

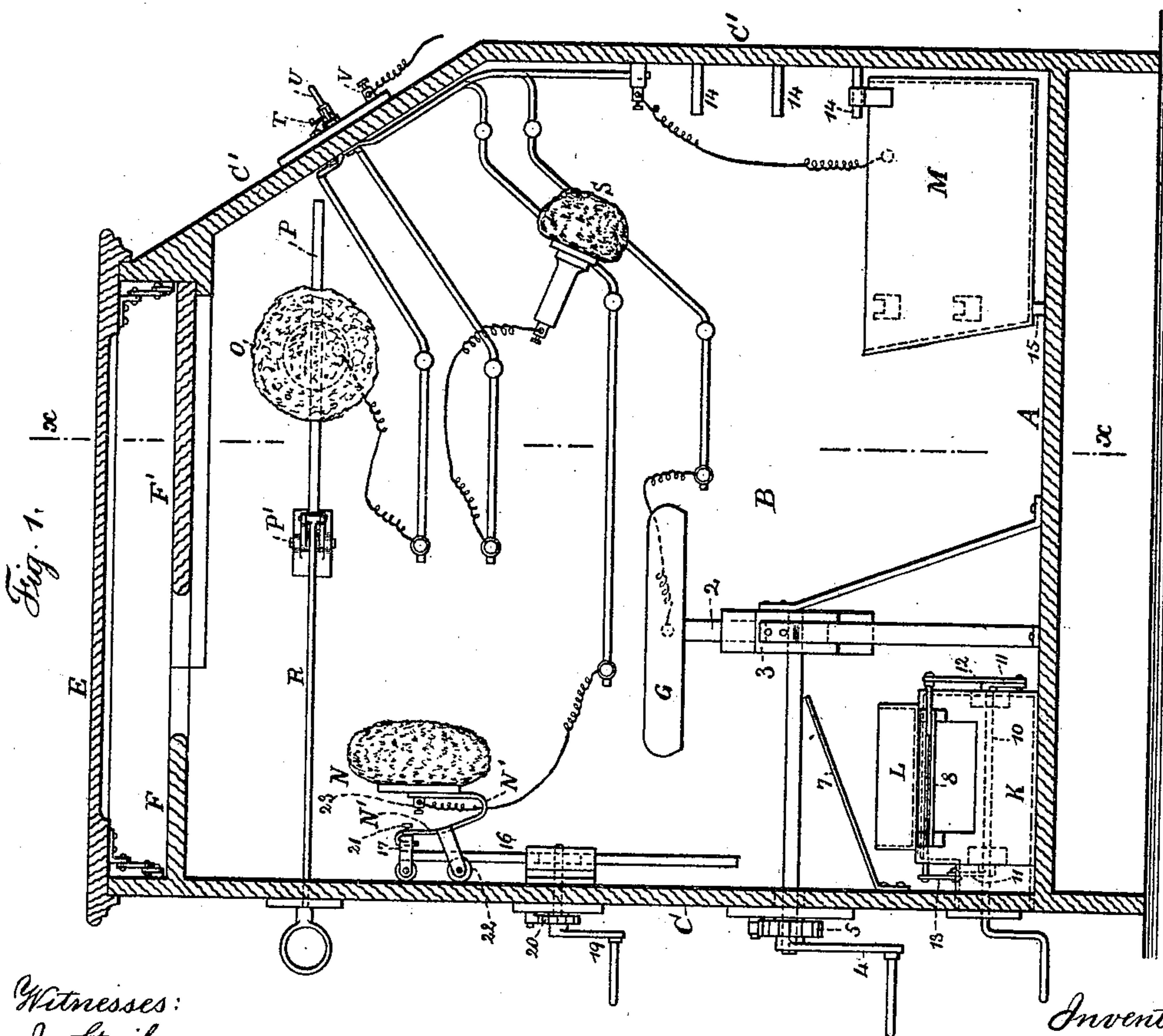
