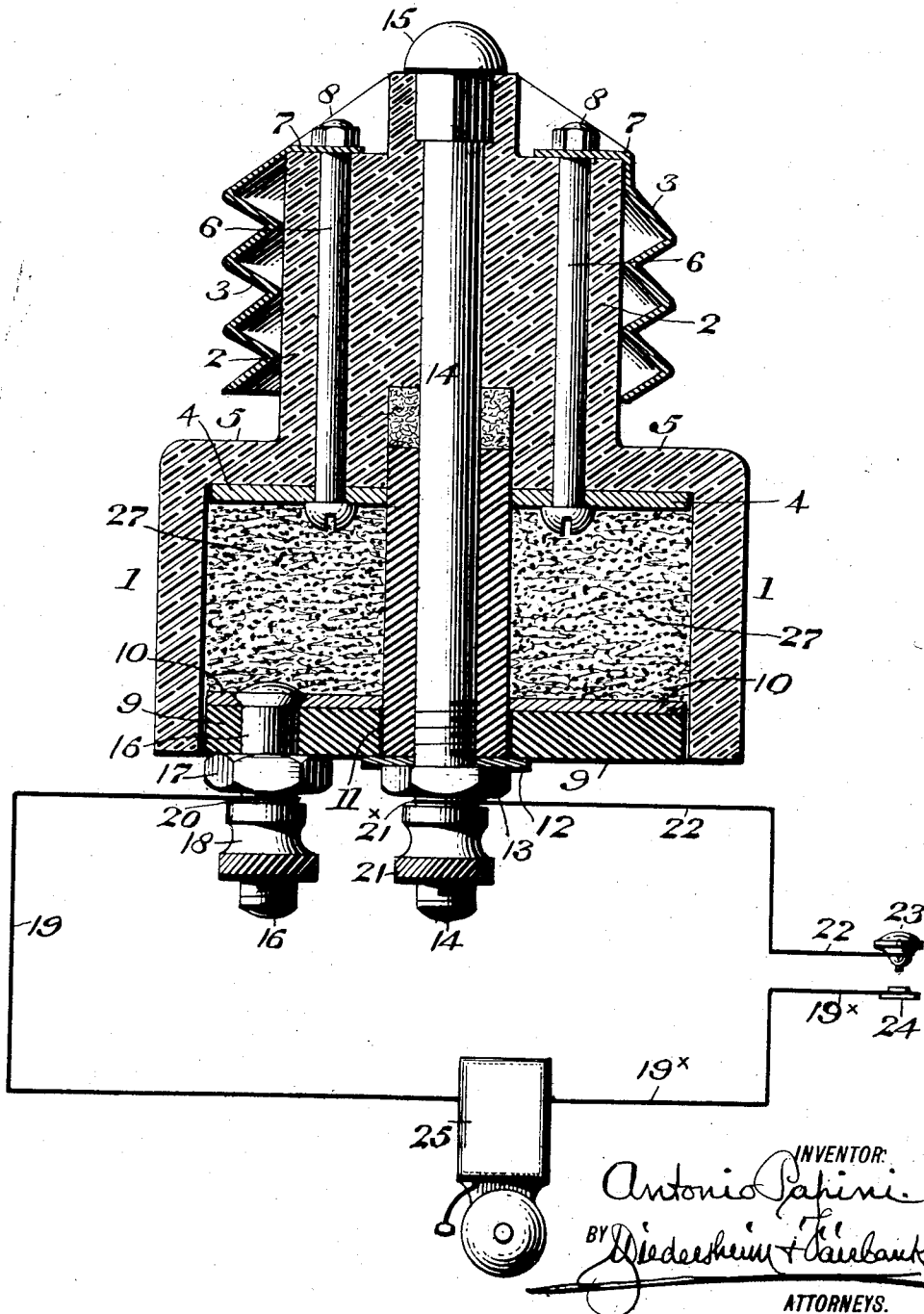


A. PAPINI.
 BELL RHEOSTAT.
 APPLICATION FILED OCT. 13, 1919.

1,335,295.

Patented Mar. 30, 1920.



UNITED STATES PATENT OFFICE.

ANTONIO PAPINI, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO A. MECKY COMPANY, OF PHILADELPHIA, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

BELL-RHEOSTAT.

1,335,295.

Specification of Letters Patent.

Patented Mar. 30, 1920.

Application filed October 13, 1919. Serial No. 330,516.

To all whom it may concern:

Be it known that I, ANTONIO PAPINI, a subject of the King of Italy, and having resided in the United States one year last past, and having declared my intention of becoming a citizen thereof, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Bell-Rheostat, of which the following is a specification.

My invention relates to an electrically operated bell, and consists of means for adjusting the high voltage of the electric current employed to operate the bell mainly to a lower voltage sufficient for operating the bell, thus effecting a saving in the current. To this end I employ a mass of conducting and non-conducting material in a body or casing after the manner of a rheostat through which the current is passed, and novel means for effecting the degree of compression of said material thereby varying the potential of the current.

The invention is satisfactorily illustrated in the accompanying drawing, but the important instrumentalities thereof may be varied, and so it is to be understood that the invention is not limited to the specific details shown and described, as long as they are within the spirit or scope of the claims.

The figure is a partial vertical section, and partial side elevation of a bell rheostat embodying my invention.

