Dec. 8, 1931. W. R. HARRIS 1,835,217

INDICATOR FOR CONCRETE ROADS

Filed Jan. 9, 1924

Fig. 1.

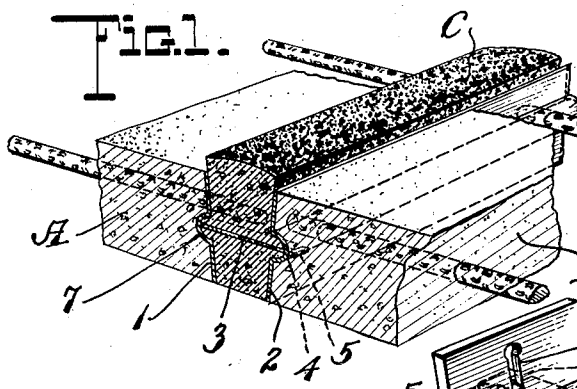


Fig. 2.

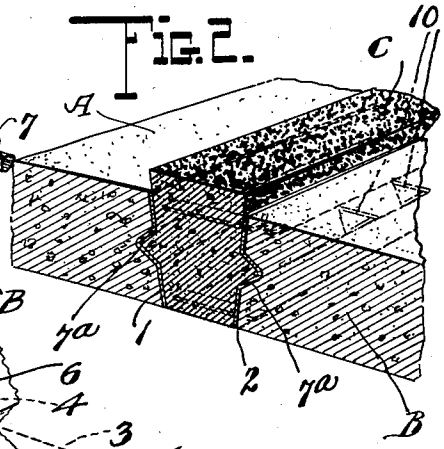


Fig. 3.

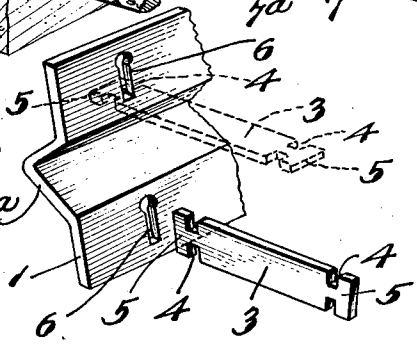


Fig. 4.

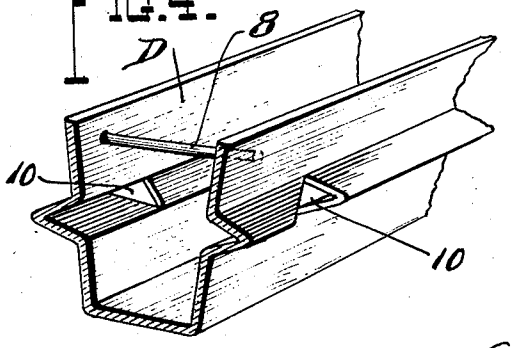


Fig. 5.

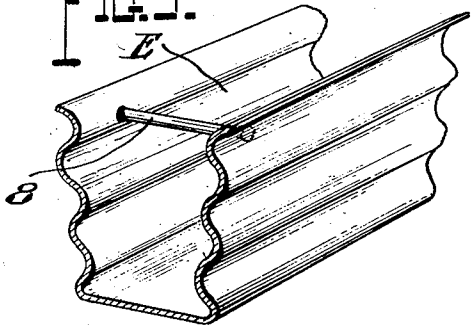
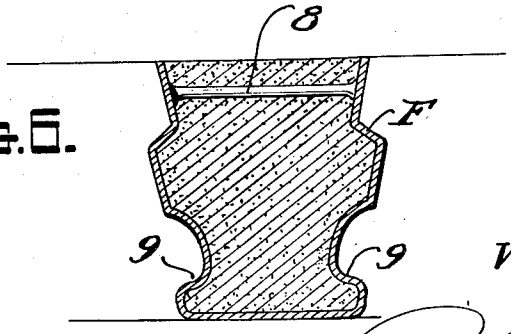


Fig. 6.



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1,835,217

UNITED STATES PATENT OFFICE

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INDICATOR FOR CONCRETE ROADS

Application filed January 9, 1924. Serial No. 685,233.

This invention embodies a novel construction of permanent indicating strip for concrete or like roads. At the present time the indicating means for dividing a concrete or similar road into separate driving spaces comprises one or more indicating lines superficially painted upon the surface of the road. It is this method of expensive and temporary indicating means which is intended to be avoided by the present invention.

In the application for patent of John F. Robb, Serial No. 642,832, filed June 1, 1923, there is proposed a permanent indicator traffic line for roads which is built into the road itself, being preferably a body of composition material of a desired thickness, such as concrete, of a color contrasting with the color of the road itself.

