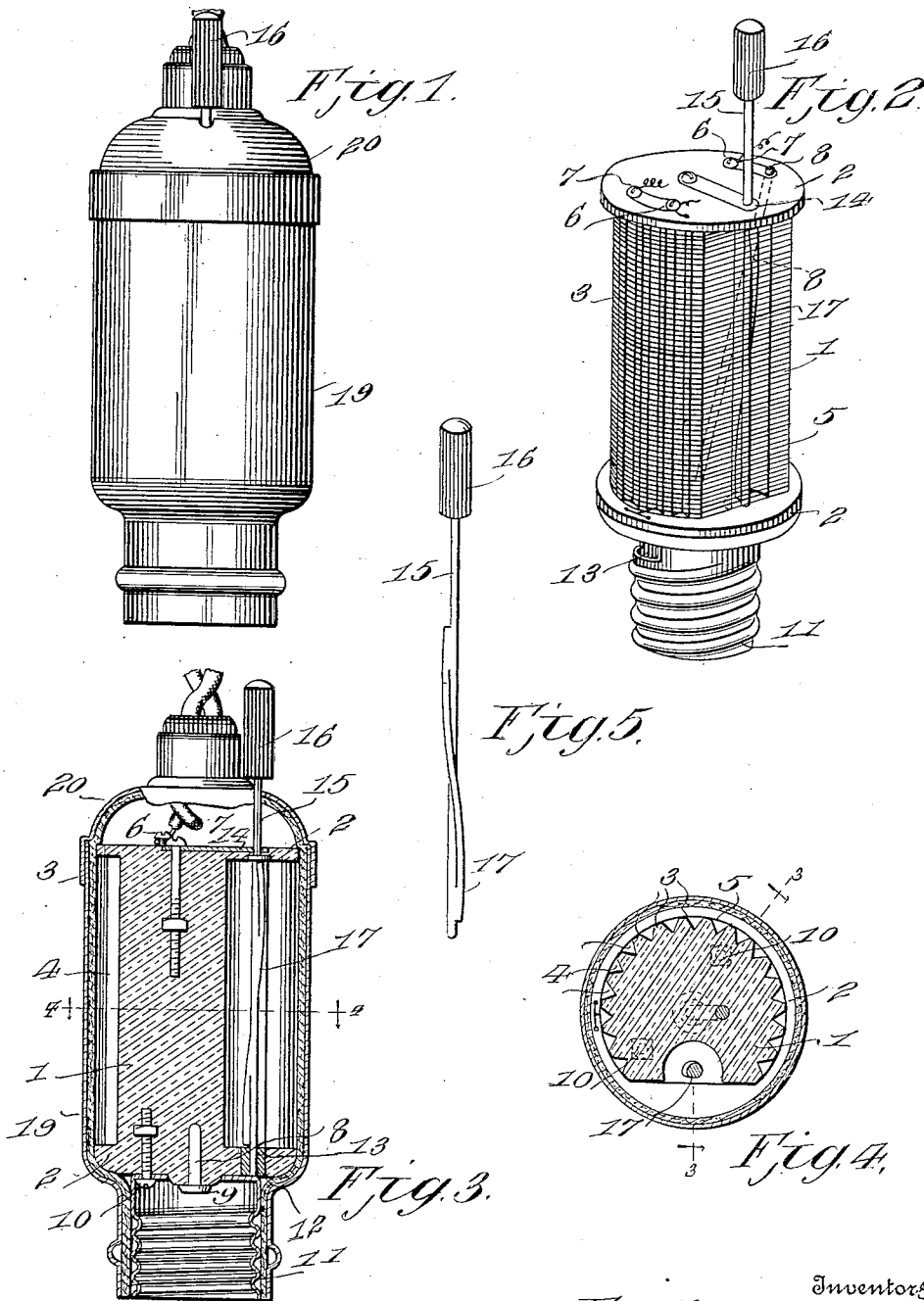


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 VARIABLE RESISTANCE ELECTRIC LAMP SWITCH.
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1,060,991.

Patented May 6, 1913.



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FRED C. MAPES AND WILMER M. OWEN, OF CHELSEA, MICHIGAN.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, FRED C. MAPES and WILMER M. OWEN, citizens of the United States of America, residing at Chelsea, in the county of Washtenaw and State of Michigan, have invented new and useful Improvements in Variable-Resistance Electric-Lamp Switches, of which the following is a specification.

10 This invention relates to improvements in electric lamp switches and has particular application to electric lamp switches of the variable resistance type.

In carrying out the present invention, it is our purpose to provide a variable resistance electric lamp switch whereby the flow of current to the lamp may be regulated or controlled so that the filaments may be illuminated to the desired candle power.

20 Furthermore, we aim to provide a variable resistance electric lamp switch which will embody among other features a resistance coil and a spiral switch element rotatable relatively to the coil and adapted to engage the turns thereof to regulate the flow of current to the lamp.

