

(No Model.)

W. J. SHELTON.  
ELECTRO MEDICAL BELT.

No. 424,827.

Patented Apr. 1, 1890.

FIG. I.

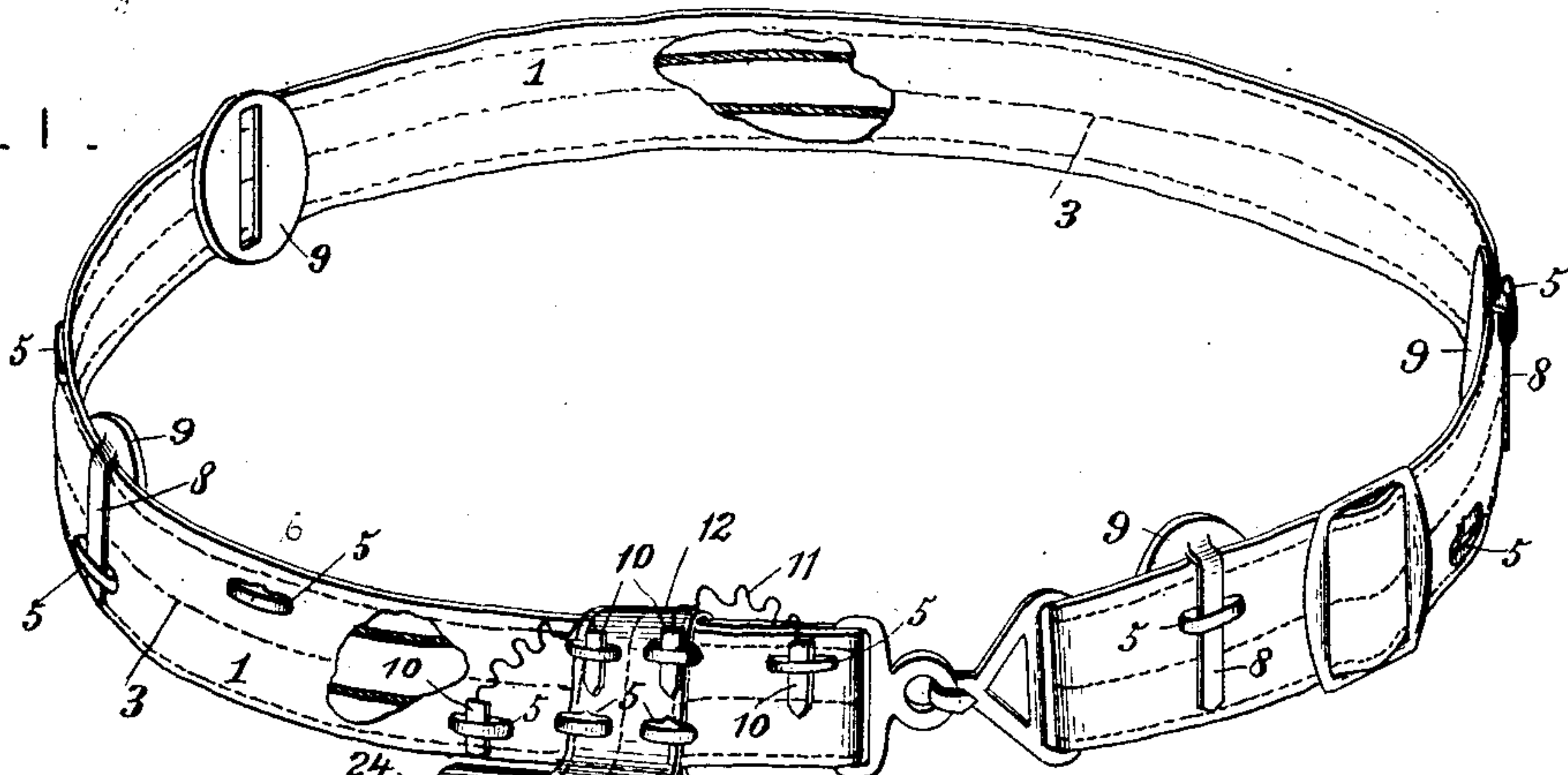


FIG. III.

