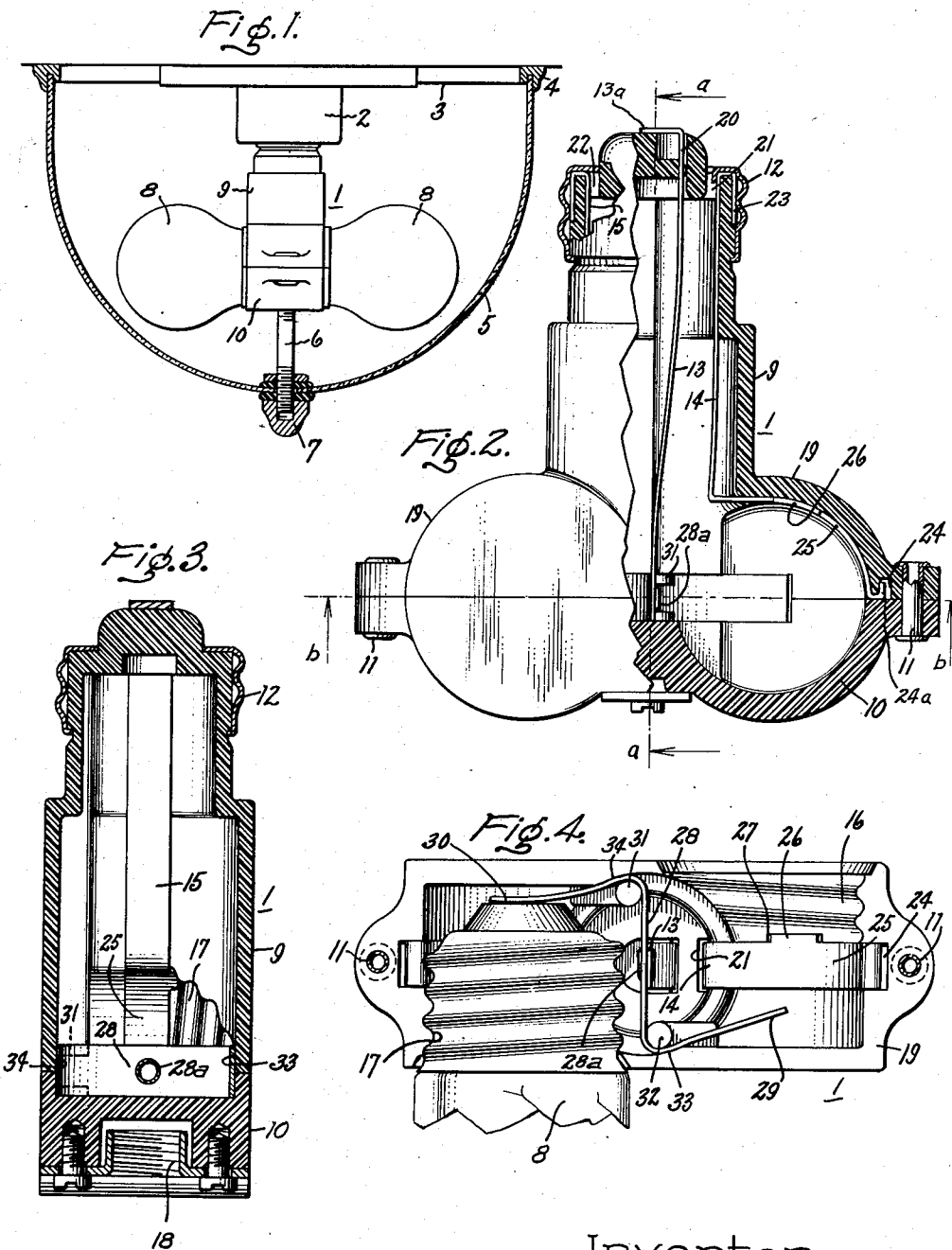


Sept. 21, 1954

G. B. BENANDER
CEILING LAMP ADAPTER
Filed June 24, 1952

2,689,945



Inventor
George B. Benander
By *Rowell F. Mack*
His Attorney

UNITED STATES PATENT OFFICE

2,689,945

CEILING LAMP ADAPTER

George B. Benander, Oaklawn, R. I., assignor to
General Electric Company, a corporation of
New York

