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RHEOSTAT

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Fig. 1.

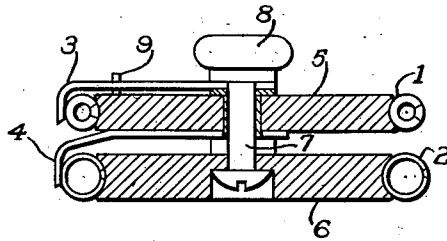
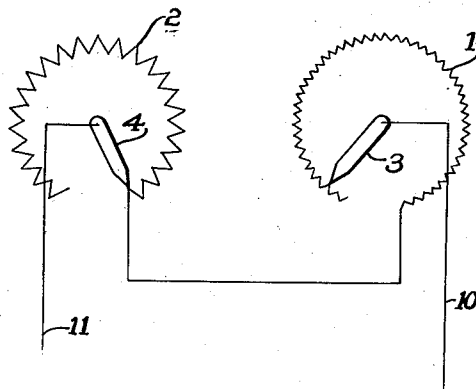


Fig. 2.



WITNESSES:

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RHEOSTAT.

Original application filed February 8, 1918, Serial No. 216,087. Divided and this application filed May 26, 1923. Serial No. 641,578.

My invention relates to rheostats and particularly to rheostats for potentiometers and other similar devices.

One object of my invention is to provide a rheostat that shall have a plurality of relatively large main voltage steps and a plurality of relatively small intermediate voltage steps.

Another object of my invention is to provide a rheostat, of the above-indicated character, that shall be self-contained, having a single operating handle, be simple and inexpensive to construct and be effective in its operation.

In practicing my invention, I provide two resistors of different characteristics, contact members therefor, a single operating handle, and means whereby the single handle may be manipulated to co-operate with both of the resistors to obtain any desired resistance steps.

In the accompanying drawing, Figure 1 is a side view, partially in elevation and partially in section, of a rheostat embodying my invention, and

Fig. 2 is a diagrammatic view of the rheostat shown in Fig. 1.

Referring to the drawing, two resistors 1 and 2 of different characteristics are provided with movable contact members 3 and 4, respectively. The resistors 1 and 2 have the form of annular helices and are mounted on annular supporting members 5 and 6, respectively. The member 6 is stationary and the member 5 is loosely mounted on a shaft 7 which is provided with an operating knob or handle 8. The movable contact member 3 is rigidly fastened to the shaft 7 and is adapted to engage a projection 9 on the member 5. The movable contact member 4 is secured to the member 5.

When it is desired to adjust the resistance of a circuit comprising conductors 10 and 11 which are respectively connected to the contact members 3 and 4, it is merely necessary to turn the knob 8, which causes the contact member 3 to engage projection 9 and thereby cause the contact member 4 to move along the resistor 2 to vary the circuit resistance in relatively large steps. If the contact member 3 is moved in the opposite direction, it will co-operate with the resis-

tor 1 to vary the resistance in relatively small steps.

By the use of my invention, only a single handle is necessary to provide relatively large and small variations of resistance, whereby the resistors may be economically disposed to conserve space and material.

While I have shown my invention in its preferred form, it will be understood that various modifications may be made therein without departing from the spirit and scope of the invention as set forth in the appended claims.

I claim as my invention:

1. A rheostat comprising a stationary resistor, a shaft connected to the stationary resistor, a movable resistor mounted on the shaft, contact members for electrically connecting the resistors and the shaft, and a single handle for operating the shaft. the contact members, and the movable resistor.

2. A rheostat comprising a stationary resistor, a movable resistor and means operated by a single handle for independently varying the portions of the resistors in circuit.

3. A rheostat comprising a stationary resistor, a shaft loosely mounted therein, a second resistor loosely mounted on the shaft, a contact member fastened to the movable resistor and engaging the stationary resistor, a contact member fastened to the shaft and engaging the movable resistor, means for interlocking the movable resistor and the contact member fastened to the shaft, and a single handle for operating the shaft, the contact members and the resistor loosely mounted on the shaft.

4. A rheostat comprising a supporting member, a stationary resistor mounted thereon, a shaft loosely mounted in the supporting member, a movable member loosely mounted on the shaft, a second resistor supported by said movable member, a contact member fastened to the movable member and engaging the stationary resistor, a contact member fastened to the shaft and co-operating with the second resistor, means for interlocking the movable member and the contact member fastened to the shaft and a single handle for operating the shaft.

5. A rheostat comprising a stationary re-

sistor, a shaft affixed thereto, a movable resistor mounted on the shaft and having characteristics different from the stationary resistor, a contact member mounted on the shaft and movable with the movable resistor, a contact member, rigidly mounted on the shaft, means for permitting a limited movement of the movable resistor with reference to the contact member rigidly mounted on the shaft, and a single handle for operating the shaft.

6. A rheostat comprising a plurality of resistors mounted on a shaft and movable with reference to each other, contact members for co-operating with the respective resistors, and means for limiting the movement of one of the resistors with reference to one of said contact members.

7. A rheostat comprising a resistor, a second resistor movable with respect thereto, contact members for co-operating with the respective resistors, a shaft for supporting the resistors and contact members, and means for limiting the movement of the second named resistor with respect to the first named resistor.

8. A rheostat comprising a stationary resistor, a movable resistor in a different plane, and means operated by a single handle, for independently varying the portions of the resistors in circuit.

9. An electrical device comprising a plurality of relatively movable resistors arranged in arcuate paths, an operating handle, a contact member for one of the resistors movable with said handle, a second contact member for another resistor and movable with the first named resistor, and means movable with the first named resistor for selectively engaging the first named contact member.

10. A rheostat comprising a plurality of movable contact members, a plurality of relatively movable resistors corresponding to

said movable members, one of said contact members being secured to one of said resistors, a single operating handle, and means for interlocking said movable members to render variations relative to one of said resistors effective upon movement of said handle in one direction and to render variations relative to another resistor effective upon movement of the handle in another direction.

11. In a rheostat, a main resistance element, a secondary resistance element, an insulator block on which the secondary resistance element is carried, a contact member for the main resistance element carried on the said block, a shaft on which the block is mounted, a contact member for the secondary resistance element supported on the said shaft.

12. In a rheostat, a main resistance element, a secondary resistance element, an insulating block on which the secondary resistance element is mounted, a contact member for the main resistance element secured to the said block and electrically connected to the said secondary resistance element, and a contact member for the said secondary resistance element movable thereover.

13. In a rheostat, a subdivided resistance element, a contact member adapted to make connection with the points of subdivision thereof, secondary resistance element electrically connected with the first named contact member, a contact member for the secondary resistance adapted to be moved forward or back over the element in continuous connection therewith, and means limiting the extent of movement of the secondary contact member in either direction, said limiting means providing means for moving the first named contact member.

In testimony whereof, I have hereunto subscribed my name this 22nd day of May, 1923.

CHESTER T. ALLCUTT.