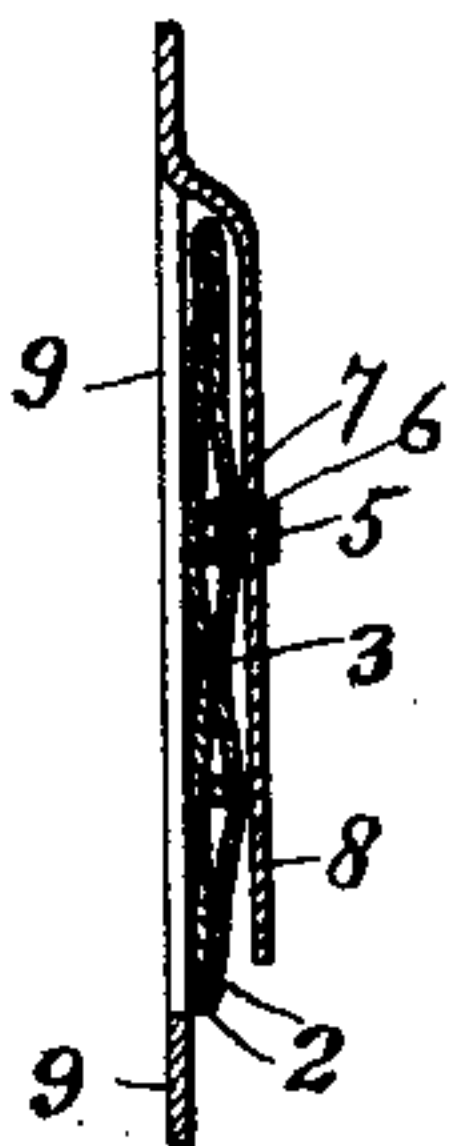


FIG. IV.