Application June 24, 1952, Serial No. 295,187

2 Claims. (Cl. 339-161)

1

This invention relates to an adapter for sockets and in particular to a socket adapter which serves the dual function of providing, simultaneously, support for lamp bulbs and for a reflector.

There are many instances wherein a lamp socket having its axis perpendicular to a ceiling or a wall should, in the interest of good lighting practice as well as for artistic reasons, be covered with a reflector or light diffusing globe. To accomplish this end, it would be necessary, usually, to remove the lamp socket and install a yoke or fixture support before a globe or reflector could be suspended. Obviously, this is a relatively expensive operation requiring the services of skilled electricians.

It is an object of this invention to provide a socket adapter serving the dual function of supporting lamp bulbs and a decorative reflector.

It is a further object of this invention to provide an adapter for a socket whereby, without altering the socket, my new adapter can be positioned therein to support both a lamp bulb and a globe or reflector.

It is a still further object of this invention to provide an improved inexpensive and unique adapter for a lamp socket.

Further objects and advantages of this invention will become apparent and the invention will be more clearly understood from the following description referring to the accompanying drawing, and the features of novelty which characterize this invention will be pointed out with particularity in the claims annexed to and forming a part of this specification.

Referring to the drawing, Fig. 1 is a front elevation, partly in section, of my improved ceiling lamp adapter shown fitted with lamp bulbs and supporting a globe; Fig. 2 is a side elevation, shown partly in section, of the adapter used for supporting a lamp globe; Fig. 3 is a section taken along the plane *a-a* of Fig. 2 in the direction of the arrows while Fig. 4 is a section taken along plane *b-b* of Fig. 2 in the direction of the arrows.

Briefly, in accordance with my invention, my adapter comprises a device having a male contact element which may be in the form of a screw shell adapted to fit into a conventional lamp socket and having a housing containing strip metal contacts therein and having further both a plurality of lamp receiving sockets and a receptacle for receiving a stud or nipple for supporting a light diffusing globe, a shade or reflector.

Referring to the drawing, and in particular to Fig. 1, my improved adapter 1 is shown inserted

2

into a lamp socket 2. A reflector plate 3 is positioned to overlie the lamp socket 2 and it, in turn, has a grommet or dust sealing ring 4. A light diffusing element or globe 5 is shown secured by means of a stud 6 and a nut 7 to my adapter 1. A pair of lamp bulbs 8 are shown inserted into the adapter to provide illumination through the globe 5.

Referring now to Fig. 2, my improved adapter 1 is shown comprising a body portion 9 having a separable bottom portion 10, means including rivets 11 for holding the body portion and the bottom portion together, a male screw base 12 for insertion into a lamp socket, and electrical contact strips or elements 13, 14 and 15 for interconnecting a pair of auxiliary lamp sockets 16, 17 (see Fig. 4) with the screw base 12. The adapter is further provided with a threaded ferrule 18 preferably aligned coaxially with the longitudinal geometric axis of the adapter.

The insulating body portion or housing 9 is preferably molded from one of the urea or phenolic resins or other suitable material approved for such use and it is hollow to provide a cylindrical wall having in the illustrated embodiment a transverse element or portion 19 at its lower end to give the housing a T shape. The bottom portion 10 is separable from the transverse element 19 along a diametral plane, represented in Fig. 2 by the line *b-b*. The bottom portion 10, likewise, is preferably made of one of the phenolic or urea resins and it is hollowed out to define in combination with the transverse element 19 the pair of threaded auxiliary sockets 16, 17, each adapted to receive the threaded base of an incandescent lamp.

