

H. T. PAISTE.
ELECTRIC LAMP SOCKET.

(Application filed Apr. 6, 1901.)

(No Model.)

Fig. 1

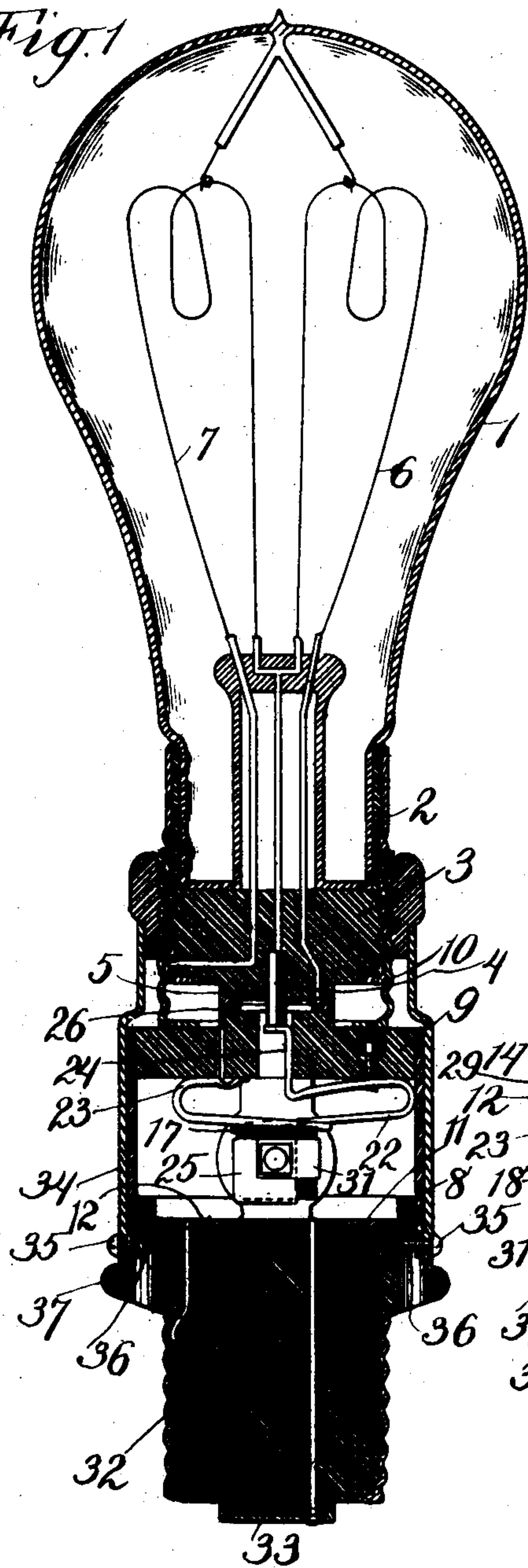


