

No. 735,687.

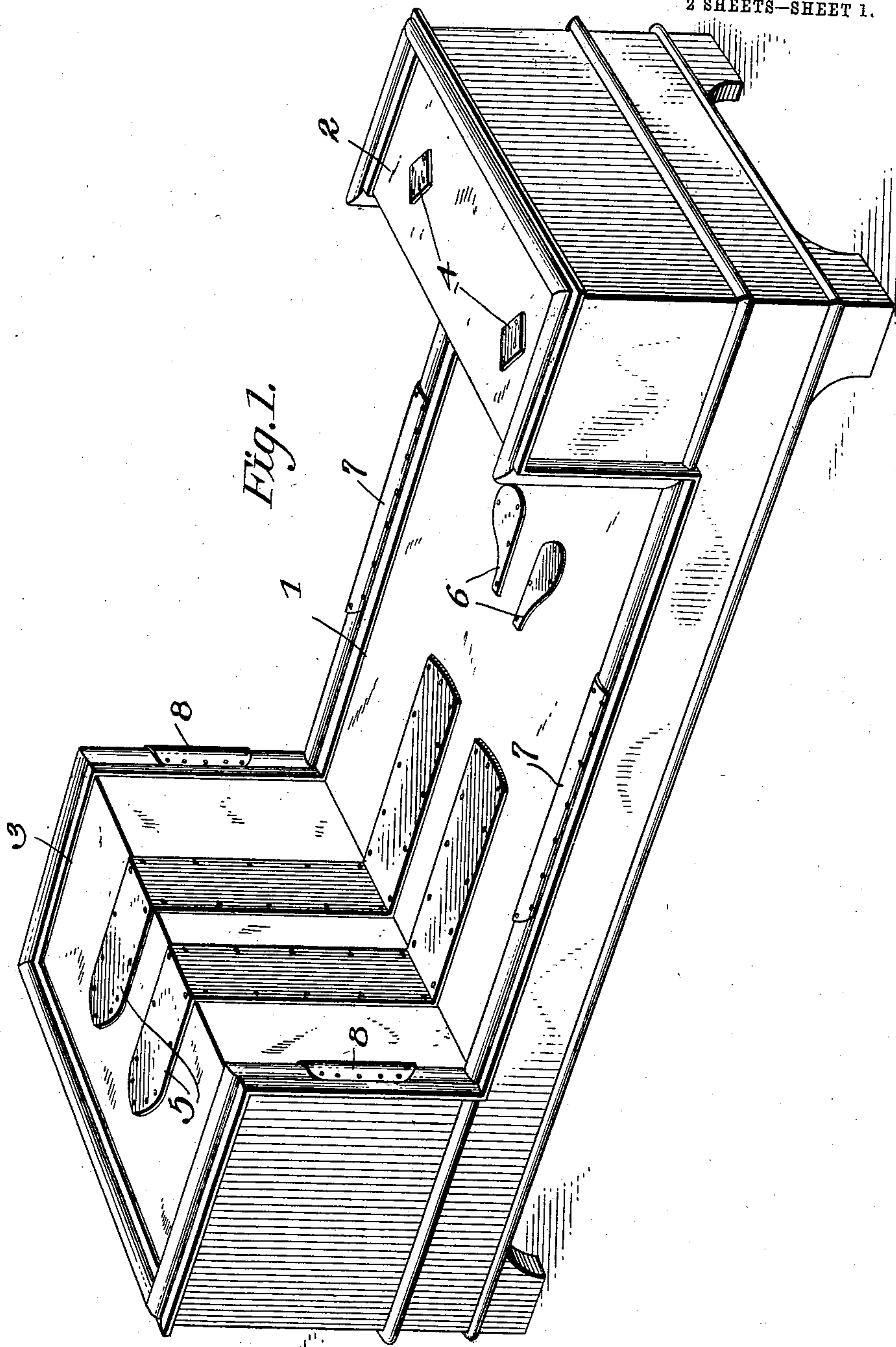
PATENTED AUG. 4, 1903.

