Sept. 26, 1950 N. CHIRELSTEIN 2,523,357

CONTACT FOR CONNECTING LAMPS IN SELECTIVELY ROTATED POSITIONS IN SCREW SOCKETS

Filed Nov. 17, 1948

Fig. 1.

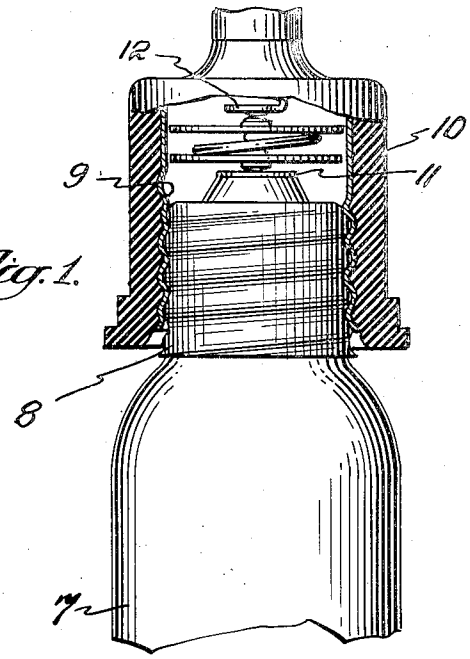


Fig. 2.

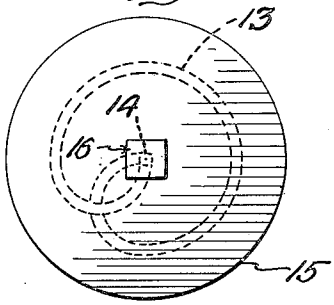


Fig. 3.

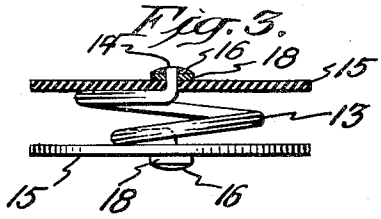


Fig. 4.

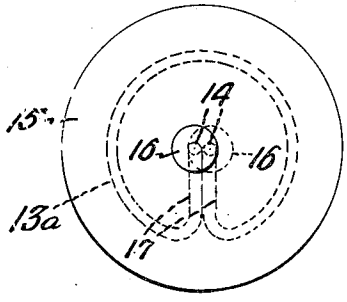


Fig. 5.

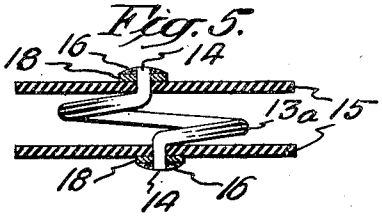
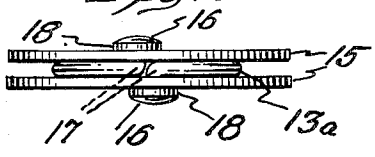


Fig. 6.



NATHAN CHIRELSTEIN
INVENTOR.

BY Philip S. McLean

ATTORNEY

Patented Sept. 26, 1950 2,523,357

UNITED STATES PATENT OFFICE

2,523,357

CONTACT FOR CONNECTING LAMPS IN SELECTIVELY ROTATED POSITIONS IN SCREW SOCKETS

Nathan Chirelstein, Maplewood, N. J., assignor to Allied Electric Products, Inc., Irvington, N. J., a corporation of New Jersey

Application November 17, 1948, Serial No. 60,434

1 Claim. (Cl. 173—358)

1

The invention here disclosed is an electric connector insertable in a lamp socket in back of a lamp base to enable the lamp being rotatably adjusted in the socket one way or the other without disturbing the electrical connection between the lamp and socket.

This invention is a continuation in part of that disclosed in copending patent application Serial No. 17,512, filed March 27, 1948, now Patent No. 2,456,376 issued December 14, 1948, and involving a display lamp carrying a sign or design.

Special objects of the present invention are to provide a simple, inexpensive and effective form of connector for use with such lamps to permit the lamp being turned in its socket to display the sign or design in properly readable, horizontal or other relation while maintaining at all times complete electrical connection between the lamp and socket.

Particular objects of the invention are to provide such connector in a small, compact form which will take up but little space in the socket and hence be usable in short thread length sockets and which will be safe and practical in every way.

Further objects of the invention are to provide this adjustable adapter type of connector in a form which will grip and hold the lamp against turning, thus serving to retain the latter in any position to which it has been adjusted.

Other desirable objects attained by the invention and the novel features of construction, combination and relation of parts by means of which all objects are accomplished, are set forth or will appear in the course of the following specification.

