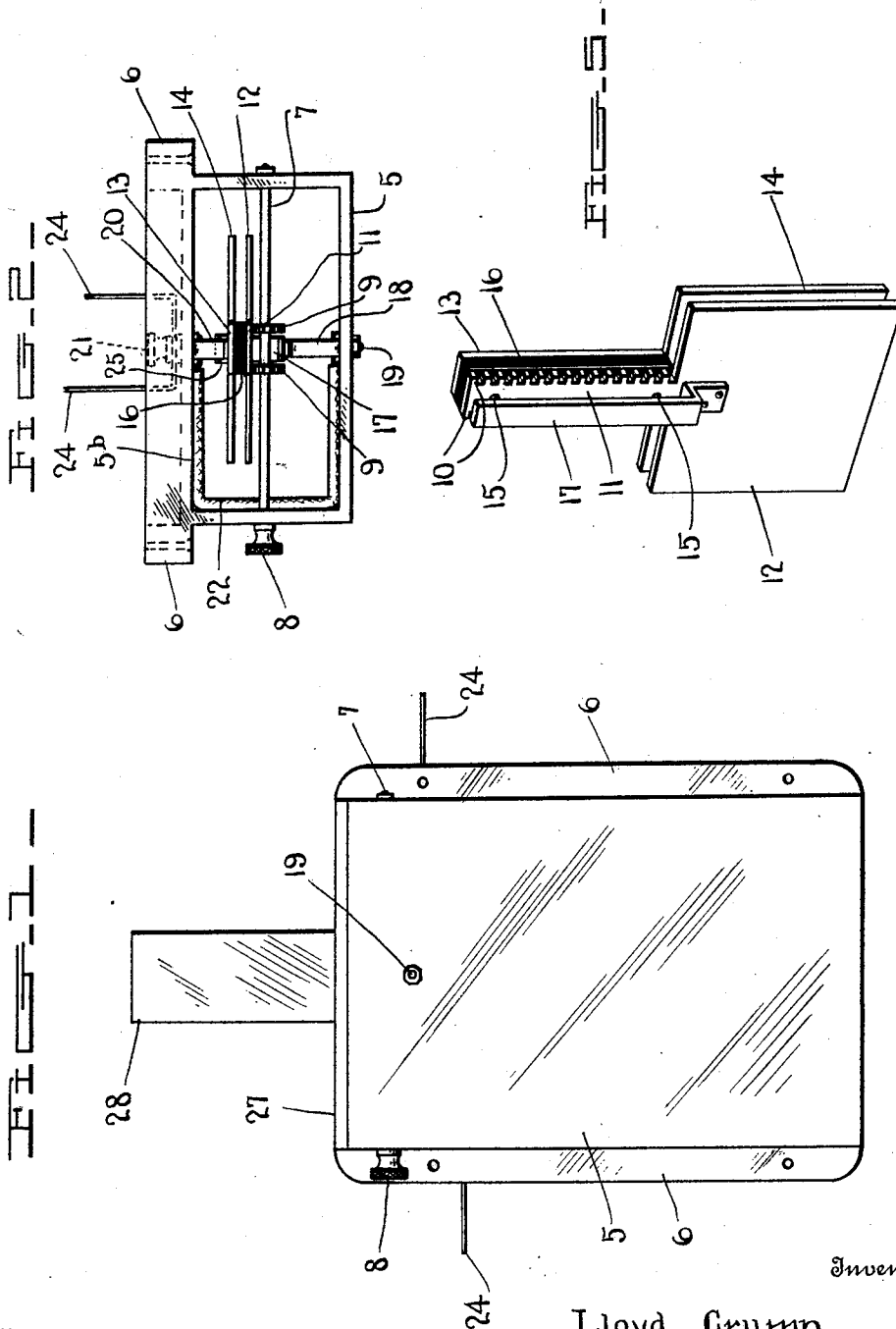


L. CRUMP.
RHEOSTAT.
APPLICATION FILED NOV. 23, 1910.

1,008,701.

Patented Nov. 14, 1911.

