Jan. 27, 1953 J. A. HOWENSTINE 2,626,976

INSULATOR SOCKET ASSEMBLY FOR FLUORESCENT TUBES

Filed March 21, 1950

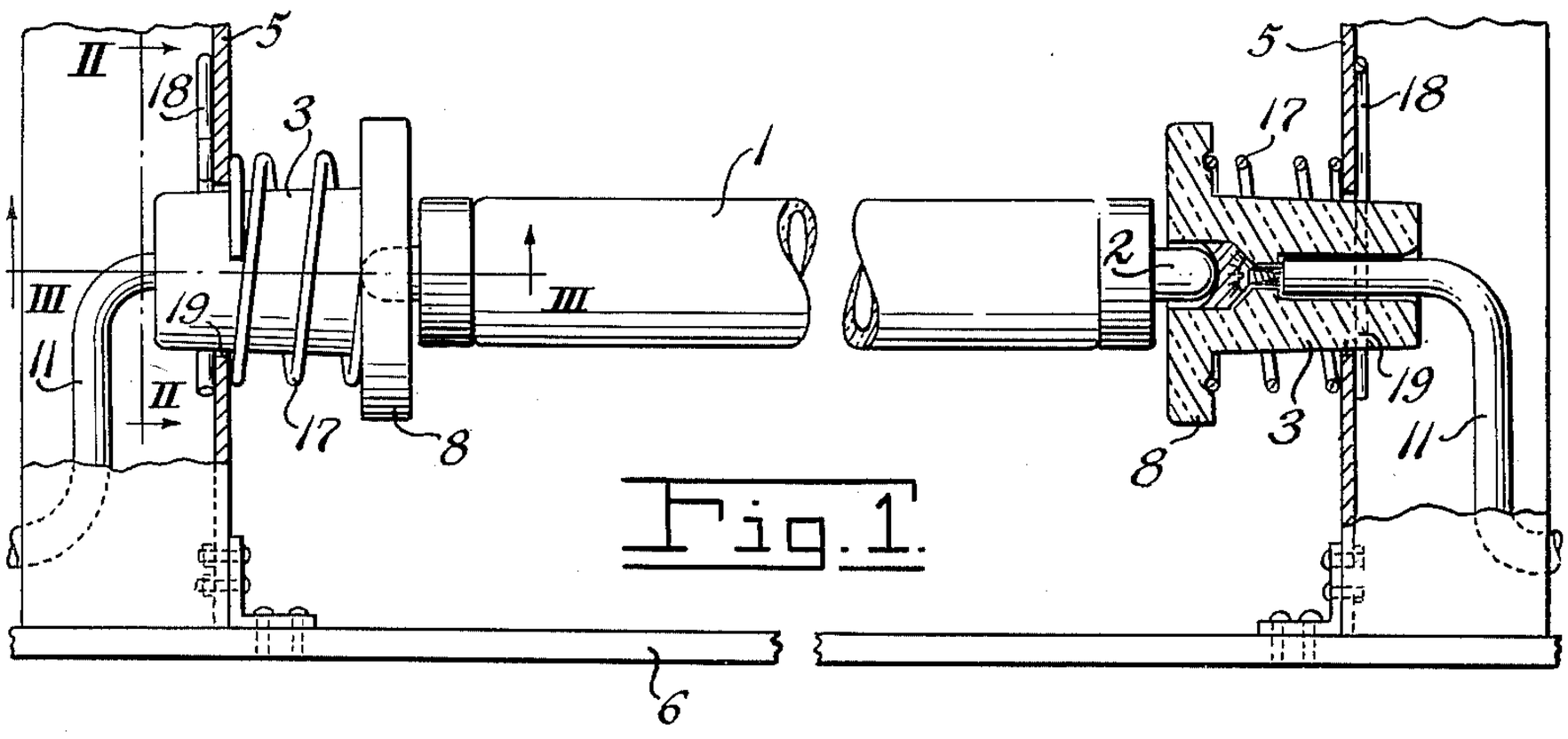

Fig. 1.

