(No Model.)

J. McFARLANE & W. B. EDGAR.

INCANDESCENT LAMP SOCKET.

No. 513,951. Patented Jan. 30, 1894.

Fig. 3.

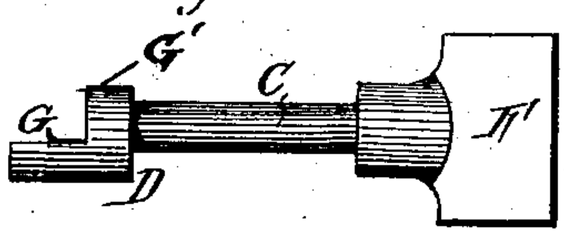


Fig. 5.

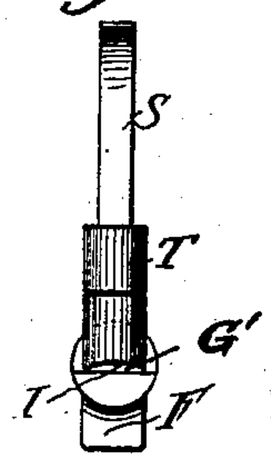


Fig. 1.

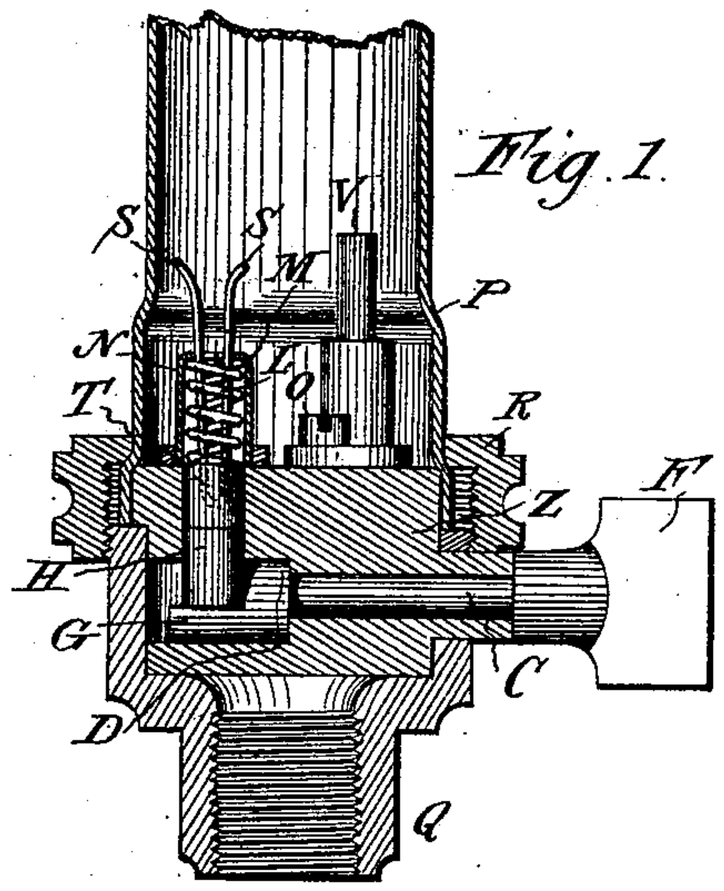


Fig. 6.

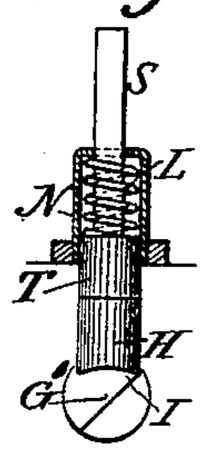


Fig. 2.

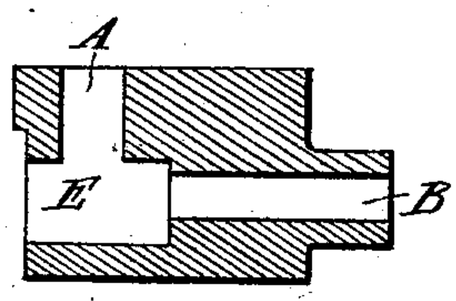
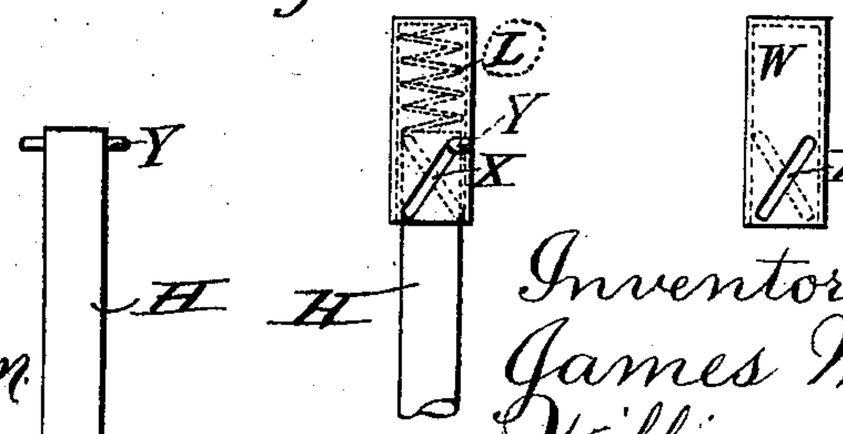


Fig. 4.



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INCANDESCENT-LAMP SOCKET.

SPECIFICATION forming part of Letters Patent No. 513,951, dated January 30, 1894.

Application filed March 31, 1893. Serial No. 468,426. (No model.) Patented in England April 12, 1892, No. 7,016.

