stated in view the invention consists in the novel construction and combination of parts of a truss hereinafter described, shown in the accompanying drawings, and particularly specified in the appended claim.

In the drawings, Figure 1 is a view in perspective of the complete truss. Fig. 2 is a view in transverse section through the truss-pad, showing the position of the parts when not in use. Fig. 3 is a view in section through the truss-pad, showing the position assumed when the parts are in use and showing the effect upon the tissues with which the truss-pad is in contact. Fig. 4 is a view from the rear of a modified form of truss-pad for use in double hernia. Fig. 5 is a view in transverse section on the line 5 5 of Fig. 4. Fig. 6 is a view of a truss provided with a pad of the form shown in Fig. 4.

Referring to the drawings, in which corre-

sponding parts are designated by similar characters of reference, B designates the belt of the truss. The belt preferably consists of two loops 1 1 of inelastic webbing attached to the ends of a piece of stout elastic webbing which will lie at the back of the wearer of the truss. The loops 1 1 are adjustable in length, being both provided with slide-buckles 3 of any suitable type. At the front end of the loops 1 1 are mounted slides 4 4, each of which has secured thereon by means of a short piece of inelastic webbing 5 a small plate of metal of approximately triangular form.

The plate at one end of the belt is designated 6 and is provided with a short straight slot 7 to receive a screw by which it is permanently secured to the truss-pad P. The metal plate at the other end of the belt is designated 8 and is provided with a buttonhole-slot 9, so that the plate may be readily slipped over or removed from a screw on the truss-pad.

The truss-pad P is preferably round and comprises a cup 10, which may be formed of wood or other suitable material and which presents on the surface designed for contact with the body of the wearer a concavity 11, surrounded by a rounded rim 12. This rim may be made with a soft-rubber ring at its margin in order to make the truss more comfortable. In the center of the concavity 11 there is an opening 13, in which is secured a coil-spring 14, on which is supported a knob 15, of wood or other material, which presents a convex pressure-face 16 of the configuration shown in the drawings. The spring 14 is held within the opening 13 by disposing its terminal 14^a along the back of the pad and securing it in position by a tack or screw 14^b, as clearly shown in Fig. 2. The knob 15 has at the back a short stud or projection 17, which extends into the interior of the spring 14 to afford means for securing the knob upon the spring. The stud 17 is short and permits the knob 15 to be depressed in the concavity 11 until it rests upon the bottom of the concavity and the convex face 16 does not project beyond

the plane of the rim of the cup. The opening 13 in the bottom of the cup is large enough to permit a considerable amount of lateral play of the spring 14, so that the knob 15 may adjust itself automatically to the surface of the body with which it is in contact.

At the back of the cup 10, which is of the same diameter as the face, there is rigidly attached a thin plate 18, of metal, which covers the opening 13 in the cup and forms a support for the spring 14, and it also operates to hold the spring-terminal 14^a in position and to prevent disconnection of the tack or screw 14^b. The plate 18 has extending therethrough and engaging the material of which the cup is formed three screws 19, 20, and 21, respectively. The screw 19 does not project so far beyond the plate 18 as the other two screws, and on it the plate 6 is carried. The screw 20 is provided for engagement with the buttonhole-slot 9 in the plate 8, and the screw 21 is provided for engagement with a similar slot 22 in a plate 23, which is secured at the end of a strap 24, of elastic webbing, which is looped over the belt B at the back and forms means for preventing the truss-pad from rising from its operative position over the seat of the hernia.

The action of the truss as above described in effecting the permanent cure of a hernia may be briefly stated as follows: Hernia being merely the protrusion of a viscus through a break in the abdominal lining, the two steps necessary to induce the healing of the break in the lining of the abdomen are first to press the viscus back to its normal position and then to hold the edges of the break in contact, so that a natural union may take place. The two steps mentioned in the preceding sentence as essential in the production of a cure of hernia may both be produced by the truss. When the pad of the truss is placed in position at the seat of the hernia, the pressure of the knob 15 will at once force the protruding viscus back through the break in the inner lining of the abdominal wall, and then the edges of the break will be brought together by the action of the cup upon the surrounding tissues. As the pressure of the cup is exerted through the rim thereof, it will tend to crowd the tissues together, as shown diagrammatically in Fig. 3, and will hold the tissues in this position. The crowding of the tissues together will bring the edges of the break in the lining of the abdominal wall into contact and will permit the natural agencies of repair to unite them and close the opening permanently.

In Fig. 4 there is shown a double pad for use in the treatment of double hernia. The double pad comprises two cups and two spring-supported knobs, similar in all respects to the cup and knob already described; but in lieu of the circular plate 18 each cup has secured on the back thereof a plate having a lateral extension. Upon one of the cups is secured

a plate 30, having a lateral extension 31 with overturned edges 32 and a central slot 33. Upon the other cup is secured a plate 34, with a lateral extension 35, adapted for sliding movement under the overturned edges upon the lateral extension 30 and provided with a central longitudinal groove 36. Clamping screws or bolts 37 extend through the lateral extensions of the two plates and form means whereby the two cups may be held permanently at any desired distance apart within the range of adjustment allowed by the slots 33 and 36. In the double form of pad each cup is provided at the back with two screws only, (designated 38 and 40,) respectively, for the attachment of the ends of the belt, and two under-straps which are necessary in this form of the apparatus.

The action of the knobs and cups of the double pad in effecting the cure of the double hernia will be obviously exactly the same in principle as the action of the single pad, and no further description thereof seems necessary.

As the union of the edges of the break in the lining of the abdominal wall is brought about very slowly, it is essential that from the time of the beginning of treatment all strains shall be counteracted by the pressure of the truss-pad, so that no separation of the edges of the break can occur to interfere with the progress of the healing process. In order to effectively counteract all internal strain, the pressure of the truss-pad must be kept uniform, and to this end the belt of the truss is provided with devices at both sides of the middle for adjusting the length of the belt to correspond to the variation in the size of the body from day to day with which all persons who have ever worn a truss are familiar.

I am aware that previous to my invention trusses have been devised in which the pressure of a yieldably-mounted knob is supplemented by the pressure of a surrounding rim in order to increase the area of pressure and to prevent serious injury in case of the slipping of the knob from its proper position; but in no other truss, so far as I am aware, is the pressure-knob supported within the concavity of a cup whose rim is adapted to crowd together the tissues surrounding the break in the abdominal wall in the manner indicated in Fig. 3. This crowding action is essential to the permanent cure of hernia, and in order to bring about the crowding of the tissues the knob of the pad must be susceptible of the pressure below the level of the rim of the cup.

All of the conditions necessary to effect the cure of hernia are met in my improved truss, and frequent experiment therewith has shown that if the truss is used continuously for a sufficient length of time and the tension of the belt is kept uniform a complete and permanent cure of the hernia will result.

Having thus described the construction and

operation of my invention, what I claim as new, and desire to secure by Letters Patent, is—

5 In a truss, a pad comprising a cup having one face provided with a cavity and with a centrally-disposed orifice, a coiled spring seated in the orifice and having one terminal disposed along the back of the pad and secured thereto, a pressure-knob having a stem secured between the coils of the outer end of
10 the spring, and a plate secured to the back of

the pad and subserving the double function of an abutment for the spring, and as a means of connection with the truss-belt.

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

WILLIAM S. HOBSON.

Witnesses:

H. C. HAMILTON,
W. C. McMILLAN.