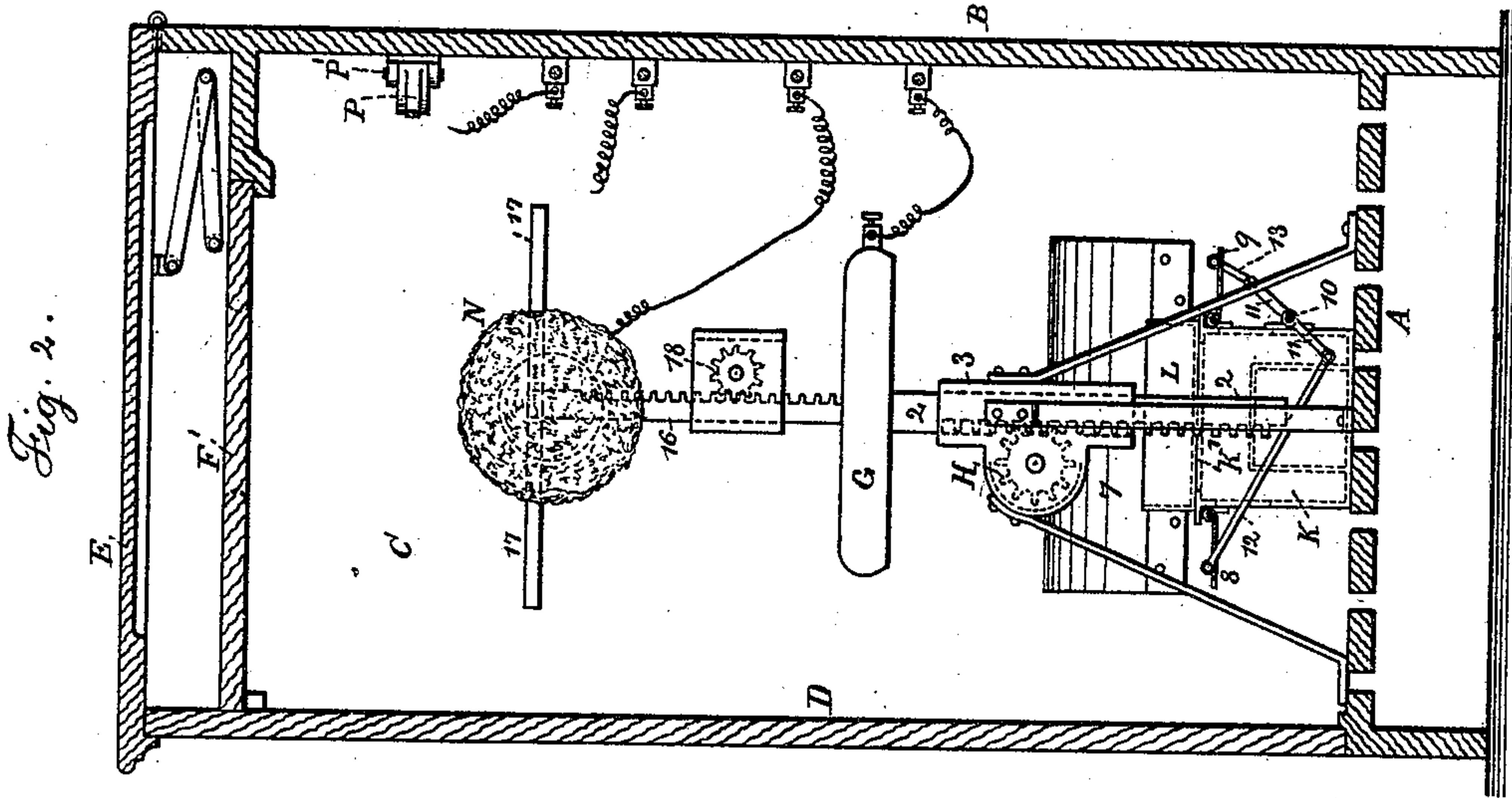
(No Model.)

