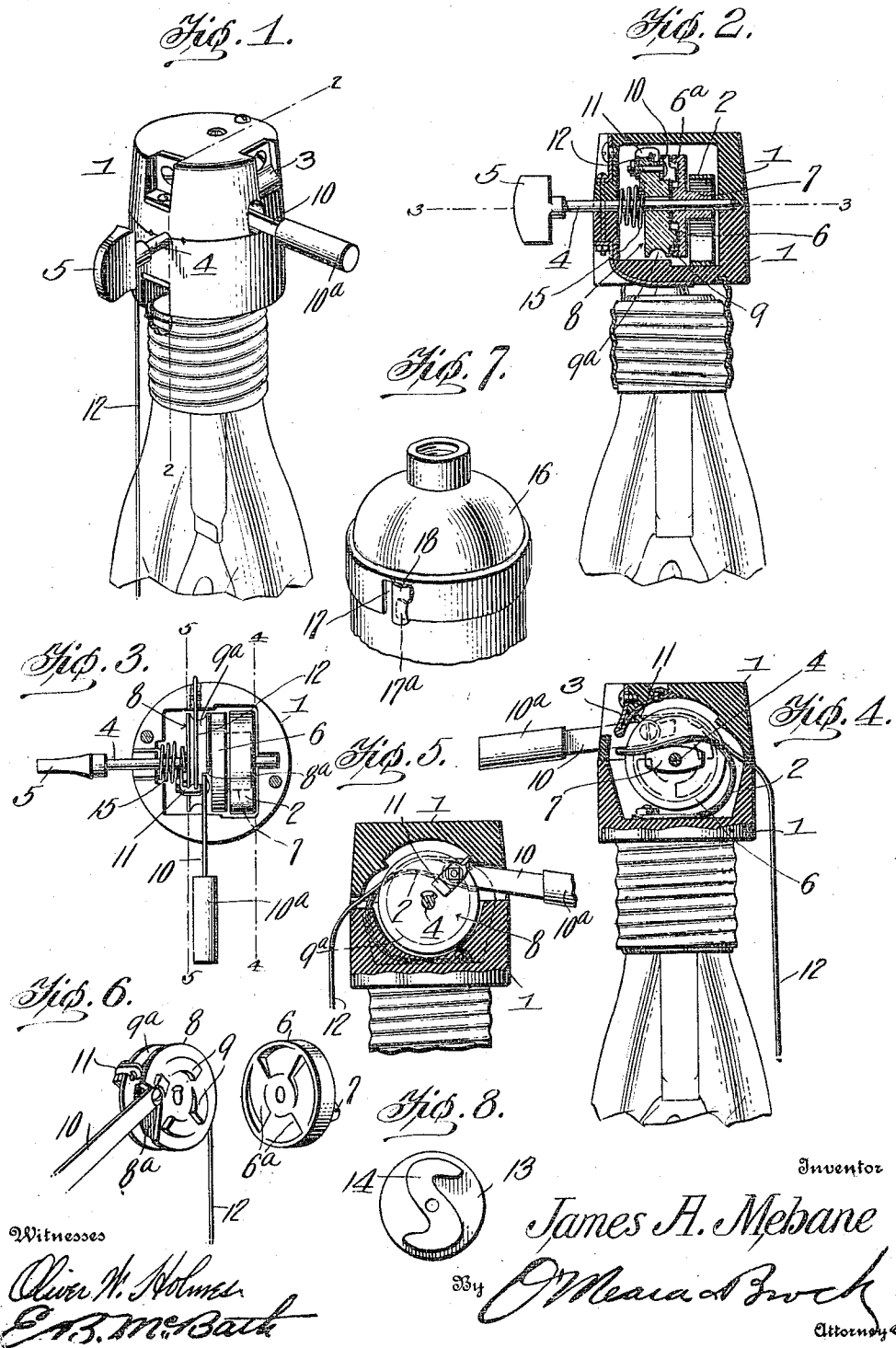


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 SWITCH FOR INCANDESCENT LAMPS.
 APPLICATION FILED MAR. 21, 1908.