The present invention is designed to adapt the application of the invention aforesaid to those types of roads, ordinarily concrete roads, where the center joint principle of construction is utilized, this joint involving the incorporation of a sheet steel member between the two slabs created by the joint, and said steel member having projections which interlock it with the two slabs at its opposite sides, so as to prevent relative vertical slipping of the slabs at the joints. This construction of center joint road is being employed a great deal today.

In the carrying out of the present invention, it is contemplated to employ a pair of spaced center joint sheet metal plates for a center joint road construction, the concrete or composition materials being received between said plates, and the said plates themselves being located between the two slab sections established by the center joint construction. Supposing the road to be built of concrete, therefore, the center joint plates would have between them an indicator traffic line of concrete of a color contrasting with the color of the road slab sections at opposite sides, and the plates would be equipped with projections establishing an interlocking connection between the indicator traffic line body or unit and the slab units, so to speak.

The present invention embodies several different constructions adaptable to the purposes in view, as will be readily understood upon reference to the following description in conjunction with the accompanying drawings, in which:

Fig. 1 is a fragmentary perspective view, partially in section, showing a preferred embodiment of the invention.

Fig. 2 is a similar view of a modification.

Fig. 3 is a fragmentary perspective combined view of one of the sheet metal separating members and a spacer member such as may be used therewith.

Figs. 4 and 5 are perspective views of other modifications involving the principle of employing a channel member comprising separating plates, but in which the indicator traffic line body aggregates may be received either before or after the channel has been laid upon the subgrade where the road is to be constructed.

Fig. 6 is a sectional view of a pre-cast indicator traffic line unit which may be made light by the employment of cinder aggregates, after methods or similar, to products of Crozier-Straub, Inc., and well-known today on the market.

Specifically describing the several advantageous features of this invention, with especial reference to the drawings, it is notable that A and B in Fig. 1 represent the ordinary slab sections at opposite sides of a center joint concrete road construction. These slab sections A and B are separated somewhat more than usual, however, as there is received between them the indicator traffic line C of the novel construction of this invention. The traffic line C is preferably made of a body of concrete aggregate or other composition material, and in practice a road embodying the traffic line is built in somewhat the following manner. When the road subgrade is ready to receive the concrete aggregates, there is set up at the longitudinal center of the road the two metallic separating members 1 and 2, each of which is of a construction similar to, or practically identical with, if desired, the usual plate members now being employed in the center joint construction of concerte roads, such as practiced in Illinois, for instance.

The plates 1 and 2 are spaced apart a distance so that the indicator formed there-between will be of a definite width, rendering it easily visible to operators of motor vehicles traveling over the road. I prefer to connect the plates 1 and 2 as they are set up at the slab joint by means of a tie and holding member 3. The tie and holding member 3 is preferably a plate notched at its opposite ends at 4, to establish T heads 5, adapted to pass through openings 6, in the plates 1 and 2, while the member 3 is vertical, or with its edges disposed upwards and downwards. The head 5, once introduced through the openings 6 of the plates 1 and 2, permits the member 3 to be turned to a horizontal position and the plates are thus interlockingly separated in spaced positions.

The separating plates 1 and 2 may be provided with round corrugations 7, at their longitudinal central portions, or V shaped corrugations 7*a* as shown in Figs. 2 and 3, and the plates 1 and 2 may be connected by one or more plates interlocking with the corrugations as shown in Fig. 1, or interlocking with the plates above and below the currugations as shown in Figs. 2 and 3.

The double tie member construction of Figs. 2 and 3 will be advantageous under certain conditions and somewhat more effective than the corresponding provisions of Fig. 1. Of course, the plates 1 and 2 may be apertured at intervals so that deformed members or smilar cross bars may pass therethrough to enter and interlock with the slab sections or units A and B in the wellknown manner. Or again, these plates 1 and 2 might be made of expanded metal construction so as to primarily form mold members to receive the colored concrete or aggregates forming the traffic line and permit the latter to become united with the concrete or aggregates of the slab sections A and B to afford a somewhat monolithic road construction.

I contemplate that the indicator traffic line C shall preferably be inserted in the space between the plates 1 and 2 during the building of the road, by simply depositing the aggregates constituting the said traffic line in plastic condition intermediate said plates. The indicator traffic line C may be flush with the surface of the slab sections A and B at the top, or protruding as illustrated, this being immaterial to the invention. The plates 1 and 2 may be flush with the slabs A and B, or they may protrude upwardly to protect the protruding portion of the traffic line C at its sides, if desired.

