(No Model.) 2 Sheets—Sheet 1.

J. HUTCHINSON.

LAMP SOCKET AND TERMINAL THEREFOR.

No. 488,205. Patented Dec. 20, 1892.

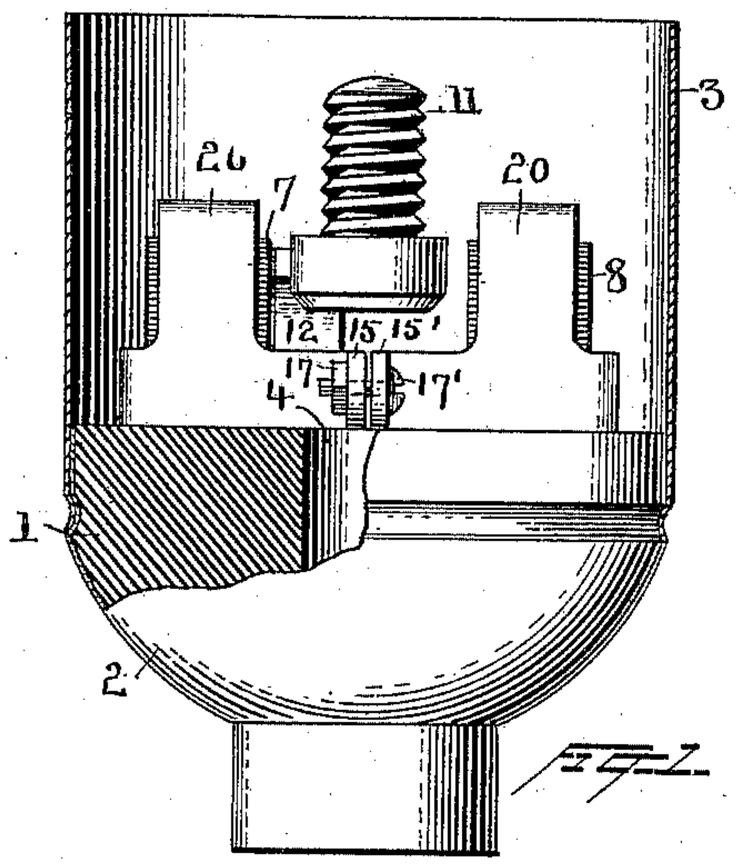

Fig. 1.

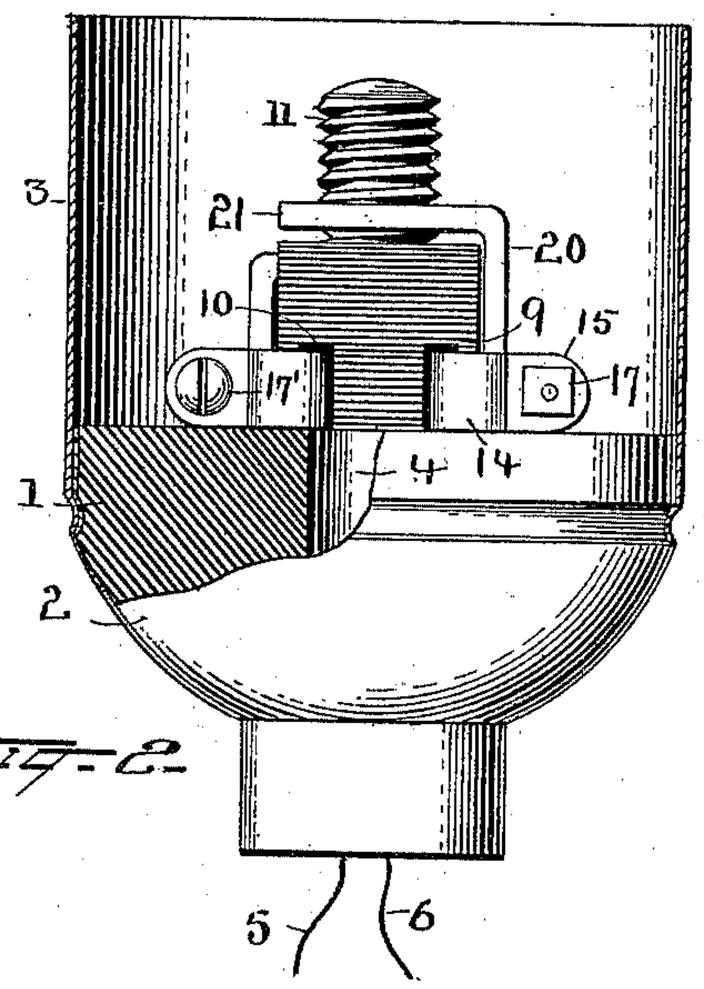

Fig. 2.