To all whom it may concern:

Be it known that we, JAMES MCFARLANE, works manager, of 9 Holland Place, and WILLIAM BURGESS EDGAR, electrician, of 10 Stone Terrace, Cartick, Glasgow, Scotland, subjects of the Queen of Great Britain and Ireland, have invented certain Improvements in Fittings of Incandescent Electric Lamps, (for which we have obtained English Letters Patent, No. 7,016, dated April 12, 1892,) of which the following is a specification.

The invention relates to improvements in fittings for electric incandescent lamps, and has for its object to provide a cheap and compact switch combined with the lamp holder.

In carrying out our invention, we use that form of lamp-holder in which contact pistons actuated by coiled or flat springs as in the Brush lampholder, are used for completing the circuit through the lamp. The ordinary bayonet joint lampholder is an example of one to which our invention may be applied. We propose to use one or both of the contact pistons as part of the switch, and to make the make and break, take place by movement of the piston or pistons. One end of the piston is brought through the insulation base of the lampholder and is actuated by a small rod with projecting arm.

Our invention may also be carried out by causing the make and break, to take place at the end of the piston which is brought through the insulation base of the holder, similar mechanism being employed for actuating the piston. In all cases, the contact pieces of the lampholder are actuated so as to make and break the circuit.

We propose to apply our invention to any suitable form of socket lampholder either by applying it to the existing contacts, if they are suitable, or by introducing a new part in place of one of the contacts, when they are not suitable as hereinafter described and by mechanically moving the contact piston toward or away from the contact plate on cap of lamp, we make and break the circuit and thus light or extinguish the lamp as may be desired.

In order that our invention may be more fully understood, we will proceed to describe the same with reference to the accompanying drawings, in which—

Figure 1 is a vertical section through a portion of the lamp socket showing the working parts of the switch. Fig. 2 is a detail sectional view of the insulated base of the lamp socket. Fig. 3 is a detail view of the key. Fig. 4 is a detail view of a modification of the make and break mechanism of the switch. Figs. 5 and 6 are detail views showing various positions of the make and break device.

In the said drawings: Z represents the insulated base of the incandescent lamp socket which is composed of the usual parts P, Q and R. This base is formed with two openings A and B extending at right angles to each other, and they form at their meeting point the recess E.

C represents the shank of the operating key D, which fits and works in the opening B. The said key is provided with an operating handle F, and the enlarged head G which is provided with a cut-away portion G′ on which one end of the piston H rests. The piston H works in the opening A and is composed of the insulated part T which carries, and has secured thereto the bent spring S which is used as the make and break of the circuit.

N represents a cylindrical casing which is secured to one of the terminals on the base Z and which fits around a portion of the bent spring S. The spring S is formed with two limbs and is made of thin yielding metal such as phosphor bronze, hard brass, steel, &c., with or without their points copper plated and having these points curved outwardly. This spring is soldered or otherwise fixed to the part T of the piston H and its ends extend through a slot M in the closed end of the casing N. The limbs are free to spread apart but not to revolve in the casing and so bridge across the contact plate on the cap of lamp. It will be observed of the spring S that one leg is shorter than the other. This has the advantage of confining the making and breaking spark to the long leg, thus keeping the short leg clean for making good contact. Thus when the circuit is completed the longer leg of the spring moves across the contact

part of the lamp and the friction caused thereby keeps the said plate clean so that the shorter leg can make a better contact.

L represents a spiral spring surrounding the spring S, and is adapted to force the piston and spring away from the contact plate on the lamp when it is desired to break the circuit.

O represents the other terminal of the circuit and is always in electrical connection with one of the contact plates of the lamp.

The operation of our improved switch is as follows:—In Figs. 1 and 5, the parts forming the make and break of the switch are shown in their normal position, that is, out of engagement with the contact plate of the lamp. When the current is to be turned on the key C is partially rotated, the head G of the key fitting into the curved portion I in the piston and thus throwing the spring S into engagement with the contact plate on the lamp. When the circuit is to be broken, the key C is again partially rotated which allows the spring L to force the piston and spring S out of engagement with the contact plate.

In Fig. 4, we have shown a modification of the make and break mechanism of the switch. In this arrangement the piston H is provided at one end with projections T which fit in spirally arranged grooves X formed in a cap W which is adapted to contact with the terminal on the lamp. This plate is forced against the said terminal by the spiral spring L as it is compressed by the piston H which is forced upward by the key C when the circuit is to be completed, and by means of the spiral groove and the projections fitting therein, a twisting motion is given to the cap, in order that any foreign substance which may be on the lamp terminal can be removed, and a better contact made.

Having thus described our invention, the following is what we claim as new therein and desire to secure by Letters Patent:

1. In a switch for incandescent electric lamp sockets, the combination of the insulated base formed with the two openings, the key and piston fitting in said openings, the bent contact spring carried by said piston and the spiral spring surrounding said contact spring, substantially as shown and described.

2. In a switch for incandescent electric lamps, the combination of the insulated base formed with the openings at right angles to each other, the piston and key fitting into said openings, the bent contact spring carried by said piston one of the legs of said spring being longer than the other, and the spiral spring surrounding said contact spring, substantially as shown and described.

3. In a switch for incandescent electric lamps, the combination of the lamp socket, the insulated base in said socket, openings extending at right angles to each other formed in said socket, the piston and key fitting in said openings, the bent spring carried by said piston, the cylindrical casing fitting around said spring, and through which the ends thereof extend, and the spiral spring within said casing and surrounding the said contact spring, substantially as shown and described.

4. In an incandescent lamp socket, the combination of a lamp-terminal, a piston carrying a yielding contact piece, and means for projecting and withdrawing said piston; said contact piece being movable on the lamp-terminal, by engagement therewith as explained.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

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