

Aug. 28, 1923.

W. L. BROOKS

1,466,293

RHEOSTAT

Filed Dec. 27, 1921

Fig. 1.

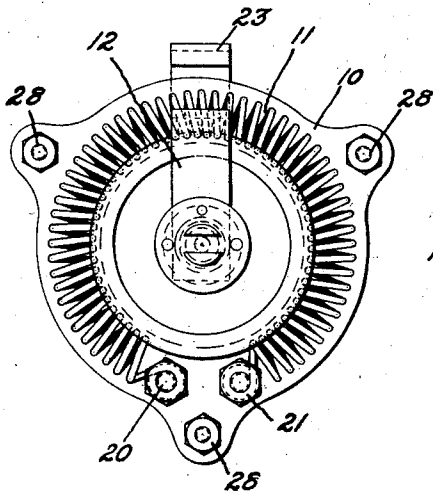


Fig. 2.

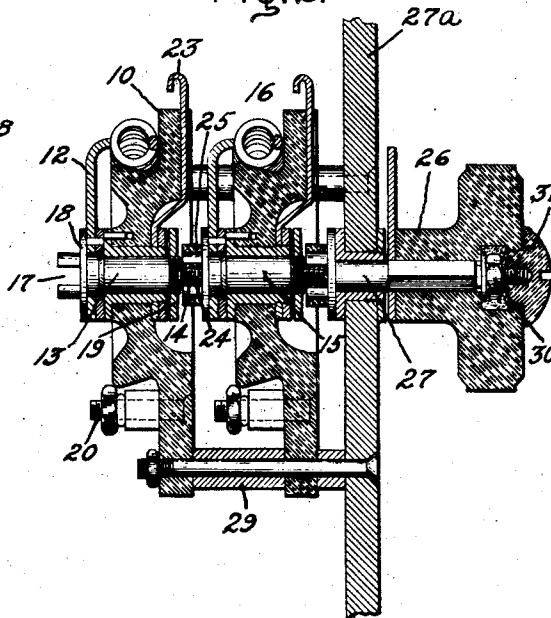
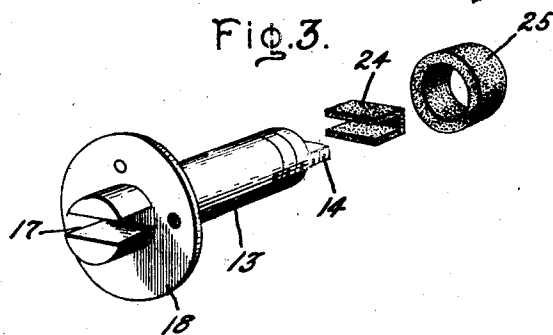


Fig. 3.



Inventor:
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His Attorney.

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UNITED STATES PATENT OFFICE.

WALLACE L. BROOKS, OF SCHENECTADY, NEW YORK, ASSIGNOR TO GENERAL ELECTRIC COMPANY, A CORPORATION OF NEW YORK.

RHEOSTAT.

Application filed December 27, 1921. Serial No. 525,234.

To all whom it may concern:

Be it known that I, WALLACE L. BROOKS, a citizen of the United States, residing at Schenectady, in the county of Schenectady, State of New York, have invented certain new and useful Improvements in Rheostats, of which the following is a specification.

My invention relates to improvements in multiple unit rheostats which are intended to be operated by a common operating means.

One of the objects of the invention is to provide an improved rheostat which may be made up of any desired number of similarly constructed units, and the invention is particularly directed to features whereby each unit may be made up complete and then quickly assembled with any desired number of other units to form a multiple unit rheostat which may be operated as a single unit by a single handle.

In carrying my invention into effect, I provide a shaft for operating the contact member of each unit of the rheostat, and construct the shafts so that they each have male and female connecting portions on respective ends thereof. Each rheostat unit may be made up complete ready for assembly in a multiple unit rheostat, and when the units are assembled the male portion on the end of one shaft fits into the female portion of an adjacent shaft, so that a single assembled shaft is thus made for all of the units.

Other objects and advantages of my invention will be in part evident and in part pointed out particularly hereinafter in connection with the description of an embodiment of the invention illustrated in the accompanying drawing, in which Figure 1 is a front elevational view of a rheostat unit; Fig. 2 is a sectional view of a multiple unit rheostat; and Fig. 3 is a detail view of the shaft of each rheostat unit and the insulators which are interposed between the shafts of the respective units in the assembled shaft for all of the units.

Referring to the drawings, a single rheostat unit comprises an insulating base 10 on which the coiled resistance wire 11 is mounted in a suitable groove on the base. The rotatable contact member 12 is provided for varying the effective portion of the resistor 11. This contact member is suitably secured to the shaft 13 for the rheostat unit 10.