2 Sheets—Sheet 1.

C. P. HOFFMAN & W. B. VAN HOUTEN.
ELECTRO THERAPEUTIC BATH.

No. 459,852.

Patented Sept. 22, 1891.



Witnesses:
J. Stair
Chas. H. Smith

Inventors.
Charles P. Hoffman
Willard B. Van Houten
per Lemuel W. Ferrell atty

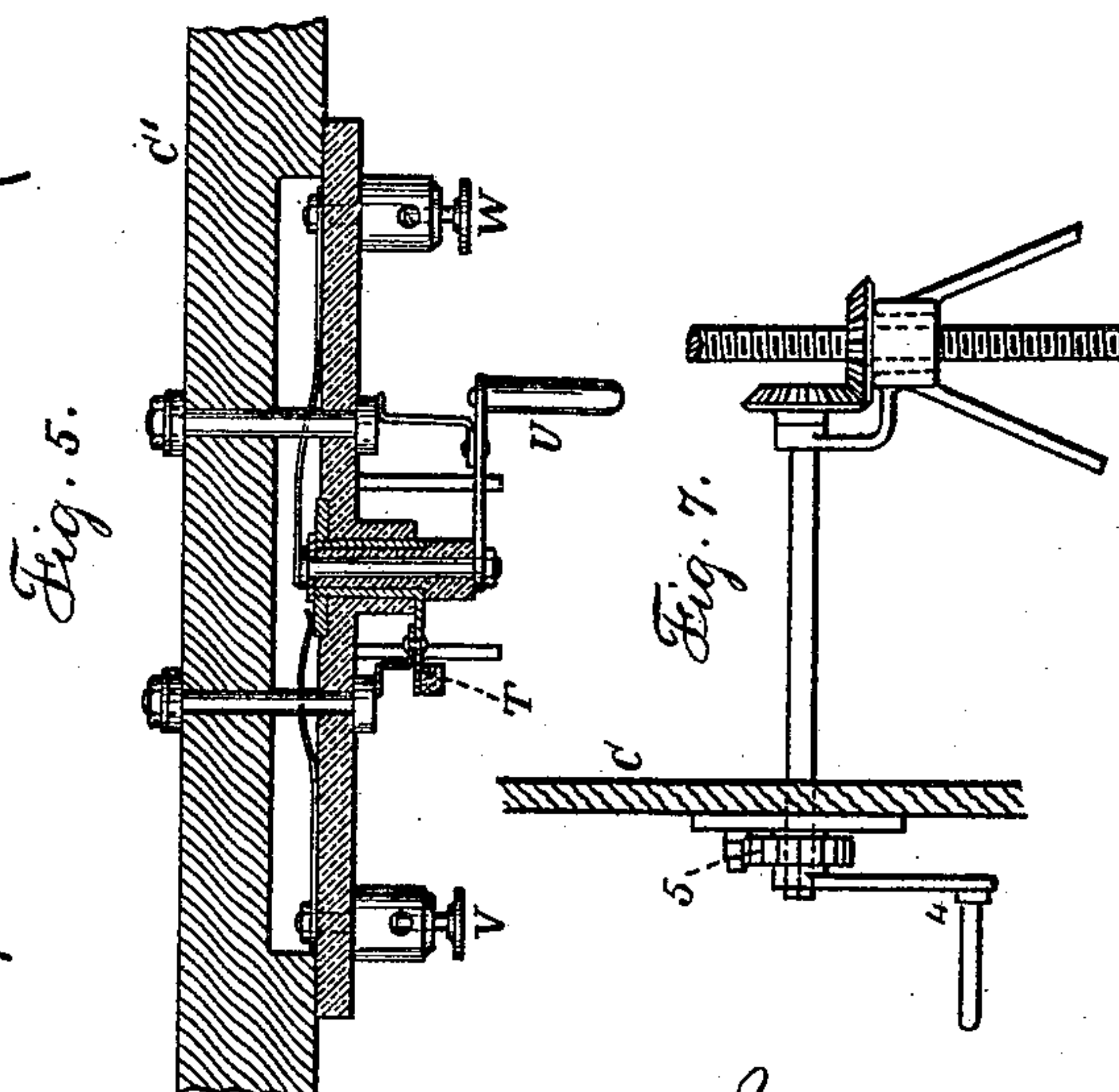
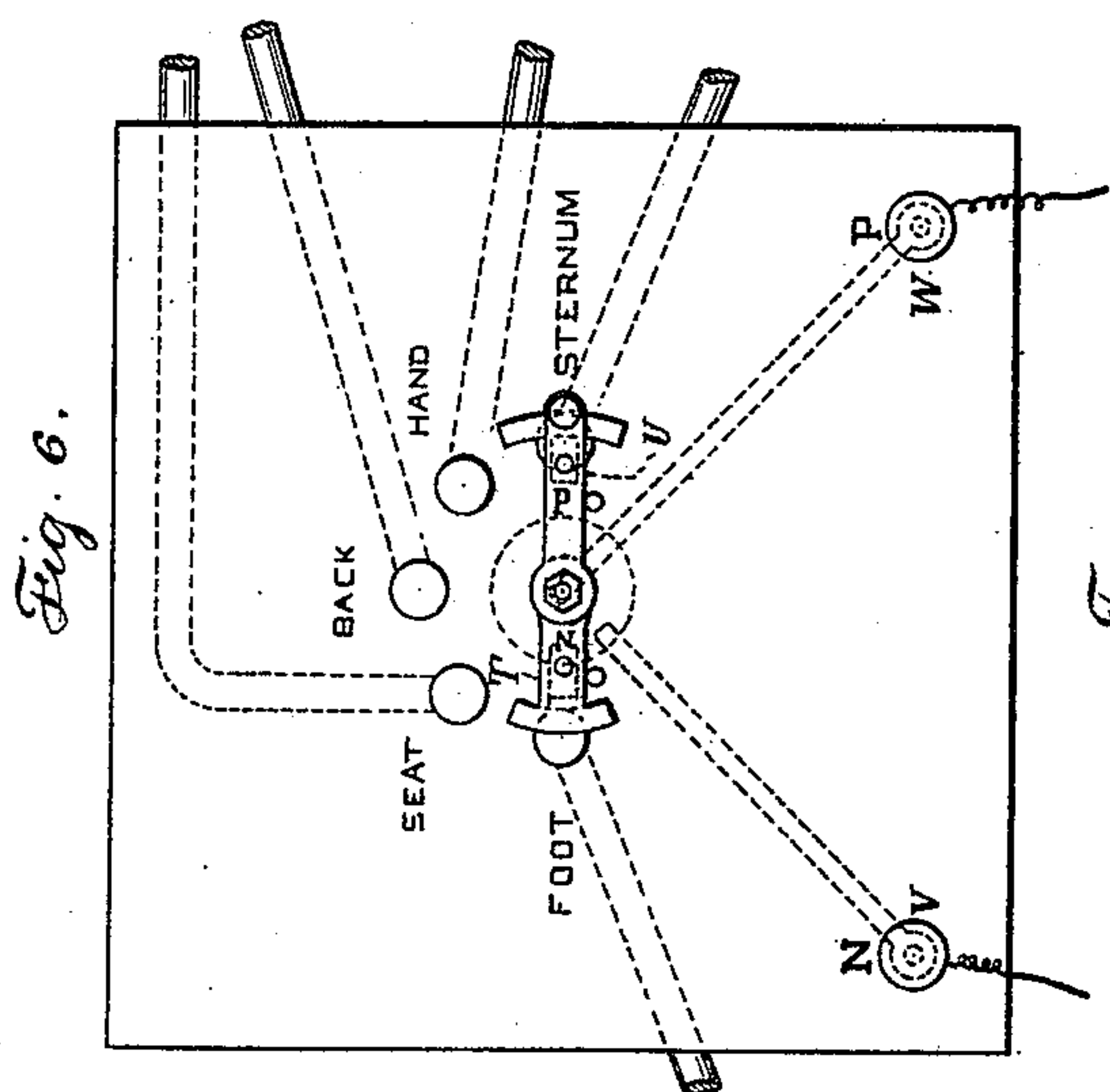
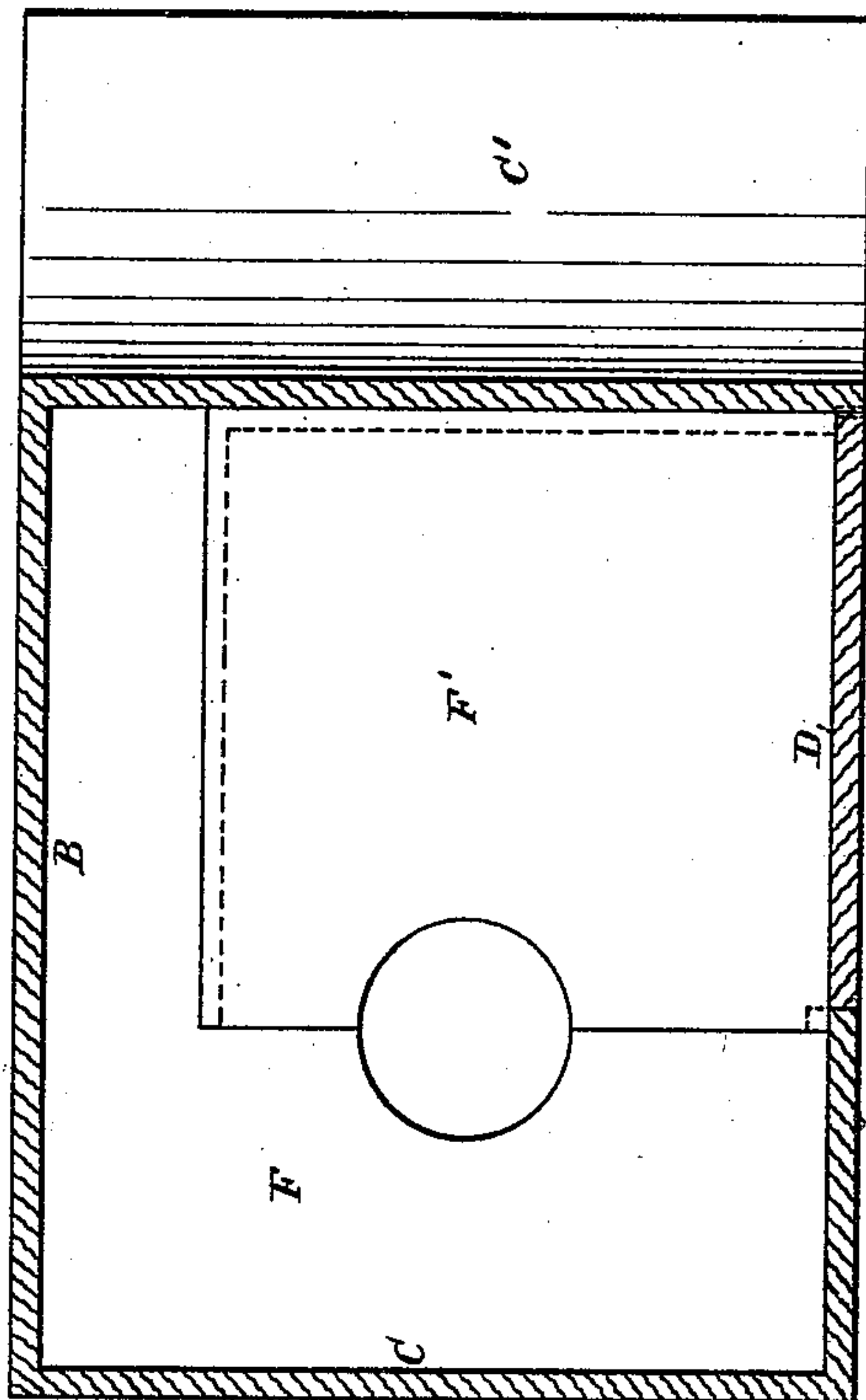
