July 10, 1951 M. H. KRUGER 2,559,639

STRIP FOR FLUORESCENT LAMPS

Filed May 28, 1948 2 Sheets-Sheet 1

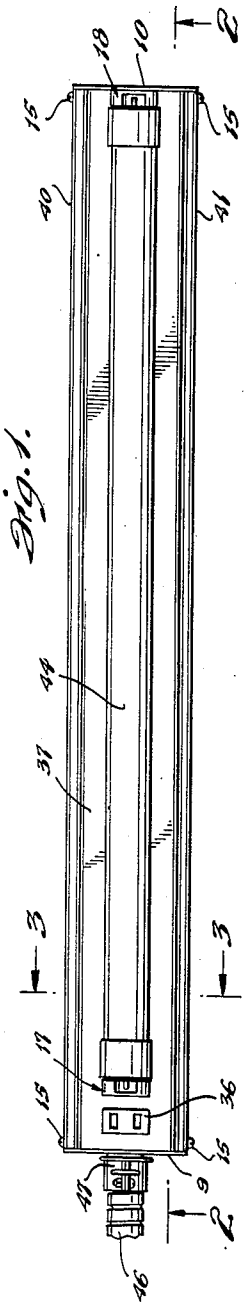


Fig. 1.

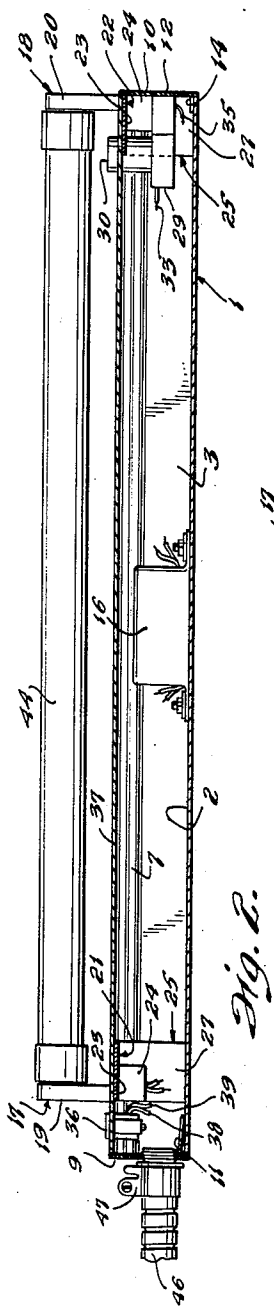


Fig. 2.

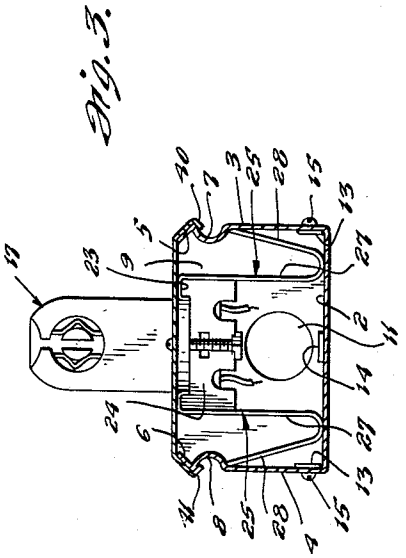


Fig. 3.

