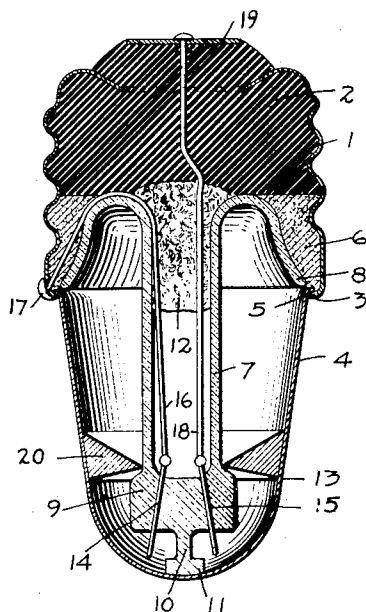


W. G. ASMUS.
THERMOSTATIC CIRCUIT CLOSER.
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1,015,119.

Patented Jan. 16, 1912.



WITNESSES

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THERMOSTATIC CIRCUIT-CLOSER.

1,015,119.

Specification of Letters Patent.

Patented Jan. 16, 1912.

Application filed December 21, 1910. Serial No. 598,538.

To all whom it may concern:

Be it known that I, WILLIAM G. ASMUS, a citizen of the United States, and a resident of Cleveland, in the county of Cuyahoga and State of Ohio, have invented a new and Improved Thermostatic Circuit-Closer, of which the following is a full, clear, and exact description.

My invention relates to thermostatic circuit closers of the type adapted to be operated by heat exceeding a certain limit and employed generally for the purpose of sounding an electric alarm or performing some mechanical act incidental to an unexpected fire.

More particularly stated, I seek to provide a thermostatic circuit closer having generally the form of a screw plug and adapted to be mounted in a receptacle or socket somewhat after the manner of an incandescent globe, the plug being provided with heat-controlled contact mechanism for closing a circuit.

My invention further comprehends a plug having such construction that the stems of broken, exhausted or obsolete lamp globes may be used in the construction of the plug.

Reference is to be had to the accompanying drawing forming a part of this specification, in which the figure shows a substantially central vertical section through my improved thermostatic circuit closer.

A shell 1 of sheet metal is made practically into the form of a hollow screw with large threads and is partially filled with insulating material 2. The shell is provided with an edge 3 bent slightly inward.

At 4 is a metallic cup provided with an edge 5 which is turned slightly outward and is engaged and held by the inwardly turned edge 3.

A filling 6 having generally an annular form is mounted within the shell 1.

At 7 is a tubular member of insulating material, preferably glass, provided with a flaring portion 8 which engages the filling 6. The tubular member 7 is provided with a portion 9 of increased diameter and with a stem 10 carrying a head 11, this head resting centrally against the bottom of the metallic cup 4. A filling 12 of insulating material is disposed within the tubular member 7 and this tubular member is encircled by a sloping shoulder 13.

At 14, 15 are wires which are sealed into

the tubular member 7 and extend through its portion of enlarged diameter 9. Connected with the wires 14, 15 are wires 16, 18, the wire 16 being connected at 17 with the shell 1, and the wire 18 leading up to a disk 19 serving as an inner contact member; the shell 1 serves as an outer contact member.

In the manufacture of the plug here described, I can work up any exhausted, broken or obsolete incandescent lamp globe. For this purpose I break away the hollow outer glass member, if any be present, and mount the tubular member 7 within the shell 1, using for this purpose the filling 6. If desired, however, the structure can be made up entirely new, no part of any lamp being employed for the purpose.

The plug is mounted by screwing it into an ordinary receptacle or socket of the kind generally employed for holding an incandescent lamp globe. Whether or not the upper end of the plug, as shown in the figure, has a structure identical with that of a lamp, there are in any event two contact members, to wit—the outer contact member 1 and the inner contact member 19, these two contact members respectively engaging mating contact members within the receptacle or plug.

At 20 is a ring of fusible metal, preferably soft solder, which encircles the tubular member 7 and rests upon the shoulder 13. The ring 20 has in cross section a general triangular form, as will be noted from the figure. The outer surface of the ring rests against the adjacent inner surface of the cup 4 and has the proper conformity for this purpose.

The operation of my device is as follows: The plug is mounted in position as above described, the cup 4 being in lowermost position, as indicated in the figure. The receptacle or socket is in turn connected with an electric alarm of any approved type. The parts of the plug normally remain as indicated in the figure. If, however, owing to the presence of a fire the plug becomes unduly heated, the ring 20 melts and forms a globule of molten metal in the bottom of the cup 4, thus establishing metallic communication from the wire 14 to the wire 15. This closes a circuit which may be traced as follows: contact member 19, wires 18, 15, molten metal (formed by fusion of the ring 20), wires 14, 16, shell 1, outer contact

member of receptacle, thence to alarm, next to source of electricity, and finally back to contact plate 19.

I do not limit myself to any particular relation in which the thermostatic circuit closer above described may be employed, its use being general. It is well adapted, however, for use in railway cars, as well as in various kinds of buildings. It may be cheaply constructed, owing to the fact that, as above stated, it may be partly built up of waste materials.

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

1. In a thermostatic circuit closer, the combination of a shell, a metallic cup supported thereby, a tubular member disposed within said shell and held centrally within said cup, a conductor connected with said shell and provided with a portion extending through said tubular member and reaching to a point adjacent to the bottom of the cup, another conductor also extending through said tubular member and reaching to a point adjacent to the bottom of said cup, a member of fusible metal encircling said tubular member and encircled by said cup, said member of fusible metal being adapted to melt and close a circuit from one of said conductors to the other, and a contact member connected with said last-mentioned conductor.

2. A thermostatic circuit closer, comprising a screw plug of the type generally used for incandescent lamps and provided with inside and outside contact members, a cup mounted upon said screw plug, contact conductors connected respectively with said inside and outside contact members and ex-

tending into said cup, and a member of fusible metal mounted within said cup and adapted when melted to establish metallic communication from one of said conductors to the other.

3. A thermostatic circuit closer, comprising a shell made of sheet metal and having generally the form of a hollow screw, a filling mounted within said shell, a contact member carried by said filling and insulated thereby from said shell, a cup mounted upon said shell, separate conductors connected with said shell and with said contact member and extending within said cup to a point adjacent to the bottom thereof, and a member of fusible metal disposed within said cup and normally held out of engagement with said conductors, said member of fusible metal being adapted upon melting to form a metallic connection from one of said conductors to the other.

4. In a thermostatic circuit closer, the combination of a cup, a supporting member disposed within said cup and provided with a head resting upon the bottom of said cup, a plurality of conductors extending through said supporting member to points adjacent to the bottom of said cup, and a fusible member located adjacent to said supporting member and adapted when fused to flow into the bottom of said cup and engage both of said conductors.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM GEORGE ASMUS.

Witnesses:

H. O. LEINARD,
D. E. PHILLIPS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."