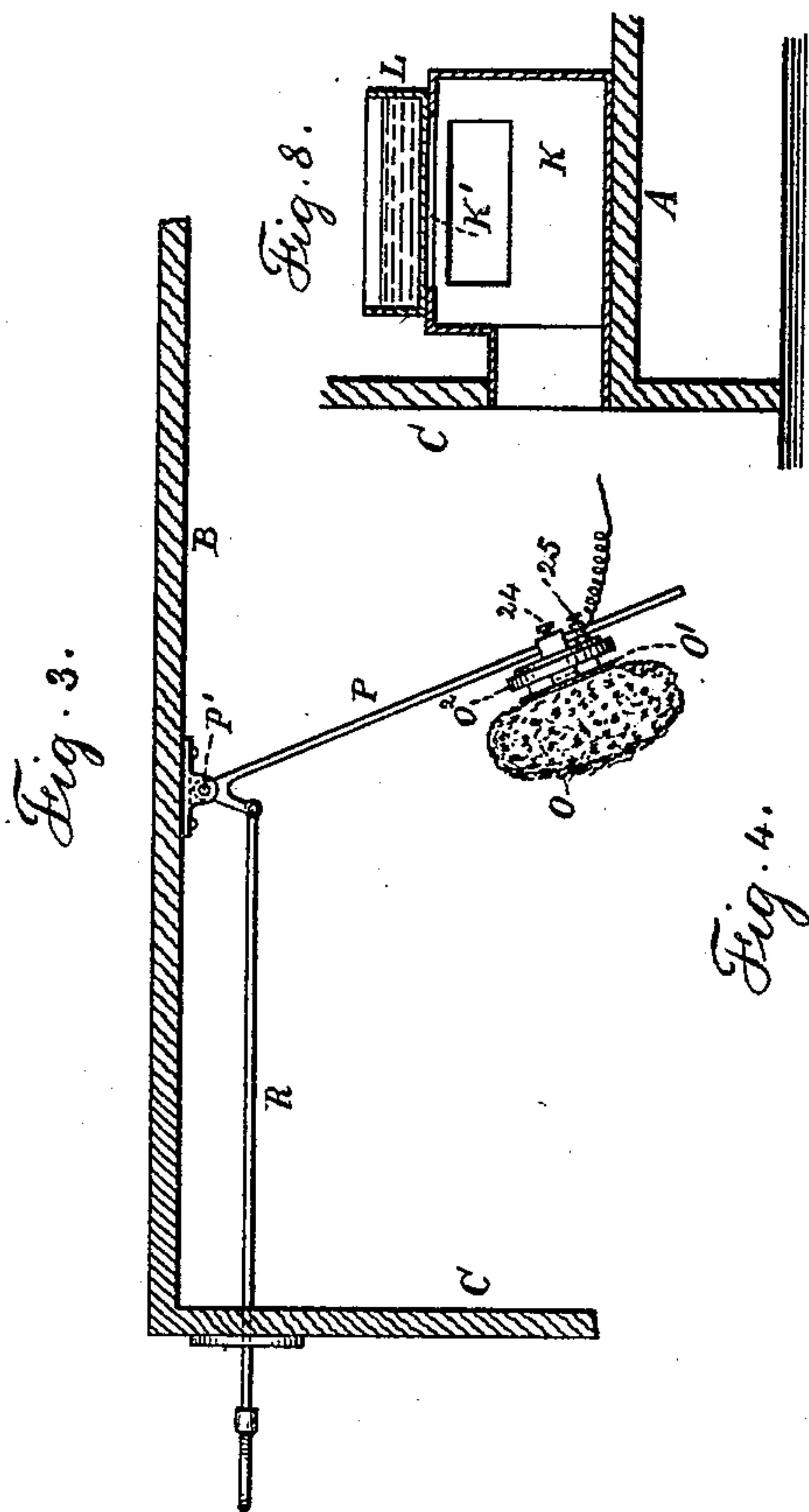
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UNITED STATES PATENT OFFICE.