2 SHEETS-SHEET 1.



Witnesses

L. B. James
J. J. O'Brien

Lloyd Crump

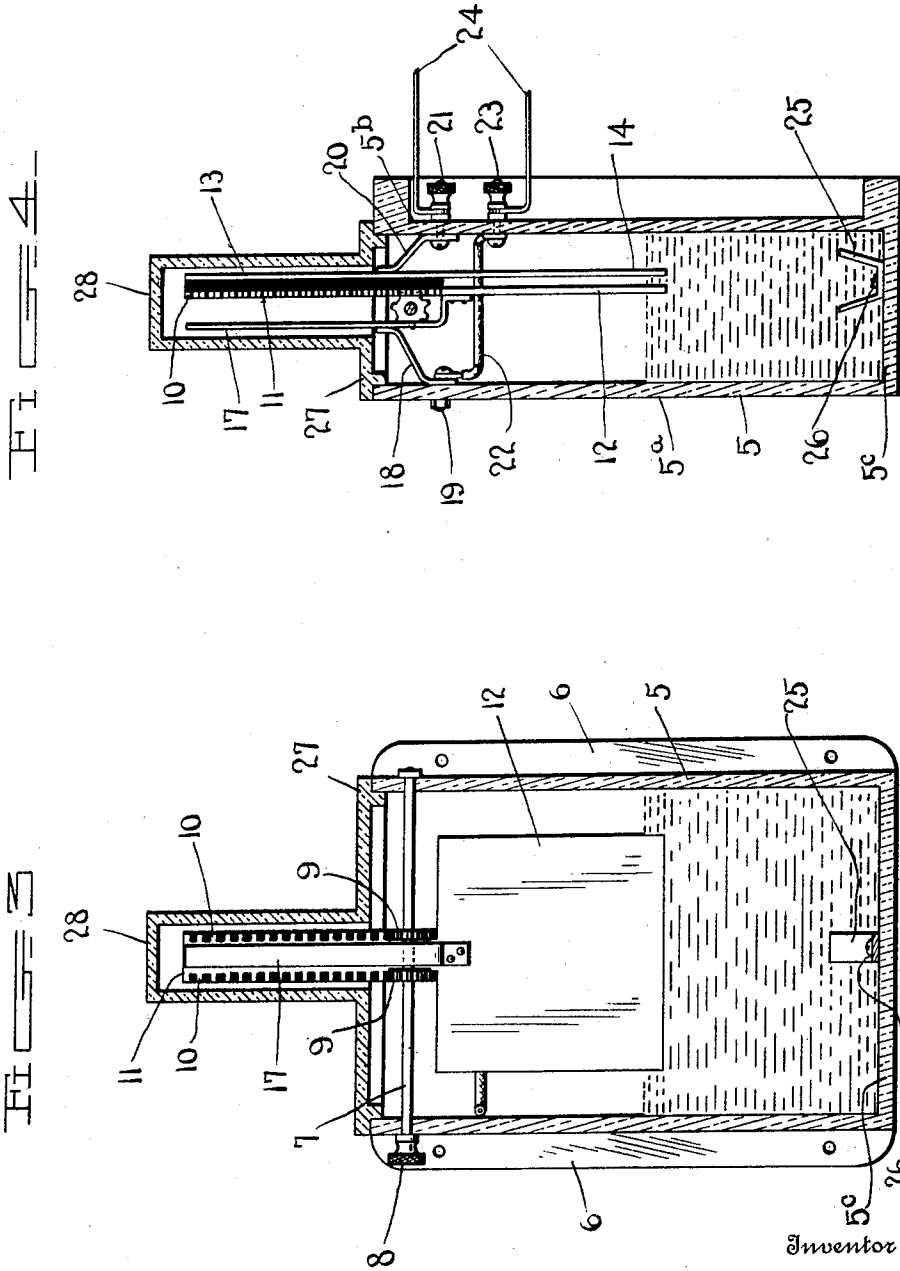
[Signature]
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Attorneys

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By *[Signature]*
[Signature] Attorneys

UNITED STATES PATENT OFFICE.

LLOYD CRUMP, OF CENTRALIA, MISSOURI.

RHEOSTAT.

1,008,701.

Specification of Letters Patent.

Patented Nov. 14, 1911.

Application filed November 23, 1910. Serial No. 593,881.

To all whom it may concern:

Be it known that I, LLOYD CRUMP, a citizen of the United States, residing at Centralia, in the county of Boone, State of Missouri, have invented certain new and useful Improvements in Rheostats; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in the devices for regulating the intensity of electrical currents, and the leading object in view is the provision of a device comprising a receptacle of non-conducting material having a fluid of high resistance therein and terminal plates adjustable in the receptacle and fluid whereby the resistance of an electrical current may be varied at will.