Fig. 3,

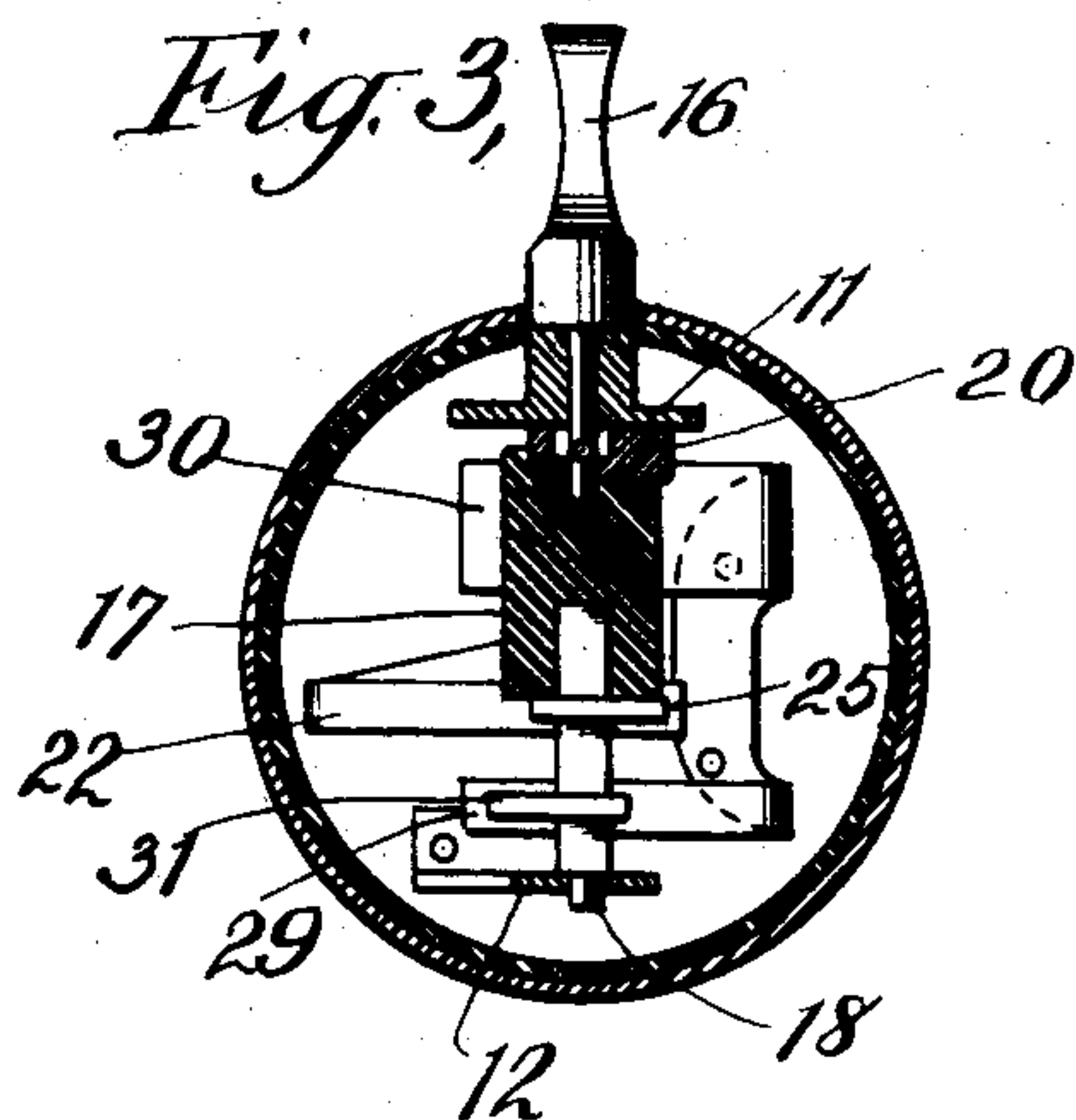
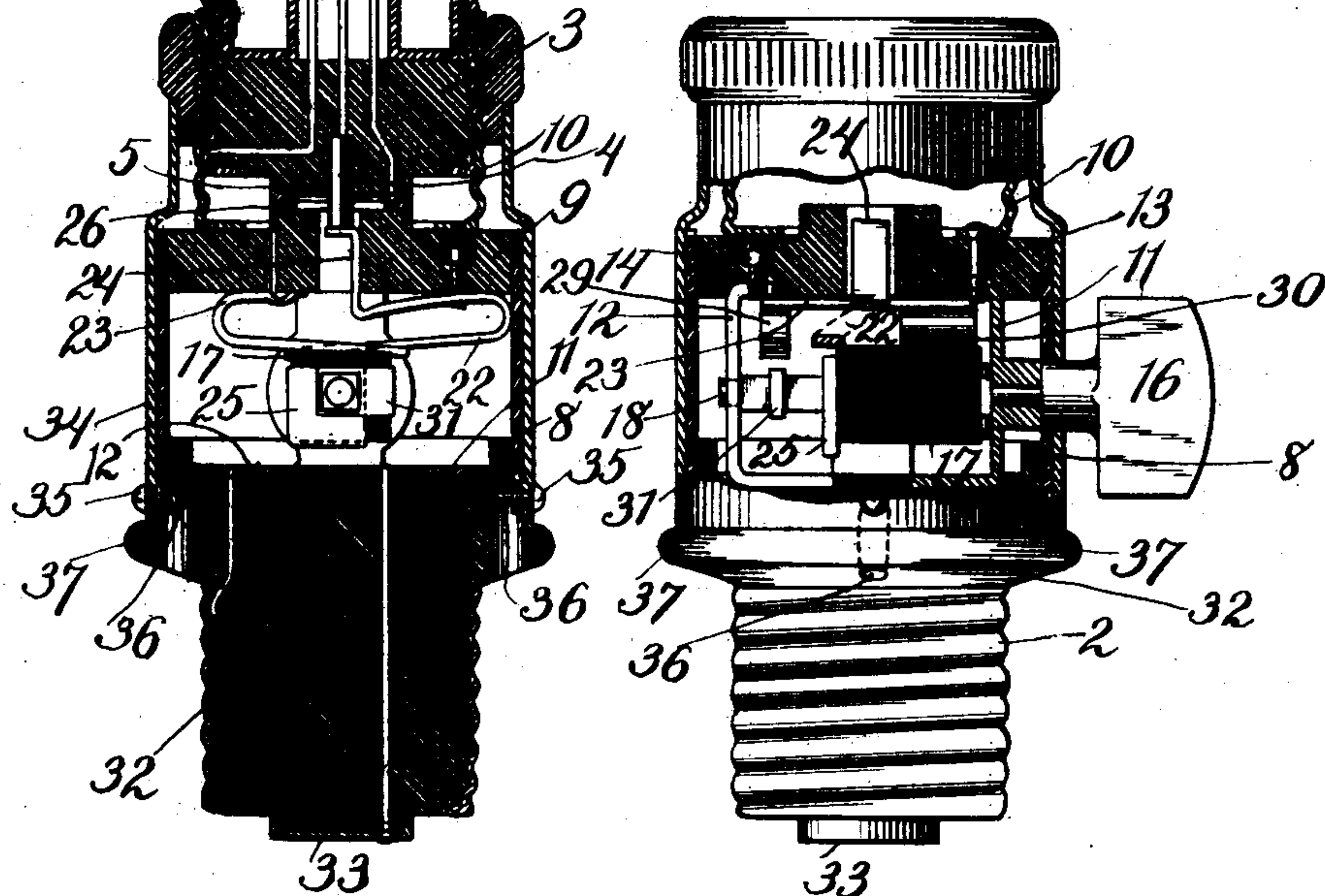


