

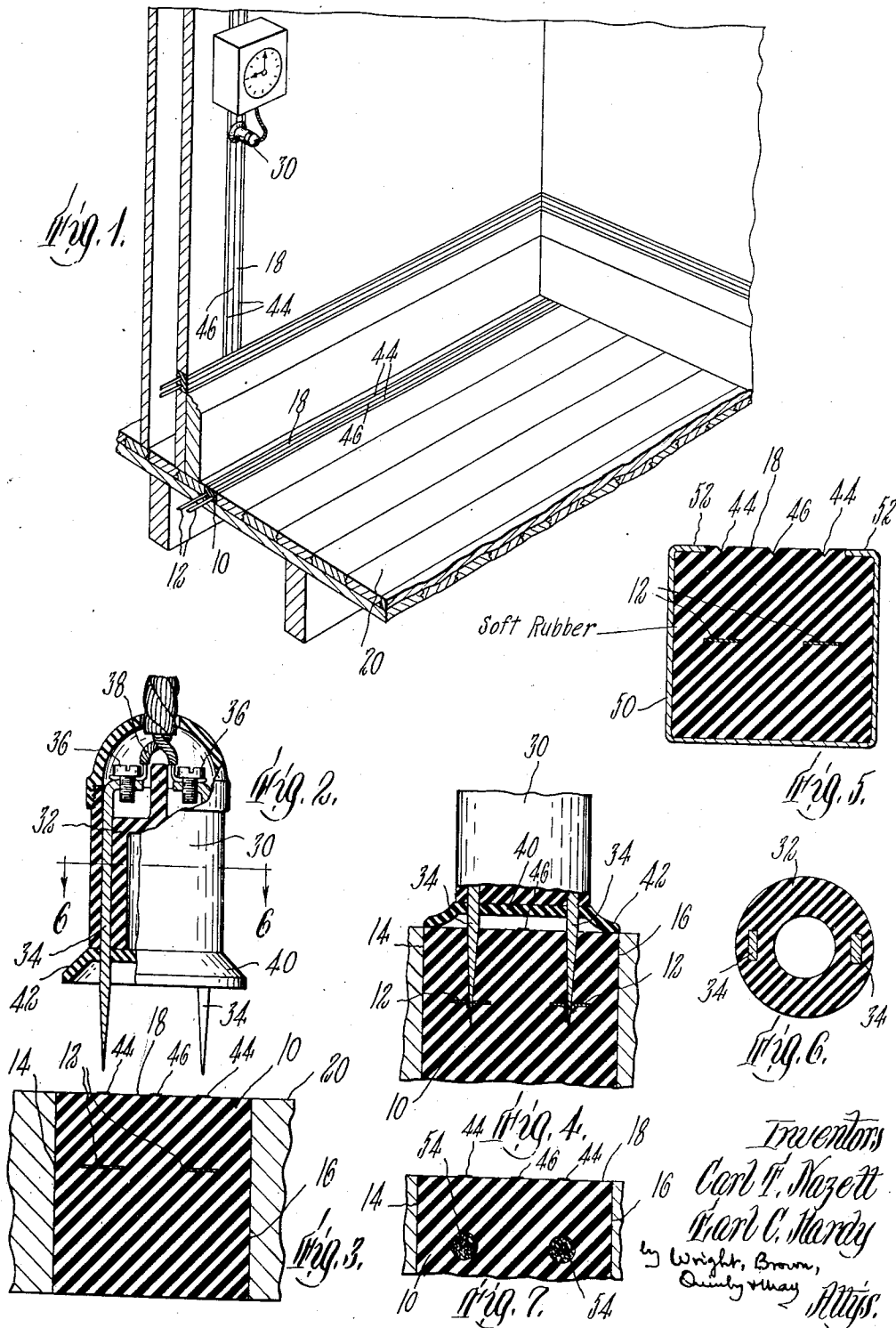
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ELECTRICAL APPARATUS

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ELECTRICAL APPARATUS

Carl F. Nazett, Boston, and Earl C. Hardy,
Somerville, Mass.Substituted for abandoned application Serial No.
232,562, September 30, 1938. This application
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2 Claims. (Cl. 173-340)

This application is a substitute of our abandoned application Serial No. 232,562, filed September 30, 1938. The invention relates to electrical apparatus adapted to be installed in dwellings or other buildings for convenience in plugging in drop-lights or other electrical appliances wherever desired. It is an object of the invention to provide an elongated conductor which may be made inconspicuous, which is protected from dirt and moisture, and to which a drop-light or other appliance can be quickly and easily connected at any point.

According to the invention, a pair of parallel metal ribbons or stranded wires are embedded in a casing of penetrable insulating material, such as rubber, of substantial cross-section. Plugs are provided, each having a pair of sharp prongs or blades adapted to penetrate the casing and the copper ribbons or wires buried therein so as to make electrical contact with the latter.

For a more complete understanding of the invention, reference may be had to the following description thereof, and to the drawing of which Figure 1 is a perspective view of an embodiment of the device installed in a room.

Figure 2 is an elevational view, broken away to show in section, of an improved plug embodying the invention.

Figure 3 is a sectional view of a conductor embodying the invention, installed in a floor or wall.

Figure 4 is a sectional view of the conductor shown in Figure 3 and a portion of a plug connected thereto.