There may be used instead of the separating plates 1 and 2, channel members such as illustrated in Figs. 4 and 5, which really constitute plates having a web connecting the lower edges thereof. The channel member of Fig. 4 is designated D, and that of Fig. 5 E. In each instance the plates or side elements of the channel members are connected together by rods 8, spot welded or otherwise attached to the side elements. In using the constructions of Figs. 4 and 5, the channel members are simply filled with the indicator traffic line unit of a color contrasting, of course, with that of the road sections A and B.

In Fig. 6 I provide a somewhat different construction in the form of pre-cast indicator unit which may be made at a location convenient to the road construction job, shipped to the job and set up on the road ready to perform its function after the slab sections are laid. It is notable that in this construction, as well as in the construction of Fig. 5, I use the tie rod element 8, and the lower end portion of the channel F has longitudinal lateral foot portions 9, affording a bearing downward for the slab sections, tending to stabilize the disposition of the latter in a very effective manner.

As examples of separating members having openings through which the concrete of the indicator traffic line strip and that of the slabs may unite, Fig. 2 affords illustration and openings in the members 1 and 2 are designated 10.

Obviously, if the development of concrete road construction permits, the traffic line as disclosed herein may be located at other joints than central joints between slabs. Thus there may be roads having three or four driving spaces, and these traffic line strips could well be located between any of such spaces, and the principle of the invention would be equally applicable under such conditions, so I do not wish to be limited to a mere center joint traffic line, though the construction is especially advantageous for this class of roads at the present time.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:

1. In road construction, in combination, main road slabs spaced apart in a direction corresponding with that in which vehicles travel over the slabs, spaced metal-like separating members between said slabs and arranged lengthwise of the road, and a concrete indicator traffic line body located between said spaced separating members.

2. In road construction, in combination, main road slabs spaced apart in a direction corresponding with that in which vehicles travel over the slabs, spaced separating members between said slabs and arranged lengthwise of the road, a concrete indicator traffic line body located between said spaced separating members, the said separating members being formed with projections adapted to establish an interlocking relation between the traffic line body and the slab sections.

3. In road construction, in combination, spaced poured plastic road sections apart in a direction corresponding with that in which

vehicles travel over the slabs, spaced separating plates between said sections and arranged lengthwise of the road, and an indicator traffic line comprising a body of concrete materials of a color contrasting with the color of the slabs and received between said separating plates, there being a connection between the body of the traffic line body and the slabs to prevent relative vertical movement thereof such as would displace the indicator from between the slabs.

4. In road construction, in combination, spaced poured concrete slabs, a concrete indicator traffic line body of a color contrasting with the color of the slabs, received in the space therebetween, the traffic line body and the slabs being formed with interlocking longitudinal ribs to prevent relative vertical displacement of said parts.

5. In road construction, in combination, spaced concrete slabs, spaced separating plates in the space between said slabs, tie members connecting said plates, and an indicator traffic line body received between said plates.

6. In road construction, in combination, spaced concrete slabs, spaced separating plates in the space between said slabs, tie members connecting said plates, an indicator traffic line body received between said plates, together with means establishing an interlocking longitudinal connection between the body and the slabs.

7. In road construction, in combination, spaced separating plates, tie means connecting said plates so they may be set up on a road subgrade, projections extending longitudinally of the plates, and poured concrete slabs at opposite sides of the spaced plates interlocking with said projections thereof, together with a concrete indicator traffic line body between said spaced plates and interlocking with said projections thereof.

8. In road construction, in combination, spaced slab sections, a channel member therebetween comprising spaced separating plates disposed in the direction of movement of the traffic along the slab section, and a concrete indicator traffic line body in the channel member between said spaced separating plates.

9. In road construction, in combination, spaced slab sections, a channel member therebetween comprising spaced separating plates disposed in the direction of movement of the traffic along the slab section, and a concrete indicator in the channel member between said spaced separating plates, the said channel member having its spaced plates or sides formed with longitudinal projections and the road slabs and the indicator body interlocking with said projections.

10. In road construction, in combination, spaced road slabs, an indicator traffic line body disposed in the space between said slabs and of a color contrasting with the color of the slabs, and a cross member passing through the indicator body and entering the slabs to interlock the indicator body with the latter.

11. An indicator traffic line for concrete roads comprising a body of concrete of a color adapted to contrast with the color of the road on which it is used, spaced separating members having longitudinal projections which interlock with the concrete of said body, and tie members connecting the spaced separating members together and interlocking said members and concrete body.