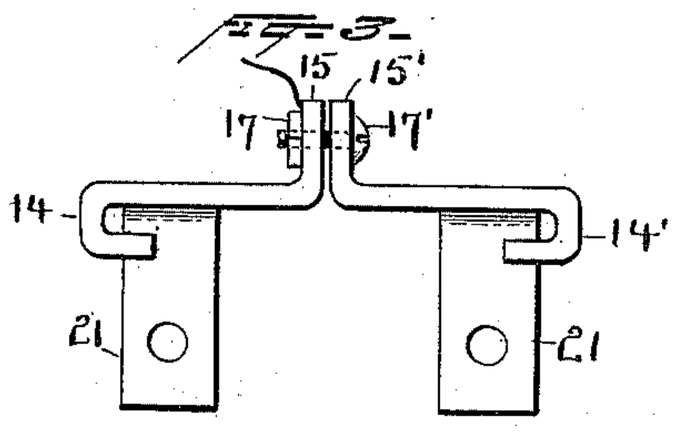

Fig. 3.

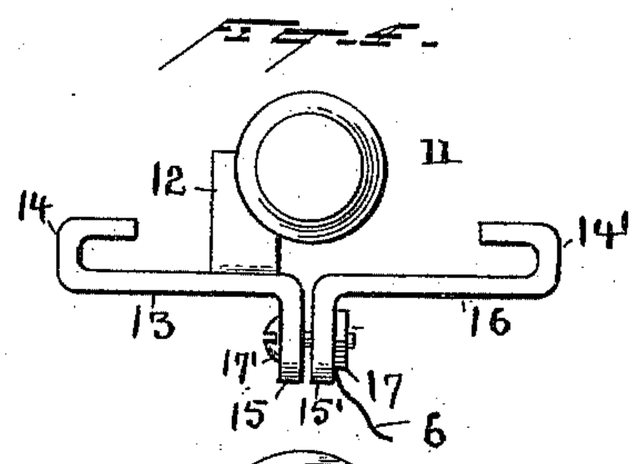

Fig. 4.

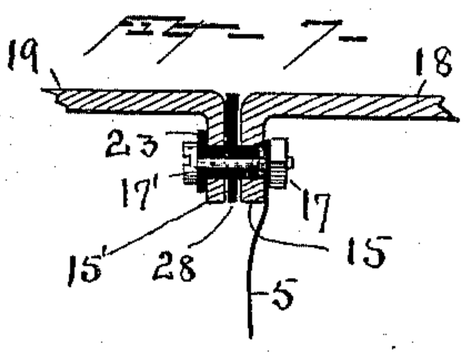

Fig. 7.

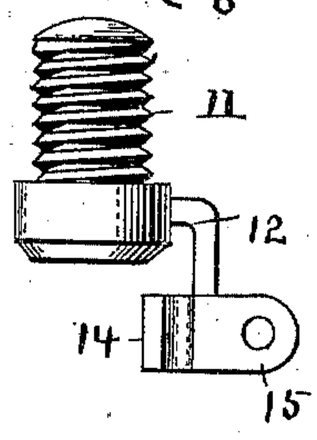

Fig. 5.

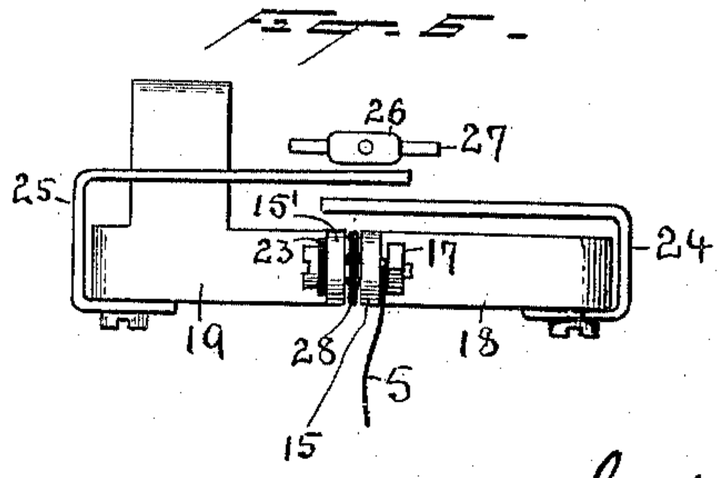

Fig. 6.