Referring to the drawings:

1 designates a chambered body or case formed of porcelain or other refractory material. The upper portion of said body forms the neck 2 on the side of which is the plug shell 3. 4 designates a disk of brass, copper, or other suitable metal or material which is fitted against the lower end of the neck 3 and upper wall 5 of the body 1, the same being held in place by the screws 6 which pass through said disk and neck, and the flange 7 on the upper end of the plug shell 3 which is rested on the top of the neck 2, thus also retaining said plug shell in position, the upper ends of said screws being provided with nuts 8 which are adapted to be tightened on said flange for evident purposes.

9 designates the bottom of the body 1, the same being formed of electric non-conducting material freely movable in vertical direction, and supporting therein in said

body the disk or plate 10 of brass or other suitable material of electric conducting nature.

11 designates a tubular vertically movable bushing of refractory material whose upper portion occupies the lower portion of the neck 2, and the top of the body 1, passes through the chamber of said body and has its lower portion freely occupying openings centrally in the disk 10 and movable bottom 9 of the body.

Bearing against the under end of said bushing is the washer 12 which is adapted to underlap the wall in the central opening in the movable bottom 9 of the body. Bearing against the under side of the washer and to tighten the same is the nut 13 which engages threads on the lower end of the bolt 14 which passes through the washer 12, the bushing 11, and the neck 2, and has its head 15 seated on the top of said neck, the portion of said bolt below said head being squared to prevent rotation of the bolt.

16 designates a binding post which is passed through the movable bottom 9 and disk 10 and has its upper end headed on the latter on the interior of the chamber of the body 1. On said post below said bottom are the nuts 17 and 18 the nut 17 being adapted to be tightened against the under side of the bottom 9, and the nut 18 being adapted to bind a terminal of the electric conductor 19 to said post 16, as at 20.

It will be noticed that the nut 13 sustains the movable bottom of the body 1 and the bushing 11, and that by the rotation of said nut 13 in one direction said bushing and bottom may be raised on the bolt 14, and by the rotation of the same in the other direction said bushing and bottom are permitted to lower on said bolt. The nut 21 is adapted to bind a terminal of the electric conductor 22 to the bolt 14, as at 21*, it being noticed also that the other terminal of the latter has connected therewith a button such as 23 opposite to which is the contact 24 which is connected with the terminal of an electric conductor 19*, said contact and button being adapted to close and break the electric circuit of the conductors.

Connected with said conductors 19, 19* is the electrically operated bell 25 which with the body 1, and the conductors 19, 19* 22 are suitably supported. Seated on the upper end of the bushing 11 within the neck of the

casing is the placing 26 such as asbestos which is pliable in its nature so as to yield when said bushing is raised by the operation of the nut 20.

5 In the chamber of the body is placed a mass of conducting and non-conducting material 27 such as graphite and mica, or the like in the form of an impalpable powder, the same being sustained in said chamber by the bottom 9, and interposed between the disk 10 on the latter and the disk 4 at the top of said chamber.

It is to be understood that the extent of compression of the material 27 in the body will increase or reduce the voltage of the same and consequently the current required to operate the bell, consequently the nut 20 is rotated so as to increase the compression of the material 27 causing a higher voltage or to relieve the compression and cause a reduced voltage, which latter is sufficient for the operation of the bell, the effect being perceived in the sounding of the bell.

When the nut 21 is rotated in one direction which it does on the bolt 14, the washer 12 is raised and with it the bushing 11, the bottom 9 and the disk 10, and so the material 27 is compressed and made more dense. When the nut is rotated in reverse direction said washer, bottom and disk lowers when the material is permitted to expand and so lose its density, the effect of which is evident.

The bushing 11 inclosing the portion of the bolt within the body 1 is movable in the material 27 and so insulates said bolt from said material.

It will be seen that when the button is pressed against the contact 24, the current is from the plug shell 3 to the bolts 6, the disk 4, material 27, disk 10, binding post 16, conductor 19, the bell 25 to the conductor 19, the contact 24, the button 23, the conductor 22, and the bolt 14, or vice versa.

45 Having thus described my invention what I claim as new and desire to secure by Letters Patent, is:—

1. In an electric bell rheostat, a chambered body adapted to contain conducting and non-conducting electrical materials, a movable closure for said body on which said materials are sustained, means supporting said closure and movable to compress

said materials, and binding posts movable with said closure and means.

2. In an electric bell rheostat of the character stated, a chamber to contain conducting and non-conducting electrical materials, substantially for the purpose stated, said body having a movable cover, electrical conducting plates respectively on said body and cover on which latter said material is adapted to be supported, an insulated bolt mounted in said body and adapted to pass freely through said bottom, a longitudinally-movable bushing around said bolt and movable with said cover, and a nut on said bolt adapted to engage said cover and move the same and impart variable compression to said material.

3. In an electric bell rheostat of the character stated, a chambered body adapted to contain electric conducting and non-conducting electric material substantially for the purpose stated and having a movable cover, an electric conducting plate on said bottom on which said material is adapted to be supported, a bolt mounted in said body and adapted to pass freely through said bottom, an insulating bushing on said bolt within said material, a nut fitted on said bolt adapted to engage said cover to move the same and thereby impart variable compression to said material, a binding post on said bottom, electric conductors connected respectively with said posts, an electric bell in the circuit of said conductors, and means on said conductors adapted to close and break the circuit of the same.

4. In an electrical bell rheostat, a chambered body adapted to contain conducting and non-conducting electrical materials, a bolt-like member adapted to pass through said body, a tubular insulating bushing on said bolt within said material, said body having a movable cover on which said materials are supported, means for operating said cover whereby said materials may be subjected to variable compression, and packing interposed between the inner end of said bushing and the adjacent portion of said body.

ANTONIO PAPINI.

Witnesses:

JOHN A. WIEDERSHEIM,
N. BUSINGER.