Figure 5 is a sectional view of a modified form of conductor.

Figure 6 is a section on the line 6-6 of Figure 2.

Figure 7 is a fragmentary sectional view of a modified form of the invention.

The invention includes a strip 10 of indeterminate length of penetrable insulating material, such, for example, as soft rubber which is preferably shaped so as to have a rectangular cross section as illustrated in Figure 3. The cross section may be square or oblong as desired, a square section being shown in Figure 3. Buried in the strip are a pair of conductors 12 which may be in the form of thin copper ribbons. These ribbons are arranged in a common plane and are uniformly spaced from each other and from the side faces 14 and 16 of the strip 10. Each of these ribbons is entirely encased by the material of the strip 10 so that they are not accessible to moisture or dirt except at the cut ends of the

strip which may be suitably sealed if desired. The plane of the ribbons 12 is parallel to the top face 18 of the strip so that the ribbons are equally spaced from the face 18. In Figure 3, the strip is shown with the face 18 flush with the surface 20 of a floor. As shown in Figure 1, it is evident that a strip 10 may be installed in a wall or baseboard with the face 18 exposed. Strips 10 may be installed in a horizontal or in a vertical position, as indicated, or may be installed in any other position so long as the face 18 is exposed or accessible, the conductors 12 being connected to circuit feed wires in any suitable manner.

Cooperating with the strip 10 is a connection device 30 which, as shown in Figure 2, may be in the form of a plug having a body portion 32 by which are supported a pair of prongs 34, these prongs being maintained in parallel spaced relation and being insulated from each other. Suitable binding posts 36 are provided by which wires 38 may be connected to the respective prongs 34. The prongs are spaced apart a distance equal to that between the medians of the ribbons 12, so that, if the prongs are thrust through the face 18 of a strip in a proper manner, the prongs will penetrate the insulation material of the strip 10 until they reach the ribbons 12, whereupon they will also penetrate the ribbons, as indicated in Figure 4, thus making good electrical connections between the prongs and respective ribbons. To this end, the exposed portions of the prongs 34 are preferably tapered to sharp points or edges so as to facilitate penetration of the insulating material and the ribbons. If the insulating material is soft rubber or other similar substance, it will close together after the plug 30 has been withdrawn so as to prevent access of moisture or dirt to the interior of the strip 10. If desired, the plug may be provided with a cupping device 40, this device being made of soft rubber and including a flaring skirt portion 42 which surrounds the prongs 34 and has a diameter substantially equal to the width of the strip 10. When the plug is thrust against the strip 10, the skirt 42 flattens against the face 18 of the strip, making a tight joint which protects the portion of the face 18 around the prongs 34 from moisture and dirt.

In order to provide a guide for the proper insertion of prongs into a strip 10, the face 18 may be provided with guide marks 44 such as parallel lines painted or otherwise marked on the face above the center lines of the ribbons 12 so as to register therewith, or the strip may be formed

with narrow grooves registering with the centers of the ribbons 12. In order to avoid undesirable short-circuiting of either of the conductors 12, a third guide line or groove 46 is preferably provided on the face 18 midway between the lines or grooves 44, the line 46 being a guide for nails or other fastening elements which may be employed to secure the strip itself in place.

The conductors 12 may be spaced nearer to the face 18 than to the face opposite thereto, as indicated in Figure 3, or may be equally spaced between the upper and lower faces of the strip, as indicated in Figure 5, the projecting portions of the prongs 34 being of suitable length to reach and penetrate the conductors. If it is desired to protect the strip with suitable armor, a channel member 50 may be provided to cover three side faces of the strip, leaving the face 18 partially or wholly exposed. As illustrated in Figure 5, the channel 15 is provided with a pair of lips or flanges 52 which cover the marginal portions of the face 18, but these lips or flanges may be omitted if desired. In making apparatus as illustrated in Figure 5, it is preferred to form the strip and the channel separately, and then to introduce the strip into the channel so that it can be longitudinally shifted therein if desired for convenience in installation.

Instead of ribbons 12 of copper, stranded wires 54 may be employed as illustrated in Figure 7. When the plug 30 is applied to the strip, the ends of the prongs 34 will push down between the strands of respective wires, thus making a suitable electrical connection.

It is evident that various modifications and

changes may be made in the embodiment of the invention herein shown and described without departing from the spirit or scope thereof as defined in the following claims.

We claim:

1. An armored electrical conductor structure, comprising a metal channel of indeterminate length, the depth of the channel being approximately equal to its width, a rubber strip completely filling said channel and coextensive therewith, said channel being a separate sheath for said rubber strip, said strip having three of its faces against the inner surfaces of said channel and its fourth face exposed, and a pair of uniformly spaced conductors buried in said strip from end to end thereof and arranged in a plane parallel to the fourth face of said strip, said fourth face having thereon a pair of guide lines registering with said conductors respectively.
2. An armored electrical conductor structure, comprising a metal channel of indeterminate length having a bottom and two sides, a rubber strip completely filling said channel and coextensive therewith, said channel being a separate sheath for said rubber strip, said strip having three of its faces against the inner surfaces of said channel and its fourth face exposed, and a metal ribbon buried in said strip from end to end thereof so as to be electrically insulated from said channel and arranged in a plane parallel to the fourth face of said strip, said fourth face having thereon a guide line registering with said ribbon.

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