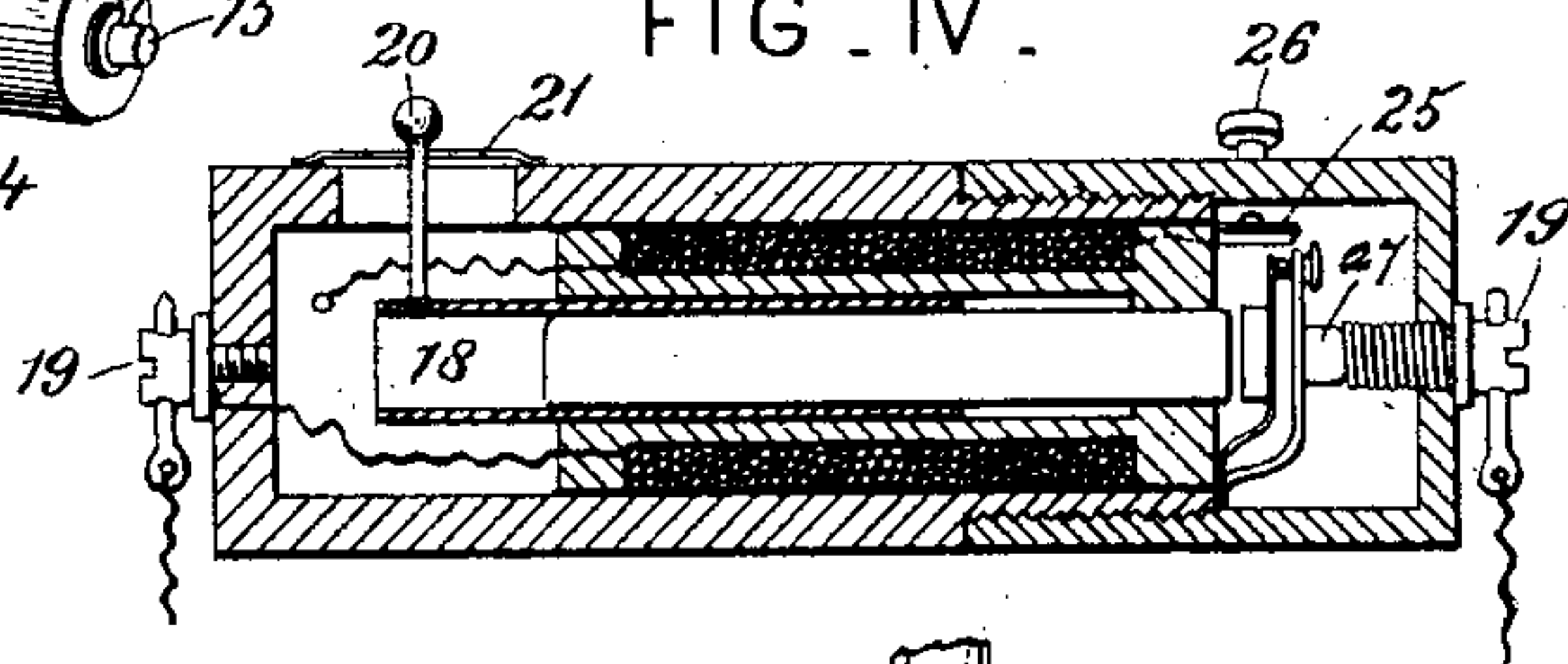
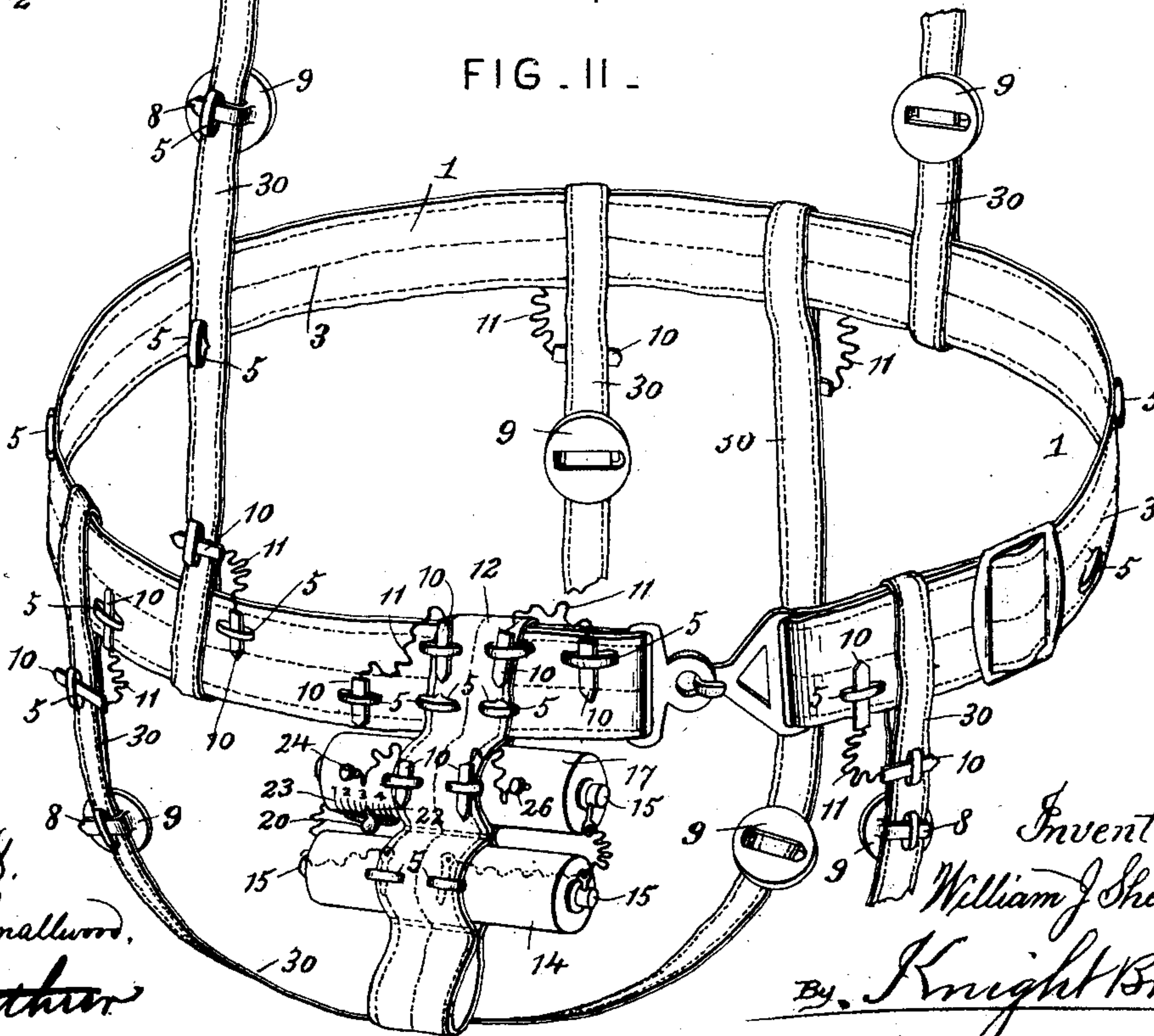


FIG. II.