Fig. 2,



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ELECTRIC-LAMP SOCKET.

SPECIFICATION forming part of Letters Patent No. 712,149, dated October 28, 1902.

Application filed April 6, 1901. Serial No. 54,596. (No model.)

To all whom it may concern:

Be it known that I, HENRY T. PAISTE, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Electric-Lamp Sockets; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in regulating-sockets for incandescent electric lamps; and it consists in providing the socket with a base-plug adapted to permit it to enter an ordinary socket or lamp-receptacle which is already in place and wired for use.

The object of my invention is to permit the installation of regulating-sockets for incandescent lamps without altering existing electric fixtures and attachments and without further knowledge or skill than is required to remove a lamp from existing fixtures and insert a new lamp in its place. This object is attained in the lamp-socket herein described, and illustrated in the drawings, which accompany and form a part of this specification, in which the same reference-numerals indicate the same or corresponding parts, and in which—

Figure 1 is a central vertical section of a lamp-socket constructed in accordance with my invention with a lamp therein. Fig. 2 is an elevation and partial section of the socket looking from the left of Fig. 1; and Fig. 3 is a horizontal section of the socket and the commutator thereof, the section being taken looking upward.

The lamp-socket herein illustrated and described is intended for use in connection with a two-filament lamp-bulb, and the switch mechanism of the socket is arranged to throw said filaments into circuit in series, to throw one filament into circuit alone, or to throw both filaments into circuit in multiple, according to the position of the revolving commutator of the switch, thereby producing different intensities of illumination. Such switch mechanism and such lamp are not of my invention and are illustrated and de-

scribed herein merely to show one type of lamp and switch mechanism to which my invention is applicable and in connection with which my invention is useful.

The lamp consists of a bulb 1, provided with the usual screw-threaded base-sleeve 2, with the usual insulation 3, and with a center contact-pin 4 and a concentric contact-ring 5, and provided also with two filaments 6 and 7, one end of each of which filaments is connected to the contact-piece 4 by a suitable conductor, the remaining end of filament 6 being connected to the contact-ring 5, and the remaining end of filament 7 being connected to the base-sleeve 2. The socket is provided with a base-piece 8, of insulating material, in which and in the parts associated therewith my invention particularly resides, but which also performs the ordinary functions of the base-piece of the switch mechanism of a socket. The socket is also provided with the usual top piece 9, of insulating material, and with the usual screw-threaded socket-bushing 10, adapted to receive the base of the lamp. The base-piece 8 and top piece 9 are connected by suitable brackets 11 and 12, of which bracket 11 is electrically connected with the socket-bushing 10 by a screw 13, while the screw 14, which connects the bracket 12 to the top piece 9, does not make contact with the bushing 10, which bushing is therefore insulated therefrom. The socket is also provided with a key 16, connected with and adapted to rotate a four-sided commutator 17, provided at its opposite end with a pivot-pin 18, fitting into a bearing-hole in bracket 12. To the top piece 9 of the socket are connected two spring contact-pieces 22 and 23. Of these that numbered 22 is U-shaped, and one end projects up into a central orifice in the top piece 9 and is bent over, forming a contact-pin 24, adapted to make contact with contact-pin 4 of the base of the lamp. The other end of spring contact-piece or brush 22 is adapted to make contact in two positions of the commutator with a contact-cam 25, carried by the pivot-pin 18 of said commutator. The contact-piece 23 is electrically connected to contact-ring 26 of the socket, carried by

