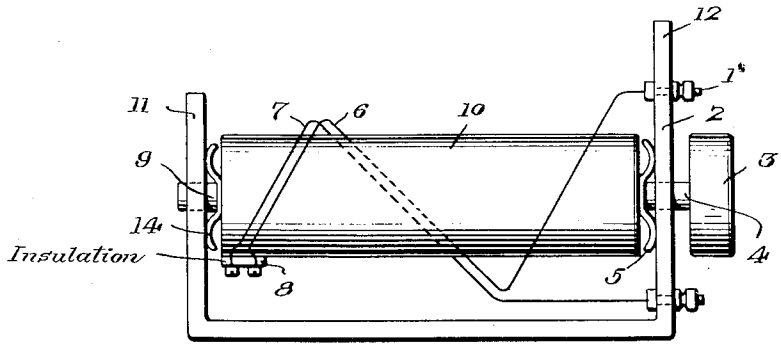
July 14, 1925. 1,545,843

L. W. MULVEY

RHEOSTAT

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Inventor

Leslie W. Mulvey

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UNITED STATES PATENT OFFICE.

LESTER W. MULVEY, OF NEWBURYPORT, MASSACHUSETTS, ASSIGNOR OF ONE-THIRD TO EDWARD E. CRAWSHAW, OF NEWBURYPORT, MASSACHUSETTS.

RHEOSTAT.

Application filed April 23, 1924. Serial No. 708,393.

To all whom it may concern:

Be it known that I, LESTER W. MULVEY, a citizen of the United States, residing at Newburyport, in the county of Essex and State of Massachusetts, have invented a new and useful Rheostat, of which the following is a specification.

The invention relates to improvements in rheostats, and to a means of varying gradually the electrical length, or resistance, of an electrical circuit.

One form of the invention is illustrated in the accompanying drawing, which shows perspectively and embodiment of the invention. The cylindrical conductor rod 10 is fitted to rotate axially upon pegs or stems 4 9 of relatively small diameter, protruding from the ends of the conductor cylinder, and extending into circular holes of slightly larger diameter in two plane surfaced standards. The normally external control peg 4 is fitted with a knob 3 of convenient size for manual operation. Suitable friction resistance to automatic rotation of the conductor cylinder is created by spring members 5 14 pressed outwardly from the ends of the conductor cylinder 10 and against the standards 11—12 which are parallel with each other and each of which is in a plane at right angles with the axis of the conductor cylinder. Resistance wire in two conical coils 6 7, that are fastened at the end of the conductor cylinder opposite to the knob or control end thereof and at the margin of the cylindrical surface close to the section through the cylinder consisting of the conductor cylinder, is attached at the ends of the said wire to binding posts 1 13 set in the same standard in which the knob or control end of the conductor cylinder is held. The means of attachment of the wires 6 7 to the conductor cylinder at the point 8 fixes thereat the said wires, but does not constitute an electrical circuit between the ends of the said wires, which ends are not in mutual contact. In operation the conductor cylinder 10 is rotated clockwise and reversely upon its axis by means of the knob 3, so that, by such rotation, the resistance wire 6 7 is caused to approach and gradually come into contact with the said conductor cylinder 10, first at the end thereof opposite to the end to which the control knob is attached, when the said knob and conductor cylinder are rotated to the left, that is to say, relatively to a point in front of the said knob, reversely to clockwise. When the said conductor cylinder is so rotated the length of the circuit from 1 to 13 is shortened gradually as the wire 6 7 becomes wound about the said conductor cylinder, which said rod makes a circuit connection between the parallel coils of the said spiral wires. In operation, when the knob 3 is turned clockwise the said circuit is similarly lengthened and the electrical resistance thereof correspondingly increased. Thus in a given electrical circuit, constituted in part by the rheostat herein described, an adjustment of the resistance in such circuit may be made and maintained by means of the rotating of the control knob 3. It is obvious that the control knob may, without departing from the spirit of the invention, be attached at the end of the conductor cylinder at which end the said wires are affixed.

I particularly point out and claim as my invention:

A rheostat comprising a conducting cylinder, standards for supporting said cylinder for rotation about its axis, a plurality of spaced parallel resistance conductors helically disposed about said cylinder and having one set of adjacent ends connected together and attached to the cylinder adjacent one end thereof, the free ends of said resistance conductors being provided with stationary contact terminals, whereby rotation of the cylinder more or less of the resistance conductors is brought into electrical contact with said cylinder to vary the electrical resistance between the terminals.

LESTER W. MULVEY.

Witness:
EDWARD E. CRAWSHAW.