

No. 753,533.

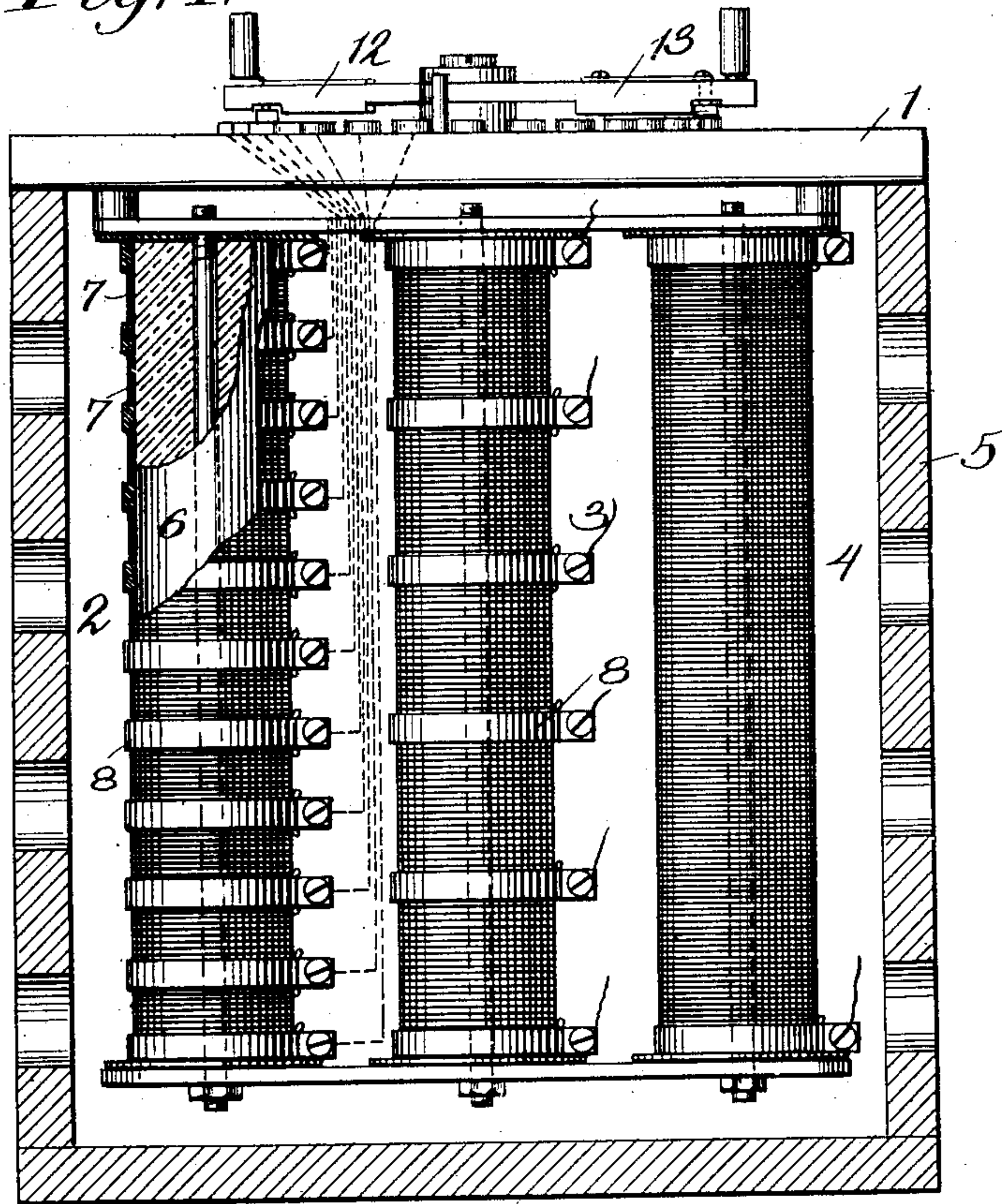
PATENTED MAR. 1, 1904.

