

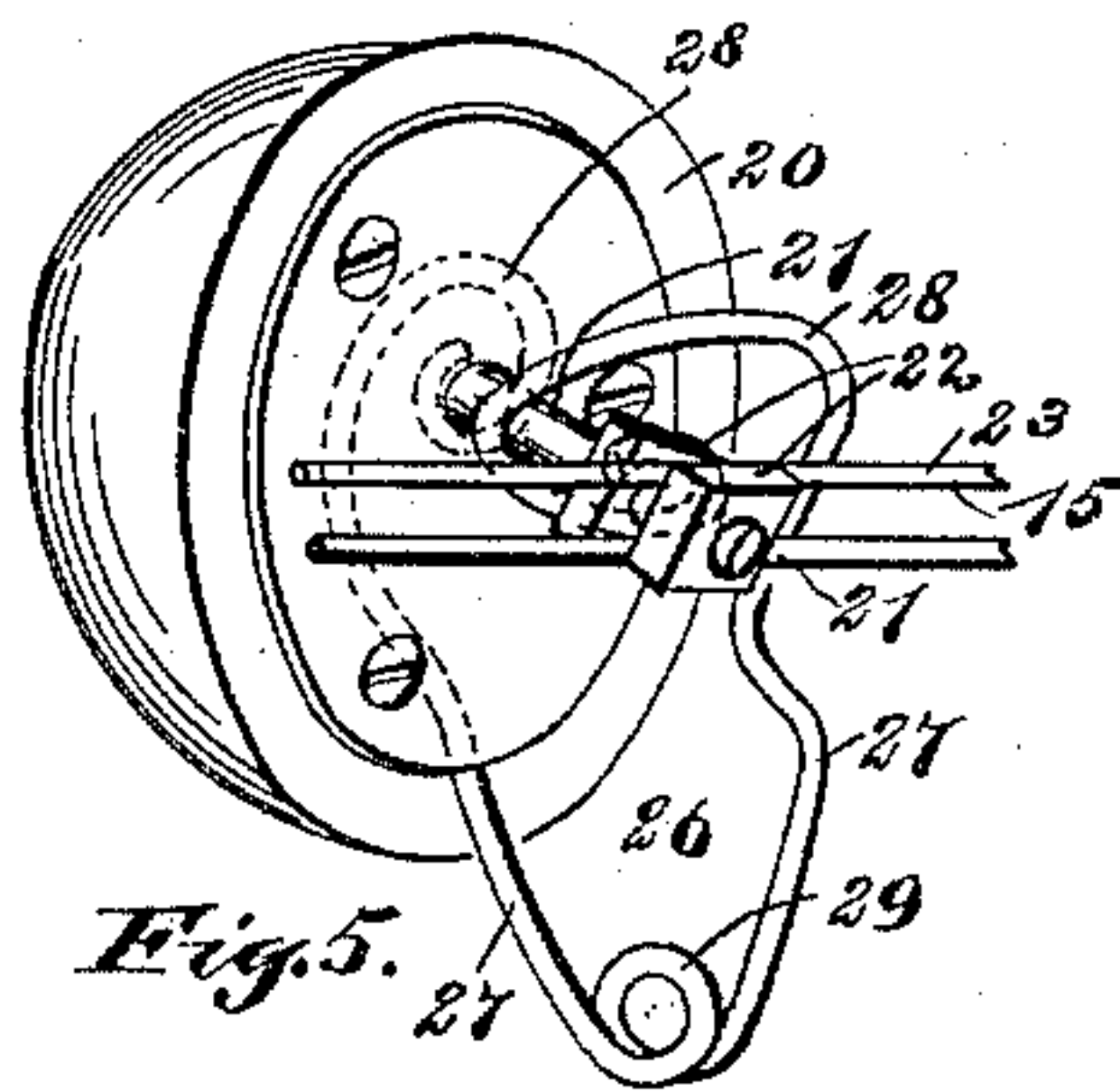
