

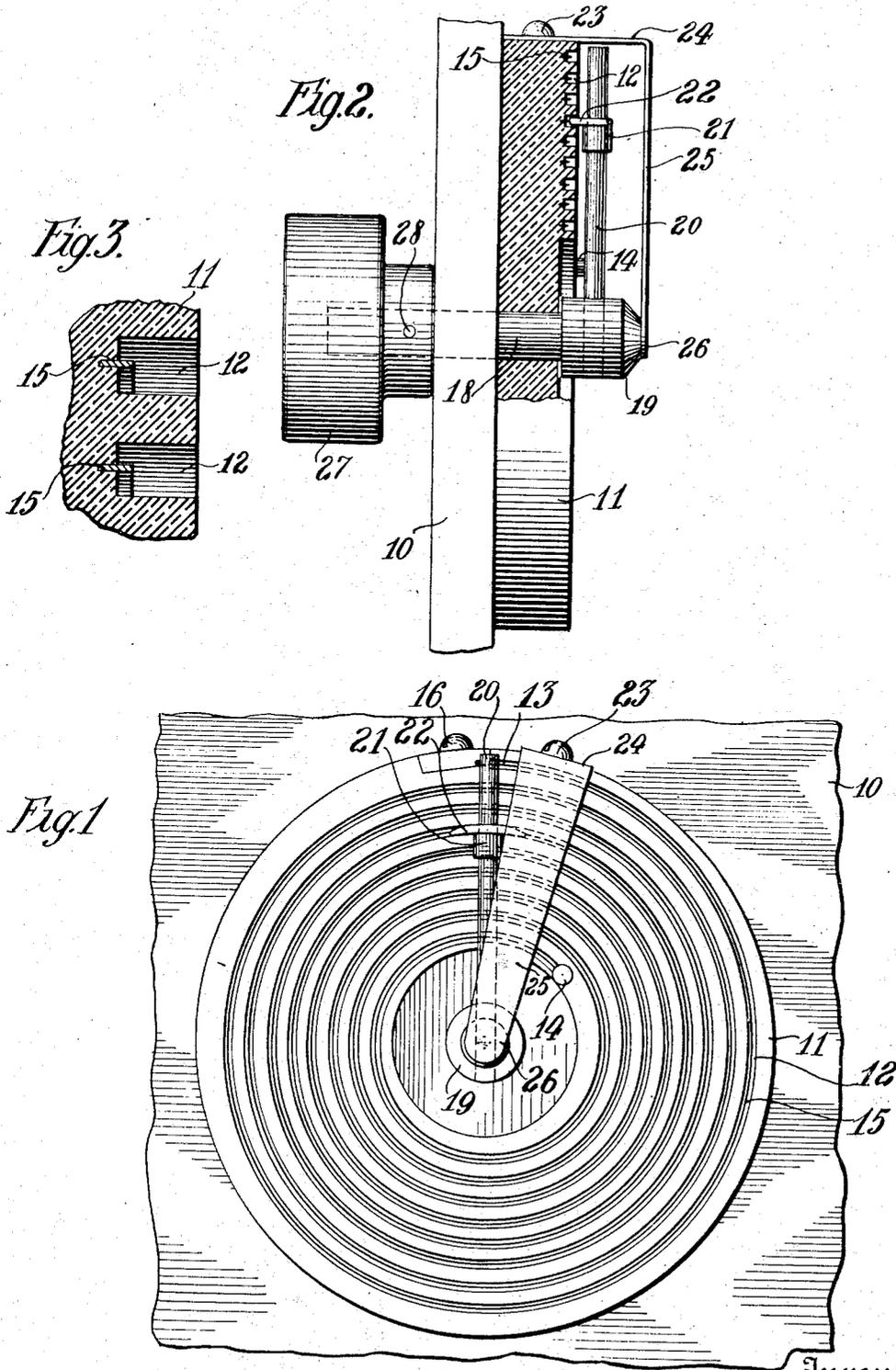
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L. C. MARTIN

RHEOSTAT

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UNITED STATES PATENT OFFICE.

