

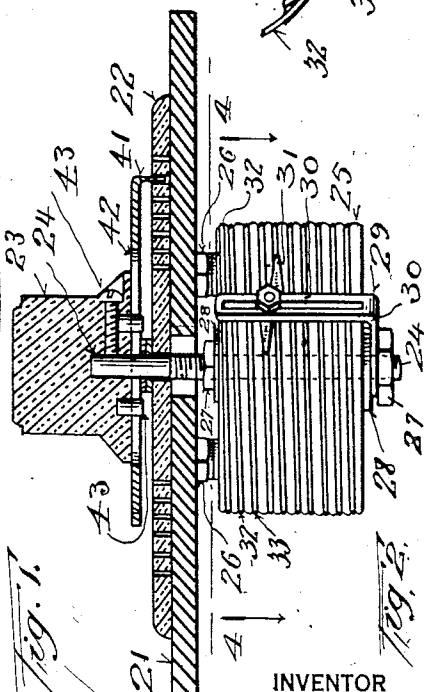
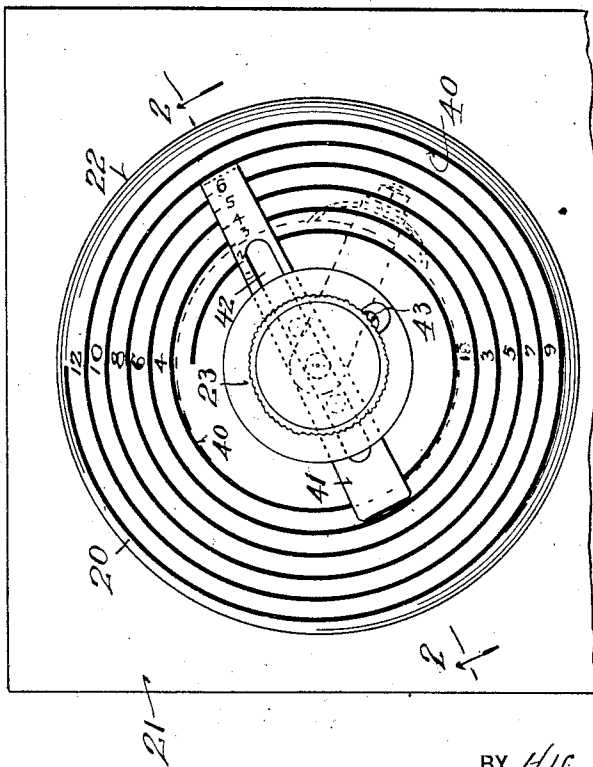
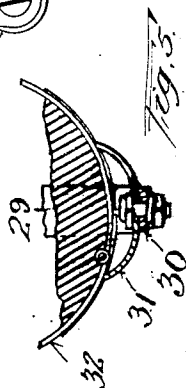
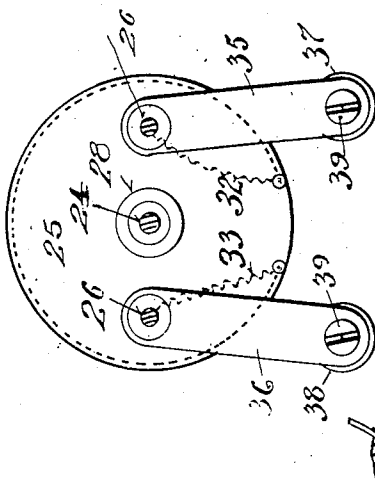
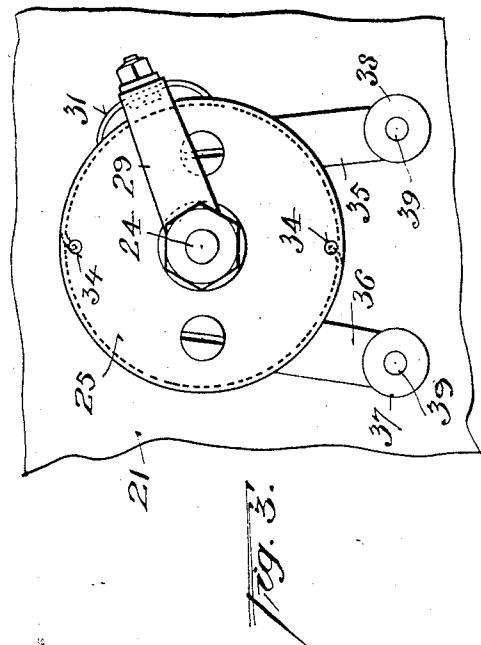
Apr. 10, 1923.

1,450,919

P. HARRIS

RHEOSTAT

Filed July 15, 1922



INVENTOR
Paul Harris.

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UNITED STATES PATENT OFFICE.

PAUL HARRIS, OF NEW YORK, N. Y.

RHEOSTAT.

Application filed July 15, 1922. Serial No. 575,154.

To all whom it may concern:

Be it known that I, PAUL HARRIS, a citizen of the United States, and a resident of the city, county, and State of New York, have invented a new and useful Improvement in Rheostats, of which the following is a specification.

The object of my invention is to provide a rheostat which may be used for any suitable purpose as for use in connection with storage batteries for wireless apparatus, and the object of this invention is to provide an instrument which will be free from self induction and give an easily ascertained and correct reading both as to the resistance in the circuit and the current flowing through the same, and also will permit a proper regulation of this circuit. This and other objects are accomplished by my invention, one embodiment of which is hereinafter more particularly set forth.

