

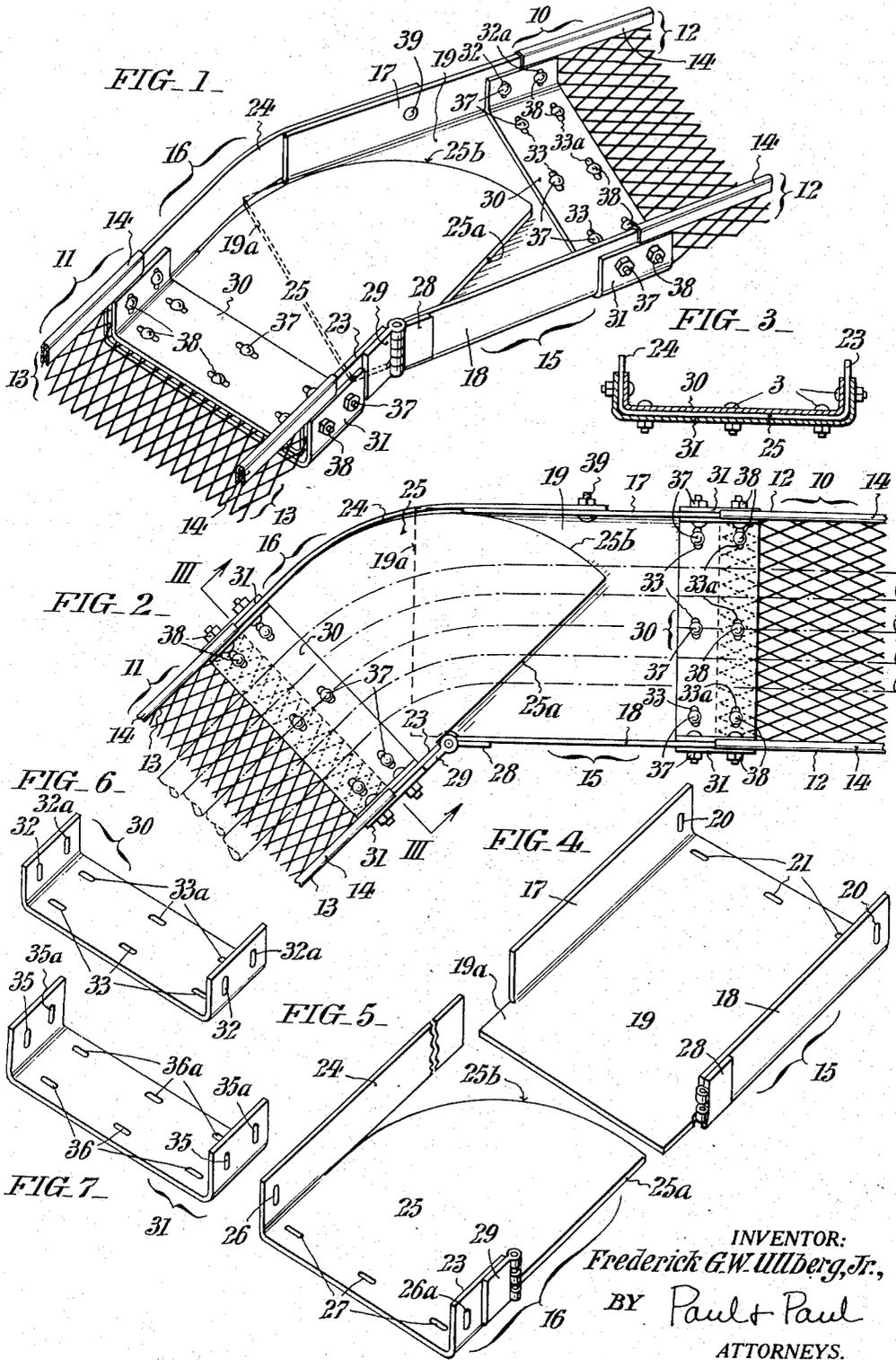
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ANGLE CONNECTOR FOR TROUGH SYSTEMS

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## ANGLE CONNECTOR FOR TROUGH SYSTEMS

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1 Claim. (Cl. 248-68)

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This invention relates to angle connectors for co-planar straight-away trough units of systems designed for the support of cables or the like in telegraph, telephone and power stations, etc.

My invention is directed in the main, toward the provision of a simple and inexpensive connector which is easily applied to confronting ends of two straight-away co-planar trough sections and which will allow of easy adjustment of such sections to various angles in relation to each other.

Other objects and attendant advantages will appear from the following detailed description of the attached drawings wherein:

Fig. 1 is a fragmentary perspective view showing two angularly-arranged co-planar trough sections joined by a connector of my invention.

Fig. 2 shows the organization of Fig. 1 in top plan.

Fig. 3 is a cross section taken as indicated by the angled arrows III-III in Fig. 2.

Figs. 4 and 5 are perspective views of the component parts of the connector; and

Figs. 6 and 7 are perspective views of straps provided for use in securing the connector components to the confronting ends of the trough sections.