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RHEOSTAT.

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To all whom it may concern:

Be it known that I, LAURENCE C. MARTIN, a citizen of the United States, and a resident of Providence, in the county of Providence and State of Rhode Island, have invented an Improvement in Rheostats, of which the following is a specification.

This invention relates to construction for rheostats and the like. One of the objects thereof is to provide a construction of the above nature which is efficient and reliable in action under exacting conditions of practical use. Another object is to provide a construction of the above nature which is compact in construction and capable of a high degree of accuracy in operation. Another object is to provide a construction of the above nature which is simply and inexpensively made. Other objects will be in part obvious or in part pointed out hereinafter.

The invention accordingly consists in the features of construction, combinations of elements and arrangements of parts as will be exemplified in the structure hereinafter set forth and the scope of the application of which will be indicated in the following claims.

In the accompanying drawing, in which is shown one of the various possible embodiments of this invention,

Figure 1 is a rear elevation of a rheostat;

Figure 2 is a side elevation of a device shown in Fig. 1, certain parts being broken away; and

Figure 3 is a fragmentary view in enlarged detail of certain parts shown in Figs. 1 and 2.

Similar reference characters refer to similar parts throughout the several views of the drawing.

Referring now to the drawing in detail, mounted upon a panel 10 in any suitable manner is shown an insulating base member 11 which is preferably circular in form, as clearly shown in Fig. 1. Formed in the face of the member 11 is a spiral groove 12 which preferably extends from a point, as 13, adjacent the periphery of the member 11 to a point, as 14, adjacent its center. Seated within the groove 12 is a conductor 15 which preferably takes the form of a strip of suitable resistance material, such as German silver, for example, and which extends from one end of the groove to the other. At the end 13 the resistance member 15 is connected

in any suitable manner to a binding post 16. At the inner end of the groove 12 is provided a stop, as at 14, to which the corresponding end of the resistance member 15 is preferably connected.

Extending through the panel 10 and through the base member 11 substantially at its center and rotatably supported therein is an arm 18 provided with a head 19 preferably of metal such as brass. Secured to the head 19 is an arm 20 which extends parallel to the face of the member 11 and in a substantially radial direction. A contact member 21 is slidably mounted upon the arm 20 and has a portion 22 which rests within the groove 12 and bears against the surface of the resistance member 15 therein.

Secured to the periphery of the base member 11, as by a screw 23 which also serves as a binding post, is a connector having a laterally extending portion 24 and a portion 25 which extends radially inwardly and bears against the end of the head 19, as at 26. The portion 25 is so formed as to tend to spring inwardly toward the base member 11 and thus bears snugly against the head 19 forming a reliable electrical contact at 26 and also serving to urge the arm 20 inwardly and consequently force the contact 21 against the resistance member 15.

The end of arm 18 protruding from the front of the panel 10 may be provided with a suitable handle 27 secured thereto as by a pin 28 for turning the arm 20 and thus moving the contact 21 along the resistance member 15.

Thus a circuit is made from the binding post 16 through the resistance member 15, contact 21, arm 20, head 19 and connector 25—24 to the binding post 23. By turning the handle 27, the position of the contact 21 upon the member 15 may be varied and the length of the resistance member 15 through which the current is required to pass may be varied at will. As the arm 20 is turned about the axis of the arm 18, the contact 21 slides radially along the arm 20, being guided by the groove 12, and is held against the resistance member 15 by the spring 25. When the contact 21 is at the outer end of the groove 12, as at 13, the resistance member 15 is out of the circuit, and when the contact 21 is at the inner end of the groove 12 against the stop 14 the entire length of the resistance member 15 is thrown in. Between these two extremes the amount of re-

sistance in the circuit may be regulated at will with a high degree of fineness and accuracy.

It will thus be seen that there is herein provided an apparatus which embodies the various features of this invention, which apparatus in its action attains the various objects of the invention and is well adapted to meet the requirements of practical use.