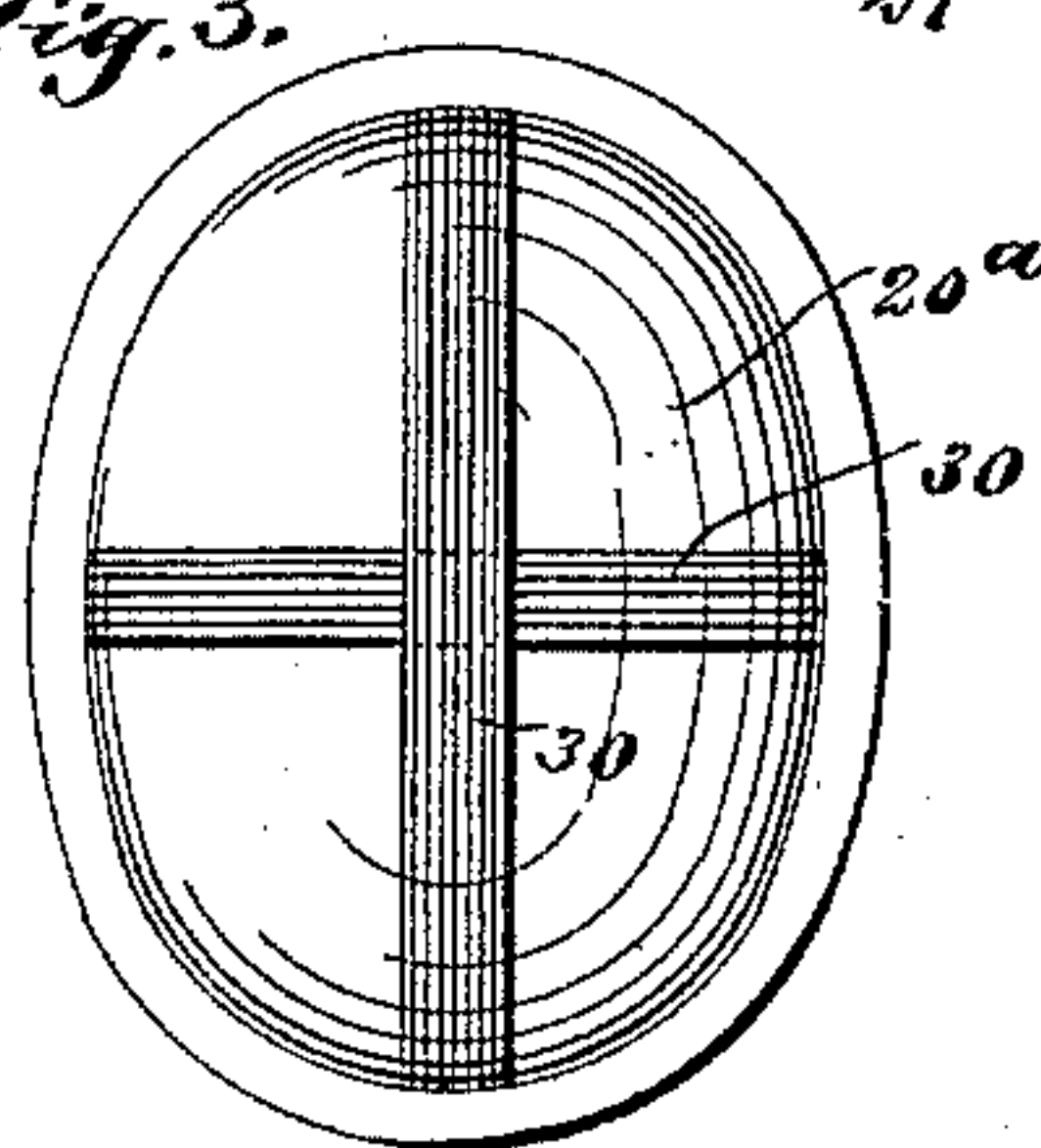
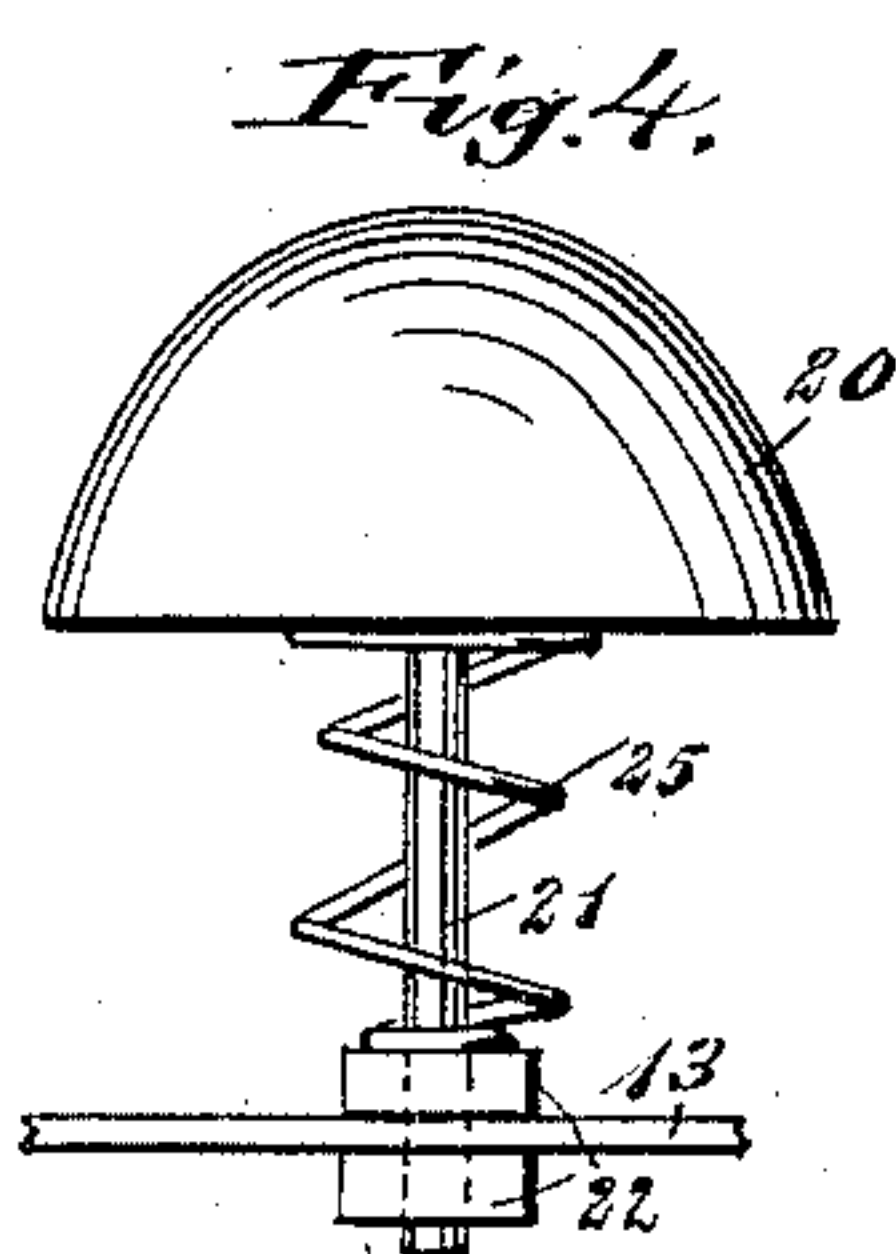