With more detailed reference, first more particularly to Figs. 1-3 of these illustrations, the two angularly-disposed straight-away co-planar trough sections, designated 10 and 11 respectively, are shown as fashioned from reticulate material which, for example, may be of expanded metal, the upstanding longitudinal side flanges 12 and 13 of the same being reinforced by lapped finishing strips 14 of plain sheet metal.

The angle connector with which the present invention is more especially concerned, comprises two components 15 and 16 which are separately shown in perspective in Figs. 4 and 5, and which are adapted to be attached to the respective confronting ends of trough sections 10 and 11 in a manner later explained. Like trough sections 10, the connector component 15 is of straight away channel configuration but fashioned from plain sheet material (metal) with side flanges 17 and 18, upstanding from its bottom 19. Adjacent one end, the side flanges 17 and 18 are pierced as at 20, and the bottom 19 is provided in the same transverse vertical plane with a plurality of spaced apertures 21.

Connector component 16 is likewise fashioned from plain sheet metal to channel configuration with a relatively short straight portion having a correspondingly short upstanding flange 23

at one side. The bottom 25 of component 16 has an extension of quadrant configuration with a straight edge 25a in line with said flange 23, and a curved edge 25b in tangential relation to the opposite side flange 24, the latter being prolonged by a distance equal to the length of the arc 25b, as best shown in Fig. 5. Adjacent one end, the side flanges of component 16 are pierced as at 26 and 26a, and the bottom is provided in the same transverse plane with a plurality of spaced apertures 27.

Affixed to corresponding ends of the flanges 18 and 23 of components 15 and 16 are mating hinge plates 28 and 29 respectively through which a pintle is passed to pivotally unite said components, with the extended portion of the bottom of component 16 overlapping an extended portion 19a the bottom 19 of component 15 as shown in Figs. 1 and 2, and with the prolongation of flange 24 outwardly lapping the flange 17. Attention is directed to the fact that the rounded edge 25b of the quadrant extension of the bottom of component 16 has its center of curvature in the hinge axis.

To install the connector, the apertured ends of its components 15 and 16 are abutted in alignment with the confronting ends of the straight-away trough sections 10 and 11. Component 10 is made fast with the aid of the U-shaped clamp straps 30 and 31 which are separately illustrated in perspective in Figs. 6 and 7. As shown, strap 30 is provided in each of its upright end portions with a pair of laterally spaced apertures 32, 32a, and in its horizontal portion with two rows of spaced apertures 33, 33a in the transverse vertical planes of said apertures 32 and 32a. Strap 31 is similarly provided in each of its upright end portions with a pair of laterally spaced apertures 35 and 35a, and in its horizontal portion with rows of spaced apertures 36 and 36a in the transverse vertical planes of said apertures 35 and 35a. After connector 15 has been placed in position as above explained, strap 30 is applied from above, and strap 31 applied from below, so that their apertures 32, 33, and 35, 36 register respectively with the apertures 20 and 21 in the upstanding flanges and bottom of connector component 15, whereupon securing rivets or bolts 37 are passed through the registered apertures and made fast, and similar securing devices 38 passed through the then registering apertures 32a, 33a and 35a, 36 and the intervening lapped edge margins of the reticulate side flanges and bottom of trough section 10 as best shown in Figs. 2 and 3. It is to be particu-

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larly observed that the upstanding end portions of the straps 30 and 31 reach up to the finishing straps 14 on the side flanges of trough unit 10. Connector component 16 is secured to straight away trough section 11 in a like manner with the aid of another pair of straps which are identical with the straps 30 and 31 as also shown in Fig. 2.

If desired or found more convenient, the connector components 15 and 16 may be separately assembled with the trough sections 10 and 11 initially, the two assemblages then placed with the hinge wings 28 and 29 registered, and the hinge pintle finally passed through the latter. With the foregoing accomplished, the units 10 and 11 can be adjusted about the hinge axis of the connector to any desired angular relationship as will be readily apparent from Fig. 2, whereupon the extended portion of flange 24 of component 16 is bent around into overlapping relation with the flange 17 of component 15 and made fast by means of a bolt or rivet 39.

Having thus described my invention, I claim:

An adjustable angle connector for interposition between the confronting ends of two straight-away trough units fashioned from reticulate metal and having longitudinally folded narrow reinforcing strips of plain sheet metal secured over the top edges of their side flanges, said connector comprising two mating trough section components fashioned from metal, one end edge of a side flange of one component being connected by a vertical axis hinge in abutting rela-

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tion to the end edge of the corresponding side flange of the other component, the first component being straight throughout, the other component having a relatively short straight portion of a length equal to that of its hinged side flange and a bottom extended beyond the transverse plane through the hinge axis to lap the bottom of the first component, said extended portion being of quadrant configuration with respect to the hinge axis, the portion of the upstanding flange of said other component being detached from the curved edge of the quadrant bottom extension to lap the corresponding side flange of the first component, and a pair of U shaped clamp elements respectively applied from above and from below to marginally overlap the abutting ends of the connector components and of the trough units, with their upstanding ends lapping the side flanges of the connector components and trough units and extending up to the reinforcing edge strips on the side flanges of the trough units.

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