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(No Model.) 2 Sheets—Sheet 2.

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Fig. 10.

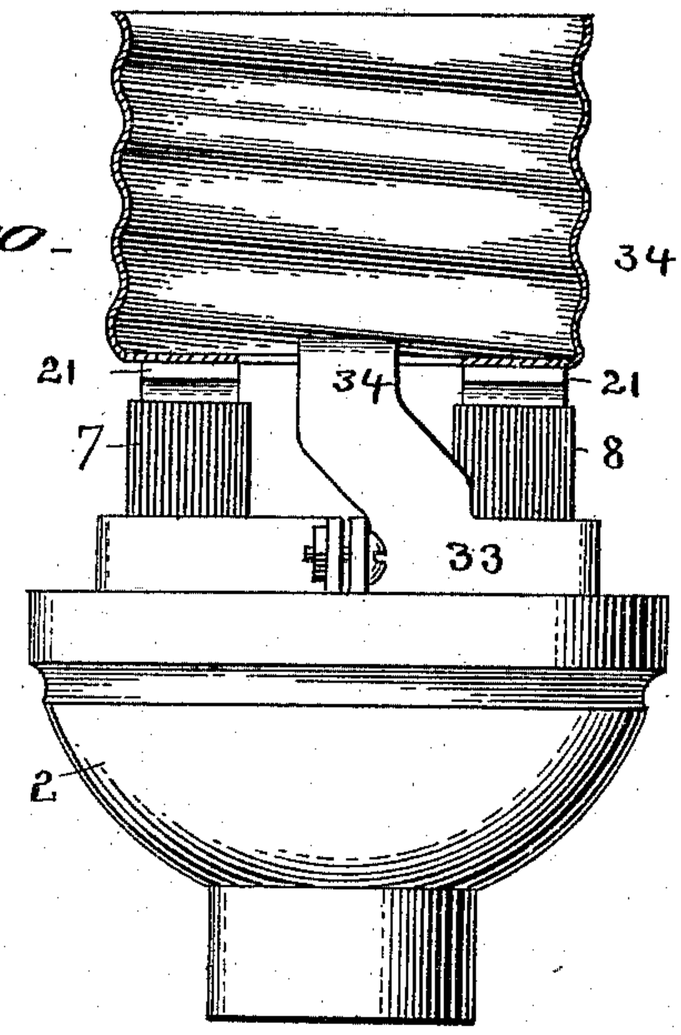


Fig. 9.

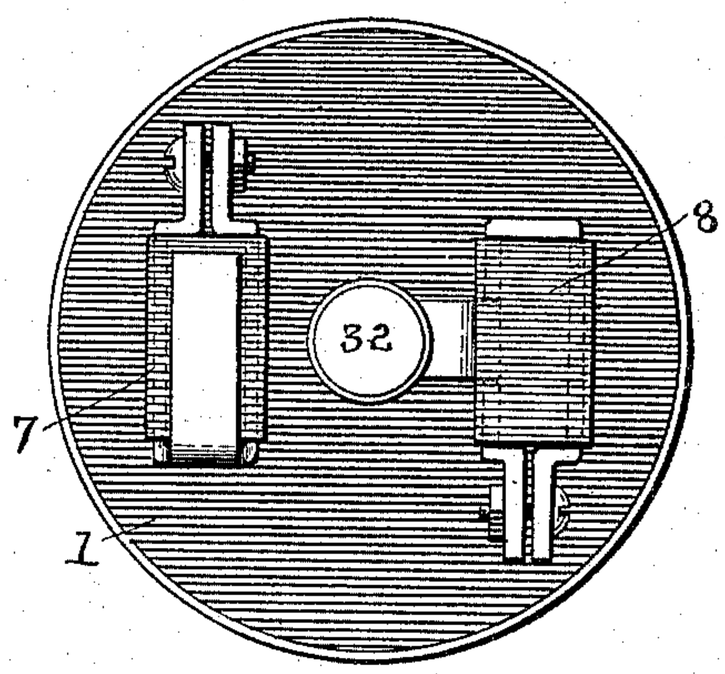
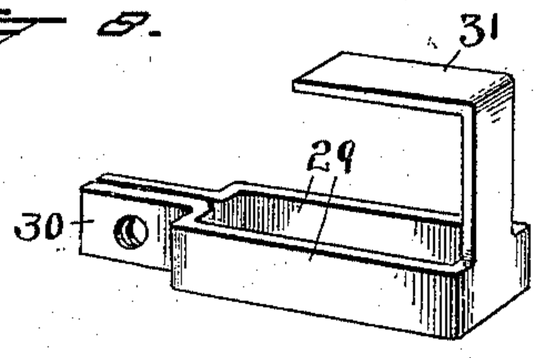