S. B. ZINK.
ELECTROTHERAPEUTIC APPARATUS.

APPLICATION FILED JUNE 17, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses
E. H. Stewart
J. W. E. Parker

Scheuyler B. Zink, Inventor.
by *C. A. Snow & Co.*
Attorneys

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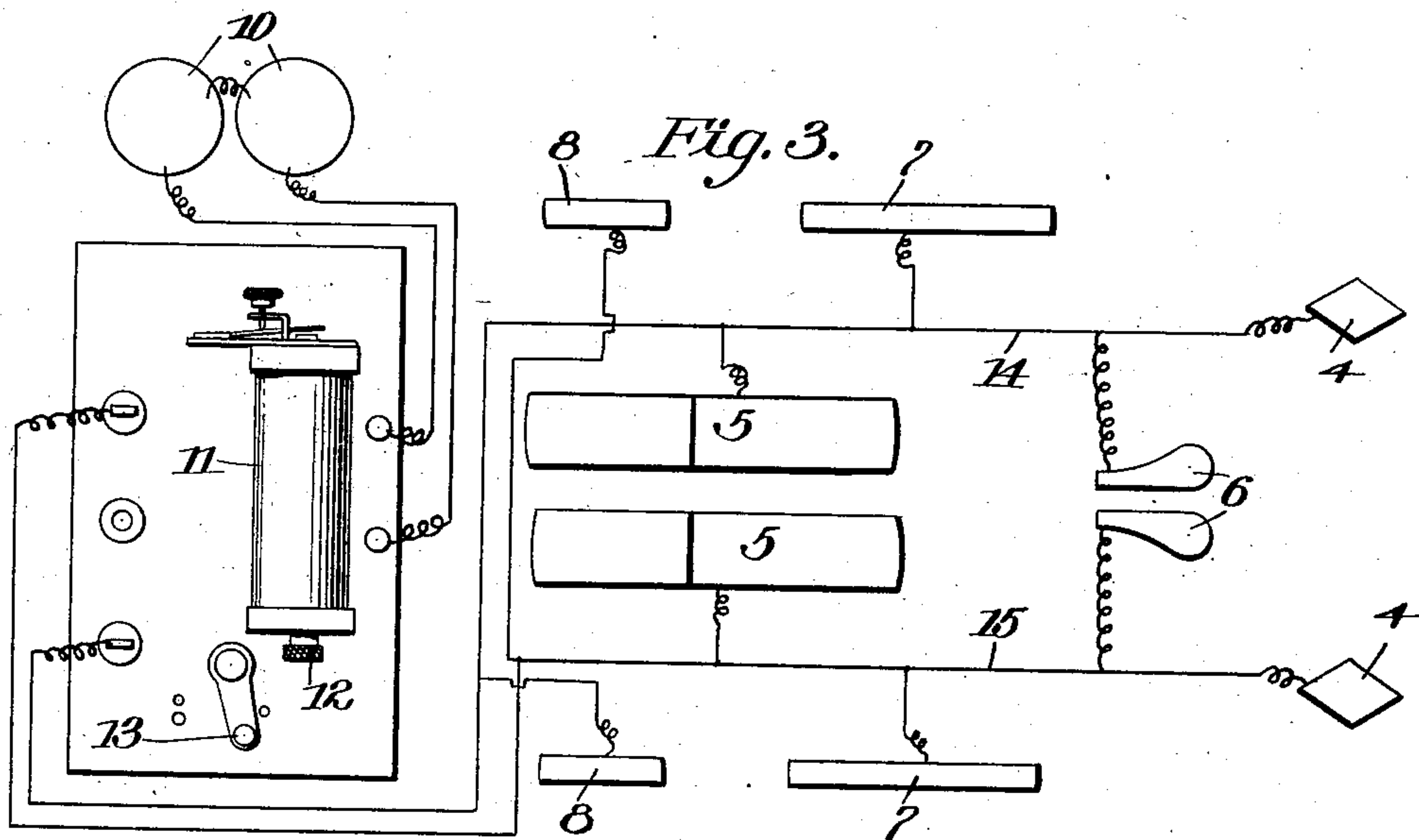
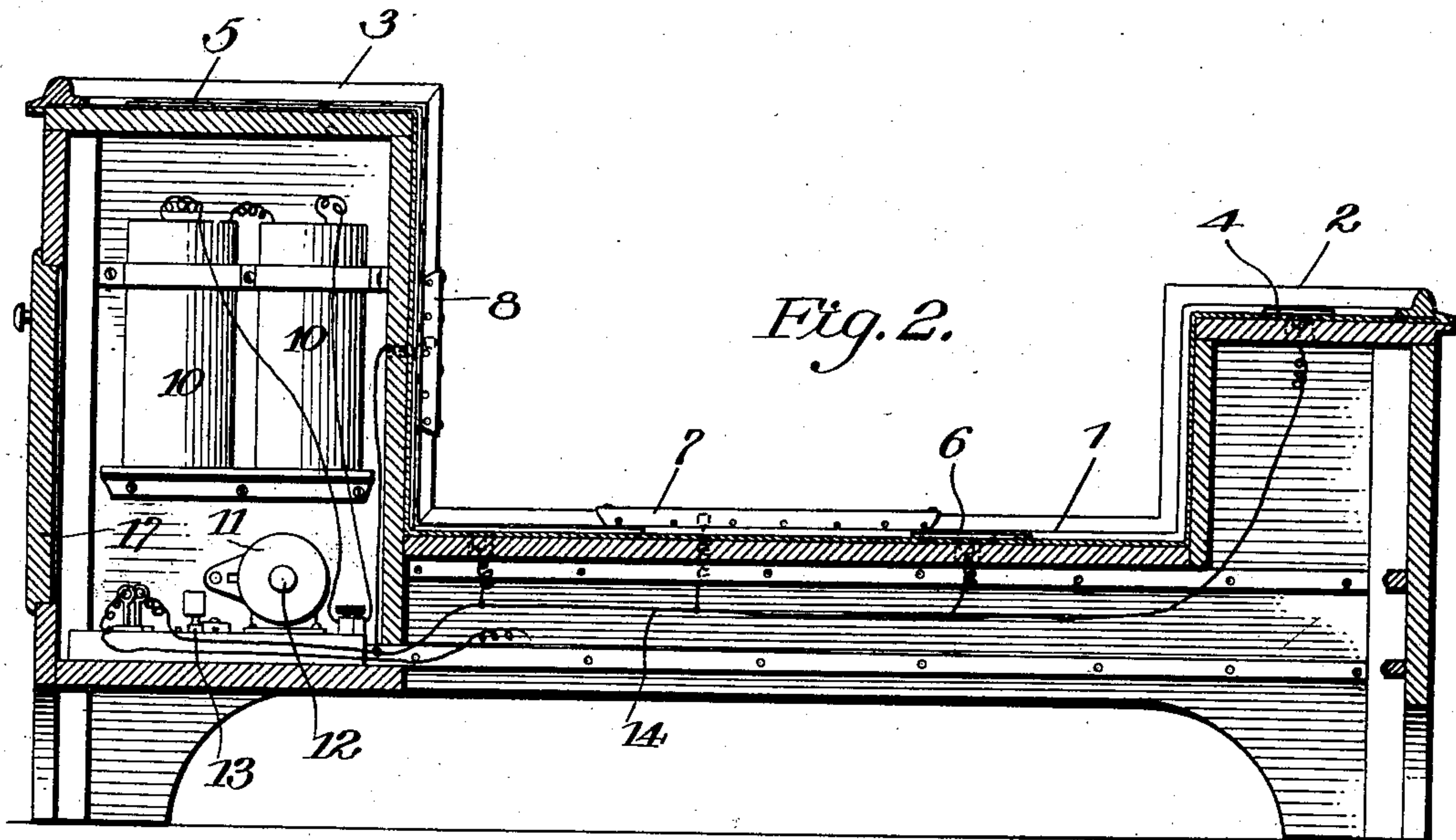
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UNITED STATES PATENT OFFICE.