With the above and other objects in view, the invention consists in the construction, combination and arrangement of parts hereinafter set forth in and falling within the scope of the claims.

30 In the accompanying drawing: Figure 1 is a side elevation of an electric lamp switch constructed in accordance with the present invention. Fig. 2 is a perspective view of the switch, the casing and cap being removed. Fig. 3 is a longitudinal sectional view through the same. Fig. 4 is a transverse view thereof. Fig. 5 is a detail perspective view of the spiral switch element.

40 Referring now to the accompanying drawing in detail, the numeral 1 indicates the body of the switch which is constructed of suitable insulating material and provided at its opposite ends with circumferential flanges 2, 2, the body being formed with longitudinal ribs 3 suitably spaced apart and is provided with a longitudinal groove 4. Wrapped about the body 1 on the ribs thereof and overlying the groove 4 therein is a resistance coil 5 having the turns thereof suitably spaced apart. Secured to one end of the body 1 are two binding posts 6, 6 one of which has connections with one terminal of the coil 5 and one of the electric current carrying conductors 7 of the electric

circuit, while the other of such binding posts has connections with the remaining wire 7 of the electric circuit and an electrode 8 arranged within the body of insulating material 1 diagonally thereof and terminating centrally of the other end of the body in a contact head 9. Fastened to the last-mentioned end of the body by means of bolts 10 or the like and connected to the free terminal of the resistance coil is a socket 11 provided at the edge adjacent to the proximate end of the body of insulating material with an inwardly extending lug 12 formed with an aperture 13 coaxial with the groove 4 in the body and with an aperture in a lug 14 embedded in one wall of the groove and at the end of the groove opposite from the socket.

Rotatably mounted in the apertures in the lugs 12 and 14 is an actuating shaft 15 terminating beyond the end of the body of insulating material opposite from the socket in a manipulating handle 16. Secured to the actuating shaft 15 in any suitable manner as by soldering or the like, between the bearings of such shaft is a spiral switch element 17 having one end connected to the shaft adjacent to the upper bearing while the opposite end thereof terminates adjacent to the lower bearing and at a point on the shaft approximately diametrically opposite the first end, the spiral traversing but one-half the circumference of the actuating shaft, as shown.

The body of insulating material and the various parts of the switch just described are inclosed in a casing 19 lined with suitable insulating material, while a cap 20 incloses the end of the casing opposite the socket, the cap being provided with an opening through which the manipulating handle 16 of the actuating shaft projects.

From the foregoing description taken in connection with the accompanying drawing, the construction and mode of operation of our invention will be readily apparent. Assuming the lamp to be in the socket 11 and it is desired to cut the turns of the resistance coil out of the circuit successively so that the current may be fed to the filaments of the lamp gradually, the manipulating handle 15 is grasped by an operator and rotated with the effect to rotate the actuating shaft and so cut the turns of the resistance coil out of the circuit, the upper end of the spiral switch element engaging the upper turns of the resistance coil in the initial

movement of the actuating shaft, the spiral, in its path of movement, gradually cutting the turns of the wire out of the circuit as will be readily understood. On the other hand, should it be desired to feed the full amount of current to the lamp filaments, the actuating shaft is rotated in a reverse direction whereby the lower end of the spiral engages the last turn of the coil. To extinguish the lamp, the spiral switch element is disengaged from the coil thereby breaking the circuit, incident to the spiral being arranged upon but one-half the circumference of the actuating shaft.

It will be seen that we have provided a variable resistance electric lamp switch by means of which the electric current may be fed into the filaments of the lamp in any desired quantity and whereby the lamp may be illuminated to its full capacity and extinguished.

While we have herein shown and described one preferred form of our invention by way of illustration, we wish it to be understood that we do not limit ourselves to the precise details of construction herein described and delineated, as modification and variation may be made within the scope of the claims and without departing from the spirit of the invention.

We claim:

1. An electric lamp switch comprising a body of insulating material having a longitudinal groove therein, a resistance coil

wrapped about the body and overlying the groove, and a spiral switch element rotatably mounted within the groove and adapted to engage the turns of the coil to regulate the flow of current.

2. An electric lamp switch comprising a body of insulating material having a longitudinal groove therein, a resistance coil wrapped about the body and overlying the groove, a socket secured to one end of said body, a spiral switch element rotatably mounted within the groove and adapted to engage the turns of the coil to regulate the flow of current, means for rotating said switch element, and a casing inclosing the body of insulating material and the socket.

3. An electric lamp switch comprising a body of insulating material having a longitudinal groove therein, a socket secured to one wall of said body, an actuating shaft rotatably mounted within the groove, a manipulating handle for said shaft, and a spiral switch element connected to the shaft and rotatable therewith to engage the turns of the coil successively to regulate the flow of current.

In testimony whereof we affix our signatures in presence of two witnesses.

FRED C. MAPES.
WILMER M. OWEN.

Witnesses:

J. H. BOYD,
EARLE E. SCHUMACHER.