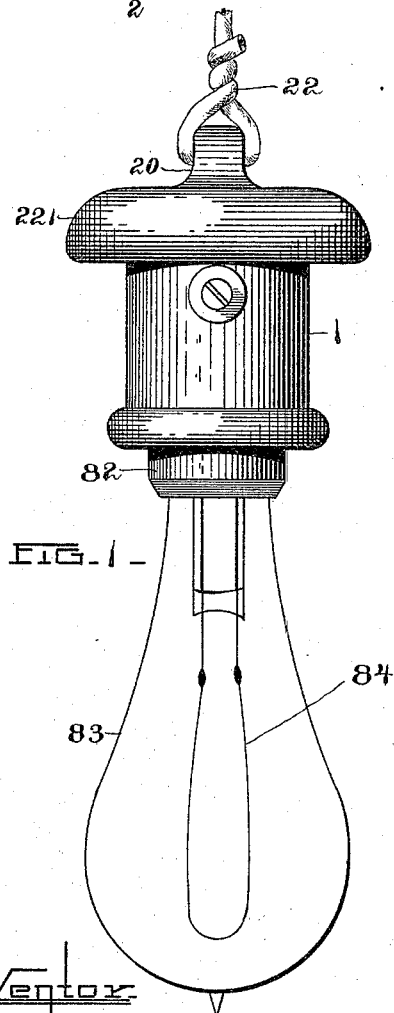
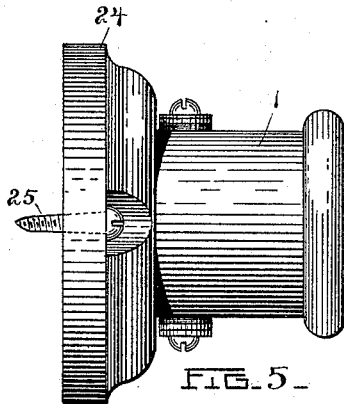
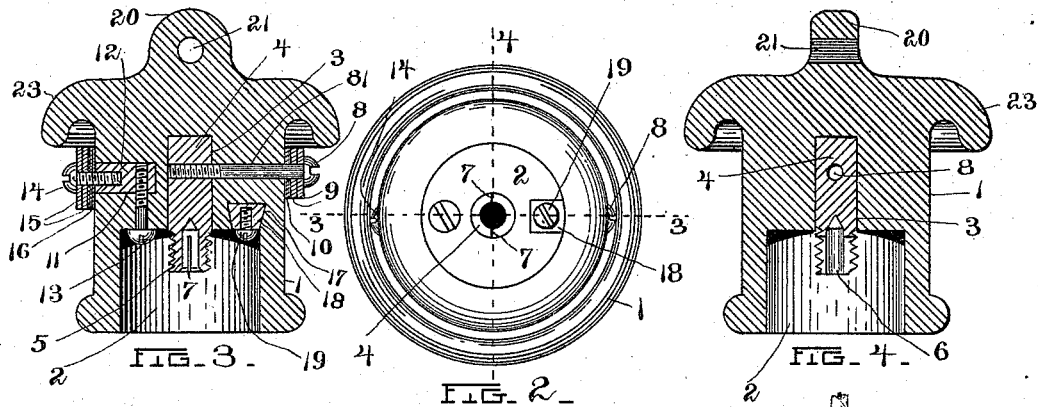


(No Model.)

D. J. CARTWRIGHT.
INCANDESCENT ELECTRIC LAMP.

No. 526,145.

Patented Sept. 18, 1894.



Witnesses

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UNITED STATES PATENT OFFICE.

DAVID J. CARTWRIGHT, OF BOSTON, MASSACHUSETTS.

INCANDESCENT ELECTRIC LAMP.

SPECIFICATION forming part of Letters Patent No. 526,145, dated September 18, 1894.

Application filed January 27, 1894. Serial No. 498,196. (No model.)

To all whom it may concern:

Be it known that I, DAVID J. CARTWRIGHT, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Sockets or Holders for Incandescent Electric Lamps, of which the following is a specification, reference being had therein to the accompanying drawings.

The objects of the invention are to provide a socket or holder for incandescent electric lamps of simple and inexpensive construction, but durable and highly efficient character, and at the same time to obviate the disadvantages and defects of the forms of socket at present in use, as well as provide a socket which may be used for the support of lamps of any one of the leading varieties or types of incandescent electric lamps now in use.

The invention first will be described with reference to the accompanying drawings, after which the novel and characteristic features thereof will be particularly pointed out and distinctly defined in the claims at the close of the specification.

In the drawings, Figure 1 is a view in elevation showing a lamp-socket embodying my invention with a lamp applied thereto. Fig. 2 is a view of the lamp-socket showing the same separately and inverted. Fig. 3 is a view of the said socket showing the same in horizontal section on the line 3-3 of Fig. 2. Fig. 4 is a view thereof in vertical section on the dotted line 4, 4 of Fig. 2. Fig. 5 is a view in side elevation of a wall-socket embodying my invention.