Fig. 8.



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UNITED STATES PATENT OFFICE.

JOSEPH HUTCHINSON, OF NEW YORK, N. Y.

LAMP-SOCKET AND TERMINAL THEREFOR.

SPECIFICATION forming part of Letters Patent No. 488,205, dated December 20, 1892.

Application filed February 8, 1892. Serial No. 420,734. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH HUTCHINSON, a citizen of the United States, residing at New York city, in the county and State of New York, have invented a certain new and useful Improvement in Lamp-Sockets and Terminals Therefor, of which the following is a specification.

The present invention relates to sockets adapted to receive the bases of incandescent lamps, to support the lamps and to connect their terminals to the wires of supply circuits.

The main object is to provide an improved form of socket terminals, whereby the same can be more readily and efficiently mounted on the porcelain or other insulating socket base.

The invention consists in the several features of construction and in the combinations hereinafter set forth and specified in the claims.

In the accompanying drawings illustrating the improvement, Figure 1 is a side view, partially in section, of a socket adapted to Thomson-Houston lamps, with the improved terminals connected thereto, and about twice as large as the sockets are ordinarily made; Fig. 2 is a similar view at right-angles to Fig. 1; Figs. 3 and 4 are inverted plan views, or views looking from the under side, of the two socket terminals; Fig. 5 is a side view of one of the pieces of the terminal shown in Fig. 4; Figs. 6 and 7 are side and sectional views, respectively, of the construction in which a switch, or circuit maker and breaker, is applied to the form of terminal shown in Fig. 3; Figs. 8, 9 and 10 illustrate modifications.

The main body of the socket consists of an insulating block 1, preferably of porcelain or similar refractory insulating material which can be molded or cast to the desired shape, a metal shell 2 secured to the base by being spun into a groove formed in the former, and a sleeve 3, said insulating body having a central opening 4, through which the positive and negative leading-in wires 5, 6 can be passed. The insulating body is also formed with two extensions or standards 7, 8, in the outer faces of which are notches or depressions 9, 10, and between which extensions is a space adapted to receive the central screw socket contact 11. This screw is supported by an arm 12 projecting from the metal strip 13, which has an end bent to form a hook 14, and an end bent to form an ear 15, said ear being provided with a screw-hole.

16 is a second metal strip having an end bent to form a hook 14′, and an end bent to form an ear 15′, also having a screw-hole.

17 is a nut on the screw 17′, and between which and one of the ears the circuit wire 6 is clamped. The two pieces 16, 13, and the screw carried by the latter, are as a whole called a terminal, and to apply it to the socket and to secure it in place, the hook 14 is placed in a notch on the outer face of the standard 7, and the hook 14′ is placed in a similar notch on the outer face of standard 8. The screw in the ears 15, 15′ is then tightened up, thus drawing the ears, which are separated, toward each other and causing the two pieces of the terminal to tightly grasp or clamp the standards and thus to hold the terminal in place by pressure. The other terminal, consisting of the pieces 18, 19, is applied in the same manner at the opposite edges of the standards 7, 8, the hooks and ears on these pieces being numbered to correspond with those of Fig. 4. Each of these pieces, or either of them, is provided with a vertical arm 20, bent at the top to form a horizontal portion 21, said latter portion being adapted to make contact with one terminal of a lamp. By mounting the terminals as described, it will be seen that the screw contact is insulated by being mounted between the standards 7, 8, and the ends which grasp the standards are separated from each other by a sufficient distance at the point 22 to avoid all danger of cross-connection. The vertical arm or arms 20 can be as much longer than the standards 7, 8 as necessary to bring the horizontal arms forming the contacts to the desired height.