SCHEUYLER B. ZINK, OF PORTSMOUTH, VIRGINIA.

ELECTROTHERAPEUTIC APPARATUS.

SPECIFICATION forming part of Letters Patent No. 735,687, dated August 4, 1903.

Application filed June 17, 1903. Serial No. 161,907. (No model.)

To all whom it may concern:

Be it known that I, SCHEUYLER B. ZINK, a citizen of the United States, residing at Portsmouth, in the county of Norfolk and State of Virginia, have invented a new and useful Electrotherapeutic Apparatus, of which the following is a specification.

The invention relates to improvements in electrotherapeutic apparatus, and has for its principal object to provide a novel form of couch or bed provided with exposed electrodes arranged in such manner as to permit contact with any desired portion of the body.

A further object of the invention is to provide a device of this character in which the electrodes are of such size and so disposed as to permit local treatment of any portion of the body by a slight change in the position assumed by the patient.

A further object of the invention is to provide a couch or bed of such construction as to properly support the patient in any position necessary for the required treatment.

With these and other objects in view the invention consists in the novel construction and arrangement of parts hereinafter described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that various changes in the form, proportions, and minor details of structure may be made without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings, Figure 1 is a perspective view of an electrotherapeutic apparatus constructed in accordance with the invention. Fig. 2 is a longitudinal sectional elevation of the same. Fig. 3 is a diagram showing the induction-coil, the interrupter, batteries, and the several circuits leading to the electrodes.