For a more detailed description of my invention, reference is to be had to the accompanying drawings, forming a part hereof, in which—

Figure 1 is a front elevation of a panel board provided with my improvement.

Figure 2 is a sectional view taken on the line 2—2 of Figure 1, looking in the direction of the arrows.

Figure 3 is a rear elevation of the structure shown in Figures 1 and 2.

Figures 4 and 5 are sectional views, Figure 4 being taken on the line 4—4 of Figure 2, looking in the direction of the arrows, and Figure 5 being taken parallel therewith and near thereto.

Throughout the various views of the drawings, similar reference characters designate similar parts.

My improved instrument 20 is applied to a panel board 21 or other suitable support, of the conventional kind and it consists of a dial 22 fixed to said board, a handle 23 with a spindle 24 fixed in this handle and passing through the center of the board and journaled in a spool 25 which is fixed to the panel board 21 by means of screws 26, or any other suitable means. The spool 25 has two threads extending in the same direction and running with the same pitch for a purpose that will appear below. The spindle 24 is held in position by means of suitable nuts 27, one at the top and one at the bottom, and connected washers 28, and between the nut 27 and washer 28 at the bottom is fixed a

bracket 29 with a slotted arm 30 in which is slidably mounted a contact 31 which has two fingers one of which extends into one groove and the other of which extends into an adjacent groove, as shown. These fingers are guided by these grooves when the bracket 29 is shifted.

The spool 25 has two wires 32 and 33 which are secured in the end of the spool 25 which is remote from the panel board 21, as by plugs 34 or other securing means, in suitable openings, and the other ends of these wires are secured to the screws 26 which also have secured thereto the bars or conductors 35 and 36 which run to the binding posts 37 and 38 and are connected thereto by any suitable means, as by screws 39. It will be understood that the spool 25 insulates the wires 32 and 33 from each other and that these two wires are connected by the fingers 31 which are slidably mounted in the arm 30, and as the handle 23 is turned these fingers ride on these two wires and so connect them that more or less of the wires are in circuit, the current going in one direction through one wire and in the opposite direction through the adjacent wire so that under no circumstances can there be any self induction.

The dial 22 has a spiral groove 40 which engages the bent end of a slidably mounted and slotted bar 41, this bar being carried about the spindle 24 and having a slot 42 which engages two pins 43 which are fixed in the handle 23, as shown in Figure 2, so that as this handle is turned the bar 41 will slide in and out. The groove 40 carries suitable numbers beginning with 1 and ending with any other number, as 12, as may be desired, and each number represents an ohm resistance, and the wires 32 and 33 on the spool 25 are calibrated accordingly so that when the arm 41 has its end at any one of the numbers the resistance interposed by the rheostat will be as represented by the intersection of the end of this arm with the point of the spiral indicated by the number. This arm also has a number of marks corresponding to the amount of resistance in the circuit which indicate the value of the current passing through the resistance of the rheostat, it being assumed that the rheostat is used where there is a constant potential as six volts or four volts or whatever may be the strength of the battery employed. The marks are placed so that they may be read

where the bar 41 emerges from under the handle 23. This bar may be changed so as to read according to the potential of the battery or other power supplying means.

5 In view of the foregoing, the use of my improved rheostat will be readily understood. Assuming that it is placed on a panel board of a wireless apparatus, the handle 23 is turned until the desirable
10 amount of resistance is cut in which is indicated by the position of the bar 41 in the groove 40, and then the current passing through the rheostat is measured by the number which appears under the handle 23
15 so that the operator can not only regulate it, but will know exactly what he is doing when so regulating it without the use of any additional instrument.

While I have shown and described one embodiment of my invention, it is obvious that it is not restricted thereto but that it is broad enough to cover all structures that come within the scope of the annexed claims.

Having thus described my invention, what
25 I claim is:

1. A rheostat provided with a spool with a double thread thereon, two wires, one in each thread and means for connecting said two wires at any desired points, whereby
30 more or less resistance may be cut in or out.

2. A rheostat provided with a handle, a spindle connected to said handle, a spool fixedly mounted adjacent to said handle and in which said spindle is journaled, a pair of
35 threads on said spool, two wires one in each of said threads and means connected to the spindle for connecting said wires, whereby more or less resistance may be cut in or out of circuit.

3. A rheostat provided with a dial, a bar 40 mounted so as to engage said dial and be shifted by the same, a spindle having a handle attached thereto and means on said handle for guiding said bar and means connected to said handle for cutting more or
45 less resistance out of circuit, said means corresponding to the position of said bar so that as the handle is turned the bar is shifted according to the resistance cut in or out of circuit.

4. A dial and means for supporting the same, a spiral groove in said dial, a bar engaging said dial and passing into said groove, a handle, means on said handle for guiding said bar, a spindle connected to said
50 handle, a spool mounted in fixed relation to said dial, a double thread on said spool, two wires, one in each thread, means for electrically connecting the wires in adjacent threads and means for mounting the same
60 from the spindle so that said wires will be connected according to the way the spindle is turned, whereby more or less resistance may be thrown in or out of circuit and the amount of resistance so thrown in or out
65 will be indicated by the location of the bar.

5. A rheostat provided with a dial having a spiral groove, numbers indicating resistance on said dial and adjacent to the convolutions of said groove, a handle, a bar
70 connecting said groove and provided with current indicating devices and means for cutting resistance in or out of circuit so as to correspond with the resistance numerals of the dial.

In testimony whereof, I have hereunto set my hand this 12 day of July, 1922.

PAUL HARRIS.