

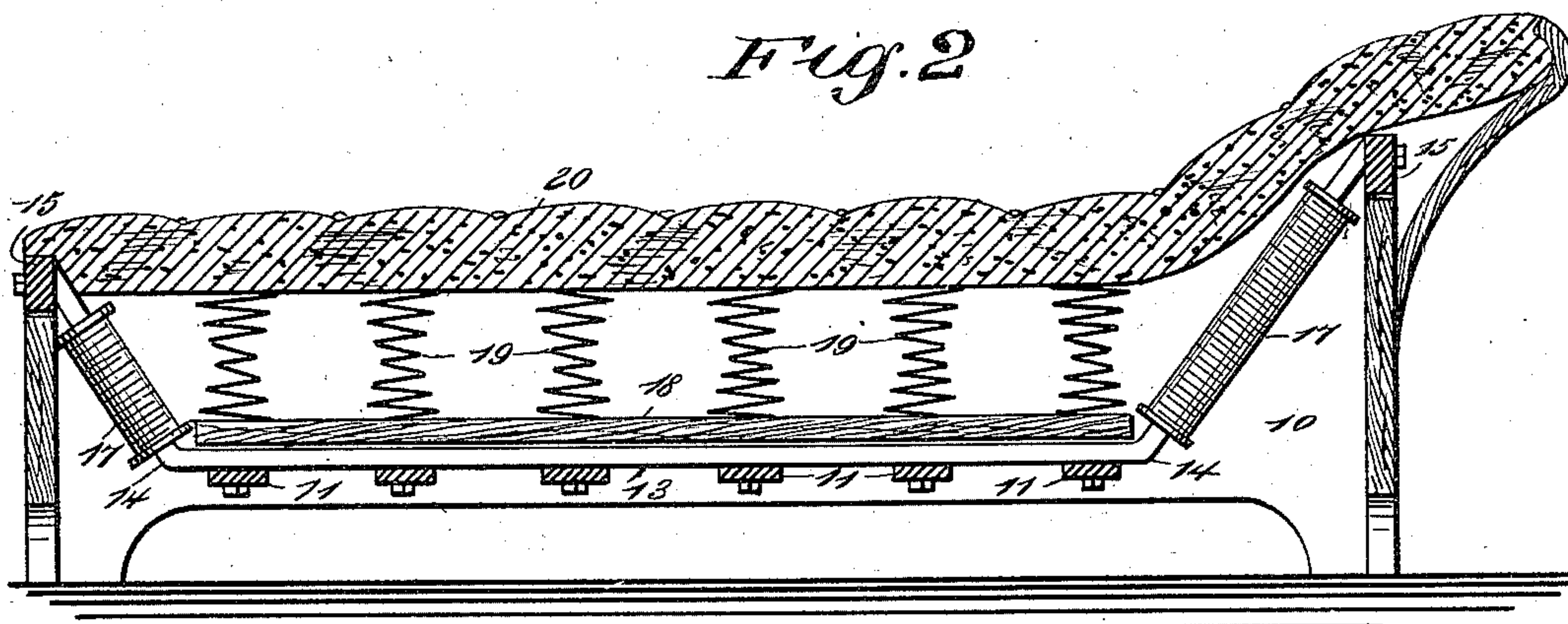
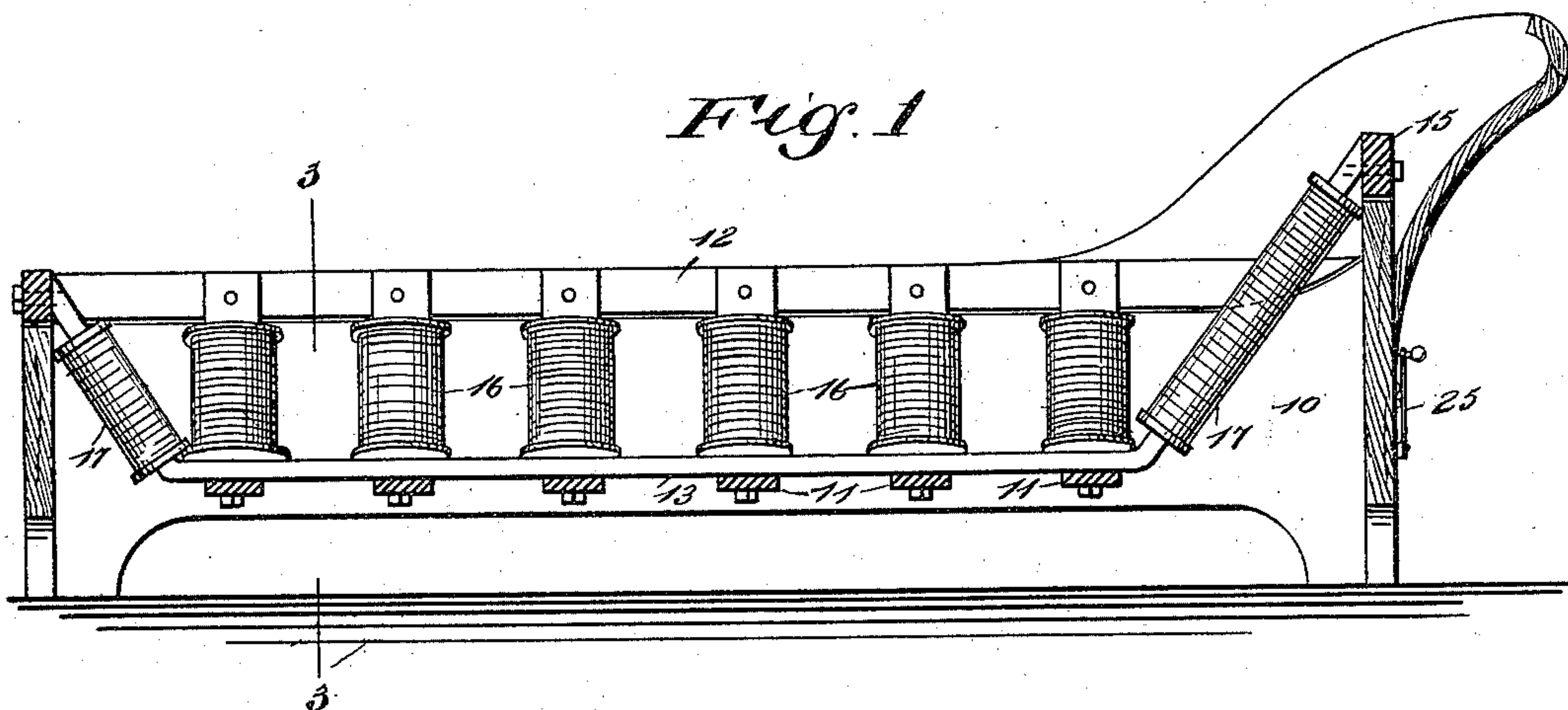