With the above and other objects in view the invention consists in certain combinations, constructions and arrangement of parts, clearly described in the following specification, and clearly illustrated in the accompanying drawings, in which:—

Figure 1 is a front elevation of the improved device. Fig. 2 is a horizontal sectional view thereof. Fig. 3 is a vertical sectional view showing the width of the terminal plates. Fig. 4 is a vertical sectional view showing the arrangement of the contact brushes and the terminal plates. Fig. 5 is a detail perspective view of the terminal plates.

Referring to the accompanying drawings illustrating the practical application of the invention 5 denotes the receptacle of the device which is formed of glass or of other non-conducting material and formed with flanges 6 whereby the receptacle may be attached to a wall or other support. A shaft 7 is mounted on the upper end of the receptacle 5 and on one of the ends of said shaft a turning knob 8 is fixed which is formed of hard rubber or other non-conducting material. The shaft 7 carries two gears or pinions 9 spaced apart from each other and which engage with the racks 10 formed on the vertical bar 11 of the terminal plate 12, which terminal plate is made of copper, brass, or like conducting material. The bar 11 is secured to the bar 13 of the terminal plate 14 by means of insulated rivets 15, and a strip of insulating material 16 is placed be-

tween the bars 11 and 13 so that current will not pass directly from one bar to the other.

The terminal plate 12 carries a vertical resilient arm or tongue 17 which is secured at its lower end to said plate and which extends in a parallel plane with the arm 11 above said plate. The arm or tongue 17 is adapted to fit between the pinions 9 and hold the plates 12 and 14 in their normal positions in the receptacle 5. A contact brush 18 is secured to the outer wall 5^a of the receptacle 5 by a binding screw 19, and the inner end of the contact brush resiliently bears against the tongue or arm 17. The arm 13 of the terminal plate 14 is engaged by a contact brush 20 which is secured to the rear wall 5^b of the receptacle 5 by a binding screw 21. An insulated wire 22 is connected by the binding screw 19 to the brush 18 and to a second binding screw 23 secured on the rear wall 5^b of the receptacle 5. Circuit wires 24 are connected to the binding screws 21 and 23. On the bottom 5^c of the receptacle 5 a resilient contact plate 25 is fastened by a screw 26 or other like device. A cover 27 fits on the upper end of the receptacle 5 and said cover is provided with a hollow vertical extension 28 which receives the upper ends of the vertical bars 11 and 13 of the terminal plates 12 and 14 respectively.

When current is supplied to the wires 24 and the shaft 7 is rotated by means of the knob 8 the terminal plates 12 can be lowered into the water in the receptacle 5 so that the resistance to the flow of the current may be decreased or by a reverse movement the resistance increased. When the terminal plates 12 are lowered to their lowermost limit they will contact with a resilient contact 25 and the current will flow from one contact plate through the contact device or plate 25 to the other contact plate. By elevating the terminal plate above the water line the current may be interrupted so that the lamp or lamps in the circuit of the wires 24 may be cut out.

What is claimed is:—

1. A rheostat comprising a receptacle of non-conducting material adapted to contain a fluid of high resistance, a pair of terminal plates mounted for vertical movement within said receptacle, said plates being spaced and provided with upstanding arms, said arms being insulated from each other, one of said arms being in contact with a brush, the

other arm being provided with an offset extension lying parallel to said arm and in contact with a second brush, and means for raising and lowering said plates.

- 5 2. A rheostat comprising a receptacle of non-conducting material adapted to contain a fluid of high resistance, a pair of terminal plates mounted for vertical movement within said receptacle, said plates being
10 spaced and provided with upstanding arms, said arms being insulated from each other, one of said arms being in contact with a brush, the other arm being provided with
15 an offset extension lying parallel to said arm and in contact with a second brush, means for raising and lowering said plates, and a U-shaped contact member secured to the base of said receptacle, said member being arranged to connect the plates when the
20 same are at the limit of their downward movement.

3. A rheostat comprising a receptacle of non-conducting material adapted to contain

a fluid of high resistance, a pair of terminal plates movable in the receptacle and 25 spaced apart from each other, each of said terminal plates being formed with upstanding arms, said arms being insulated from each other, one of said arms being provided with a rack, a shaft mounted for rotation 30 on the upper end of the receptacle, a pinion mounted on the shaft to engage the rack, a resilient tongue mounted on one of the contact plates, a contact brush bearing against the tongue, a contact brush bearing against 35 the other contact plate, wires connected with the contact brushes, and a cover for the receptacle having an upstanding hollow member receiving the arms of the terminal plates. 40

In testimony whereof, I affix my signature, in presence of two witnesses.

LLOYD CRUMP.

Witnesses:

J. C. STEWART,

W. G. EATON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."