Instead of making each terminal in two pieces they may be made, as shown in Figs. 8 and 9, of one piece, the sides 29 occupying grooves or depressions in sides of the standards 7, 8, and the two ends 30 being connected by a screw which causes the device to tightly clamp the standards, and to be rigidly held in place. The arm 31 stands over the top of one standard in position to make contact with one lamp terminal. The other similar device carries a central contact screw or device 32.

In Fig. 10 the terminal 33 is constructed like that of Fig. 4 except that the blank is formed with an arm 34 which is bent to form the central contact. The other terminal of this figure is the same as that of Fig. 3, and the sleeve 34 is screwed or otherwise connected to the arms 21. This socket is adapted to receive a different form of lamp from that of Fig. 1.

It is evident that the terminals may be of other forms without departing from my invention. The strips from which the terminals are formed may be much lighter than indicated in the drawings.

Heretofore in constructing sockets it has been customary to mold the material of the socket base around the metal pieces forming or carrying the terminals, or to attach the terminals to the base by screws passing through them into the base. The first method is objectionable, since with many materials, and especially with porcelain, it is not entirely practicable to thus mold or form the material around the metal pieces. The second method is objectionable because of the difficulty of forming screw-holes so that they are true and adapted to hold, and because of certain other difficulties, all of which are overcome by the simple expedient described of clamping the terminals in place.

The sockets described thus far are keyless. If it is desired to apply a key thereto I adopt the construction illustrated in Figs. 6 and 7, the ears 15, 15′ having holes large enough to receive the insulating bushing 23 through which the screw 17′ passes and by which said screw is insulated from the metal piece 19, which in this case carries the lamp terminal 21. The circuit wire 5 is connected to the metal piece 18 by means of the nut 17, this piece 18 being without a vertical arm 20. To the two pieces 18, 19 are connected in any suitable manner springs 24, 25, which are normally out of contact with each other but which may be pressed together by any suitable cam or device 26, by means of a handle 27, to electrically connect the wire 5 with the socket contact arm 21. 28 is an insulating washer between the two ears 15, 15′ to prevent danger of their being drawn together. It is evident that the arrangement of parts forming the switch can be largely varied, the important feature being to connect the leading-in wire to that part of the terminal which is disconnected from the contact surface, and to arrange the switch to connect said parts.

I do not claim herein broadly a socket having terminals clamped to its insulating body, since this is claimed in my application, Serial No 442,771, filed August 11, 1892.

What I claim is,

1. The combination, in a socket, of an insulating body with extensions having depressions, and metal pieces forming or carrying socket terminals fitting into said depressions and clamping said extensions, whereby the terminals are held in place without being screwed to or molded into the body, substantially as described.

2. The combination, in a socket, of an insulating base, terminals carried thereby, each of the terminals, or either of them, being composed of two pieces adapted to grasp a part of said base, and a screw co-operating with said pieces and adapted to draw them together, substantially as described.

3. The combination, in a socket, of a porcelain or other insulating base having standards provided with notches in faces thereof, socket terminals comprising metal pieces having hooked ends adapted to fit into said notches, and means for drawing the pieces together to cause them to clamp the standards, substantially as described.

4. The combination, in a socket, of an insulating base having standards, terminals each consisting of two pieces with means for clamping them to the standards, and said pieces having vertical extensions or arms carrying contact devices for the socket, substantially as described.

5. The combination, in a socket, of an insulating base, one or more terminals each composed of two parts adapted to clamp a portion of the base, said parts together being slightly shorter than the distance between the surfaces which they clamp, means for drawing the two meeting ends of said pieces toward each other thereby causing the pieces to clamp the socket by a yielding or spring action, substantially as described.

6. The combination, in a socket, of an insulating base having standards, metal terminals grasping said standards and thereby being held in position, one of said terminals being electrically discontinuous, and a switch for electrically connecting the separate parts, substantially as described.

This specification signed and witnessed this 23d day of January, 1892.

JOSEPH HUTCHINSON.

Witnesses:
W. PELZER,
NORRIS A. CLARK.