959,572.

Patented May 31, 1910.



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SWITCH FOR INCANDESCENT LAMPS.

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Specification of Letters Patent.

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Application filed March 21, 1908. Serial No. 422,498.

To all whom it may concern:

Be it known that I, JAMES A. MEBANE, a citizen of the United States, residing at South Boston, in the county of Halifax and State of Virginia, have invented a new and useful Improvement in Switches for Incandescent Lamps, of which the following is a specification.

This invention relates to a socket or switch for incandescent lamps in which the switch may be operated by means of the usual rotatable key, also by means of suitable push rod, and also by a depending cord. I have found by experience in installing incandescent lamps that a means for turning the light on or off which will be convenient when the lamp is located in one place, or at a particular height is very inconvenient when the lamp is located at another point, and that to make the lamp equally efficient no matter where located it is necessary that the mechanism for completing the circuit and lighting the lamp be operable either by turning a key, pulling a cord, or pushing a suitable push rod. If the lamp is held in a fixed bracket and at a convenient height the latter is the most natural and easiest way of operating the switch. If the lamp is either fixed or suspended at a height beyond easy reach it is necessary for convenience in turning the light on and off that some other operating means should be so constructed that they may be operated by drawing downwardly upon a cord.

The object of my invention is a switch making and breaking device so constructed and arranged in an incandescent lamp socket that it may be operated by any of the three methods mentioned above.

In the accompanying drawings:—Figure 1 is a perspective view of my device, an inclosing casing being removed, said device being provided with a key, a push rod and a cord. Fig. 2 is a section on the line 2—2 of Fig. 1. Fig. 3 is a section on the line 3—3 of Fig. 2. Fig. 4 is a section on the line 4—4 of Fig. 3. Fig. 5 is a section on the line 5—5 of Fig. 3. Fig. 6 is a detail perspective view of two co-acting ratchet disks, said disks being shown separated. Fig. 7 is a detail perspective view of the upper portion of a casing. Fig. 8 is a detail outer face view of a modified form of ratchet.

In constructing the device I employ the usual two part socket block 1 of any suitable material, said block being divided into up-

per and lower portions and cut out wherever it may be found necessary in order to accommodate those parts which I have added to the usual lamp mechanism. Within this socket is the usual curved spring contact plate 2 which is secured in position in the lower half of the socket and coöperates with a contact plate 3 carried by the upper half of the socket. It will be understood that from these contact plates 2 and 3 the electrical connections are made in the usual manner. A shaft 4 passes through the socket, and is provided at its outer end with a thumb piece 5 said shaft and thumb piece forming a rotatable key by means of which the circuit may be made and broken in the usual manner. Upon the shaft 4 is loosely mounted a disk 6 having a ratchet face 6^a upon one face and being provided with a cam 7 upon its other face, said cam projecting equally upon opposite sides of the shaft 4. This cam rests within the curve of the spring contact plate 2 and when the ratchet 6 is given a quarter rotation will lift said spring into engagement with the plate 3, but when the cam is thrown into the position shown in Figs. 2 and 4 the circuit completed by said contact plates will be broken. Keyed upon the shaft 4 is a coöperating disk 8 having a ratchet face 9 engaging the face 6^a of the first mentioned disk, the disk 8 when rotated in one direction turning the disk 6, but when turned or rotated in the opposite direction the ratchet faces of the disk slip, so that the disk 6 is only rotated when the disk 8 is rotated in one direction. The disk 8 has its inner face partially cut out as shown at 8^a and in said cut out portion is loosely pivoted a lever 10 which projects through a suitable slot formed in the upper portion of the socket 1 and is provided at its outer end with a push rod 10^a. The disk 8 is also circumferentially grooved as shown at 9^a and adjacent the cut out portion 8^a, and above the same is fixed a small perforated metal arm 11 which extends transversely across the periphery of the disk 8, overhanging the groove 9^a, and to this arm is secured a cord 12 which from the arm runs over the disk working in the groove 9^a, and this cord runs from the disk upon the side opposite the lever 10, and outwardly and downwardly through the side of the socket opposite that upon which the push rod 10^a is mounted. It will be obvious that the cord 12 when drawn downwardly will