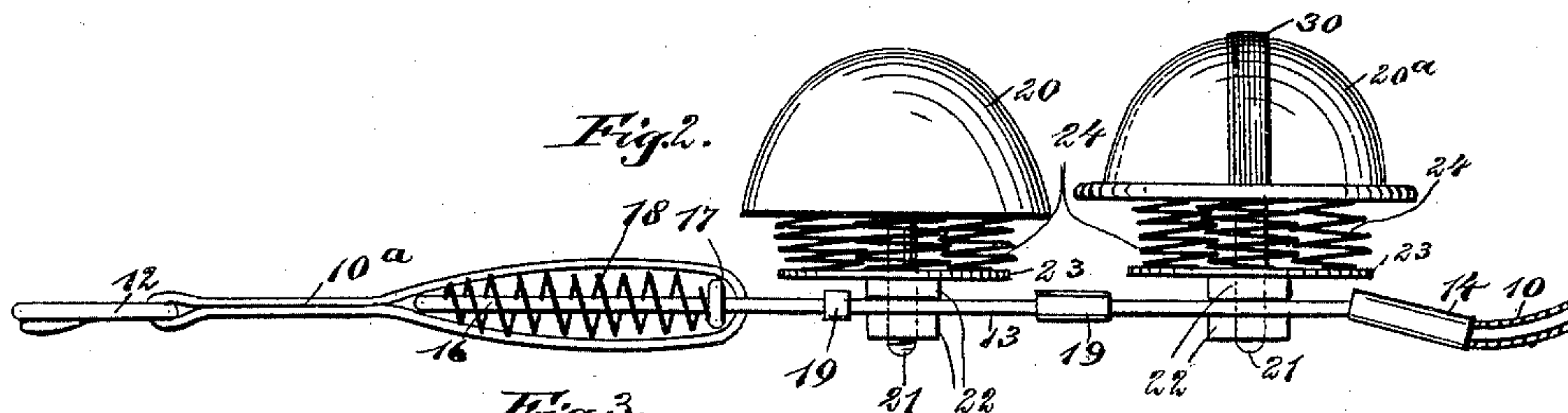