J. C. BARCLAY.  
RHEOSTAT.

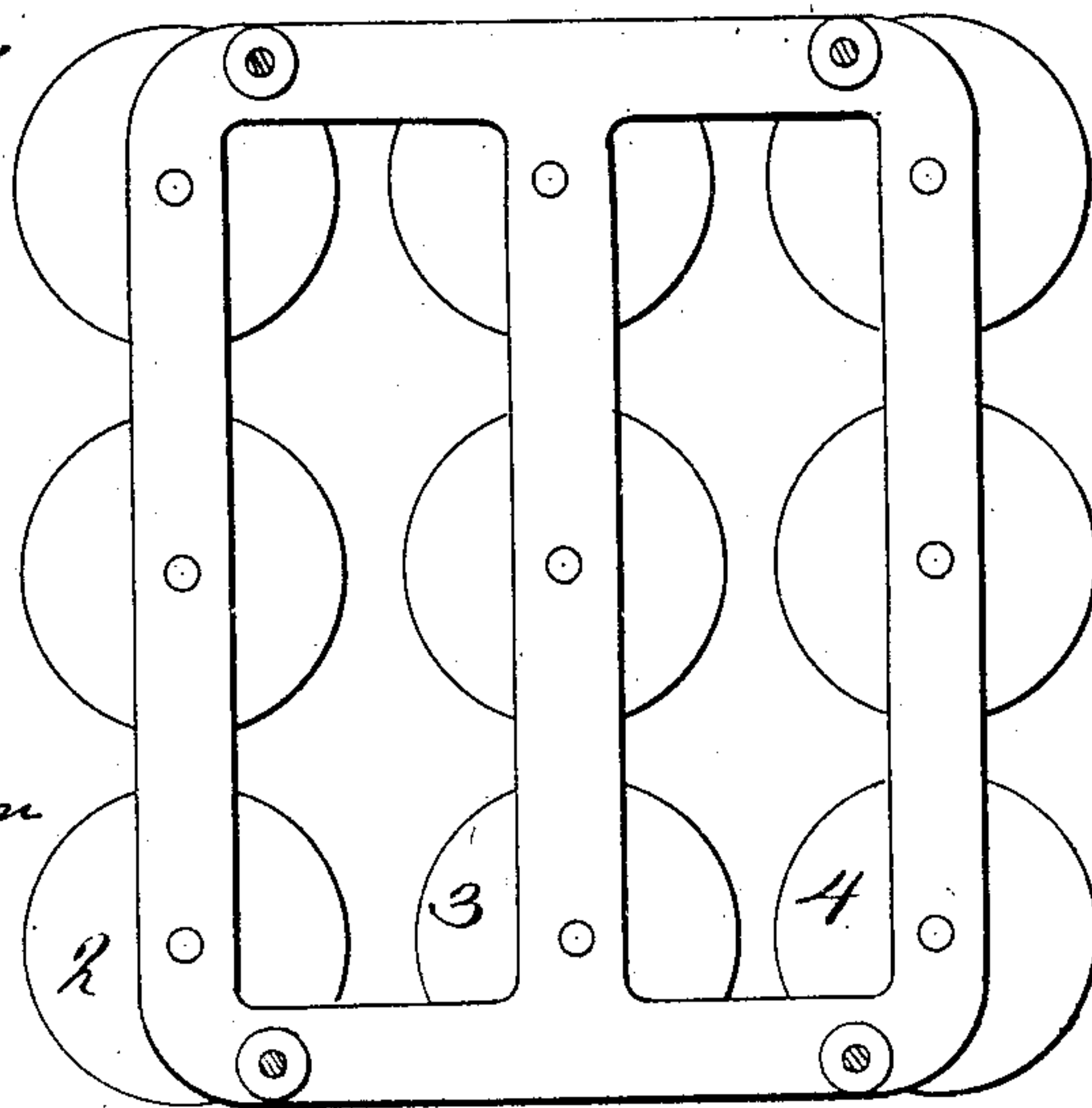
APPLICATION FILED SEPT. 9, 1903.

NO MODEL.

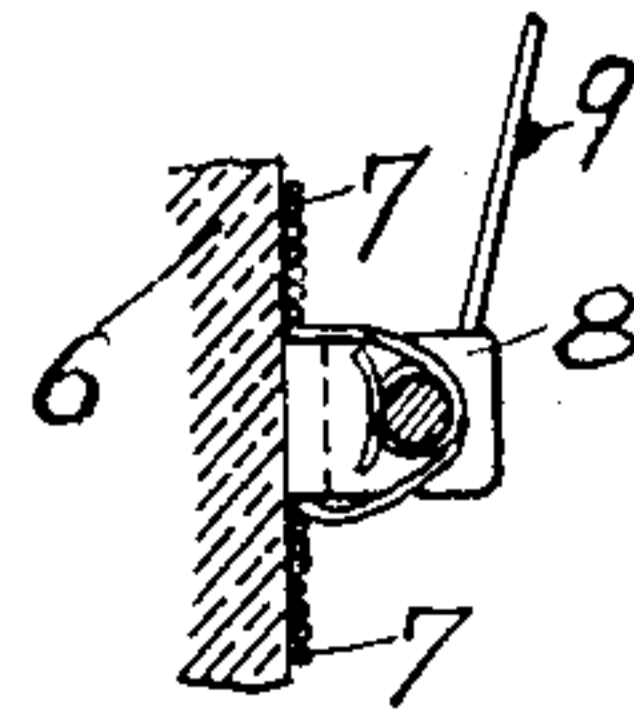
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



WITNESSES:

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# UNITED STATES PATENT OFFICE.