This shaft is provided with a projection 14 which is adapted to register with a correspondingly shaped slot in the end of the adjacent shaft 15 of the adjacent rheostat unit 16. The shaft 13 is provided with a suitable slot 17 on the end thereof opposite the end of the shaft carrying the projection 14 for the purpose of receiving the projection on the end of the shaft of another rheostat unit in case the rheostat is to be assembled with three or more units instead of two as shown in the drawing. Each of the shafts of the rheostat is provided with a collar 18 to which its respective contact member is secured, and the end of the shaft carrying the projection is threaded so that an internally threaded collar 19 may be secured thereon so as to frictionally hold the contact member of the unit and the shaft of the unit with respect to its insulating base 10.

The ends of the coiled resistor 11 of the unit are secured to suitable terminals 20 and 21, and the terminal 23 secured to the shaft of the respective rheostat unit is provided for connection in the circuit to be controlled. The insulating block 24, of a shape corresponding to the projection 14 on the end of the shaft, is disposed over the said projection so as to fit in the slot of the adjacent shaft so as to insulate the shaft 13 from the adjacent unit. The collar 25 of insulating material is adapted to be slid over the connection between the two shafts so as to prevent the block 24 from working out of the slot 17.

The respective rheostat shafts are assembled in the manner shown in Fig. 2 by causing the male portion or projection of the shaft of one unit to register with the female portion or the slot in the end of the shaft of an adjacent unit so as to thereby form a single assembled shaft for all of the units. Each rheostat unit may be made up complete ready for assembly with an desired number of similar units in a multiple unit rheostat, all to be operated by means of the common operating handle 26. The rheostat units are suitably secured to the panel 27 by means of the bolts 28 with insulating sleeves 29 interposed over the securing bolts so as to insulate each unit from its adjacent units.

The handle 26 for operating the assembled shaft for all of the units thus formed is provided with a shaft 27 having a slot on

the end thereof within which the projection on the right hand end of the shaft 15 is adapted to register. This shaft is provided with a screw-threaded end so that the nut 5 30 may be screwed thereon so as to securely hold the handle with respect to the shaft. The button 31 of insulating material is screwed on the same end of the shaft to completely insulate the shaft.

10 The resistors of the various units of the rheostat may be connected in series or any multiple relation by means of the terminals heretofore referred to or the rheostat units may be connected in separate control circuits 15 so as to be simultaneously operated by the single handle 26.

In accordance with the provisions of the Patent Statutes, I have described the principle of operation of my invention, together 20 with the apparatus which I now consider to represent the best embodiment thereof, but I desire to have it understood that the apparatus shown is only illustrative and that the invention may be carried out by other 25 means.

What I claim as new and desire to secure by Letters Patent of the United States, is:

1. The combination in a multiple unit rheostat of a contact member for each of 30 said units, a shaft for each of said units for operating the contact member of the same, the said shafts having each a male and female connecting portion on respective ends thereof, the male portion of one shaft registering with the female portion of the adjacent shaft to form a continuous assembled shaft for all of the rheostat units, and a 35 common operating means secured to one end of the said assembled shaft for simultaneously operating the said contact members.

2. The combination in a multiple rheostat of a contact member for each of said units, a shaft for each of said units for operating the contact member of the same, the said 45 shafts having each a projection on one end thereof and a slot in the other end thereof,

the projection of one shaft registering with the slot of an adjacent shaft to form a continuous assembled shaft for all of the rheostat units, and a common handle secured to 50 one end of the said assembled shaft for simultaneously operating the said contact members.

3. The combination in a multiple unit rheostat of a contact member for each of 55 said units, a shaft for each of said units for operating the contact member of the same, the said shafts having each a projection on one end thereof and a slot in the other end thereof, the projection of one shaft registering with the slot of an adjacent shaft to 60 form a continuous assembled shaft for all of the rheostat units, an insulator disposed over the projection of each of said shafts to insulate the respective shafts from each other, and a common handle having a shaft with a projection and slot connection to the said 65 assembled shaft for simultaneously operating the said contact members.

4. The combination in a multiple unit 70 rheostat of a contact member for each of said units, a shaft for each of said units for operating the contact member of the same, a collar on one end of each of said shafts, a threaded end on the other end of each of 75 said shafts and an internally threaded collar on the said other end of each of said shafts for frictionally holding the contact member and the shaft of the respective unit with respect to its respective base, the said shafts 80 having each a projection on one end thereof and a corresponding aperture in the other end thereof, the projection of one shaft registering with the aperture in the end of the adjacent shaft to form a continuous 85 assembled shaft for all of the respective units, and a common handle secured to one end of the said assembled shaft for simultaneously operating the said contact members.

In witness whereof, I have hereunto set 90 my hand this 23rd day of December 1921.

W. L. BROOKS.