CHARLES P. HOFFMAN, OF UTICA, NEW YORK, AND WILLARD B. VAN HOUTEN, OF BELLEVILLE, NEW JERSEY, ASSIGNORS TO CORNELIUS VAN HOUTEN, OF BELLEVILLE, NEW JERSEY.

ELECTRO-THERAPEUTIC BATH.

SPECIFICATION forming part of Letters Patent No. 459,852, dated September 22, 1891.

Application filed March 16, 1891. Serial No. 385,173. (No model.)

To all whom it may concern:

Be it known that we, CHARLES P. HOFFMAN, of Utica, in the county of Oneida and State of New York, and WILLARD B. VAN HOUTEN, of Belleville, in the county of Essex and State of New Jersey, citizens of the United States, have invented an Improvement in Electro-Therapeutic Baths, of which the following is a specification.

10 The object of this invention is to give hot air and vapor baths to the patient and at the same time or separately to direct an electric current upon one or more portions of the body; and the invention relates to the combinations of devices hereinafter set forth and claimed.

15 In the drawings, Figure 1 is an elevation with the case in section. Fig. 2 is a vertical section at the line $x x$. Fig. 3 is a detached view of the sponge-holder and the devices for giving motion to the same. Fig. 4 is a sectional plan view of the top of the case. Fig. 5 is a section of the switch, and Fig. 6
20 an elevation of the same. Fig. 7 shows a modification of the lifting devices, and Fig. 8 is a separate section of the heating-chamber and evaporating-dish.

25 The case or cabinet is made of a base or bottom A, back B, sides CC', a movable front D, preferably in the form of doors to admit the patient conveniently. There is a swinging cover E and a stationary neck-piece F, a movable neck-piece F', and a seat G, that can be raised and lowered, as hereinafter described, and the case or cabinet can be closed
35 by the portions F F' around the neck of the patient with the head above the top of the case.

40 It is advantageous to be able to raise and lower the seat from outside the case, so as to accommodate the patient without having to open the case during the medical treatment. To accomplish this object, we provide a crank 4 outside the case for raising and lowering the seat G by intermediate connections. We
45 have shown the seat G upon a vertical rack 2, sliding through a support 3 and provided with teeth adapted to the pinion H upon a horizontal shaft that passes through the side

C and receives the crank 4 and ratchet-wheel 50 5, and there is a pawl for holding the parts at any position to which the seat may be raised or lowered by the action of the crank. In place of the rack and pinion a screw may be fastened to the seat and a nut employed
55 to raise and lower the same, such nut being rotated by bevel-wheels and the crank 4, as shown in Fig. 7.

The heat for the apparatus is provided by any suitable lamp or burner placed within or 60 communicating with the heating chamber or furnace K. An opening at K' allows the heat to act upon a vaporizing-dish L, placed above the heating-chamber and containing any liquid, especially medicated liquids or perfumes
65 to be evaporated by the heat and fill the cabinet or case with the required vapors to act upon the body. When this vaporizing-dish is not made use of, a plate is provided for covering the opening K'. A stationary
70 deflecting-plate 7 is placed above the disk L for spreading the vapors laterally and through the cabinet. We also provide openings in the ends of the heating-chamber K and swinging flaps 8 and 9 for the same. Such flaps are swung
75 upwardly and outwardly by a cross-shaft 10, passing through the case and having crank-arms 11 and connections 12 and 13 to the respective flaps 8 and 9, so that such flaps may be opened or closed by the handle upon the
80 outer end of the cross-shaft 10. By this means the temperature of the cabinet can be regulated, as required, without necessarily varying the flame of the lamp or heater and without opening the cabinet. The vapors or the heated
85 air from the flame can be used separately or in combination.

We make use of a combined foot-bath and electrode M in the form of a pan that is supported within the case and can be raised or 90 lowered to accommodate the patient. We find it convenient to provide pins 14 for the pan M to hang upon, also a movable cross-bar 15 below such pan, which cross-bar is received at its ends into notches in the case. One of
95 the conducting-wires is connected with this foot-bath to form an electrode, or it may receive any suitable liquid, either plain or medi-

cated, into which the feet of the patient can be introduced.