The drawing accompanying and forming part of the specification illustrates certain present practical embodiments of the invention. Structure, however, may be modified and changed as regards the immediate illustration, all within the true intent and scope of the invention as hereinafter defined and claimed.

Fig. 1 in the drawing is a broken part sectional view showing the connector in use in a typical lamp socket interposed between and forming an electrical connection between the center contact of the socket and the center contact of the lamp base;

Fig. 2 is an enlarged plan view of the connector;

Fig. 3 is an edge view with one of the insulating end discs shown in section;

Fig. 4 is a plan view of a slightly modified form of the invention;

Fig. 5 is a cross sectional detail of the same;

Fig. 6 is an edge view showing how this form of the invention may be completely collapsed to

2

a thickness no greater than the combined thickness of the insulating discs, diameter of the spring wire and thickness of the end contact buttons.

In Fig. 1 the base portion of a lamp 7 is illustrated, having a screw shell contact 8 engageable with the screw contact 9 of a socket 10 and a center contact 11 for direct engagement usually with the center socket contact 12.

The invention involves the interposition of a yielding spring connector between the opposing socket and lamp center contacts, and this is shown made up of a short coiled spring 13 of good conducting wire having angled opposite ends 14 extending through opposed insulating discs 15 and connected with or formed into exposed contact buttons 16 at the outer faces of the discs.

The spring 13, for the sake of shortness, may be of approximately one turn and the discs, to center and assure proper engagement of the terminal buttons 16 with the socket and with the lamp and socket contacts 11 and 12, may be of only slightly less diameter than the socket.

This assures a loose, free fit of the connector in the socket so that it will readily drop into position therein or may be easily removed therefrom, and at the same time makes it certain that when the lamp is screwed into the socket the terminal buttons will fully and firmly engage the socket and lamp contacts.

The modification illustrated in Figs. 4, 5 and 6, involves the provision of a spring 13*a* with radially extending end portions 17 offset to opposite sides of a diametrical line so that in the collapsing of the spring these end portions will avoid or lie alongside each other, as indicated in Figs. 4 and 6, to permit complete collapse of the unit and hence the screwing of the lamp into the socket to a maximum permissible extent. This is of particular advantage for use in sockets having short length screw shell contacts and where the range of possible adjustment may not be so great.

In all cases the tension exerted by the interposed conducting spring 13 tends to grip and hold the lamp against turning from any position to which it may have been adjusted and to prevent the lamp from working loose and dropping out of the socket.

In the offset end form of the invention shown in Figs. 4 to 6, the terminal buttons may be offset or eccentrically related, and this may be of advantage in that it assures a wiping engagement of these terminals with the center contacts of the lamp and socket, respectively. This eccentric relation also enables the device to hold the lamp more firmly in position in the socket.

The end terminals 16 may be formed in various ways, as by upsetting or spreading the ends of the spring over the outer faces of the insulating discs or by riveting, welding, brazing or soldering separate washer-like terminals over the wire ends, substantially as indicated at 18 in Figs. 3 and 5.

The insulating discs 15 may be of thin but stiff fibre, plastic or the like and should be of enough larger diameter than the coil of the spring between them to mechanically prevent any possibility of contact of such spring with the side contact of the socket.

While the offset or off-center relation of the contact buttons 16 may be desirable for the reasons given above, these terminals may be arranged in centered relation by securing them eccentrically to the angled end portions 14 of the spring, as will be clear from consideration of Figs. 4 and 5.

The extent of compressibility of the connector may vary. For general purposes it may be said to be sufficient for the connector to yield to permit turning of the lamp through an angle of from about a half to a full revolution while providing conductivity between the lamp and socket contacts.

What is claimed is:

A resilient, compressible connector insertable in a screw socket in back of a lamp and yieldable sufficiently to permit turning of the lamp in the socket through a considerable range of adjustment and comprising a coiled spring of less than the socket diameter, insulating discs of greater diameter than the spring but of less diameter than the socket, to freely enter the socket, said spring being interposed between said insulating discs and contact terminals at the outer faces of the discs in electrical connection with said spring and disposed to engage center contacts of the lamp and socket, respectively, said coiled spring being of less than one complete convolution and having the end portions of the same laterally offset so as not to abut in the collapsing operation of the spring and whereby said connector may be compressed to a minimum thickness approximating that only of the several components of the unit.

NATHAN CHIRELSTEIN.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,933,344	Schouwstra	Oct. 31, 1933
1,940,368	Page	Dec. 19, 1933
2,158,884	Mueller	May 16, 1939