

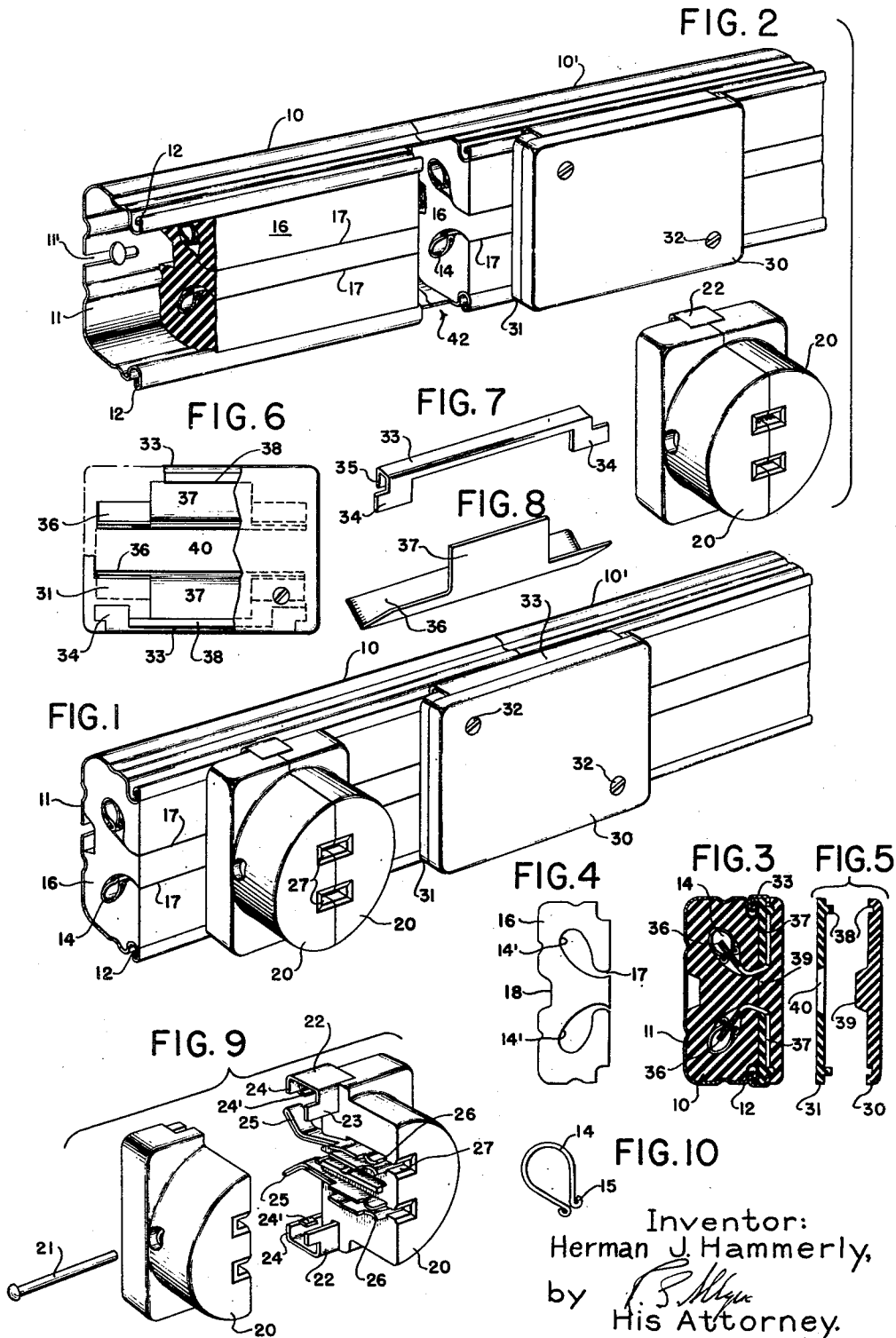
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H. J. HAMMERLY

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BUS DUCT SWITCH

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Inventor:
Herman J. Hammerly,
by *H. J. Hammerly*
His Attorney.

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BUS DUCT SWITCH

Herman J. Hammerly, Plainville, Conn., assignor,
by mesne assignments, to General Electric
Company, a corporation of New York

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1 Claim. (Cl. 200-163)

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The main object is to provide a relatively small and light type of duct in which the conductors are entirely enclosed.

Another object is to provide a system which can be tapped by ordinary attachment plugs.

Another object is to provide receptacles for plugs which can be slid along the busway to convenient places.

Another object is to provide for convenient installation and removal of receptacles.

Another object is to provide a convenient and effective coupling between sections of the duct system.

In the form shown, the duct is formed of channel or U-shaped sections and contains a resilient insulating filler in which the conductors of split-tubular form are enclosed.

