

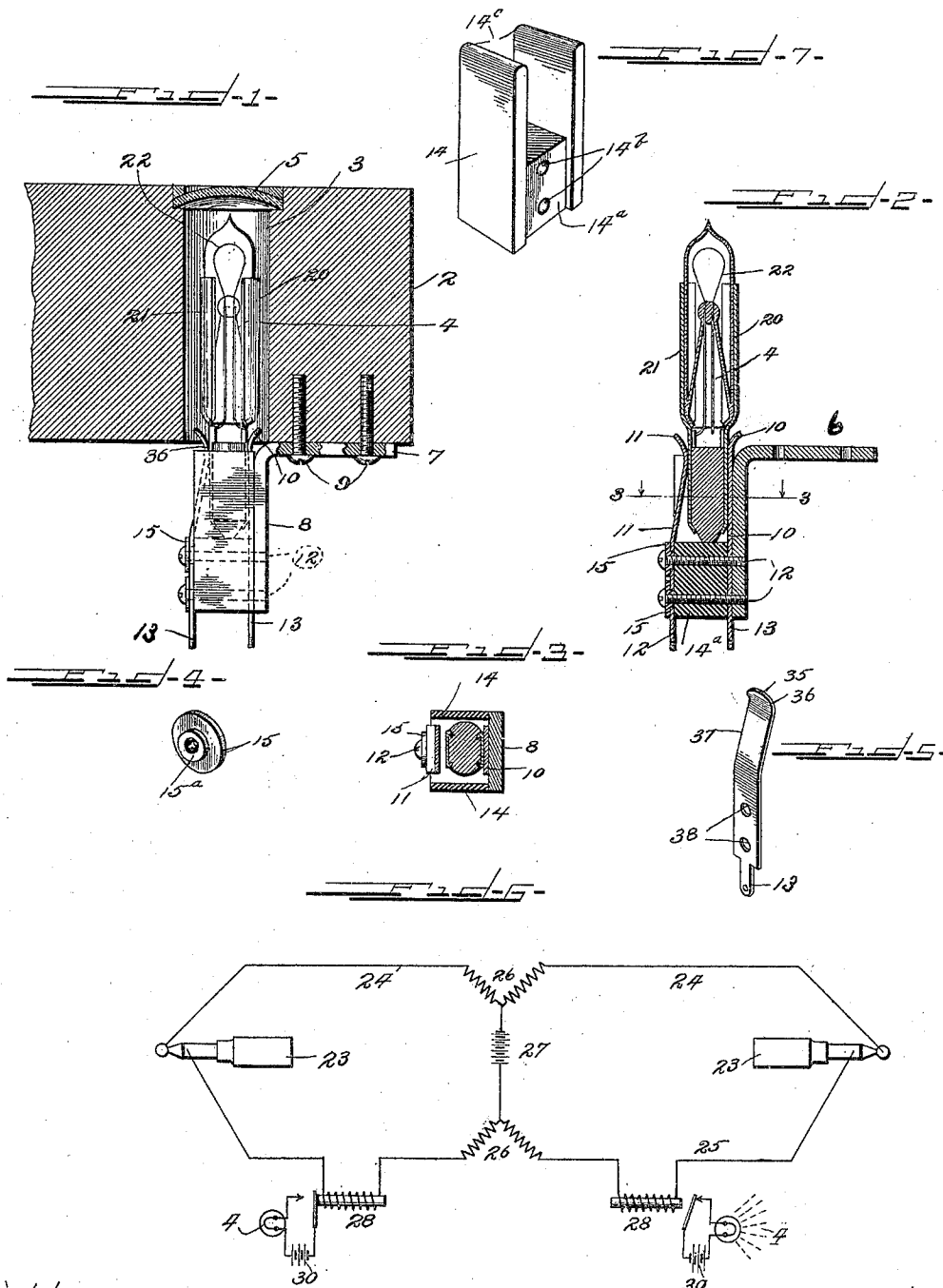
No. 690,928.

Patented Jan. 14, 1902.

H. P. CLAUSEN.
LAMP SOCKET.

(Application filed Apr. 1, 1901.)

(No Model.)



WITNESSES

W. H. Keir
Robert Lewis Amos

Henry P. Clausen,
By Chas. Buckley
Att'y

UNITED STATES PATENT OFFICE.