JOHN C. BARCLAY, OF NEW YORK, N. Y.

## RHEOSTAT.

SPECIFICATION forming part of Letters Patent No. 753,533, dated March 1, 1904.

Application filed September 9, 1903. Serial No. 172,477. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN C. BARCLAY, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Rheostats; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it ap-  
 10 pertains to make and use the same.

My invention relates to improvements in rheostats; and it consists in the novel construction of the resistance-spools.

The objects of my invention are to improve  
 15 and simplify rheostats, to render them durable, constant, and easy to inspect, and to reduce to a minimum the number of leads from the several resistance-coils to the switch-terminals.

I will now proceed to describe my invention with reference to the accompanying drawings, in which one form of rheostat embodying my invention is illustrated, and will then point out the novel features in claims.

In the said drawings, Figure 1 is a side view of the rheostat with the inclosing case sectioned, a portion of one of the rheostat-spools being also sectioned. Fig. 2 is a detail top view of the several rheostat-spools detached  
 30 from the top plate. Fig. 3 is a detail view illustrating the connection of the resistance-coils to the clamping-collars of the rheostat-spools.

The rheostat comprises a top plate 1, carrying the switches hereinafter mentioned, a series of resistance-spools 2, 3, 4, &c., of which there may be as many as circumstances may require, and an inclosing box or casing 5, preferably perforated to permit circulation of air  
 40 to carry off the heat generated, together with suitable binding-posts, as hereinafter mentioned.

The resistance-spools each consist of a cylinder or core 6 of some non-conducting material, preferably vitreous in its nature, upon which is wound the resistance-wire 7, the ends of each resistance-coil being secured to metal clamping-collars 8, surrounding the core 6. A core may carry only a single resistance-coil of  
 50 considerable length—as, for example, spool 4

in Fig. 2—or it may be divided up into sections by clamping-collars intermediate its ends—as, for example, spools 2 and 3 in Fig. 2—the collar between each two sections of the spool constituting a terminal for both resistance-coils  
 55 adjacent to it. The collars 8 besides serving as terminals for the several sections or coils of resistance-wire may form stops or flanges to prevent spreading of the convolutions of the coils.  
 60

From each collar 8 an appropriate conductor 9 leads to a corresponding terminal contact-button of one of the switches on the top plate of the rheostat. 12 and 13 are contact-arms of two such switches. There may be as  
 65 many of these switches as desired.

The several resistance-coils of the rheostat being wound upon insulating-spools of material capable of resisting heat without injury and each spool having preferably only one  
 70 layer of wire wound about it, no silk or other combustible insulating material is required, and the rheostat is not injured by accidental overheating of any of its coils. The arrangement of these spools vertically beneath the  
 75 top plate with a number of the low-resistance coils on a single spool permits a very compact grouping of the spools and reduces the number of spools to a minimum. The use of the collars 8 on the spools, each collar forming a terminal for the coils adjacent to it, permits the use of one wire only leading from  
 80 each collar to the corresponding contact-button, and thus simplifies the wiring of the rheostat.  
 85

What I claim is—

1. In a rheostat, the combination with a core of insulating material, and a conductor wound thereon, of collars surrounding said core and forming stops for the windings of the  
 90 conductor, said collars electrically connected to the conductor to form terminals therefor.

2. In a rheostat, the combination with a core of insulating material, and collars surrounding said core at intervals, of conductors  
 95 wound about said core between said collars, the latter electrically connected to the conductors to form terminals therefor and likewise forming stops for the windings of the conductors.  
 100

3. In a rheostat, the combination with a  
base and a plurality of rheostat-spools secured  
thereto, and projecting lengthwise therefrom,  
each spool comprising a core, a plurality of  
5 collars surrounding the same, and resistance-  
wire wound around the core between the col-  
lars, and connected to said collars as termi-  
nals, of switching means carried by said base  
and comprising contact-pieces for the several  
10 sections of resistance-wire, and a single con-

ductor for each such contact-piece, leading  
therefrom to the corresponding collar of one  
of the rheostat-spools.

In testimony whereof I affix my signature in  
the presence of two witnesses.

JOHN C. BARCLAY.

Witnesses:

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C. F. CARRINGTON.