The receptacle for attachment plugs are slidably mounted on the duct and have stabs or contact blades which slide on the conductors. Coupling devices connect adjacent ends of duct sections. The receptacles may be applied to the duct at the end or at pockets or vestibules arranged at intervals along the duct which are closed by coupling devices.

Fig. 1 is a perspective view of a fragment of an enclosed duct showing a coupling device and a branch receptacle for an attachment plug.

Fig. 2 is an exploded perspective view of the same parts showing the coupling device slid along the duct and the branch receptacle separate.

Fig. 3 is a cross-sectional view of the duct and showing the coupling device in place.

Fig. 4 is an end view of the insulating filler for the duct.

Fig. 5 is a sectional view showing the two main parts of the coupling device separated.

Fig. 6 is a front view of the coupling device, parts being broken away.

Fig. 7 is a perspective view of one of the grounding clips.

Fig. 8 is a perspective view of one of the coupling connectors.

Fig. 9 is an exploded perspective view of the parts of a branch receptacle.

Fig. 10 is a sectional view of a conductor or bus bar.

The casing of the duct is made up of suitable sections 10, 10' of U-shaped sections with a back 11 which may be slotted at 11' to facilitate mounting on a wall or ceiling. The sides terminate in curled tracks 12, 12. The casing of the duct is grounded in any desired manner of the type well known in the art.

The bus bars or conductors 14 are in the form

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of split tubes which may be reinforced at the edge 15. These conductors are made up in lengths corresponding to the length of the duct sections and are embedded in relatively soft rubber fillers 16. The filler recesses 14' are reached through slots 17 which are pressed together and closed when the filler is compressed in the duct. The filler is grooved at 18 to make it easy to bend the filler and thus open the slots 17, 17 in order to facilitate insertion of the conductors.

A receptacle is formed of two parts 20, 20 held together by a rivet 21 or the like. Clips 22, 22 are held between the upper and lower edges of the receptacle. Each clip has an anchor 23 to connect it with the receptacle and a rear flange 24 and lug 24' to interlock with the tracks 12, 12 of the duct. Each receptacle has two stabs or contact blades 25, 25 shaped to engage and slide in the conductors 14, 14. Each stab has a contact 26 adapted to receive a prong of an attachment plug inserted through an entrance passage 27. These contacts may be of any suitable shape to accommodate any desired plug prong.

The abutting ends of the sections 10, 10' are connected by a coupling member which has a body formed of two insulating plates 30 and 31 connected by screws 32, 32. A grounding strip 33 is mounted along each of the upper and lower edges of the coupling and each having an anchoring lug 34 held in recesses between plates 30 and 31 and flanges 35 which interlock with the tracks 12, 12. These strips serve to bridge the ends of the tracks. The conductors 14, 14 are connected by connector strips 36, 36 which extend inwardly from the plates 37 which anchor them in recesses between the plates 30 and 31. These strips 36 and the anchor plates 37 are shaped so as to extend through the slots 17, 17 and into the mouths of the conductors 14, 14. The ribs and grooves 38 serve to separate the grounding strips 33 from the anchor plates 37 and the rib 39 extends into the recess 40 to insulate the opposing anchor plates 37, 37.

A coupling member is applied to the end of each section of duct and slid in place.

When the coupling is in place as shown in Fig. 1, the ends of the conductors are electrically connected. By sliding the coupling to the position of Fig. 2, the conductors are disconnected.

The receptacles may be applied in the same manner. I prefer however to provide a cut back or vestibule 42 in the system, one or more, so that a receptacle can be inserted, into or removed from a system already installed. Such a vestibule may be provided as at 42 (Fig. 2) be-

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tween adjoining sections of the duct. When this is uncovered by the coupling, a receptacle can be applied in the vestibule and slid along to the desired position of use in Fig. 1 and the coupling slid back into place to close the vestibule.

In order to form such a vestibule, the tracks and the front edges of the duct at the adjacent ends are cut away and the filler and conductors are spaced apart so as to leave room for the insertion or removal of the hooks 24, 24 and of the blades 25, 25 of a receptacle.

It will thus be seen that we have a simple, enclosed system suitable for the accommodation of conventional attachment plugs for branch take-off connectors.

I claim:

In a bus duct system, a sectioned sheet metal duct of U-shaped cross section having sides that terminate in curled tracks, an insulating filler in said duct having recesses for receiving elongated split tubular conductors, said insulating filler having closed slots which connect to said recesses, said insulating filler and said split conductors of one section of duct separated by a substantial opening from the insulating filler and split conductors of another abutting duct sec-

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tion, said split conductors extending to but not into said opening, and a slidable coupling having flanged surrounding strips along the edge of said coupling for slidably engaging said curled track and conductor plates for slidably engaging the split conductors of the abutting duct sections, said coupling slidable to one position for covering said opening and electrically connecting the said split conductors of the abutting duct sections and to a second position for uncovering said opening and electrically isolating an abutting duct section.

HERMAN J. HAMMERLY.

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