HENRY P. CLAUSEN, OF CHICAGO, ILLINOIS, ASSIGNOR TO AMERICAN ELECTRIC TELEPHONE COMPANY, A CORPORATION OF NEW JERSEY.

LAMP-SOCKET.

SPECIFICATION forming part of Letters Patent No. 690,928, dated January 14, 1902.

Application filed April 1, 1901. Serial No. 53,764. (No model.)

To all whom it may concern:

Be it known that I, HENRY P. CLAUSEN, a citizen of the United States, residing at Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Lamp-Sockets, of which the following is a specification.

My invention relates to improvements in means for supporting electric lamps upon switchboards, and has special reference to supports or sockets for small or miniature lamps used as supervisory signals in and about telephone-switchboards. Devices heretofore used for this purpose are complicated and expensive, besides lacking stability and durability, together with ease of instalment and replacement.

My invention has for its object the provision of a socket for this purpose which shall be easy to install or replace, effective in operation, of few parts, and inexpensive to construct.

It therefore consists in a supporting-bracket of strap-brass bent at right angles intermediate its ends to form two arms, one arm being secured to the under side of the switchboard-keyboard or other part at the side of the aperture for the lamp and the other arm having flat spring socket-terminals affixed thereto, which engage with the corresponding lamp-terminals, said springs or socket-terminals being insulated from each other and being prolonged below the support for conveniently attaching the circuit-wires thereto.

The invention further consists in the novel details of construction and combinations of parts hereinafter particularly described and intended to be clearly set forth in the appended claims.

In the accompanying drawings, which form a part of this specification, and in which the same reference-numerals indicate like parts throughout, Figure 1 is a sectional elevation through a portion of the keyboard of a telephone-switchboard or other part to which the lamp is applied and showing the lamp and the socket as intended for use. Fig. 2 is a

sectional elevation through the lamp and socket. Fig. 3 is a cross-section of the device on the line 3 3 of Fig. 2. Figs. 4 and 5 are detail perspective views of the insulating-washer and socket-terminal spring. Fig. 6 is a diagrammatic view of a cord-circuit, showing the use of supervisory lamps; and Fig. 7 is an enlarged perspective view of the insulating-block.

In the figures, 2 represents a device to which the lamp is applied—as, for example, the keyboard of a telephone-switchboard. An aperture 3 is provided therein for the lamp 4, over which a glass 5 may be placed in any preferred manner. Beneath the aperture 3 the lamp-socket is arranged and comprises in its structure the strip 6 of brass or other desirable material bent intermediate of its ends at right angles to form the horizontal and vertical arms, (designated by 7 and 8, respectively.) The horizontal arm is rigidly secured to the part 2, preferably by means of screws 9, passing therethrough and threading into the material of part 2. The other and vertical arm 8 serves as a firm support for the socket-terminals and socket proper. This part comprises the socket-terminals 10 and 11, with which the respective terminals of the lamp 4 engage when it is in the socket and which are secured, as stated, at the lower end of the arm 8. These terminals consist of flat spring-strips 10 and 11, preferably of German silver, having their upper ends rounded, as at 35, and curved outwardly at 36, while their whole parts 37 above the block 14 are slightly inset to bring the upper ends closer together to firmly grip the interposed lamp, the outwardly-bent free ends serving to readily admit the lamp 4 or be slipped therebetween. The lower ends of these springs are provided with apertures 38 to receive the securing-screw 12 and are further provided with a narrow end portion 13, also apertured and turned, to which the lamp circuit-wires are adapted to be readily secured. A block of insulation 14, of ebonite or other suitable material, is placed between the lower ends of these spring-termi-

nals 10 and 11 and is grooved at 14^a for the terminal 10 adjacent the vertical arm 8 and is provided with apertures 14^b to accommodate the screws 12. Upwardly-extending arms 14^c are left upon block 14 when it is formed and between which the upper ends of the springs 10 and 11 are located. These arms 14^c also serve to prevent the lamp from twisting about between the spring-terminals. The outer terminal 11 has large apertures 38 therein for the reception of the smaller portion 15^a of shouldered insulating-washers 15, which are adapted to pass therethrough and insulate the spring 11 from the screws 12, and consequently from the other spring 10.