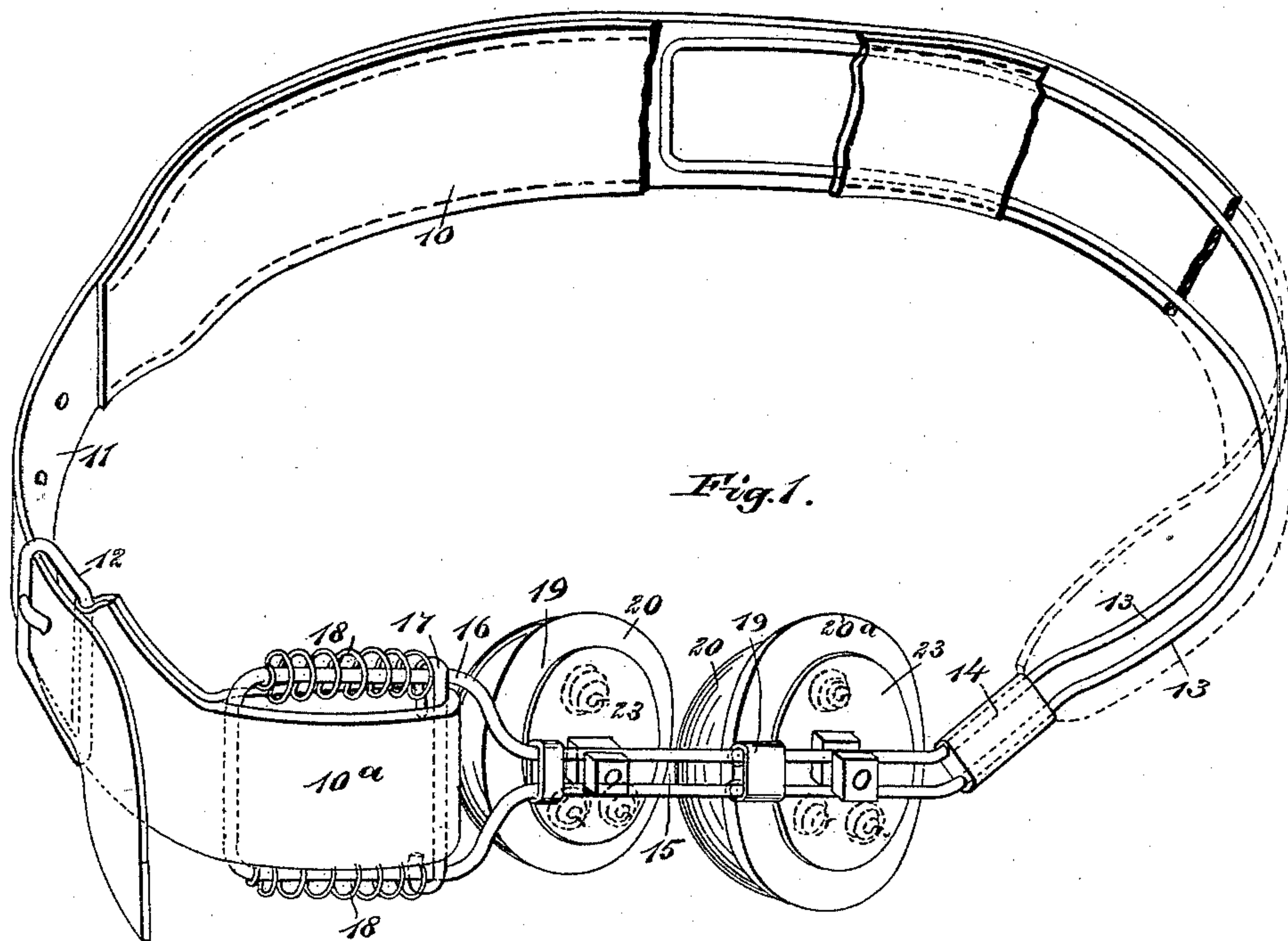
(No Model.)