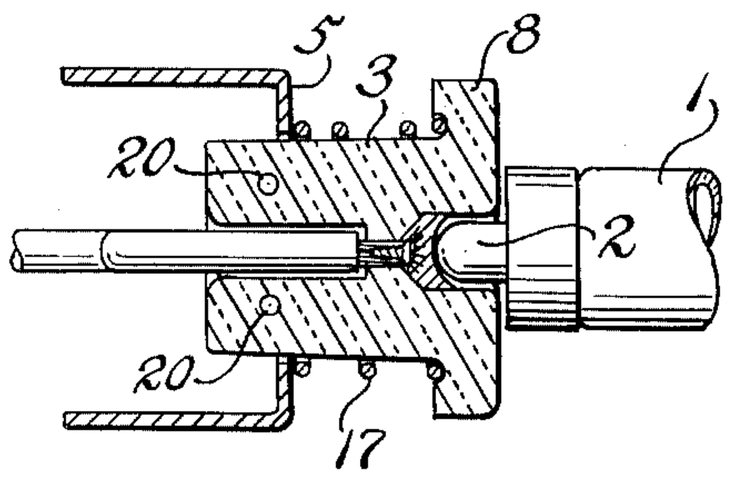

Fig. 3.

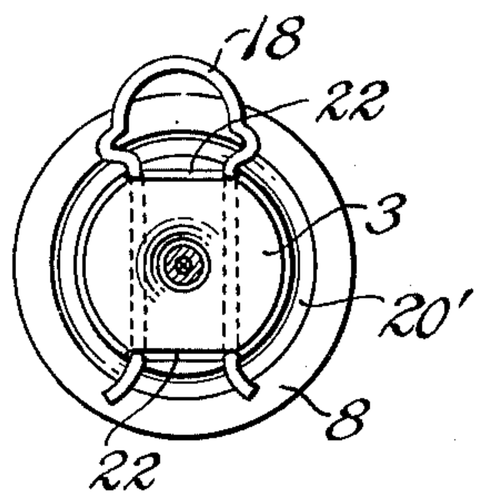

Fig. 2.

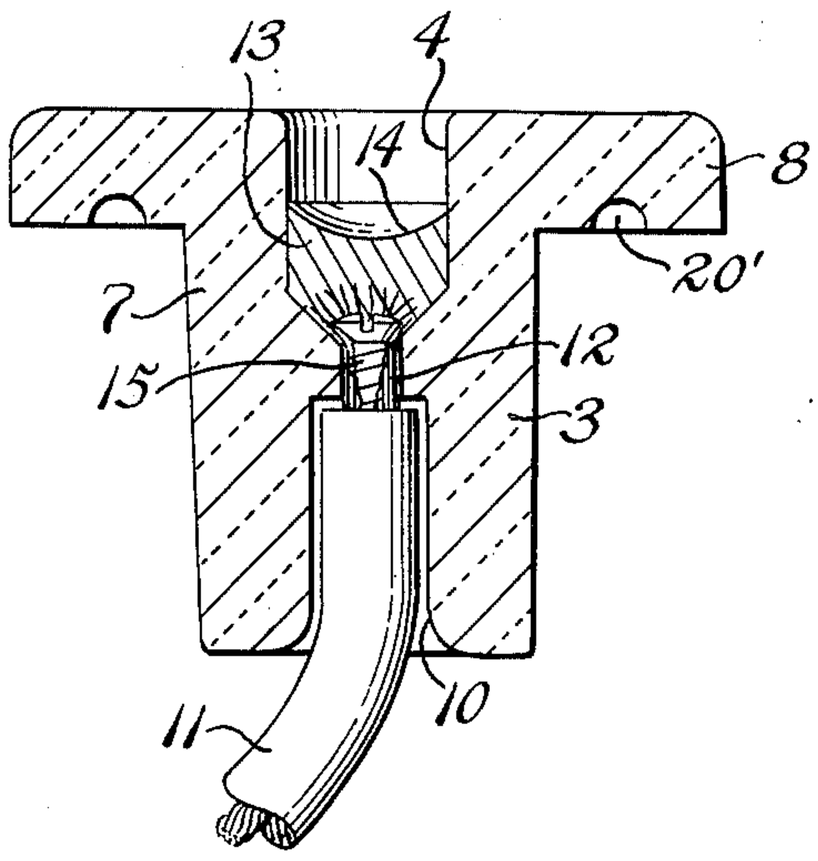

Fig. 4.

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INSULATOR SOCKET ASSEMBLY FOR FLUORESCENT TUBES

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1 Claim. (Cl. 173—328)

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This invention relates to an insulator provided with a socket adapted to be used at the ends of tubular fluorescent lights to both support the tubular lights and provide a means for connecting the lights to operating voltage.

