

Nov. 19, 1935.

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2,021,759

TRAFFIC GUIDANCE MARKER FOR ROAD SURFACES

Filed Oct. 28, 1932

2 Sheets-Sheet 1

Fig. 1.

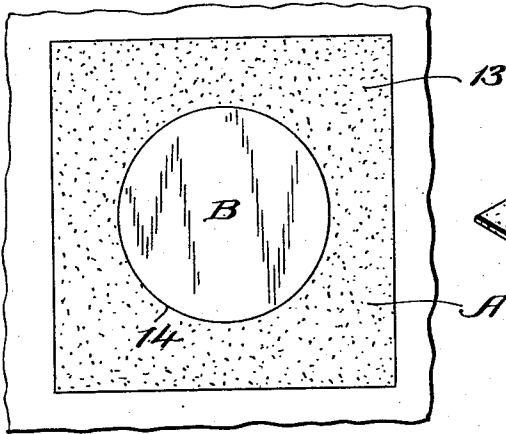


Fig. 2.

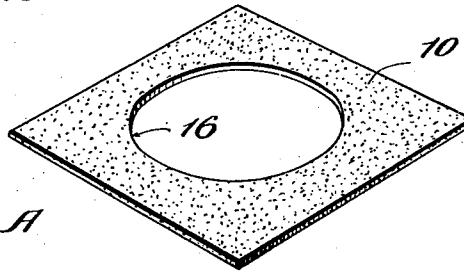


Fig. 3.

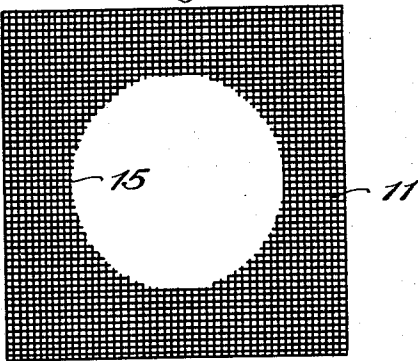
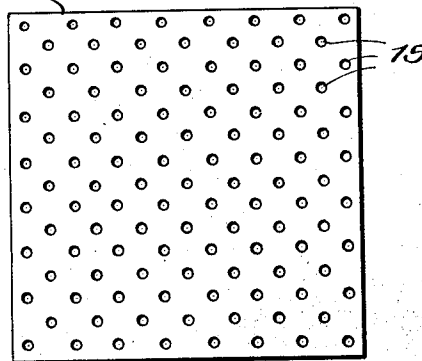


Fig. 6.



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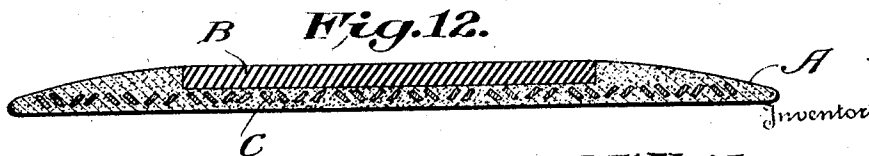
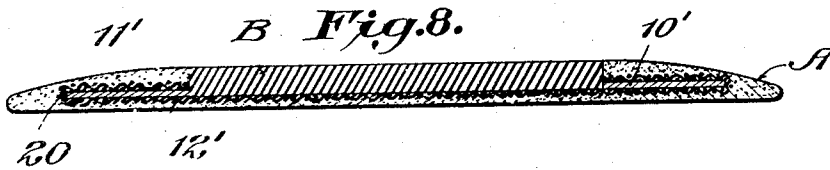
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TRAFFIC GUIDANCE MARKER FOR ROAD SURFACES

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2 Sheets-Sheet 2



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TRAFFIC GUIDANCE MARKER FOR
ROAD SURFACESAlexander P. White, Caldwell, N. J., assignor of
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Application October 28, 1932, Serial No. 640,107

9 Claims. (Cl. 94—1.5)

This invention relates to traffic guidance markers for road surfaces, and the object is to provide an economical durable marker of the general type, described and claimed in my prior application Serial Number 400,607, in which I show a marker consisting of a tablet or symbol fixed in a bituminous sheet-like body adapted to form a spot of new surface on the old road surface. In this application, which is a continuation of my prior application, I show specific means for strengthening and generally improving the sheet body that carries the symbol. That is to say, the new carrying body has incorporated therein a skeleton made up of wire gauze, expanded metal, "steel wool", or any material suitable for reinforcing means. The object of such reinforcement is to strengthen and to better adapt it to hold its shape against the tendency of the bituminous ingredient to spread under the pressure of traffic wheels, especially in warm weather.

The reinforced marker of the present application retains all the advantages of the marker described in my aforesaid prior application. It is fixed on the road in the same way by initial adhesion, without breaking into the road body as is the case with the ordinary metal markers, and its quick and easy installation does not involve the interruption of traffic as marking by the painting method does.

In the drawings which are a part of this specification, like characters refer to like parts in the related figures.

Fig. 1 is a top plan view of a marker constructed in accordance with one practical embodiment of the invention, showing the application of the marker to a road surface.

