July 10, 1928. 1,676,477

E. G. CARR

ROAD FORM CONNECTION

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Fig. 1.

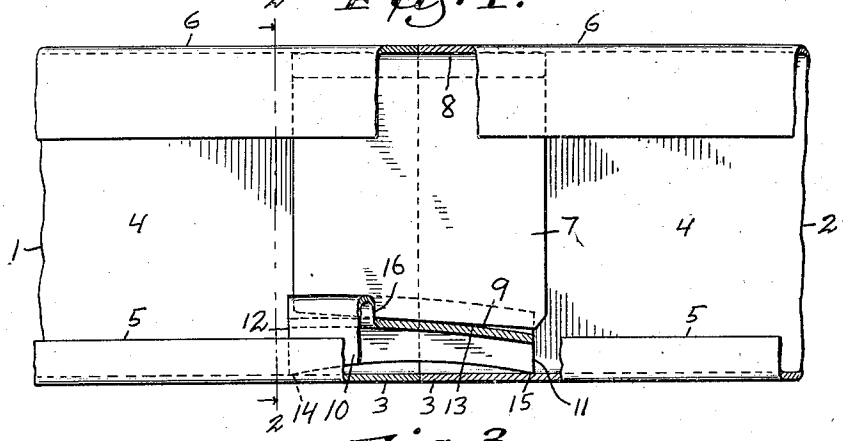


Fig. 3.

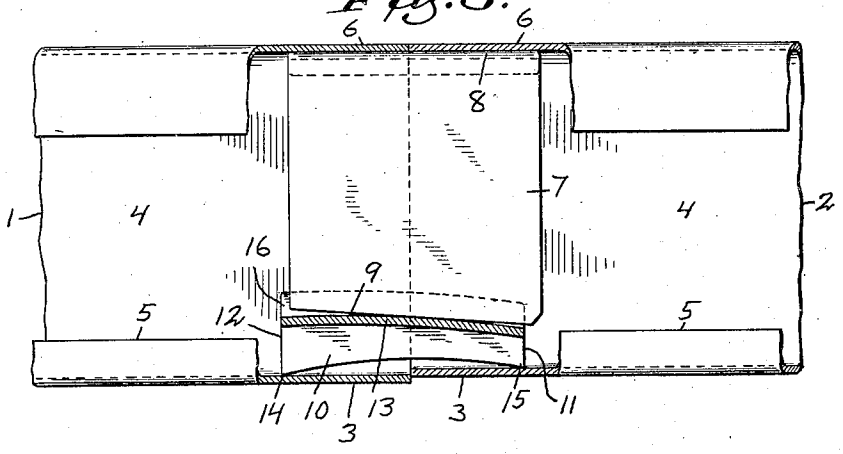
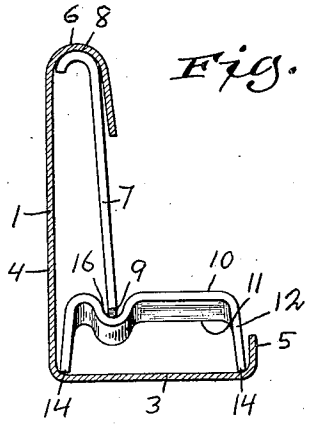


Fig. 2.



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Fig. 4.

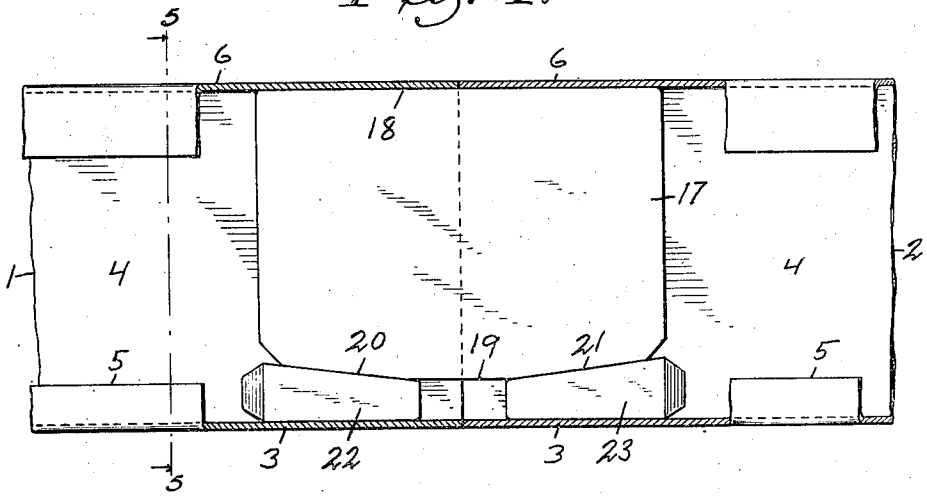
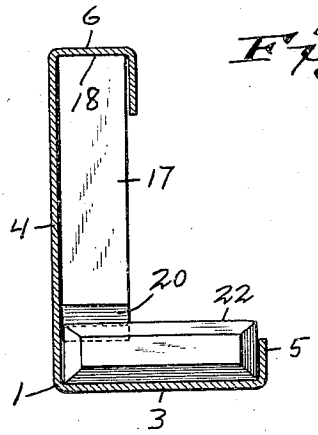