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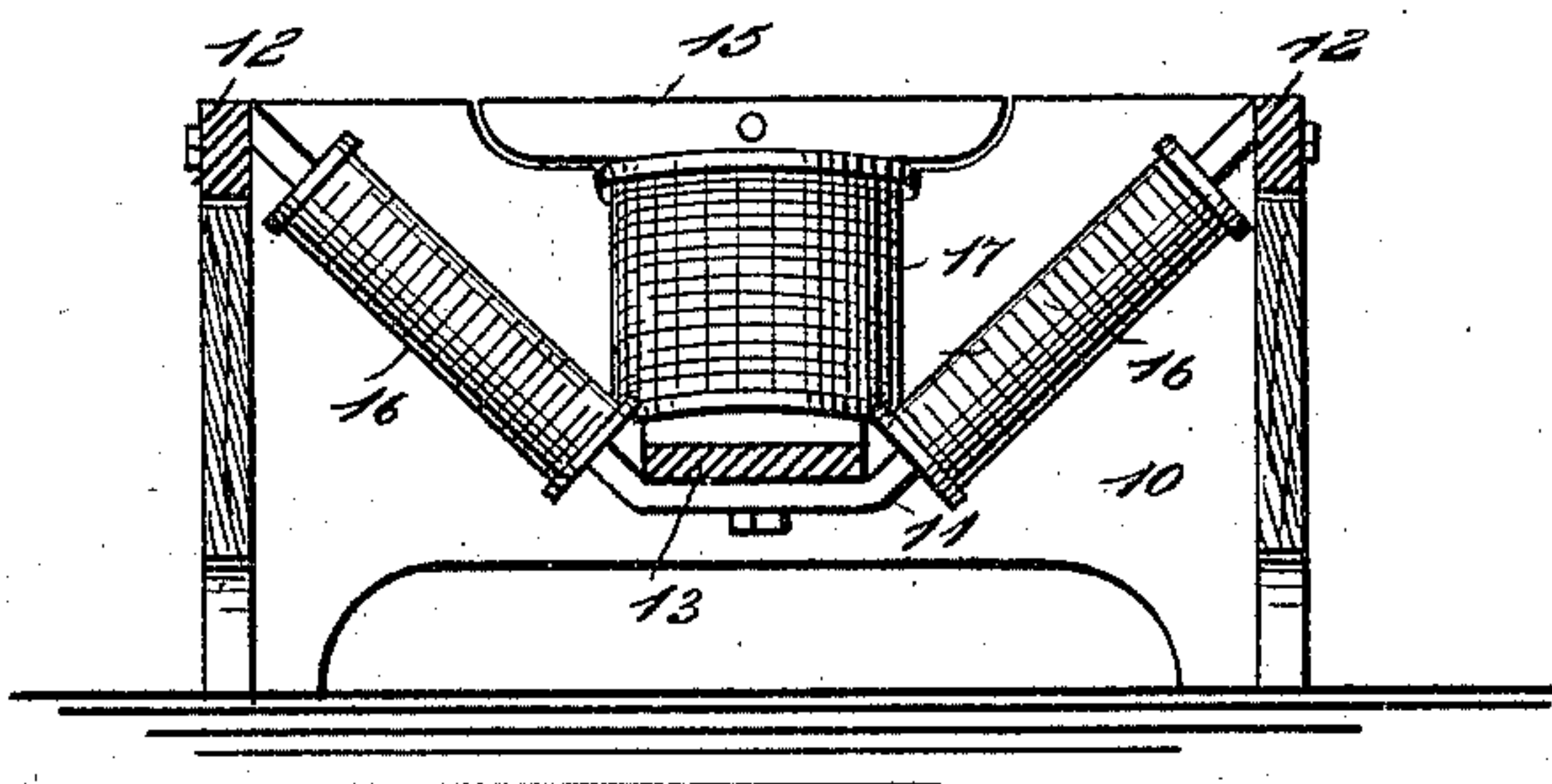
A. B. SLATER & N. A. RENSTROM.  
MAGNETIC MEDICAL APPARATUS.