The electrodes are of ordinary character—that is say, sponges connected in the electric circuit and applied to the body. The back electrode N can be raised or lowered by a crank outside the case, so as to apply the electric current at the proper place upon the back of the patient, and with this object in view we preferably employ the vertical rack-bar 16 and the pinion 18 on a shaft which passes through the side of the cabinet, and is provided with the crank-handle 19 and ratchet and pawl 20. The back electrode N is connected with the horizontal bar 17 and can be moved horizontally into the proper position, and this bar 17 forms a T-head to the rack 16, and can be raised or lowered by the crank and pinion. We make use of a hooked holder N', that hooks at one end over the horizontal bar 17 and is held in position by a clamp-screw 21. A backwardly-projecting jaw is provided with a roller 22 to support the holder N' by the rollers resting against the interior of the case. Hence the parts are not liable to be injured by the pressure of the patient against the back electrode N. It is preferable to make this holder N' of a spring-bar with a binding-post 23 for a flexible conductor to the metal plate at the back of the electrode N, which plate hooks upon the holder N', so that the sponge can be connected or disconnected with facility.

We also provide a swinging or sternum electrode O, that is adapted to be brought into contact with the chest or front part of the body of the patient, and this electrode O is provided with a back plate O', adapted to hook upon a block O², that is clamped to the bar P by a screw 24. A binding-post 25 serves to attach the flexible conductor. This bar P is hinged at P', and is provided with a crank-arm, to which is connected a rod R, that passes through the side C and is provided with a handle by means of which the bar P can be swung to bring the electrode O into or out of contact with the body of the patient without opening the cabinet or case. We also provide a movable electrode S, that may be taken in the hand of the patient and applied to any desired portion of the body.

Upon the side of the cabinet-case is a switch having contact-points marked, respectively, "Foot," "Seat," "Back," "Hand," and "Sternum." The flexible conductors from the seat G, foot-bath M, back electrode N, swinging or sternum electrode O, and movable electrode S,

known as the "hand electrode," pass to the respective contact-pins, and central to these contact-pins are the arms or switches T and U, which can be moved around so as to bring the spring or moving end of the switch into electric contact with either one or more of the said contact-points. The binding-posts V and W are connected with the respective poles of a suitable battery, and these respective binding-posts are connected to the switch-arms T and U, so that by this means the positive or the negative current can be directed upon any desired portion of the body and the electrodes can be moved into and out of contact or directed upon the proper portion of the body from outside the case or cabinet. A continuous or interrupted current may be used, and generally a reversing switch or commutator is provided with the battery.

The screw-nut and bevel-gears shown in Fig. 7 may be used for raising and lowering the electrode N and bar 17.

We claim as our invention—

1. The combination, in an electro-therapeutic bath, with the case or cabinet, of a seat within the case and means for adjusting the same vertically, and an actuating device outside of the case, substantially as set forth.

2. The combination, in an electro-therapeutic bath or cabinet, of an electrode, a pivoted holder for the same, and a rod connected with the pivoted holder and passing out through the case for swinging the electrode into position without opening the case, substantially as set forth.

3. The combination, in an electro-therapeutic bath or cabinet, of a heating-chamber adapted to the reception of the lamp or other heating device, the swinging flaps pivoted at the top and acting to deflect the heat downwardly and laterally, and shaft and connections for moving such flaps and opening and closing the heating-chamber from outside the case, substantially as set forth.

4. The combination, in an electro-therapeutic bath, with the seat and an inclosing case, of a combined foot-bath and electrode formed of a metallic pan, and the movable support 15 below the same, and the studs 14, on which the top edges of the bath are hung, substantially as set forth.

Signed by us this 3d day of March, 1891.

CHARLES P. HOFFMAN.

W. B. VAN HOUTEN.

Witnesses:

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