Fig. 5.



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UNITED STATES PATENT OFFICE.

EDWARD G. CARR, OF CHICAGO, ILLINOIS.

ROAD-FORM CONNECTION.

Application filed August 31, 1922. Serial No. 585,399.

This invention relates to road-form connections, and the object of the invention is to improve the construction and operation of road-form connections in the manner to be hereinafter described and claimed.

Referring to the drawings which accompany this specification and form a part hereof, which drawings illustrate an embodiment of this invention, and on which drawings the same reference characters are used to designate the same parts wherever they may appear in each of the several views, Fig. 1 is an elevation of a road-form connection in use, parts being broken away; Fig. 2 is a vertical section taken on the line 2—2 on Fig. 1, looking in the direction indicated by the arrows; Fig. 3 is a view similar to Fig. 1, but showing parts in different positions; Fig. 4 is a view similar to Fig. 1, but showing a different construction; and Fig. 5 is a vertical section taken on the line 5—5 on Fig. 4, looking in the direction indicated by the arrows.

Referring to the drawings, the reference numerals 1 and 2 designate road-forms, which are illustrated by the drawings as composed of bases 3, vertical faces 4, flanges 5, and treads 6. The specific road-forms illustrated by the drawings are made of sheet metal of sufficient thickness to afford the strength and rigidity required for supporting concrete road machines, and are intended for use in the construction of concrete roads and for track purposes and similar uses. The term road-form is used to describe and designate the members 1 and 2 as it has become a well-known technical term in the art of road making, but the members 1 and 2 serve as tracks and templets, as well as forms for confining the concrete, and the term road-form is used inclusively to include tracks and templets.

The difficulty heretofore has been to devise a connection for road forms which would insure absolute alignment of the abutting ends of the road-forms at their top surfaces, in order to provide a continuous templet in the same plane at joints, and, incidentally, to avoid deformations, or bruising, of upstanding ends. These road-forms, as a matter of economy, are not made as heavy and rigid as railroad rails and are supported by the ground, without the benefit of sleepers and, therefore, require reliable connections. As these road-forms are moved very frequently, it is not only necessary that the connections be reliable, but it is also necessary that the connections be of such a character and construction that they can be easily and readily assembled with the road-forms or disassembled therefrom.

The construction of connection illustrated by the drawings comprises a plurality of members which coact to align the tops of the forms in the same plane and preserve the alignment. The connection also tends to prevent longitudinal movements of the road-forms with respect to one another. The aligning member 7 has a straight top 8 in the longitudinal direction of the road-forms. The top 8 is straight for the reason that the coacting surfaces of the road-forms are straight in the constructions illustrated by the drawings, and such a construction is the simplest construction which can be used for securing alignment of the road-forms. Means are provided for drawing the tread of each two abutting ends of adjacent road-forms into contact with the top of the aligning member 7. Such means may be any suitable mechanical contrivance or device, but the simplest means for the purpose is a wedge construction. The bottom 9 of the aligning member 7 is preferably inclined with respect to the top 8. In the construction illustrated by Figs. 1, 2 and 3 of the drawings, a single member 10 is so constructed that it can function as a single wedge or as a plurality of wedges, and it has a small end 11 and a large end 12. The top 13, of the member 10, is formed to a convex arc and the bottom is elevated, or cut away, between separated bearings 14 and 15. With such a construction, the bearings 14 and 15 will be equally as well supported when the bottoms of the road-forms 1 and 2 are not in the same plane, as when they are in the same plane, as is clearly shown by Figs. 1 and 3 of the drawings, the convex arc of the top 13 always providing a bearing for the aligning member 7 substantially midway of the length thereof so as not to have a tendency to tilt or displace the aligning member.