Fig. 2 is a perspective view of a filler reinforcing element employed in constructing a marker, according to one embodiment of the invention.

Fig. 3 is a plan view of a matrix element, consisting of a piece of wire gauze, employed in constructing the marker, according to one embodiment of the invention.

Fig. 4 is a sectional view through one form of skeleton or matrix of a marker constructed according to one embodiment of the invention, before the said skeleton or matrix has been enveloped by bituminous material.

Fig. 5 is a sectional view of a marker, after the skeleton illustrated in Fig. 4 has been enveloped by bituminous material.

Fig. 6 is a plan view of a matrix element consisting of a perforated plate which may be used as a part of the skeleton structure of the marker,

either in combination with or without the filler element shown in Fig. 2.

Fig. 7 is a sectional view through a finished marker built upon and about the plate element as a matrix shown in Fig. 6, as a single reinforcing element.

Fig. 8 is a sectional view of a finished marker in which the skeleton part is formed by bending back the marginal edges of the wire gauze fabric illustrated in Fig. 3 to reinforce the shoulder portions adjacent the edges of the symbol.

Fig. 9 is a sectional view of a skeleton or matrix formed with matted metal known in commerce as "steel wool" this being an alternate form of matrix.

Fig. 10 is a sectional view through a finished marker made by enveloping the matrix of "steel wool" illustrated in Fig. 9.

Fig. 11 is a sectional view through a finished marker as shown in Fig. 10 with the addition of means to anchor the symbol to the skeleton and body of bituminous material formed about it.

Fig. 12 is a sectional view through a finished marker employing as the matrix element a piece of expanded metal.

Referring to the drawings in detail, it will be observed that the present marker, according to each embodiment of the invention, is composed of two main parts, viz., a reinforced body A of bituminous material 13 such as may be used for the surfacing of roads, and a symbol B of metal, rubber or other suitable material, fixed to the said bituminous body, the symbol having its upper face exposed in order to serve as a visible indicator for the guidance of traffic. It will be obvious that the purpose of the skeleton or matrix portion designated as C is to strengthen the body A generally as well as to improve its capacity to retain its original shape and resist wear.

Although the skeleton or matrix C may consist of a single piece, as illustrated in Figs. 7 and 8, description of the skeleton of multiple parts shown in Fig. 4 will fully explain the character of the invention.

In the said Fig. 4 the skeleton or matrix C consists of the two pieces of wire gauze 11 and 12, having between them the cushioning element 10 which, for example, may be composed of burlap, or asbestos fabric, or any other suitable material, permeated with asphalt, or a thin metal plate perforated as shown by 19, Fig. 6, so as to permit the asphalt thoroughly to envelop it. It will be noted that part 12 is the counterpart of 11.

The size of the parts 10, 11 and 12 determine

the size of the marker, and the size of the openings 15 and 16, as shown in Figs. 2 and 3, determine the size of the symbol. Obviously, the size of both the symbol B and the body portion A may be varied according to desire.

It will be noted that the skeleton is formed so as to provide a recess 14, for the symbol. The symbol may be disposed either slightly above the skeleton structure or it preferably may extend into the opening 15 in the upper sheet 11 against the upper face of the sheet 10, or through the opening 15 and an aligned opening 16 in the sheet 10 against the upper face of the bottom sheet 12. In fact, the symbol may also extend through the bottom matrix sheet 12, but it is preferred to have this latter matrix sheet extend continuously beneath the symbol as shown in Figs. 4 and 5.

In the finished marker the top of the symbol is preferably disposed flush, or substantially flush, with the top of the surrounding bituminous material 13 and in cross section the body A is from a thickness of, say, three eighths of an inch tapered outwardly from the symbol to a relatively thin edge. It is customary in practice to make the superficial area of the body A about twice that of the symbol B and also to use wire gauze of about the heft of common fly screening for the parts 11 and 12.

One simple way of making the device, which will be easily understood, consists in dipping in hot asphalt the parts that compose the skeleton, as in Fig. 4, in such manner as to thoroughly coat them. The coated parts are then arranged in position, as shown in Fig. 4, and heated sufficiently to soften the asphalt coating so that upon the application of pressure, the several parts will combine as a unitary structure in the general form desired. The body so formed should be coated with additional hot asphalt and hot sand sprinkled on it, so as to give it the character of road surface.

When the body part A is made, as just described, the symbol B may be put in position and fixation established by pressure, the asphalt of course being kept warm or reheated in order to effect adhesion. In making the device by this method, it is desirable to paste a thin piece of paper over the top of the symbol whether of rubber, metal or other material, and also to coat the under surface of the symbol with asphalt, before putting it in place. The purpose of the paper is merely to keep clean the top surface of the symbol during the process of manufacture, and the purpose of coating the under surface of the symbol is to insure a perfect union of the symbol with the bituminous element of the body A. When the device is in service on the road, the paper will, of course, quickly disappear.