2 Sheets—Sheet 1.

W. A. ADAIR.  
TRUSS.

No. 473,807.

Patented Apr. 26, 1892.



WITNESSES:  
*O. M. Arde.*  
*C. Sedgwick*

INVENTOR:  
*W. A. Adair*  
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ATTORNEYS

(No Model.)

2 Sheets—Sheet 2.

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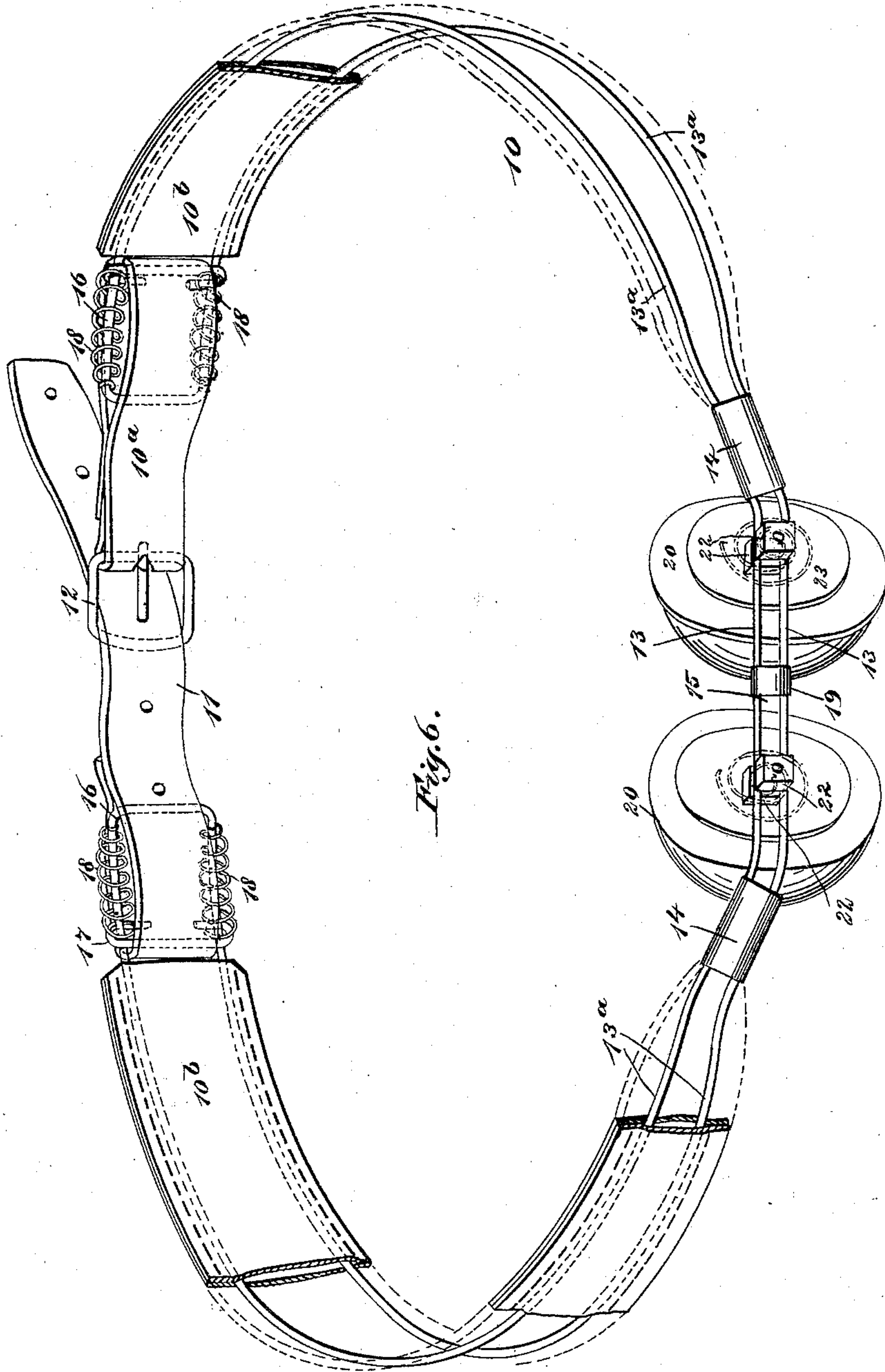