the top piece 9 and surrounding the contact-pin 24, but having a central aperture for the passage of the pin 4. Contact-piece 23 has two U-shaped spring-brushes 29 and 30. Of these, 29 is adapted to make contact with a contact piece or cam 31, carried by the pivot-pin 18, in one position of the commutator, and 30 is adapted to make contact with another contact-piece 20 upon the opposite end of the commutator and in electrical contact with bracket 11. When the key 16 is rotated from the position shown in the drawings and when cam 31 encounters brush 29, a circuit is completed through both filaments in series, as follows: from bracket 11, through socket-bushing 10 and the base-sleeve 2 of the lamp and the two filaments, to contact-ring 26 of the socket, brush 29, contact-cam 31, and bracket 12. A further quarter-turn of the commutator breaks this circuit, but brings contact-cam 25 in contact with brush 22, thereby completing a circuit through filament 7 only, as follows: from bracket 11, through socket-bushing 10 and base-sleeve 2 of the lamp and filament 7, to contact-pin 4, contact-brush 22, cam 25, and pin 18 to bracket 12. When the key 16 is given a further quarter-turn, this circuit through filament 7 is not disturbed; but a circuit in multiple therewith is completed through filament 6, as follows: from bracket 11 through contact-piece 20 of the commutator, brush 30, contact-ring 26 of the socket, and contact-ring 5 of the lamp, filament 6, and contact-pin 4, brush 22, cam 25, pin 18, and bracket 12. As regulating-sockets embodying this switch mechanism just described or other mechanism for varying the light of a lamp have been constructed in the past they have been arranged for connection to electric wires or conductors in the ordinary manner and are supported either by such conducting-wires or by ordinary electric-light brackets or fixtures. When so constructed and when they are to be put into use in a building already equipped with non-regulating sockets, it is necessary to remove the sockets already in place, disconnecting them from the conducting-wires to which they have been connected, and to substitute the new sockets, connecting the same to the said conducting-wires. These operations take some little time and must necessarily be done by a skilled electrician; but when the sockets are constructed according to my invention this is not necessary, because the socket being provided with a base-plug adapted to fit into an ordinary non-regulating socket such base-plug may be inserted into the socket already in place just as a lamp would be inserted, and this may be done by any person and does not require any mechanical skill or knowledge of electricity.

In the drawings the portion of the socket which is adapted to enter another socket already installed and make connection with the

contact-pieces thereof is numbered 32. It is shaped like the base of a lamp and is provided with contact-pieces such as those with which the base of a lamp is ordinarily provided. The regulating-socket shown in the drawings is adapted for use with ordinary Edison sockets and is provided with the usual screw-threaded metal base-sleeve 2, exactly similar to that upon the base of the lamp 1 and adapted to enter an ordinary Edison socket, and also with a contact-button 33, similar to the contact-buttons ordinarily employed upon the bases of Edison lamps. One of the brackets 11 and 12 of the socket is connected to the screw-threaded sleeve 2 of the plug 32 and the other is connected to the end contact-button 33. When the plug 32 of this socket has been inserted within an ordinary Edison socket and screwed home, the regulating-socket is ready for operation. The base-plug 32 may be adapted for other sockets, such as the Thomson-Houston, Westinghouse, as well as the Edison socket, or, in fact, to any other socket.

The socket is provided with an ordinary outer shell 34. To secure said shell to the base-piece 8, screws 35 are provided. These screws are mounted in screw-holes in the shell 34 and fit into sockets 36 in the base-piece 8. Said base-piece is preferably formed of porcelain, and for convenience in construction the sockets 36 preferably extend through the rim 37 of the base-piece without interrupting the rim, all as indicated in the drawings. This permits the sockets to be formed by projecting portions of one of the molds in which the base-piece is formed.

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

1. As an article of manufacture, a regulating-socket for multifilament incandescent electric lamps, having contact-pieces adapted to contact with the contact-pieces of the filaments of said lamps and light-regulating switch mechanism whereby the light of such lamps may be regulated by varying the connection of such filaments to the line, said socket having also a plug, forming a part of the socket, but adapted to enter another socket or lamp-receptacle itself intended to receive lamps having a number of filaments different from the lamps with which said regulating-socket is used, such plug having contact-pieces electrically connected with the said switch mechanism and adapted to make contact with the corresponding contact-pieces of the socket or lamp-receptacle in which it may be placed.

2. As an article of manufacture, a socket for incandescent electric lamps, having switch mechanism, an inclosing shell or casing provided with screws for holding it in place, and a base-piece of insulating material provided with an integrally-formed plug adapted to enter another socket or lamp-receptacle, and

having contact-pieces adapted to connect the
switch mechanism electrically with the con-
tact-pieces of the socket or receptacle in which
the plug may be placed; said base-piece hav-
5 ing also a rim, and socket-recesses for the
screws of the shell or casing extending through
the rim without interrupting the same.

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

HENRY T. PAISTE.

Witnesses:

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