The body of the socket is shown at 1. It is composed of porcelain or the like insulating material and has formed in one end thereof a cylindrical recess 2 which is of a diameter and depth fitting it to receive the base 82 of an incandescent electric lamp 83 of any of the leading varieties of lamps now in use. At its other end the body is solid or imperforate as shown. Centrally of the cylindrical recess 2, a continuation 3 thereof of less diameter extends from the inner end thereof toward the solid end of the body 1, as shown clearly in Figs 3 and 4. A stud or plug 4 of metal is fitted into this continuation 3 of the recess 2. One end of this stud or plug projects a short distance into the recess 2 as shown clearly in

Figs. 3 and 4, and the exposed portion is screw-threaded exteriorly as at 5. The said end is bored out centrally at 6 and is divided into two longitudinal parts by slits 7, 7. A screw 8 has its stem fitted into a transverse or radial hole 81 intersecting the continuation 3 of the recess, and the threaded inner end of said stem enters, when the screw 8 is turned home, a threaded hole which is made in the stud or plug 4 cross-wise of the latter. Thereby the said stud or plug is held fixedly in place in the socket, and while the said screw 8 is in its proper place the stud or plug 4 cannot turn on its axis or become loose. In addition to securing the stud or plug 8 as just stated, the screw 8 serves as a binder-screw for one of the feed or conducting-wires with which the lamp-socket is connected in practice. The contact for the said feed or conducting-wire is external to the body of the socket and at the head end of the binder-screw 8, the said screw having placed thereon next its head the metallic washers or burrs 9 between which latter the bared end of the said wire is intended to be placed and clamped. For the purpose of preventing access of moisture to the interior of the socket by way of the radial hole 81 in which the stem of the screw 8 is placed, a washer 10 of rubber or the like material is slipped on the said stem next the inner washer, and when the said screw 8 is turned home the said washer 10 is compressed between the proximate washer 9 and the side of the body 1 around the outer end of the said radial hole so as effectually to seal the said outer end. At 11 is a cavity or recess in the exterior of the body 1 into which is fitted a plug or block 12 of metal. A screw 13 has its stem passed through a hole connecting the said recess 2 and the cavity or recess 11 and entered into a threaded hole which is made cross-wise of the plug or block 12 at the inner end of the latter as shown in Fig. 3, and thereby serves to retain the said plug or block in the said cavity or recess 11. The head of the said screw 13 projects into the recess 2. A threaded hole in the outer end of the plug or block 12 is entered by the threaded stem of a binder-screw 14 having thereon the metal washers 15 and the rubber washer 16. The said binder-screw 14 and

washers 15 afford an external contact for the other feed or conducting-wire, and the rubber washer 16 effectually closes the outer end of the hole 11 against the admission of moisture. At the inner end of the recess 2, and at one side of or radially exterior to the continuation 3, the body 1 has formed therein the cavity 17 in which is seated the metal block 18 having formed therein a threaded hole for the reception of the stem of the screw 19. The stud or plug 4 and screw 13 form internal contacts or socket terminals for co-action with the terminals of the filament 84 of the lamp which is applied to the socket. One well-known form of incandescent electric lamp, the same being termed usually "the Thomson-Houston lamp," has at the end of the base thereof a central internally-threaded metal socket or sleeve which constitutes one terminal for the filament, and also an exposed ring of metal which constitutes the other terminal for the filament. This lamp may be applied to my improved socket by screwing the said socket or sleeve of the former onto the screw-threaded end of the stud or plug 4 of the latter until the said ring bears firmly in contact with the heads of the screws 13 and 19.

The form of lamp known as the "Edison" lamp has the base thereof surrounded by a short metal cylinder or sleeve which is formed with a coarse screw-thread and constitutes one terminal for the filament, while a metal piece applied to the end of the base constitutes the other terminal. The lamp-socket or holder to which this lamp is applied requires to be provided with a metal socket or sleeve which is in electrical connection with one of the feed or conducting-wires, and also is threaded to permit the base of the lamp to be screwed into the same. To fit my improved lamp-holder or socket for having this form of lamp connected therewith, it is necessary only to apply thereto within the recess 2 a screw-threaded socket or sleeve such as that in common use, which may be effected readily by means of the screws 13 and 19. In this case the metal piece applied to the end of the base of the lamp will bear against the end of the stud or plug 4 after the said base has been screwed into the threaded socket.