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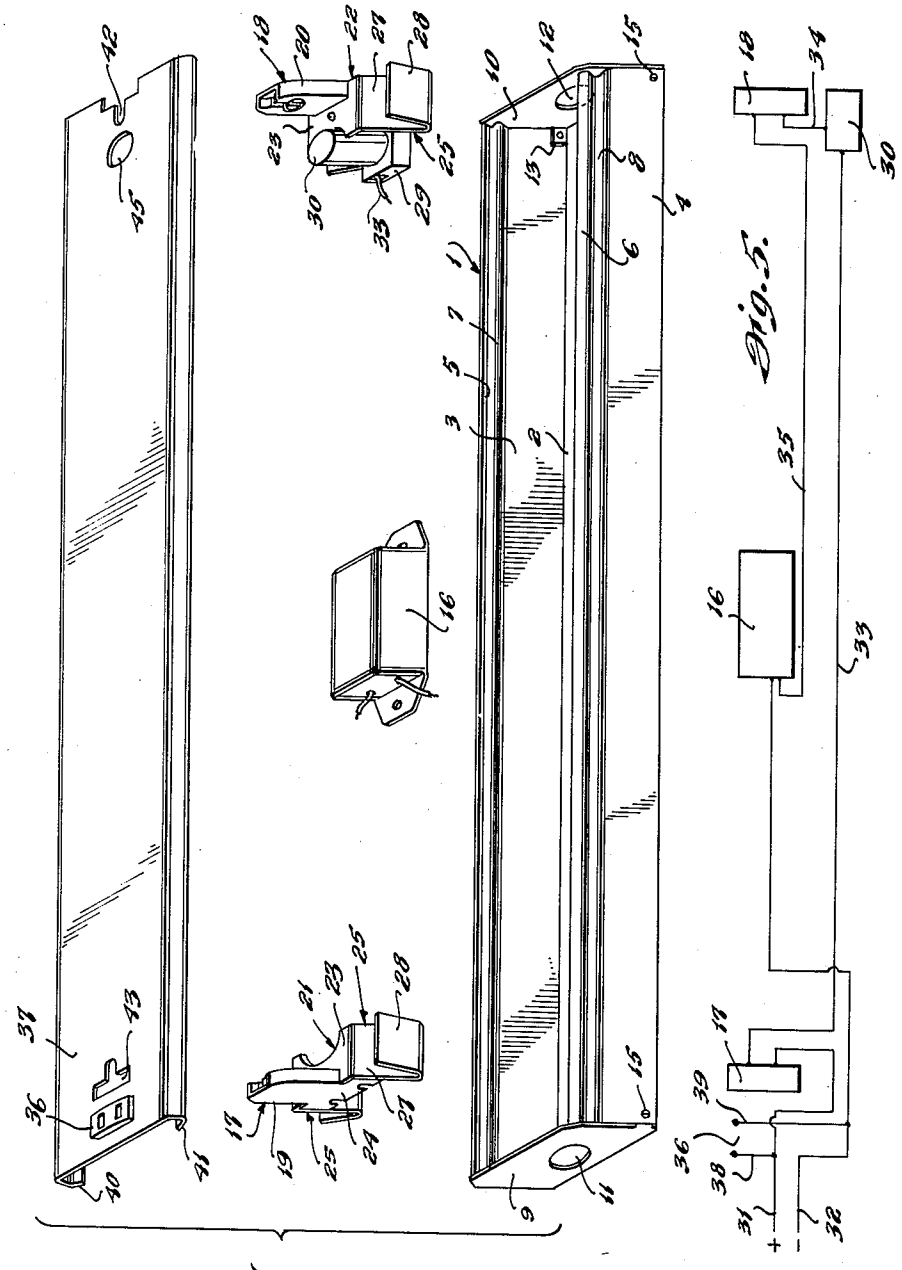


Fig. 4.

Fig. 5.

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2,559,639

UNITED STATES PATENT OFFICE

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STRIP FOR FLUORESCENT LAMPS

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3 Claims. (Cl. 240—51.11)

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This invention relates to lighting fixtures in general, and more especially to a strip or housing for supporting a fluorescent lamp with its electrical connections such as the starter, ballast and conductors housed therein.

Among the objects of the present invention it is aimed to provide an improved strip or housing for a fluorescent lamp which will effectively and rigidly support the lamp holders and associated parts in place when connected to a lamp and which during assembly and installation are removable to afford adequate access for handling and manipulating the several parts being assembled and connected.