In assembling the device the spring 10 may be placed in position against the vertical arm 8 of the bracket 6, and the insulating-block 14 is placed thereon. The terminal 11 may next be placed in position and the insulating-washers 15 added, when the screws 12 are passed therethrough and into the arm 8. If preferred, the spring and block can be placed together and all secured to the arm 8. When the screws 12 are sufficiently set up, the springs and block are held rigidly thereon and present a simple, solid, and durable support or socket for the lamp 4.

In installing the device it is placed with the terminals 10 and 11 centrally below the aperture for the lamp, and the screws 9 serve to firmly secure it in that place.

The lamp 4 may be of the usual construction and is provided with the side terminals 20 and 21, which are connected with the filament 22 within the bulb and which are adapted to engage with the spring socket-terminals 10 and 11. Any arrangement of the lamp may be provided, my invention having to do with the socket.

As showing a circuit arrangement in which supervisory lamps are used, reference may be had to Fig. 5, in which 23 23 represent cord-plugs, that are connected by the strands 24 and 25 of the cord-circuit through the repeating-coils 26 to the central battery 27. Relays 28 are inserted in the strand 25 of the cord-circuit and are adapted to close through their armatures the local circuits containing the supervisory lamps 24 and batteries 30; but when the relays are energized, as during a conversation, the lamp-circuits are open and the lamps 24 are not illumined. At the termination of the conversation, when the relays are energized, the lamp-circuits are closed and the lamps again lighted. They are normally extinguished in any desired way, as by plug-seat switches. Such lamps are usually placed on the keyboard of the switchboard in the manner indicated in the other figures of the drawings.

It is apparent that the socket may be used in various relations, and I therefore do not wish to be limited in this respect nor to the details of construction, for various changes

may be made therein and be within the scope of my invention.

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

1. A switchboard lamp-socket comprising a bracket of sheet metal bent intermediate its ends so as to provide an arm to be secured to the switchboard and another arm, and lamp terminal springs insulated from each other and secured to the latter arm and adapted to receive and hold a lamp.

2. In a switchboard lamp-socket, the combination with a metallic supporting-bracket having an arm adapted to be secured to the switchboard and another arm, of a spring socket-terminal located adjacent to said arm, an insulating-block placed against said terminal, another spring-terminal at the other side of the block, screws passing through said terminal and block into the said arm, and an insulating-washer between the screws and the outer spring-terminals.

3. In a switchboard lamp-socket, the combination with a bracket having arms at right angles to each other, one of said arms having apertures therein, screws for the said apertures to secure it in desired position, socket spring-terminals secured near its end to the other arm of the bracket, an insulating-block between said terminals, insulating-washers for one of said springs, and screws passing through said washers, terminals and block and threaded into said arm to securely fasten all the parts together, and extensions of the spring-terminals below the block to adapt it to be connected with circuit-wires.

4. The combination with a switchboard part, as a keyboard, having an aperture therein, of a lamp-socket comprising a bracket having arms substantially at right angles to each other, one of said arms being secured to the switchboard adjacent the aperture, spring switch socket terminals in line with the aperture, an insulating-block between said terminals, and screws passing through said terminals and block and into the other arm of the bracket to secure them in proper operative position.

5. The combination with a switchboard part having an aperture therein, of a lamp-socket beneath the same comprising a bracket having a horizontal arm secured to the board, and a vertical arm parallel with the aperture and at the side of the same, an insulating-block, spring socket-terminals on each side of the block, one of said terminals having insulating-washers therethrough, and screws passing through said insulating-washers, block, and other spring-terminal and threaded into the vertical arm of said bracket to insulatingly secure the terminals in place in line with the aperture, and a lamp in said socket having its terminals engaging with the socket-terminals.

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6. A lamp-socket comprising a block of insulation having arms on opposite sides, flat spring-terminals secured near one end to said block with their free ends between the said
5 arms and being outwardly curved at the ends to permit a lamp to be thrust therebetween, a supporting brace or bracket having arms at right angles to each other, screws to secure the said terminals and block to one of said

arms and the other arm adapted to be used to secure the socket in place.

Signed by me at Chicago, Cook county, Illinois, this 23d day of March, 1901.

HENRY P. CLAUSEN.

Witnesses:

HARRY P. BAUMGARTNER,
ROBERT LEWIS AMES.