In the form of lamp known as the "Westinghouse" lamp, the threaded sleeve or socket of the "Edison" lamp is replaced by a sleeve or socket which is split to form a series of spring fingers, and the threaded sleeve or ferrule which is referred to above as applied to the base of the "Edison" lamp is replaced by a ferrule having an annular ridge or head that is engaged by the spring-fingers just mentioned when the base of the lamp is forced into the sleeve or socket. Also, the end of the base of the said lamp is provided with a centrally projecting pin which constitutes one of the terminals for the filament. To fit my improved lamp-socket or holder for use in

connection with this form of lamp it is necessary only to secure the clamping socket or sleeve within the recess 2 by means of the screws 13 and 19. In applying the lamp, the centrally projecting pin, at the end of the base thereof, referred to above, enters the central bore 6 in the exposed end of the stud or plug 4, and is clasped by the opposite sides thereof, which yield and separate sufficiently to permit the said pin to enter between them.

When the lamp-socket or holder is intended to be suspended from a suitable support it is formed at its imperforate end with the lug 20 through which is formed a hole 21, and through this hole may be passed the wire 22 by means of which the device is suspended. In this case the upper end of the lamp-socket or holder is formed with an outwardly projecting curved flange 221, which serves as a water-shed or drip-flange and projects sufficiently to shield the outer ends of the binder-screws 8 and 14. In case the invention is to be embodied in a wall-socket as shown in Fig. 5, the imperforate end of the body 1 is formed with a flange or base portion 24 having holes therethrough for the passage of the screws 25 by means of which the device is attached to its support.

In my improved lamp-socket or holder the internal contacts or socket-terminals are fixed in the solid body of the socket or holder, and are not held in place by cement as usually is the case; also, the ends of the conducting-wires are attached to external contacts or binders instead of being secured directly to the said socket-terminals and also embedded in the cement which surrounds and secures the latter, as heretofore. When the socket-terminals are held in place by embedding them in cement which is applied within a cavity or cavities of the holder or socket, they frequently become loosened as a result of the disintegration of the cement from various causes, and in consequence of such disintegration and of the twisting caused by turning the lamp into and out of the socket or holder they often become detached or disconnected from the ends of the conducting-wires. When the ends of the conducting-wires lead into the interior of the socket or holder, the moisture with which their insulating covering sometimes becomes saturated finds its way into the inner portions of the socket or holder, and as a result the conducting-wires are short circuited by the said moisture, injured as a result of the action that takes place, and occasionally are exploded by the gases or vapors that are generated. No moisture can find its way into the interior of my lamp-socket through the lateral openings which I form in the body 1, because such openings are effectually closed by the parts which are applied thereto, and the rubber washers 10 and 16.

I claim as my invention—

1. The lamp-socket having the body thereof formed of insulating material, with a recess

in one end thereof for the reception of the
base of an incandescent lamp, with a central
continuation of the said recess, and also with
a cavity or recess in its exterior, and provided
5 with a stud or plug located in the said extension
and fitted to serve as an internal contact
for co-action with one of the lamp terminals,
a binder-screw for one of the conducting-
wires having its inner end in engagement
10 with the said stud or plug to hold the latter
in place, a plug or block located in the said
cavity or recess in the exterior of the body, a
binder applied to the said plug or block for
the other conducting-wire, and a second in-
15 ternal contact consisting of a screw having
its inner end in engagement with the said
plug and thereby retaining the latter in place,
substantially as described.

2. The lamp-socket having the body thereof
20 formed of insulating material with the recess
in one end thereof for the reception of the
base of an incandescent lamp, with the central
continuation of the said recess, and also
with the cavity or recess in its exterior, the
25 stud or plug located in the said extension and
having its exposed end threaded and split, the
binder-screw for one conducting-wire extending
from the exterior of the body, entering
the said stud or plug, and acting to hold the
30 latter in place, the plug or block located in
the said cavity or recess in the exterior of
the body, and the internal contact-screw having
its head in the said recess in the end of
the body, and its stem in engagement with

the said plug or block and acting to hold the 35
latter in place, substantially as described.

3. The lamp-socket having the body thereof
formed of insulating material, with the recess
in one end thereof for the reception of the
base of an incandescent lamp, with the cen- 40
tral continuation of the said recess, the cavity
at the inner end of the said recess exterior
to the said extension, and also with the
cavity or recess in the exterior of the body,
the stud or plug located in the said extension 45
and having its exposed end threaded and
split, the binder-screw for one conducting-
wire extending from the exterior of the body,
entering the stud or plug, and acting to hold
the latter in place, the plug or block located 50
in the said cavity or recess in the exterior of
the body, the binder-screw for the other conducting-
wire entering the outer end of the
said plug or block, the internal contact screw
having its head in the said recess in the end 55
of the body and its stem in engagement with
the said plug or block and acting to hold the
latter in place, the block located in the said
cavity at the inner end of the recess, and the
screw entering the said block, substantially 60
as described.

In testimony whereof I affix my signature in
presence of two witnesses.

DAVID J. CARTWRIGHT.

Witnesses:

MILAN F. STEVENS,
CHAS. F. RANDALL.