The bed or couch is of suitable length and width, its main supporting-surface 1 being disposed at a convenient height above the floor to allow the patient to assume a sitting position. At opposite ends of the bed are raised portions 2 and 3, constituting, respectively, the head and foot portions of the bed. The parts are so proportioned as to accommodate a person of average size, the portion 2 being of such height that when the patient is sitting on the surface 1, with the back rest-

ing against the vertical wall of the portion 2, the elbows will be brought into contact with electrodes 4, or by movement to other positions any portion of the arm may receive local treatment. The raised portion 3 at the foot of the bed is of such length that a person lying on the surface 1 may conveniently rest the back of the heels or the calf of the leg on the upper portion of the foot-piece, and said foot-piece is provided with angularly-bent electrodes 5, extending along the horizontal surface of the foot-piece and thence downwardly on the vertical wall of the foot-piece to the surface 1, where they are continued for some distance in the direction of the head-piece 2. This permits the contact with the electrodes with whole portions of the rear surface of the lower limbs and the patient by moving from one position to another may bring all or only a slight portion of the body into contact with the electrodes. The surface 1 is provided with a pair of electrodes 6, with which any portion of the back may be brought into contact, and when a recumbent position is assumed these electrodes will be in contact with the small of the back, while the soles of the feet are pressed against the vertical portions of the electrodes 5 by moving farther toward the foot-piece 3 in order to bring the electrodes 6 into contact with the back at about the shoulder-blades or the shoulder, while the heels may rest on that portion of the electrodes 5 carried by the foot-piece 3. The opposite side rails of the bed are provided with electrodes 7, against which the hands may be pressed while the patient is lying down, or while lying face downwardly across the bed other portions of the body may be brought into contact with these electrodes for local treatment of the afflicted parts. At opposite sides of the bed the vertical walls of the foot-piece 3 are provided with electrodes 8, so arranged as to be brought into contact with the side of the patient when the latter assumes a sitting position, the circuit being established between the electrodes 7 and 8 on corresponding sides of the bed. The arrangement is such as to permit of the contact of the electrodes with practically every portion of the body, and by the arrangement of the head and foot pieces 2 and 3 and the elec-

trodes carried thereby the patient is supported without inconvenience during the treatment.

The foot-piece 3 forms a chamber for the reception of a source of electrical energy, and in the present case I employ a pair of batteries connected in series with the primary of an inductorium 11 of the usual type and provided with a movable core 12 and a switch 13. By adjusting the core the strength of the current may be varied to suit the patient, who will then assume the desired position on the bed, or an attendant may adjust the core to get the required current strength after the patient has placed himself in position on the bed.

With the exception of the electrodes 8 all of the electrodes 4, 5, 6, and 7 on one side of the bed are connected to a current-conducting wire 14, while the corresponding electrodes of the opposite side of the bed are connected to a current-conducting wire 15. The circuit is completed in the usual manner through the body of the patient.

It is preferred that the induction-coil and controlling-switch be arranged within the foot-piece 3, and the door 17 may be provided with a lock in order to prevent disturbing the apparatus.

Having thus described the invention, what I claim is—

1. An electrotherapeutic apparatus including a bed-like structure having head and foot pieces, electrodes carried by the main surface of the bed and the head and foot pieces, said electrodes being disposed in pairs and having a multiple connection with a source of electrical energy.

2. In electrotherapeutic apparatus, a bed-like structure having head and foot pieces extending above the main surface of the bed and a pair of sets of electrodes disposed respectively on opposite sides of the longitudinal center of the bed, portions of said electrodes being carried by the horizontal surfaces of the head and foot portions, substantially as specified.

3. In electrotherapeutic apparatus, a bed-like structure including raised head and foot

portions, electrodes arranged on the main surface of the bed, auxiliary electrodes disposed in the horizontal surface of the head portion for contact with the arms of a patient, and a source of electrical energy with which said electrodes are connected.

4. In electrotherapeutic apparatus, a bed-like structure including a raised foot portion, electrodes carried by the main surface of the bed, and a pair of angularly-bent electrodes extending from the main surface of the bed upward from the vertical to the horizontal surfaces of the foot portion and adapted for contact with any portion of the lower limbs of a patient.

5. In electrotherapeutic apparatus, a bed-like structure including raised head and foot portions, a pair of spaced electrodes for engaging the back of a patient, foot-engaging electrodes carried by the foot portion, and arm-engaging electrodes arranged on the horizontal surface of the head portion of the structure, substantially as specified.

6. In electrotherapeutic apparatus, a bed-like structure including raised head and foot portions, and spaced electrodes arranged on the horizontal and vertical side rails of the bed, the vertical electrodes being adapted to engage the side of the patient, substantially as specified.

7. In electrotherapeutic apparatus, a bed-like structure including raised head and foot portions, a pair of sets of electrodes carried by the main surface of the bed and in part by the raised head and foot portions, a battery arranged within the foot portion, an inductorium also arranged within the foot portion, and multiple connections between the secondary of the inductorium and the sets of electrodes, substantially as specified.

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

SCHUYLER B. ZINK.

Witnesses:

J. H. JOCHUM, Jr.,
PAUL DEAN.