rotate the ratchet disk 8, and of course the disk 6 in exactly the same direction as when the push rod is pushed inwardly. It will be understood that on outward movement of the rod 10 the ratchet disk 8 slips on the face of the disk 6, and does not rotate the latter.

In Fig. 8 I have shown a ratchet 13 which is similar to the ratchet disk 6 with the exception that it carries an S-shaped cam upon its outer face in place of the cam 7, the last mentioned form being preferable with some forms of spring contacts. The ratchet disks are held in engagement with each other by means of a coil spring 15 which is preferably coiled about the shaft 4 and bears respectively upon the sides of the socket and upon the outer face of the disk 8, thus holding the ratchet face of said disk positively into engagement with the ratchet face of the disk 6 when the push rod 10^a is pushed inwardly or the cord is drawn downwardly.

The socket mechanism above described is preferably inclosed in a two part brass cap 16 the upper portion of which fits over the lower and the upper portion is provided with a bayonet slot 17 leaving a tongue 17^a. When the upper portion of the casing is slipped upon the lower part giving a partial rotation the tongue 17^a slips into a slot cut in said lower portion and rests beneath a tongue 18 formed by said slot and stuck out from the body portion of the casing.

In operating the lamp the circuit may be made by pushing in the rod 10^a, thus rotating the disks and causing the cam to lift the free end of the contact spring 2 into engagement with the contact plate 3. This will also wind the spring 15 which is secured to the ratchet disk 8 and also to a side of the housing, and as soon as the push rod 10^a is released the ratchet 8 will be returned to its normal position, slipping upon the ratchet 6. When the light is to be turned off it is also necessary to again push in the rod 10^a and another quarter-rotation of the disks will bring the cam 7 back to the position shown in Figs. 2 and 4, thus breaking the circuit, and the spring 15 will again return the push rod 10^a to normal position, and when again pushed inwardly the circuit will be again completed by another half-rotation

of the disks. If instead of pushing in the rod 10^a the cord 12 is pulled downwardly the same results are obtained, the disks being given substantially a one-half rotation with each downward pull of the cord, the disk 8 being brought back to normal position by the spring 15 each time the cord is released. It will be noted therefore that the light is turned off by a pull upon the cord or by pushing the rod 10^a, and the lights are also turned on by exactly the same movement, the making and breaking of the circuit taking place alternately as the disks are rotated.

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

1. The combination with an incandescent lamp socket, of a key shaft, co-acting ratchet disks mounted on said shaft, one of said disks being keyed to the shaft and the other being loose, a contact spring, a double cam carried by the loose disk, and a push rod working through the socket and pivotally connected to the keyed disk.

2. The combination with an incandescent lamp socket, of a key-shaft passing there-through, a disk keyed to said shaft, a face of said disk being partially cut out and its periphery being grooved, a rod working through the socket and pivotally connected to the cut out portion of said disk, a cord also working through the socket, secured to the disk and running in the groove, a second disk loose on the shaft and having a cam portion, and a contact spring in position to be engaged by said cam, the disks having co-operating ratchet faces.

3. In an incandescent lamp socket, a grooved ratchet disk fixed on the shaft, a loose ratchet disk upon said shaft, co-operating with and operated by the fixed disk, a contact spring, a double cam carried by said loose disk, and bearing on said contact spring, a push rod pivotally connected to the fixed disk, and a flexible cable secured to the pivotal point of said rod, and working in the groove of the disk.

JAMES A. MEBANE.

Witnesses:

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