These and other features, capabilities and advantages of the invention will appear from the subjoined detail description of one specfic embodiment thereof illustrated in the accompanying drawings, in which

Fig. 1 is a plan view.

Fig. 2 is a section on the line 2—2 of Fig. 1.

Fig. 3 is a section on the line 3—3 of Fig. 1.

Fig. 4 is an exploded view of the several parts before being assembled.

Fig. 5 is a wiring diagram of one of the several arrangements for connecting a fluorescent lamp to its source of current when connected to a strip or housing made according to the present invention.

The strip or housing constituting the main part of the present invention consists essentially of a longitudinally extending sheet of metal bent to form a trough or U-shape 1 including the base 2 and side walls 3 and 4. The longitudinally extending free ends of the side walls 3 and 4 are bent to form beads 5 and 6, respectively, offset by the depressions 7 and 8, respectively. The ends of the trough formed by the sheet 1 are closed by the end plates 9 and 10 which are provided with the usual knockout discs 11 and 12 defined from the end plates 9 and 10 by the weakened border areas to facilitate knocking out or separating the discs 11 and/or 12 when desired. The end plates 9 and 10 may be secured in place by any desired means without departing from the general spirit of the invention, the means shown consisting of the flanges or lips 13 and 14, the lips 13 extending from the end plates 9 and 10 along the inner faces of the side walls 3 and 4 and secured thereto by the screws 15, and the lip 14 extending from the end plates 9 and 10 and resting on the adjacent inner face of the base 2.

Preferably as shown, at about the middle of the base 2 there is positioned and secured the

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ballast unit 16. The lamp holders 17 and 18 preferably composed of porcelain or some suitable insulating material have the conventional terminals at the bottom of each connected to the lamp contacts formed in the extensions 19 and 20, respectively. The holders 17 and 18 are connected to the metal clips or brackets 21 and 22, respectively, which are substantially identical to one another, each having an intermediate web 23 secured to the upper face of the base 24 of a holder 17, 18 and laterally formed V-shaped wings 25, each including a downwardly extending web 27 and an outer upwardly extending, outwardly flaring web 28 shorter than the web 27 and formed to fit beneath the beads 7 and 8 when disposed in the trough 1 as shown in Fig. 2.

The lamp holder 18 in the present instance has secured to the base 24 the block 29 provided with electrical connections in the conventional way for the starter 30 which is removably secured thereto and preferably extends upwardly as shown adjacent the inner edge of the web 23 of the clip 22.

In use the ballast unit 16 is secured to the base 2 with the required electrical conductors extending therefrom as hereinafter to be described, and the clips 21 and 22 with their lamp holders 17 and 18, respectively, are resiliently sprung into place into engagement with the inner faces of the side walls 3 and 4, the normal position of the webs 28 being such that their outer ends are spaced apart a greater distance from one another normally than the distance between the inner faces of the side walls 3 and 4. When so resiliently engaging the inner faces of the walls 3 and 4, the clips 21 and 22 may be slidably moved from place to place as desired along the trough 1.

The lamp holders 17 and 18 may be connected to the source of current supply in any one of a number of ways without departing from the general spirit of the invention. In the present instance, a wiring diagram is shown in which access to the source of current supply is through the opening formed in the end wall 9 when the knockout disc 11 alone is depressed as shown in Figs. 2 and 4. In such case, the main leads 31 and 32 are passed through the opening formed in the end plate 9, the lead 31 being connected to one terminal of the lamp holder 17 and the lead 32 being shown as connected to one terminal of the ballast unit 16. The lamp holder 17 in turn is connected by the conductor 33 to one terminal of the starter 30 and the other terminal of the starter 30 in turn is connected to

one terminal of the lamp holder 18 by the conductor 34. The other terminal of the lamp holder 18 in turn is connected by the conductor 35 to the other terminal of the ballast unit 16.

When it is desired to supply a convenience outlet 36 in the cover plate 37, then, as shown in Fig. 5, the leads 31 and 32 are in turn connected to the terminals of said outlet 36 by the conductors 38 and 39, respectively.

