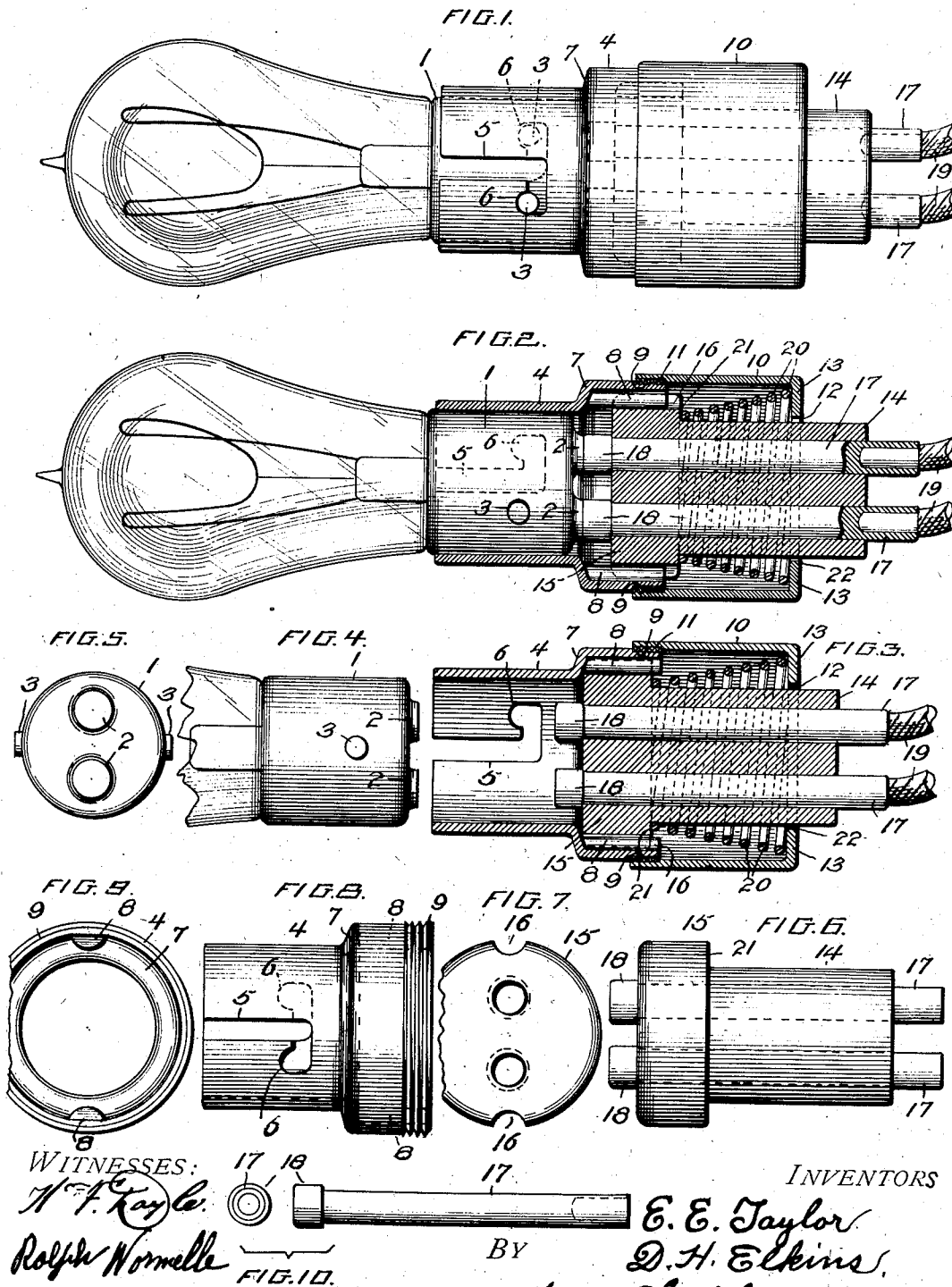


E. E. TAYLOR & D. H. ELKINS.
LAMP SOCKET.

APPLICATION FILED AUG. 11, 1910.

997,588.

Patented July 11, 1911.



UNITED STATES PATENT OFFICE.

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LAMP-SOCKET.

997,588.

Specification of Letters Patent. Patented July 11, 1911.

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To all whom it may concern:

Be it known that we, EDWARD E. TAYLOR and DAVID H. ELKINS, citizens of the United States, residing at Amesbury, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Lamp-Sockets, of which the following is a specification.

The object of our invention is the production of an incandescent lamp socket of such a construction that the terminals at the base of the lamp bulb and those of the socket shall be held in close frictional contact under all conditions of service.

When incandescent lamps are used upon rapidly moving vehicles, such, for example, as automobiles, the vibration frequently causes the displacement of the base of the lamp bulb relative to the socket, or vice versa, so that one or both of the terminals are moved from contact with one or both of the socket terminals and the circuit is broken and the lamp extinguished. Our invention is designed to prevent any such displacement and to insure an unbroken circuit at all times for the passage of the electric current through the lamp filament.

With the above specified end in view, our invention consists in certain novelties of construction and combinations of parts as hereinafter set forth and claimed.

The accompanying drawing illustrates an example of the physical embodiment of the invention constructed according to the best mode of procedure we have so far devised for the purpose.