Other ways of making the device are available. For example, the skeleton parts may be assembled in a mould especially if the skeleton be made up of a mat of what is known in commerce as "steel wool" (Figs. 9, 10 and 11) and hot asphalt poured into the mould. The recess 21, Fig. 10, for the symbol, may be made by pressing a former into the body of asphalt and "steel wool" before the asphalt loses plasticity by cooling. The "steel wool" is a product which consists of threadlike shavings of metal that readily mat like animal wool. Of the several types of skeleton, that one which employs the metal threads is to be preferred, for the reason that when the interstices of the mat are filled with asphalt, the resultant product provides a very

excellent surface for any kind of hard road. As a binder the metal threads overcome the tendency of the road surface sometimes to "creep". They make a hard compact body that offers great resistance to wear. Because of these particular characteristics, it is a desirable medium for securing and protecting the marking symbol.

With the description and explanation hereinbefore, the variations shown in the several drawings will be understood. In Fig. 11 there is a construction in which mechanical fastening devices 22 are illustrated. They indicate means by which the security of the symbol may be augmented by mechanically transmitting to the skeleton body the strains which the symbol is required to resist on the road. It is apparent from the drawings that the device 22 may be varied in design. For example, the anchoring arms constituting the base part may be extended to reach beyond the margin of the symbol into the edge parts of the composite body A; and the top part shown as buried in the symbol may be designed to lie exposed on the upper surface of the symbol, by lengthening the web like central part.

Referring to Fig. 7 of the drawings, it will be observed that the skeleton or matrix is composed of a relatively thin plate 18 having numerous small perforations 19 therein as illustrated in Fig. 6.

Fig. 8 of the drawings illustrates a construction which is the same as the construction illustrated in Fig. 5, except that the wire gauze is a single piece 12' with the marginal edges bent back at 20 over the edge of the cushioning filler 10' to form the part 11'.

As stated hereinbefore, the marker is attached to the road by adhesion. For an adhesive a solution made by dissolving pure rubber in high grade gasoline to the consistency of heavy cream has been found satisfactory. It is usual to coat the spot on the street where the marker is to lie, as well as the under surface of the marker itself. After the coating has, from evaporation, taken the "tacky" gummy character, say, in six or eight minutes, depending on atmospheric conditions, the marker is set in place and pressed down as with the foot. The subsequent action of passing wheels will cause the new road surface material of the marker to become incorporated into the old road, with the result that the symbol appears as if it had been built into the road while the road itself was under construction.

Without further description it is thought that the features and advantages of the invention will be readily apparent to those skilled in the art, and it will of course be understood that changes in the form, proportion and details of construction may be resorted to, without departing from the spirit of the invention and scope of the appended claims.

It will be noted that the terms skeleton and matrix used interchangeably in this specification, are intended to mean the same thing.

I claim:—

1. In a device for marking road surfaces to direct traffic, the combination including a signal symbol, a matrix and a body sheet of bituminous road surfacing material having the said matrix incorporated therein, the said matrix comprising a mat of finely divided and intermingled threadlike strands of metal, the symbol being secured to said body sheet, and the said body sheet being adapted to be fixed adhesively to a normal road surface.

2. In a device for marking road surfaces to di-

rect traffic, the combination comprising a signal symbol, a matrix and a body sheet of bituminous road surfacing material having the said matrix incorporated therein, the said symbol being secured to said body sheet and having anchoring means extending into the said body sheet and interlocked with the matrix, the said body sheet being adapted to be fixed adhesively to a normal road surface.

10 3. In a device for marking road surfaces to direct traffic, the combination comprising a signal symbol, a metal matrix and a sheet like body of bituminous road surfacing material having the said matrix incorporated therein the said symbol being secured to said body sheet and having anchoring means extending into the said body sheet and interlocked with the matrix, the said body being adapted to be fixed adhesively to a normal road surface.

20 4. As an article of manufacture, a traffic guidance marker for road surfaces comprising a matrix of metallic wool, a body of bituminous road surfacing material disposed around and through said matrix, and a symbol or indicator exposed at the top of said body.

25 5. As an article of manufacture, a traffic guidance marker for road surfaces comprising a matrix of metallic wool, a body of bituminous road surfacing material disposed around and through said matrix, and a symbol or indicator

disposed within a recess in the upper side of said body and interlocked with the matrix.

6. As an article of manufacture, a traffic guidance marker for road surfaces comprising a matrix, a body of bituminous road surfacing material disposed around and through said matrix, a symbol or indicator exposed at the top of said body, and mechanical means anchoring said symbol or indicator to the matrix.

7. As an article of manufacture, a traffic guidance marker for road surfaces comprising a wire gauge matrix, a body of bituminous road surfacing material disposed around and through said matrix, and a symbol or indicator disposed within a recess in the top of said body and mechanically interlocked with said matrix.

8. A traffic guidance marker as set forth in claim 7 in which the symbol or indicator extends through a recess in the upper side of the body and through openings in the cushioning element 20 and one of the matrix elements.

9. In a device for anchoring a tablet marker on road surfaces for guiding traffic, the combination comprising a body of bituminous road surfacing material in substantially sheet form and a matrix of metal, the said road surfacing material enveloping the said matrix, the said anchoring device so formed being adapted to be fixed adhesively to a hard road surface to provide a protecting, as well as anchoring seat for the tablet.

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