No. 561,448.

Patented June 2, 1896.



*Fig. 3*



WITNESSES:

*John Bergstrom*  
*H. P. Hutchinson*

INVENTORS

*A. B. Slater*

*N. A. Renstrom*

BY

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ATTORNEYS.

(No Model.)

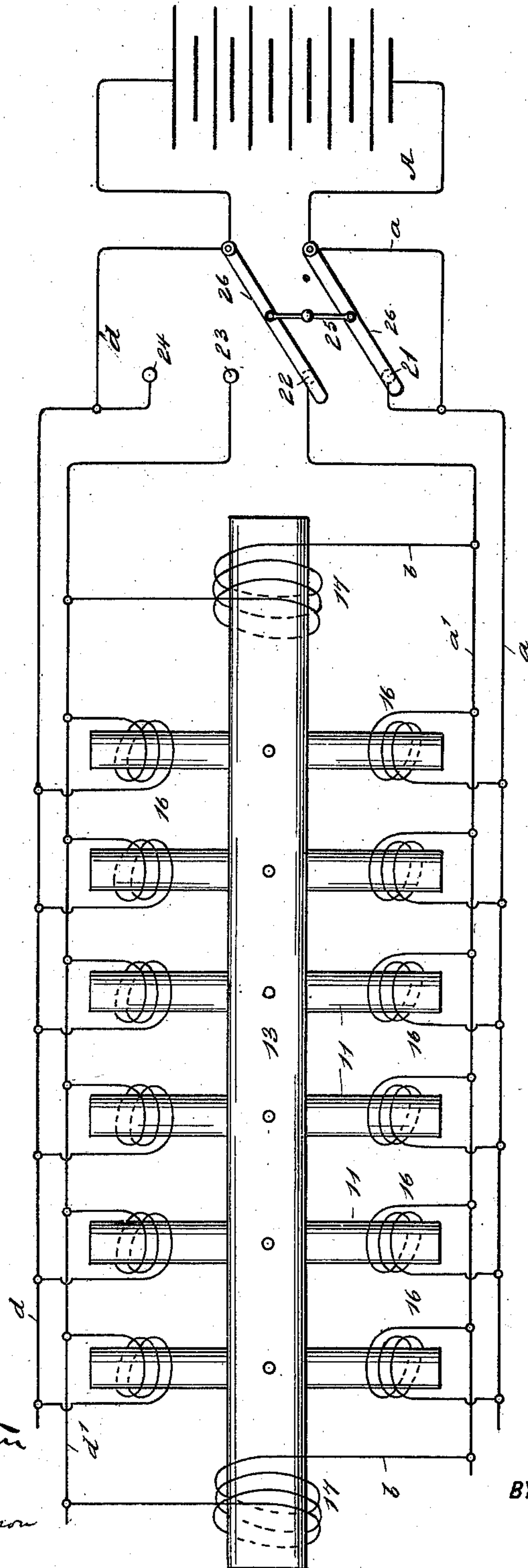
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*Fig 4*



WITNESSES:

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# UNITED STATES PATENT OFFICE.

AUGUSTUS B. SLATER AND NILS A. RENSTROM, OF OMAHA, NEBRASKA.

## MAGNETIC MEDICAL APPARATUS.

SPECIFICATION forming part of Letters Patent No. 561,448, dated June 2, 1896.

Application filed October 9, 1894. Serial No. 525,345. (No model.)

*To all whom it may concern:*

Be it known that we, AUGUSTUS B. SLATER and NILS A. RENSTROM, of Omaha, in the county of Douglas and State of Nebraska, have invented a new and Improved Electro-magnetic Apparatus, of which the following is a full, clear, and exact description.

Our invention relates to improvements in magnetic medical apparatus; and the object of our invention is to produce an apparatus which may be made in the form of a couch, sofa, chair, or other article on which a person may sit or lie, and which has a series of electromagnets arranged in such a manner as to create a magnetic field in which a patient may lie and thus receive the benefit of the electromagnetism without danger of objectionable shock, even though the patient have very delicate sensibilities.

A further object of our invention is to produce an apparatus of this kind which is constructed in such a way that the lines of force may be varied at will, so that the electromagnetic influence may be made to exert itself on any part of the patient's body, causing the currents to travel in different directions when desired.

Another object of our invention is to make the apparatus simple and inexpensive, so that it may be generally used.

To these ends our invention consists of certain features of construction and combinations of parts, 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 letters and figures of reference indicate corresponding parts in all the views.

Figure 1 is a central longitudinal section of a lounge, showing our improvements, but with the upholstering and springs removed. Fig. 2 is a similar view with the upholstering and springs in position. Fig. 3 is a cross-section on the line 3 3 of Fig. 1, and Fig. 4 is a diagram of the electrical circuits.