Attest.  
Geo. T. Smallwood,  
C. Arthur

Inventor  
William J. Shelton.  
By Knight Bros. attys.



# UNITED STATES PATENT OFFICE.

WILLIAM J. SHELTON, OF COLUMBIA, TEXAS.

## ELECTRO-MEDICAL BELT.

SPECIFICATION forming part of Letters Patent No. 424,827, dated April 1, 1890.

Application filed December 2, 1889. Serial No. 332,314. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM J. SHELTON, a citizen of the United States, residing at Columbia, Brazoria county, Texas, have invented certain new and useful Improvements in Electro-Medical Appliances, of which the following is a specification.

My present invention relates to improvements in devices for applying the electric current to different parts of the human body, and has for its object to provide a device which will be convenient in form, economical in structure, and durable in use, the device being provided with means for applying the current to any part of the body without the necessity of carrying a bulky appliance at the part.

The invention consists in a belt or support constructed of multiple-ply electro-conductive belting, which I make by inserting a conductor or conductors between the folds of a multiple-ply band with suitable contact-points at the surface, a sling supported by and movable on the belt for carrying the electric generator, also constructed of the electro-conductive belting, and having detachable connectors between its contact-points and those of the belt-contact plates, consisting of disks or plates provided with tongues or loops which engage over the edge of the belt and pass into loops or sockets formed on the surface-contacts, and a generator or electric supply consisting of a primary battery and a converter or induction-coil, each inclosed in a hermetic cylindrical housing, preferably made of hard rubber, and having the axial binding-screws for making the primary-current connections, said converter being also provided with peripheral binding-screws, and a projecting knob by which the sheath surrounding the core of the coil is moved to regulate the tension, a scale-indicator and friction device being also provided.

The invention will be more fully understood by reference to the accompanying drawings, in which—

Figure I is a perspective view of the simple form of belt. Fig. II is a similar view showing the manner of applying the current through the electro-conductive belting to the different parts of the body. Fig. III is a transverse section through the belt, the contact-

point, and the contact-plate. Fig. IV is an axial section through the induction-coil in the plane of the projection for controlling the position of the sheath.

1 represents the belt, which is composed of the two pieces or plies 2, secured together by stitches or other suitable means along the edges and divided by a central row of stitches 3, for the purpose of separating the two conductors, which are passed along inside the strap, and this constitutes my improved electro-conductive belting, which may, if preferred, be made by the yard or in other quantities of any width and pieces severed for use as may be required.

5 represents the contacts or contact-points, which consist, preferably, of simple metallic loops or sockets 6 with a stem 7, which passes through the outer thickness of the belt and makes connection with one of the wires therein. These loops are adapted to receive either the tongues 8 on the contact-plate 9 or the tongues 10 on the connectors 11, which connectors 11 may be used for connecting the sling with the belt or the primary battery with the induction-coil, or the primary battery with the contact-loops on the sling surrounding it, as well as for connecting the converter with its surrounding loop in the sling. The sling 12 is also constructed of the electro-conductive belting, and may be similar as regards the interior conductors and the surface contact-loops to the belt. The connectors 11 may consist of flexible conductors having on one or both ends a hook or tongue 10 for insertion into the loops or sockets of the surface contact-points in any part of the sling or belt. If desired, this form of connector may also be used between the battery and primary coil of the converter, though this is not material, for it is obvious any connection suitable for the purpose may be made for completing the circuit between the several points.

A battery used in my present invention may be of any convenient kind—such, for example, as the one described in my patent, No. 405,436.

14 represents the primary battery, 15 the connecting-posts at the ends thereof, and 17 the converter. This converter I make of an improved form and inclose it in a hermetic



housing for the purpose of excluding therefrom the moisture from the body, which would injure the working parts. This converter consists of the primary and secondary coils, the movable sheath 18, surrounding the core, the axial binding-screws 19, which connect with the primary coil, the projection 20, which is connected with the sheath of the core for moving it for the purpose of regulating the current, said projection having on the outside a spring-friction device 21, an indicator 22, which designates upon a scale 23 the position of the sheath with relation to the induction-coil. The projection works through a slot in the housing. One end of the secondary wire of the induction-coil is connected to a screw 24, while the other is connected to a contact plate or ring 25, which is adapted to make connection with a screw 26 in the movable end of the housing, which is adapted to be screwed off to give access to the working parts of the induction-coil. The connection between the binding-screw and the end of the cap and the make and break device of the induction-coil is insured by means of a projection 27, which may be an extension from the support which carries the contact-point in the make and break device, and which enters a spiral-spring socket in the end of the binding-screw in the cap.