Fig. 6.

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# UNITED STATES PATENT OFFICE.

WILLIAM A. ADAIR, OF MOLINE, KANSAS.

## TRUSS.

SPECIFICATION forming part of Letters Patent No. 473,807, dated April 26, 1892.

Application filed November 27, 1891. Serial No. 413,286. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM A. ADAIR, of Moline, in the county of Elk and State of Kansas, have invented a new and Improved Truss, of which the following is a full, clear, and exact description.

My invention relates to improvements in trusses such as are worn upon the body for the relief of cases of hernia; and the object of my invention is to produce a simple, light, and strong truss, which may be easily adjusted so as to enable the pads to bear upon the necessary parts of the body, which is adapted to conform to the movements of the body, and thus be easy to wear, and which, while pressing with the necessary force upon the body, is still sufficiently elastic to adapt itself to any momentary expansion of the body.

To this end my invention consists in a truss, the construction of which will be hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a broken perspective view of the truss embodying my invention. Fig. 2 is a broken plan view of the same. Fig. 3 is a detail plan of one of the truss-pads. Fig. 4 is detail view showing a modified form of pad-spring. Fig. 5 is a detail perspective view showing another modified form of pad-spring; and Fig. 6 is a broken perspective view of a truss, which is especially adapted for use in cases of double rupture.

The truss is provided with a hollow belt 10, one end of which terminates in a strap 11 and the other end of which terminates in a buckle 12, adapted to engage the strap. The spring portion 13 of the belt is in the form of an irregular and elongated spring-wire loop, that portion of the loop or spring which enters the belt being enlarged to prevent its displacement, and where the spring leaves the belt it is provided with a keeper 14, so that the spring at this point may be bent to any desired angle, and the keeper will serve to hold it in place. The members of the spring 13 at the point not covered by the belt are arranged so as to be parallel with each other, and a slot 15 is thus formed between them, which slot provides for the carrying and adjusting of the