In the specific constructions illustrated by Figs. 1, 2 and 3 of the drawings, the aligning member 7 and the member 10 are illustrated as made from sheet metal of suitable thickness and the top 8 of the aligning member 7 is bent to fit within the tread 6, and the member 10 is of a generally inverted

U-shape in cross section and is provided with a groove 16 to receive the bottom 9 of the aligning member 7, and it is the bottom of this groove which is formed to a convex arc longitudinally of the member 10, as is clearly shown by Figs. 1 and 3 of the drawings.

In the specific construction illustrated by Figs. 4 and 5 of the drawings, the aligning member 17 is illustrated as made of wood or metal with its top 18 straight, and its bottom 19 inclined in opposite directions at 20 and 21. A wedge 22 coacts with the incline 20 and the road-form 1, and a wedge 23 coacts with the incline 21 and the road-form 2. The wedges 22 and 23 should not extend beyond the ends of their respective road-forms because they are intended to coact separately with their respective road-forms in case the bases 3 are not in the same plane.

The operation of the connection, and its principle of operation, will be readily understood. The top 8 of the aligning member 7 is a straight-edge for truing the treads of the road-forms, and positioning is effected by the wedge member 10 or the two wedges 22 and 23. It will be noticed that the construction illustrated by Figs. 4 and 5 of the drawings provides in effect an arced contact between the aligning member 7 and the wedges 22 and 23, though there are two points, or places, of contact, and the arc is concave upwardly.

It will be noticed that the bearings 14 and 15 of the wedge member 10 constitute in function and effect a plurality of wedges or wedge members though they are parts of the integral member 10.

What is claimed is:

1. The combination with abutting road-forms, including bases and treads, of a straight aligning member adapted to engage with the treads, and means to force the treads and the aligning member into contact by pressure exerted on each base independently of the planes in which the two bases may lie.

2. The combination with abutting road-forms, of a straight aligning member, and wedging means to force the tread of each road-form into contact with the aligning member regardless of the alignment of the bases of the abutting road-forms.

3. The combination with abutting road-forms, of a straight aligning member, and a wedge member provided with parts adapted to seat separately against the bases of the abutting road-forms, the bottom of the aligning member being non-parallel with its top.

4. The combination with abutting road-forms, of an aligning member, and a wedge member having separated bearings on its bottom.

5. The combination with abutting road-forms, of an aligning member having a straight top and a bottom inclined with respect to the top, and a wedge member having separated bearings on its bottom and an arc-shaped top.

6. The combination with abutting road-forms, of an aligning member having a straight top and a bottom inclined with respect to the top, and a wedge member of inverted U-shape in cross section which is provided in its top with a longitudinal groove, the bottom of which is formed to an arc, the bottom of the wedge member being provided with bearings adjacent its ends and lower than the intermediate part of the bottom.

7. The combination with two abutting concrete form rails each having a web, an upper flange with a depending lip, and a lower flange with an upturned lip, of expansible means within the end portions of the rails including a head piece to bear upwardly against the upper flanges of the rails between the webs and depending lips, and a base to bear downwardly on the lower flanges of the rails between the webs and upturned lips.

8. The combination with two abutting concrete form rails each having a web, an upper flange with a depending lip, and a lower flange with an upturned lip, of expansible means within the end portions of the rails including a head piece to bear upwardly against the upper flanges of the rails between the webs and depending lips and to engage said lips, and a base to bear downwardly on the lower flanges of the rails between the webs and upturned lips and to engage said upturned lips, said head piece and base being slidable longitudinally of said flanges between said webs and lips so as to permit the rails and said head piece and base to be moved together and separated longitudinally of the rails.

9. The combination with two abutting concrete form rails each having a web, an upper flange with a depending lip, and a lower flange, of a head piece to bear upwardly against the upper flanges of the rails between the webs and lips, and independently operable clamping means between said member and the lower flanges.

In witness whereof I hereto affix my signature.

EDWARD G. CARR.