The electrical contacts 13, 14 and 15 are strips of copper or other suitable electrical conducting material which are assembled in a unique manner on the body portion 9 of the adapter; that is, the upper end of each of these strips 13, 14 and 15 is inserted through apertures 20, 21, 22 respectively in the upper portion of the body 9. When one of the outer strips is inserted through its respective aperture—for example, the strip 14 is inserted through aperture 21—its end (in this case end 23 of strip 14) is then bent over in a U-shape to lie against the side wall of the body portion 9. The second outer contact 15, like 14, is connected in a similar manner to the upper end of the body portion 9 through aperture 22. The central contacting strip 13 is inserted through aperture 20 and bent over to have a portion 13a lying perpendicular to the longitudinal axis of the body portion 9.

The outer contact elements 14 and 15 are deflected at their lower end and in the illustrated embodiment they are given a curved shape 25, adapting them to lie one, respectively, along the periphery of each of the lamp sockets 16 and 17, and positioned to make contact with the screw shell of a lamp inserted therein. The outer extremities of these strips are constructed to provide self support when the strip coacts with the body portion; that is, the outer end of each strip is deformed as at 24a to fit into an aperture 24 located in the outer edge of the transverse portion 19 of the housing 9. The strips 14 and 15 are identical and interchangeable and accordingly another aperture (not shown) is provided on the opposite end of the transverse element 19 to receive the contact strip 15.

As previously mentioned, the socket portions 16 and 17 within the T-shaped element 19 are threaded to be engageable with the base of an electric lamp bulb. The threads are slotted, however, to receive the curved portion 25 of the strips in such a manner that the strips will be positioned to make electrical contact with the periphery of the threads of a lamp bulb base. To provide suitable central support for the curved portion 25, a tongue 26 is formed at some suitable point along the edge of the strip for insertion into a corresponding nest 27 in the threaded portion of the sockets 16 and 17.

It is obvious that for suitable electrical energization, the central contact strip 13 must be adapted to engage the central or bottom contact on the base of a lamp bulb. This result is accomplished in the illustrated embodiment by a Z-shaped element 28 lying in a plane which is perpendicular to the longitudinal axis of the strip 13. The Z-shaped element 28 which is connected, as by a rivet 28a, to the longitudinal strip 13 is so positioned in the transverse element 19 that each of its ends 29 and 30 respectively is positioned resiliently to engage the base or bottom contact of one of the lamp bulbs 8.

To provide a resilient pressure for the contact ends 29, 30, the transverse element 19 has a pair of pins 31, 32 molded or otherwise positioned therein and located away from an adjacent wall so that the Z-shaped strip 28 will lie in the channel formed by a pin and the contiguous wall. This wall is sloped as at 33, 34 to direct the free or contact end of the Z strip toward the open end of the socket in which it is located. Through this unique structure, a resilient force is imparted to the contact ends 29, 30 of the Z-shaped element 28 so that when a lamp bulb is screwed into a socket, for example, if the lamp bulb 8 is screwed into socket 17, its bottom contact presses resiliently against the end 30 of the Z-shaped element 28.

It is obvious that electrical contact provided by the structure of the contact ends 29, 30 of the Z-shaped strip in combination with the curved portions 25 of the contact strips 14, 15 is sufficient to energize any lamp socket or socket adapter, and accordingly, the structure which has been described is not limited particularly to its association with my improved ceiling lamp adapter, but may be used in other devices.

The bottom portion 10 of the adapter, in addition to completing the lower halves of sockets 16 and 17, is further provided with a threaded ferrule 18 which is screwed, riveted or otherwise secured to the bottom portion 10. The particular feature of the threaded ferrule 18 is that a threaded $\frac{1}{8}$ " pipe, used for fixtures, can be in-

serted into the ferrule 18 to extend away therefrom as shown in Fig. 1. Pipe 6 is threaded at both ends whereby its end opposite ferrule 18 can accommodate a nut 7 that will hold a globe light diffuser or reflector 5 or other device in a suitable position on the fixture 1. This structure provides an inexpensive method of converting an ordinary lamp socket to a use providing an improved light distribution and a more artistic appearance.