12. As a new article of manufacture an indicator traffic line for concrete roads, the same comprising a pair of spaced plates having lateral protuberances extending therefrom, a body of plastic aggregates received between the plates and permitted to harden to solidity when so received and means for anchoring the plates to the indicator line body, the indicator being of a color adapted to contrast with that of a concrete pavement in which it may be mounted.

13. As a new article of manufacture an indicator traffic line for concrete roads, comprising a pair of spaced plates, such as heretofore used in central joint construction of concrete roads, said plates being formed with hollow lateral projections between their upper and lower edges, and an indicator body consisting of a field of plastic material placed between the plates and permitted to solidify, the said plastic material being of a color adapted to contrast with the color of a pavement in which it may be received to perform its indicator function, and said hollow lateral projections interlocking the indicator plastic body with the plates and being adapted to interlock the indicator as a whole with a pavement in which it may be embedded.

14. As a new article of manufacture an indicator traffic line for concrete roads, comprising a pair of spaced plates, such as heretofore used in center joint construction of concrete roads, said plates being formed with hollow lateral projections between their upper and lower edges, an indicator body consisting of a field or plastic material placed between the plates and permitted to solidify, the said plastic material being of a color adapted to contrast with the color of a pavement in which it may be received to perform its indicator function, and said hollow lateral projections interlocking the indicator plastic body with the plates and being adapted to interlock the indicator as a whole with a pavement in which it may be embedded, and tie members extending across the space between the plates and through the body of plastic material and connecting the plastic material firmly to the plates as well as holding the latter in predetermined relative positions.

15. An indicator traffic line for concrete roads comprising a body of plastic material,

in combination with concrete road slabs at opposite sides of said body, and an expansion joint plate at a side of the body of the indicator separating the same from an adjacent slab of the concrete pavement, the indicator body being of a color contrasting with the color of the pavement slabs.

16. An indicator traffic line for concrete roads comprising a body of plastic material, in combination with concrete road slabs at opposite sides of said body, and an expansion joint plate at a side of the body of the indicator body separating the same from an adjacent slab of the concrete pavement, the indicator body being of a color contrasting with the color of the pavement slabs, the said plate comprising a body of substantially the same depth as the depth of the slab adjacent to which it is disposed, and being formed with a rib longitudinally thereof to interlock it with the slab and interlock it with the indicator body.

17. A concrete road of the class described, comprising main spaced road slabs disposed longitudinally of the road, spaced separating plates disposed in the space between said road slabs, a body of concrete arranged in the space between the spaced separating plates and the said plates, slabs and body between the separating plates being interlocked together.

18. A road comprising spaced slabs, a concrete or similar solid joint member between the slabs, said slabs and joint member having loosely interfitting portions to prevent relative vertical displacement between the adjacent edge portions of the slabs and forming double hinge joints permitting the slabs to swing vertically relatively to one another, and means for tying said slabs together to prevent separation thereof.

19. A road comprising spaced slabs, a concrete or similar solid joint member between the slabs, said slabs and joint member having loosely interfitting portions to prevent relative vertical displacement between the adjacent edge portions of the slabs and forming double hinge joints permitting the slabs to swing vertically relatively to one another, and tie rods extending transversely through said joint member and embedded in said slabs to prevent separation of said slabs.

20. A road comprising spaced slabs, and a concrete or similar solid joint member between the slabs, said slabs and joint member having loosely interfitting tongues and grooves between their upper and lower surfaces to prevent relative vertical displacement between the slabs and joint member and forming double hinge joints permitting the slabs to swing vertically relatively to one another.

21. A road comprising spaced slabs at opposite sides of a longitudinal line, and a longitudinal concrete or similar solid joint member between the slabs, said slabs and joint member having loosely interfitting portions to prevent relative vertical displacement between the adjacent edge portions of the slabs and forming double hinge joints permitting said slabs to swing vertically relatively to one another, said joint member providing a traffic line extending longitudinally of the road between the slabs.

22. A road comprising spaced slabs at opposite sides of a longitudinal line, a longitudinal concrete or similar solid joint member between the slabs, said slabs and joint member having loosely interfitting portions to prevent relative vertical displacement between the adjacent side portions of the slabs and forming double hinge joints permitting said slabs to swing vertically relatively to one another, said joint member providing a traffic line extending longitudinally of the road between the slabs, and said joint member being raised above the upper surfaces of said slabs.

23. A road comprising spaced slabs, and a concrete or similar solid joint member between the slabs, said slabs having loosely interfitting hinge joint connections with said joint member preventing relative vertical displacement between the adjacent edge portions of the slabs and permitting the slabs to swing vertically relatively to one another.

In testimony whereof I affix my signature.

WALLACE R. HARRIS.