For communicating the current to the different parts of the body, additional straps 30, precisely similar in construction, though preferably smaller in size than the belt, may be used, and the connection between these or the contact-points on these straps may be made by the same connectors as employed for connecting contact-points on the sling with those on the belt.

While I have thus specifically described the details of construction in my improved appliance, I do not limit myself to such particular construction, for the same is susceptible of various modifications which come within the principles of the invention.

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

1. As an article of manufacture, electro-conductive belting consisting of the multiple band having the conductor or conductors inclosed within it, as set forth.

2. As an article of manufacture, electro-conductive belting consisting of the multiple band having the conductor or conductors inclosed within it, and suitable contacts on the surface connected with the conductors, substantially as set forth.

3. In an electro-medical appliance, the combination, with the electro-conductive belting having suitable surface contact-points, of suitable contact-plates adapted to engage the contact-points, substantially as set forth.

4. In an electro-medical appliance, a support constructed of the electro-conductive belting, having suitable surface contact-

points comprising loops or sockets for supporting contact-plates which engage and retain them in place, substantially as set forth.

5. In an electro-medical appliance, a belt or support having suitable conductors running along it in different longitudinal lines, and similarly-located lines of contact-points connected to their respective conductors, substantially as set forth.

6. In an electro-medical appliance, the combination, with the electro-conductive belt or support having suitable conductors and contact-points, of contact-plates having the engaging tongues or loops and adapted to contact with the contact-points, substantially as and for the purpose set forth.

7. In an electro-medical appliance, the combination of the electro-conductive belt or support, the electro-conductive sling for carrying the supply, said sling and support having suitable contact-points and connectors for connecting contact-points on the sling with those of the support, substantially as set forth.

8. In an electro-medical appliance, the combination of the electro-conductive belt or support, the electro-conductive sling carried by and movable upon said support, said support and sling having suitable contact-points, and detachable connectors for completing the circuit between the contact-points on the sling and those on the support, all substantially as and for the purposes set forth.

9. In an electro-medical appliance, the combination, with the electro-conductive support having the contact loops or sockets connected to their respective conductors, of the sling carrying the generator and the plates for making connection with the body, said sling and plates being movable on the support and provided with tongues or projections adapted to pass into the loops or sockets on the support for the purpose of making electrical contact therewith, all substantially as set forth.

10. An electric converter or induction-coil inclosed in a hermetic housing, and having the four contact-screws connected with the respective ends of the primary and secondary coils, and the projection connected with the sheath of the induction-coil for moving the same to regulate the tension, substantially as set forth.

11. An induction-coil inclosed in a hermetic housing and having the axial contact-points for receiving the primary current and the peripheral contact-points for imparting the secondary current, said housing being provided with contact-screws corresponding in position and adapted to contact with their respective contact-points of the induction-coil, substantially as explained.

12. A contact-plate for electro-medical appliances, consisting of the body and the engaging tongue or loop formed thereon, substantially as set forth.

13. A contact-plate for electro-medical appliances, consisting of the plate or disk hav-



ing the securing tongue or loop stamped out of the same, substantially as set forth.

14. The combination, with the electro-conductive belt or support and the supplemental  
5 electro-conductive strap, each provided with suitable contacts, of connectors having the ends adapted to engage the contacts for connecting the two parts together at any points, so that the current can be conducted to different parts of the body, substantially as set  
10 forth.

15. A converter or induction-coil closed in a suitable casing and having the contact-

points connected with the respective ends of the primary and secondary coils, a knob projecting from the sheath of the core of the induction-coil through the housing for moving the sheath to regulate the tension of the secondary current, and a scale, an indicator, and a friction device for indicating the position  
15 of and retaining in place the core. 20

WILLIAM J. SHELTON.

Witnesses:

F. A. HOPKINS,

HERVEY S. KNIGHT.