With respect to the upper end of the body portion 9 and particularly with respect to the bent over portions of the electrical contacts 13, 14 and 15, the turned-down members 23 of the outer elements are held in place against the threaded male screw shell cap of screw base 12 by sliding the cap over the end of the housing 9 to insure a sturdy relationship; the male screw shell cap is then suitably secured to the base 9. For example, it may be screwed or spun to the housing 9 or it may be spot welded to the contacts 14, 15.

Housing 9 and the bottom element 10 of the adapter are then assembled and held together by rivets 11 or other suitable securing means to provide a rigid assembly.

It is obvious that modifications of this invention will occur to those skilled in the art and it is desired to be understood, therefore, that this invention is not to be limited to the particular embodiment disclosed, but rather is it intended to cover all modifications which are within the true spirit and scope of this invention.

What I claim as new and desire to secure by Letters Patent of the United States is:

1. A socket adapter comprising a hollow T-shaped insulating housing having a cylindrical shaft with a transverse element integrally connected thereto, and a complementary bottom member engageable with said transverse element to define in cooperation therewith a plurality of interconnected lamp receiving sockets located side by side but extending in opposite directions, said housing having a male screw base positioned at one end to engage an electric socket, electrical conductor means interconnecting said male screw base and said sockets, said electrical conductor means comprising a plurality of electrical conducting strips with a first one of said strips having a portion positioned for engagement with the center element of said male screw base for establishing a center electric contact for said adapter, the others of said strips having portions engageable with the periphery of said male screw base to establish a peripheral electric contact for said adapter, said first strip having a transverse Z-shaped strip connected thereto to provide center contact for said lamp receiving sockets, said transverse element having pins positioned therein and spaced from a contiguous wall thereof to define in combination therewith a channel for receiving one leg of said Z-shaped element, said contiguous wall being shaped to coact with said pin to direct a free or contact end of said Z-shaped element outwardly to engage the center contact of a lamp when inserted into one of said adapter sockets, said other strips further having extension strips electrically connected thereto and lying in the periphery of said lamp receiving sockets to provide peripheral contact therefor, the free ends of said extension strips having hook-shaped portions engageable with complementary nests in said transverse element thereby to position securely said extension strips.

2. A socket adapter comprising an elongated recessed insulating housing, a male screw base positioned at one end of the housing and adapted to

5

engage an electric socket, a pair of threaded lamp receiving sockets integral with the housing and positioned at its other end in side by side relation and facing in opposite, substantially parallel directions substantially perpendicular to the longitudinal axis of the housing, and interconnected contact means for said screw base and sockets, said contact means comprising a first contact strip having a portion extending substantially along the longitudinal axis of the housing with a free end extending through said base and terminating in a transverse portion to form a center contact for said base, the opposite end of said first contact strip portion having secured thereto a transversely extending Z-shaped strip with ends positioned respectively in said sockets to form center contacts therein, means integral with said housing for engaging said Z-shaped strip for tensioning the same to urge the contact ends thereof

6

toward said socket openings, a screw shell secured to said base, and a pair of similar second contact strips extending along the sides of the housing recess and each secured at one end in contact with said screw shell, the other end of each of said second contact strips being positioned along the periphery of said sockets respectively to form side contacts therefor.

References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
1,333,182	Minor et al.	Mar. 9, 1920
1,361,461	Herskovitz	Dec. 7, 1920
1,478,119	Herskovitz	Dec. 18, 1923
1,572,906	Strongson	Feb. 16, 1926
1,857,178	Benander	May 10, 1932
1,875,270	Slade	Aug. 30, 1932