As many possible embodiments may be made of the above invention and as many changes might be made in the embodiment above set forth, it is to be understood that all matter hereinbefore set forth or shown in the accompanying drawing is to be interpreted as illustrative and not in a limiting sense.

I claim as my invention:

1. In a device of the class described, in combination, a resistance member having a portion formed to extend substantially back upon itself, means for making electrical connection therewith, a movable contact engaging said member and adapted to be moved along the same, and means extending adjacent to said member and substantially parallel thereto forming a guide to direct said contact along said member.

2. In a device of the class described, in combination, an insulating base member, a resistance member seated therein, a movable contact engaging said resistance member, means for moving said contact along said resistance member, and means associated with said base member adjacent said resistance member adapted to guide said contact along said resistance member.

3. In a device of the class described, in combination, an insulating base member having a groove formed therein, a resistance member secured in said groove, a movable contact fitted within said groove and engaging said resistance member, and means for moving said contact along said groove in contact with said resistance member.

4. In a device of the class described, in combination, a spirally coiled conductor having a resistance characteristic, means for making electrical connection therewith, a slidable contact, and means mounting said contact in engagement with said conductor to move in a substantially radial direction toward and away from the center of said coil.

5. In a device of the class described, in combination, a coiled resistance member, an arm extending in a substantially radial direction from the center of said coil and mounted to rotate about said center, a contact slidably mounted upon said arm and adapted to rotate therewith, and means guiding said contact into engagement with said resistance member.

6. In a device of the class described, in combination, a coiled resistance member, an

arm extending in a substantially radial direction from the center of said coil and mounted to rotate about said center, a contact slidably mounted upon said arm and adapted to rotate therewith, means guiding said contact into engagement with said resistance member, and a connector adapted to make electrical connection with said contact and serving to urge the same against said resistance member.

7. In a device of the class described, in combination, an insulating base member having a spiral groove formed in a face thereof, a conductor having a resistance characteristic secured in said groove, an arm mounted upon said base member extending in a substantially radial direction with respect to said spiral and adapted to rotate, a contact slidably mounted upon said arm and adapted to rotate therewith and having a portion resting in said groove in engagement with said conductor, and means for making electrical connection with said contact.

8. In a device of the class described, in combination, an insulating supporting member, a resistance member mounted thereon, a contact member in engagement with said resistance member, means mounting said contact member to permit relative movement between the same and said resistance member in engagement therewith, and means upon said supporting member about said resistance member forming a guide to maintain said contact member and said resistance member in engagement.

9. In a device of the class described, in combination, an insulating support, a resistance member secured thereon, a contact member in engagement with said resistance member and mounted for movement relative to said support, guiding means on said support extending substantially parallel to said resistance member, and means associated with said contact member in engagement with said guiding means.

10. In a device of the class described, in combination, an insulating support, a resistance member seated in a face thereof, a movable contact member in engagement with said resistance member, and means positioned on said face of said support adapted to be engaged by said contact member to guide the latter along said resistance member.

11. In a device of the class described, in combination, an insulating support, a resistance member secured to a face thereof, a groove in said support extending substantially parallel to said resistance member, a movable contact member in engagement with said resistance member, and means associated with said contact member in engagement with said groove.

12. In a device of the class described, in

combination, a resistance member shaped to form a plurality of consecutive coils positioned in substantially the same plane, a contact member in engagement with said resistance member, and means mounting said contact member to be movable along the consecutive coils of said resistance member substantially from one end thereof to the other.

10 13. In a device of the class described, in combination, an insulating base member having a substantially plane face, a resistance member coiled upon said plane face of said base member and secured thereto, 15 a contact member in engagement with said resistance member, and means mounting said

contact member to be movable along the coils of said resistance member substantially from one end thereof to the other.

14. In a device of the class described, in 20 combination, a resistance member shaped to form a plurality of substantially concentric spiral coils, a sliding contact in engagement with said resistance member, and means mounting said contact to be movable 25 longitudinally along said spiral coils of said resistance member toward and away from said center.

In testimony whereof, I have signed my name to this specification this 6th day of 30 June, 1922.

LAURENCE C. MARTIN.