In the accompanying drawings we have shown our invention as applied to a lounge, although it will be clearly seen that it may be applied to anything capable of supporting a person, and, as shown, the lounge has the customary frame 10, which may be of any

usual construction, and this is provided with iron cross-pieces 11, which are bent down in the center to provide for supporting the springs of the lounge, and these cross-pieces serve as cores for a series of electromagnets to be presently described, and the ends of the cross-pieces connect with pole-pieces 12, which rest on the top edges of the lounge-frame at the front and back thereof.

The cross pieces or cores 11 support a longitudinal core 13, which is bent up at the ends, as shown at 14, and terminates in pole-pieces 15, which rest on the top edges of the frame at the head and foot thereof, as shown clearly in Figs. 1 and 2. The inclined opposite sides of the cross pieces or cores 11 carry helices 16 and the turned-up ends 14 of the core 13 carry helices 17. On the core 13 is laid a board 18, which supports brass springs 19, carrying the upholstering 20; but the manner of supporting the upholstering we do not claim, and it may be arranged and supported in any usual way.

The several electromagnets may be electrically connected in any usual way, and in Fig. 4 is shown a diagram of suitable connections which illustrates a battery A, from which leads a wire *a*, connecting with the magnets 16 on the right-hand side of the lounge, while the return-wire *a'* leads to a switch point or contact 22, which is arranged adjacent to another contact 21, this being connected with the wire *a*. The wire *a'* also connects with the wires *b* of the magnets 17 and with the return-wire *d'* on the opposite side of the lounge, this wire connecting with a switch-contact 23 and with the adjacent magnets 16, which also connect with the wire *d*, this leading back to the battery and also to a contact 24.

Any ordinary switch may be used for sending the current to either of the wires just described and for reversing the current, and the switch forms no part of our invention; but we have shown an ordinary two-armed switch 25, which is arranged, preferably, on the head-board of the lounge, and the arms 26 of the switch are connected with the wires *a* and *d* and are adapted to swing into contact with the several switch-contacts 21, 22, 23, and 24.

By turning the switch-arms to the position shown in Fig. 4, so as to contact with the points 21 and 22, the current passes from the



battery through the wire *a*, the magnets 16 on the right-hand side of the lounge, the wire *a'*, the contact 22, one of the switch-arms, and the wire *d* to the battery. If the switch-arms  
 5 are turned into contact with the points 22 and 23, the current passes from the battery A through one of the switch-arms, through the wire *a'*, the wires *b*, the magnets 17, the wire *d*, the contact 23, and the other switch-arm  
 10 26 to the battery. If, however, the arms are turned into contact with the points 23 and 24, the circuit is from the battery through one of the switch-arms 26, the contact 23, the wire *d'*, the magnets 16 on the left-hand side of the  
 15 lounge, and the wire *d* back to the battery. The switch may also be arranged, if desired, so as to send the current through all the magnets simultaneously, and a reversing-switch may be used so as to reverse the current when  
 20 necessary. We have not shown switches for doing all this, as any ordinary switches may be used.

It will be seen from the above description that by shifting the current to different parts  
 25 of the apparatus the magnetic field may be made strong in one part and weak in another, so that the influence may be brought to bear on any desired portion of the patient's body.

Having thus described our invention, we  
 30 claim as new and desire to secure by Letters Patent—

1. An apparatus of the kind described, comprising a support for a body, and electromagnets distributed beneath the surface of the support so as to create a magnetic field therein, substantially as described. 35

2. An apparatus of the kind described, comprising a lounge or other support, pole-pieces on the sides and ends thereof, cross-cores connecting the pole-pieces, and wire helices on  
 40 the cores, substantially as described.

3. An apparatus of the kind described, comprising a body-support, electromagnets at the sides and ends of the support, and means for sending an electric current through either of  
 45 the magnets, substantially as described.

4. The combination, with the lounge or other support, of the pole-pieces on the side edges thereof, the cross-cores connecting the side pole-pieces, the helices on opposite ends  
 50 of the cores, the longitudinal core connecting with end pole-pieces, magnets on the end portions of the longitudinal core, and the switch mechanism for sending an electric current  
 55 tially as described.

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Witnesses:

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