Figure 1 is an enlarged side view of the socket and a lamp base inserted within the socket. Fig. 2 is a longitudinal sectional view of the socket shown in Fig. 1. Fig. 3 is a sectional view of the socket with the insulating block in the relative position it assumes when the lamp base is detached from the socket. Fig. 4 is a side view of the lamp base. Fig. 5 is an end view of the base. Fig. 6 is a side view of the insulating block removed from the socket. Fig. 7 is an end view of the head of the insulating block. Fig. 8 is a side view of the socket piece proper. Fig. 9 is an end view of the socket piece. Fig. 10 is a side and end view of one of the socket terminals.

Referring to the several figures, the numeral 1 designates the base of an incandescent electric lamp; 2, 2, the terminals in

connection with the filament; 3, locking lugs or studs disposed at opposite sides of the base; 4, the socket piece proper consisting of a metallic cylinder, in this instance of an enlarged diameter at one end to provide a suitable recess for the head of an insulating block; 5, 5, oppositely disposed slots in the socket; 6, 6, offset seats at the closed ends of the slots to receive the studs on the base, constituting a bayonet joint; 7, the flange uniting the smaller and the larger parts of the socket piece; 8, 8, inwardly projecting ribs upon the inner surface of the larger end of the socket piece; 9, threads upon the exterior surface; 10, a cylindrical cap; 11, threads on the inner surface adjacent the open end thereof; 12, an opening at one end of the cylinder; 13, an inwardly extended flange bounding the opening; 14, the insulating block of any suitable insulating material; 15, the head of the block; 16, slots to loosely receive the ribs 8, 8 on the socket piece and prevent the rotation of the block upon its axis; 17, 17, two metallic terminals passed through the block longitudinally; 18, the heads of the terminals; 19, 19, current conducting wires; and 20 is a conical coiled spring surrounding the insulating block and bearing at one end against the flange 13 of the cap and at the other end against the surface 21 of the head of the insulating block.

It will be observed that there is clearance space 22 between the edge of the flange 13 of the cap and the insulating block and also considerable clearance space between the inner surface of the larger part of the socket piece and the head of the insulating block. These spaces are essential to allow the longitudinal axis of the block to take positions out of direct line with the longitudinal axis of the socket piece. As shown in Fig. 3, the spring forces the head of the insulating block against the flange 7 of the socket piece when the lamp base is removed. When the base is partly inserted within the socket the terminals 2, 2 engage the heads 18, 18 of the other terminals, and a further introduction of the base into the socket forces the insulating block longitudinally away from the flange 7 compressing the spring, so that when the base is finally seated and locked the spring forces the heads of the insulating block terminals against the base terminals and holds them in contact under all condi-

tions, inasmuch as the insulating block is loose within the socket and cap and its axis is always held in line with the axis of the lamp base under spring pressure.

5 In the embodiment of our invention obviously many changes may be introduced, for instance, the loose insulating block may be used in connection with a base which is held within the socket by screw threads or
10 otherwise in lieu of the bayonet joint, and the insulating block may be of a different shape from that shown, all of which changes may be made without constituting substantial departures.

15 What we claim is:

1. The combination in a lamp socket, of a cylindrical socket piece proper, one end being provided with means for holding a lamp base and the other end threaded; a cylindrical cap with one end threaded and the other end having an opening bounded by an inwardly projecting flange; insulating material with a head and shank loosely disposed within the socket piece and cap and
20 the end of the shank passed through the opening in the cap, the diameter of the shank being sufficiently less than the diameter of the opening in the cap to secure a normally open space between the flange and the
25 shank whereby the shank is held in place and the head and shank allowed to rock; two terminals located in the insulating material and extended longitudinally through the head and shank; a spring about the shank
30 of the insulating material bearing against the head at one end and the flange about the end of the cap at the other end; means for preventing the rotation of the insulating material about its axis; and means for limiting the longitudinal movement of the insulating material relative to the socket piece and cap.
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2. The combination in a lamp socket, of a cylindrical socket piece proper, one end being provided with means for holding a lamp base and the other end threaded; a cylindrical cap with one end threaded and the other end having an opening bounded by an
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inwardly projecting flange; insulating material within the socket piece and cap loosely disposed so it can rock; two terminals located in the insulating material and extended longitudinally therethrough; a spring about the shank of the insulating material bearing against the same at one end and the
50 flange about the end of the cap at the other end; means for preventing the rotation of the insulating material about its axis; and means for limiting the longitudinal movement of the insulating material relative to
55 the socket piece and cap; the end of the said insulating material extending through the opening in the end of the cap, there being when the parts are assembled an open space between the flange bounding the opening
60 through the end of the cap and the outer surface of the shank so the head and shank can rock, and the current conducting wires being secured to the two terminals projecting beyond the said cap.
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3. The combination in a lamp socket, of a cylindrical socket piece proper having a flange 7 dividing its opposite ends into parts of smaller and larger diameters, the end of the smaller diameter being provided with
70 means for holding a lamp base; a cylindrical cap, having an inwardly extending flange 13 bounding an opening, detachably secured to the socket piece; an insulating block having a shank and a head 15 loosely disposed
75 within the larger end of the socket piece and the cap with its shank passed through the opening bounded by flange 13, which opening is of greater diameter than the diameter of the shank to provide an open space between the flange and shank so the latter
80 can rock to a limited degree and still be confined against excessive displacement through the medium of the flange.
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In testimony whereof we affix our signatures in presence of two witnesses.

EDWARD E. TAYLOR.

DAVID H. ELKINS.

Witnesses:

ALFRED P. HARTSHORN,
THOMAS F. O'NEIL.