The cover plate 37 is also preferably composed of sheet metal somewhat flexible, such as is the case with the sheet metal of the trough 1, especially the portions of the side plates 3 and 4 adjacent the beads 5 and 6, respectively. The cover plate 37, as shown in Fig. 4, has mounted therein the convenience outlet 36 composed of insulating material and has extending therefrom the conductors 38 and 39 as shown in Figs. 2 and 5. This cover plate 37 has arcuate edge conformations 40 and 41 which are spaced from one another a distance just sufficient to frictionally engage the beads 5 and 6 and anchor the plate 37 to the side walls 3 and 4 when pressed into engagement with the same. It will be noted that the side walls 3 and 4 are not connected to the end plates 9 and 10 so that they may be temporarily flexed inwardly to receive the leads 40 and 41 of the cover plate 37. The cover plate 37 is also provided with a T-shaped recess 42 at one end and a T-shaped opening 43 adjacent the outlet 36 so that they will clear the extensions 19 and 20 of the lamp holders 17 and 18 when the clips 21 and 22 are in frictional engagement with the side walls 3 and 4, thereby in turn to position the lamp holders 17 and 18 so that they will properly receive the ends of the fluorescent lamp 44 shown in Figs. 1 and 2. Preferably as shown the cover plate 37 also has a circular opening 45 to clear the starter 30.

From the foregoing it will appear that after the trough 1 has been secured in position with the ballast unit 16 formed therein, the main leads 31 and 32 may be passed through the BX conduit 46 which is connected by the connector 47 to the end plate 9 in the opening formed therein after the knockout 11 has been depressed as shown. The main leads 31 and 32 may then be connected to the conductors 38 and 39 of the convenience outlet 36 and also either directly to the lamp holder 17 or to the ballast unit 16 or else to connections extending from the lamp holder 17 and ballast unit 16. To facilitate such connection of the conductors 31 and 32 the clip 21 of the lamp holder 17 may be slidably moved from the end plate 9, and then after proper connections have been made moved over into position in the trough 1 where its extension 19 will register with the opening 43. If the wiring diagram does not provide for conductors passing through the end plate 10, then the clip 22 of the lamp holder 18 may at the very beginning be positioned adjacent to the end plate 10 as shown in Fig. 2. It is of course obvious that the BX connector 47 may require that the knockout disc 11 be entirely removed so that its threaded portion may effectively engage the edge of the opening formed in the end plate 9 when the knockout disc 11 clears the same.

It is obvious that various changes and modifications may be made to the details of construction without departing from the general spirit of the invention as set forth in the appended claims.

I claim:

1. The combination of end walls, a one-piece sheet metal trough having a base and longitudinally extending side walls connected to the end walls at the lower ends of the side walls to anchor the end wall in place and yet to enable free flexing of the side walls relative to the base, beads formed along the longitudinally extending free edges of said side walls remotely spaced from the base, sheet metal brackets having a pair of V-shaped wings with an intermediate web disposed in alinement with the upper edges of the side walls, and the joints between the wing portions of each wing engaging the inner face of the base, the inner wing portions of each wing extending from the base to the intermediate web and the outer wing portions extending from the base to the lower inner shoulder of the inwardly extending body, the outer wing portions being flexible inwardly to clear said inwardly extending beads when positioning the brackets in, or removing them from, the trough, and a sheet metal cover having inwardly turned flanges along its longitudinally extending free ends resiliently to grip the lower outer shoulders of the outwardly extending beads.

2. The combination as set forth in claim 1 in which the inwardly extending beads are disposed between the outwardly extending beads and the base.

3. The combination as set forth in claim 1 characterized by having lamp holders mounted on said brackets and extending outwardly therefrom, and openings formed in said cover adjacent the ends thereof to clear parts of said lamp holders and cooperate with said trough to anchor said lamp holders in predetermined lamp holding positions.

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