An object of this invention is to provide an insulator provided with a socket and a spring so arranged that when a pair of insulators is placed to receive the opposite ends of a tubular fluorescent light the tube is yieldingly supported thereby and provided with positive electrical contact with the voltage conductors connected thereto.

A further object of this invention is to provide an insulator of this type in which the lead in wire and the terminal contact are housed inside a sturdy insulator body.

A further object of this invention is to provide a socket which is simple and inexpensive to construct and which is strong and durable.

The above and other objects and features of this invention will in part be obvious and will in part be apparent from the following detailed description, and the drawing, in which:

Figure 1 is a view in side elevation, partly broken away and in section showing a tubular fluorescent light supported at the ends in sockets formed in insulators constructed in accordance with an embodiment of this invention;

Fig. 2 is a view in section taken along a line II—II of Fig. 1;

Fig. 3 is a view in section taken along a line III—III in Fig. 1; and

Fig. 4 is an enlarged transverse sectional view of the insulator socket.

In the following detailed description and the drawing, like reference characters indicate like parts.

In Fig. 1, a tubular fluorescent tube having electrode or terminal lugs 2 at its opposite ends, is shown supported by insulators 3, each of which is provided with a socket 4 for receiving one of the terminal lugs 2. Tube 1 is of the so-called instant start type.

Insulators 3 are supported by channels 5 carried by a main frame member 6.

Each insulator is made of suitable refractory such as suitable fire clay or porcelain, and comprises a shank 7 having a disc-like flange or head 8 at one end. Socket 4 in the head end of the insulator is of the diameter which is adequate to provide ample room for one of the terminal lugs 2. The opposite end of the insulator is cored as at 10 (Fig. 4) to accommodate an insulated lead-in wire 11. Socket 9 and core 10 are connected by a relatively small bore 12 which is large enough

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to accommodate the wire after the insulation has been stripped therefrom.

The bare or stripped end of the lead-in wire extends into socket 9 and is anchored therein by metal such as solder 13. As shown, sufficient solder is employed to fill substantially the inner half of socket 4 so that a seat 14 may be formed therein for a terminal lug 2. As shown in Fig. 4, the solder may be machined or otherwise shaped so that seat 14 is concave. If desired a small screw 15 may be threaded into the end of the strands of the wire before the solder is applied as shown so that the wire is anchored in the socket independently of the solder. After the screw has been set solder is poured into socket 9 to cover the screw and the ends of the strands of wire for the purpose described above.

In order that insulators 3 may be yieldably supported in channels 5 to facilitate the placing of light tubes 1 therein or removing them therefrom, each insulator is provided with a coil spring 17 and a retainer 18 such as a modified or spread cotter pin. The spring embraces the shank of the insulator. When the insulator is mounted in a hole or aperture 19 in the web of channel 5, the spring is located between the flanged head 8 and the channel web. By pushing the end of the insulator shank through opening 19 spring 17 is compressed and is held in compression when the cotter pin 18 has been placed as shown. The outer end of the insulator shank is provided with spaced holes 20 (Fig. 3) through which the legs of the cotter pin are inserted. When placed as shown, the cotter pin bears against the web of channel 5.

As shown in the drawings, the underside of flange 8 may be formed with a groove 20' which serves as a seat for one end of the coil spring. The shank may be tapered towards the cotter pin end and be made flat on opposite sides as indicated by lines 22, to provide clearance between the spring and the shank and prevent binding of the spring thereon.

By means of the socket insulator and spring arrangement as shown, tubular fluorescent lights may be conveniently supported at their opposite ends while at the same time providing positive electric contact therefor.

The socket insulators are subject to structural modification without departing from the spirit and scope of the appended claim.

Having described my invention, what I claim as new and desire to secure by Letters Patent is:

A lead-in terminal and insulator socket assembly for instant-start fluorescent tubes com-

prising an insulator having a shank and a flanged head at one end thereof, and a removable retainer at the other, a compression spring on said shank between the retainer and said head, the head end of said insulator having a socket adapted to receive the terminal lug of a fluorescent tube, and the shank having an axial bore extending from its retainer end to and communicating with said socket, said bore being of reduced diameter at a location adjacent said socket, a lead-in conductor having a covering of insulating material extending into said bore, the end of the conductor beyond said restriction being insulation free and extending into said socket, and means including a gob of solder metal in the base portion of said socket for anchoring the lead-in conductor therein and forming a contact seat for the terminal lug of a fluorescent tube.

JAMES A. HOWENSTINE.

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