truss-pads, as described below, and the spring terminates at one end in a loop-like portion 16, which carries a sliding transverse cross-bar 17, and to this cross-bar is secured the buckle end 10<sup>a</sup> of the main belt. The cross-bar 17 abuts with spiral springs 18, carried on opposite members of the loop 16, and it will thus be seen that the springs will provide for the expansion and contraction of the main belt, so that the belt may fit the body snugly and yet allow the requisite freedom of expansion. It will be noticed that the main spring has its members far enough apart so that the flesh of the body may protrude between them, and the belt will thus be held snugly in place and prevent it from slipping up and down, and by bending the spring so as to cause either the upper or lower member to project farther than the opposite member, the spring may be made to exactly fit the body. It will be understood that this spring may be made very short and properly secured to the belt, or it may be made long enough to extend throughout nearly or quite the entire length of the belt. The truss is provided with the usual pads 20 and 20<sup>a</sup>, and either one or two pads may be used, according to the nature of the case to be treated. The slotted portion 15 of the spring to which the pad is secured is provided with keepers 19, which clasp the two members of the spring and hold them in proper position in relation to each other. The pads are of the usual construction, and each pad is provided with a bolt or shank 21, which is held in the slot 15 of the spring, the bolt or shank being provided with nuts 22, which enable it to be clamped in place. Each pad-bolt 21 is provided with a loose plate 23, between which and the pad are inserted spiral springs 24, which hold the pad in an extended position, so that it will press snugly upon the body, but the springs will permit the pads to be moved laterally to a certain extent, so that in case of any sudden or violent outward movement of the body the pads will yield slightly so as not to hurt the wearer.

Instead of using the series of springs and the spring-plate, as described, a single spiral spring 25 (shown in Fig. 4) may be coiled around the bolt 21, or a spring 26 may be used, as shown in Fig. 5, which spring is provided with oppositely-arranged members 27,



terminating in loops 28, which embrace the supporting or pad bolts 21, and at the junction of the members 27 the wire of the spring is formed into a coil 29, which gives to the  
5 spring the necessary elasticity.

It will be understood that still other forms of springs may be used, if desired, with the same effect. One of the pads 20<sup>a</sup> is provided with intersecting surface-bands 30, composed  
10 of copper and zinc, and, if desired, both pads may be made in this way, so that the patient will get the benefit of whatever electrical action results from the combination of metals.

In Fig. 6 I have shown a form of truss embodying the principles described above, but it is especially adapted for use in case of double rupture, and in this case the belt is made in two parts 10<sup>b</sup>, having the extension 10<sup>a</sup> and the strap and buckle connection already described, and in this case the parallel  
20 portion of the spring containing the slot 15 is arranged between the two parts of the belt and the spring is enlarged at each end, as shown at 13<sup>a</sup>, the enlarged or expanded portions of the spring being held in the parts of  
25 the belt. In this case the spring is provided with the loop 16, there being a loop at each end, and the spring connection between the loops and the strap or belt is substantially as already described, except that the strap 11 is  
30 buckled around one of the cross-bars of the loops. A keeper 14 is arranged at each end of the slotted portion of the spring, so that

the spring may be given the desired bend and be held in place by the keepers, and the two  
35 pads 20 are carried in the manner already described, and may be easily adjusted so as to fit the desired part of the body.

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

1. A truss comprising a hollow belt, a wire spring carried by the belt and terminating at one end in a loop, a spring connection between the loop and the buckled portion of the  
45 belt, and pads carried by the spring, substantially as described.

2. The combination, with the hollow belt, of a spring carried by the belt, said spring being formed of nearly parallel wire members  
50 terminating in an enlarged loop, keepers secured to the spring at the points where it leaves the belt and where its loop begins, and spring-pressed pads carried by the exposed portion of the belt between the keepers, substantially as described.

3. The combination, with the truss-belt and the pad-carrying springs supported in the belt, one end of the spring terminating in a  
60 loop, of a spring-pressed cross-bar carried by the loop and adapted to be secured to a portion of the belt, substantially as described.

WILLIAM A. ADAIR.

Witnesses:

A. M. SMITH,  
WM. KRUEGER.