Feb. 2, 1926. 1,571,527

A. T. RHODES

PAVEMENT AND METHOD OF MAKING SAME

Filed July 7, 1923

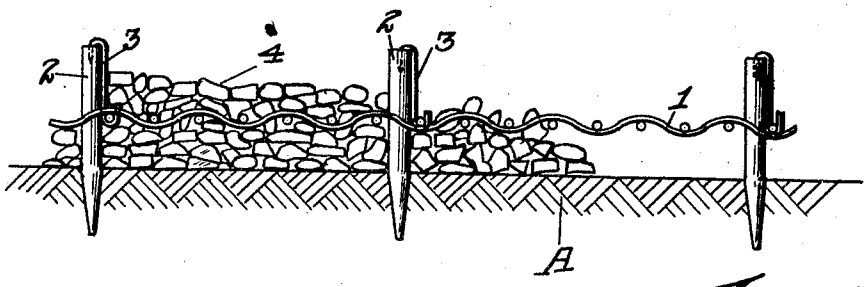


Fig. 1.

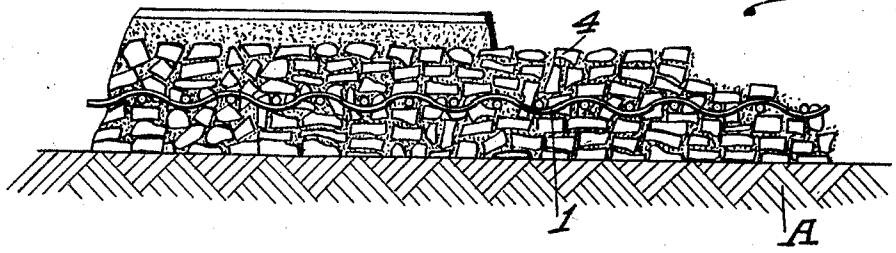


Fig. 2.

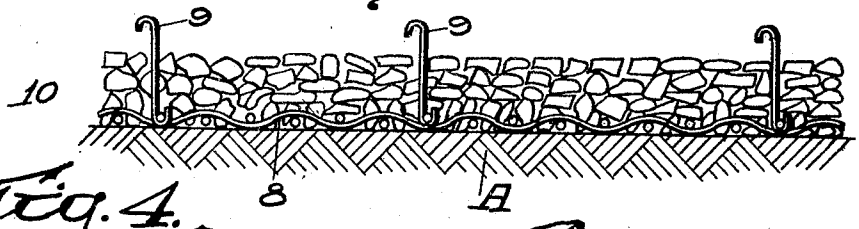


Fig. 4.

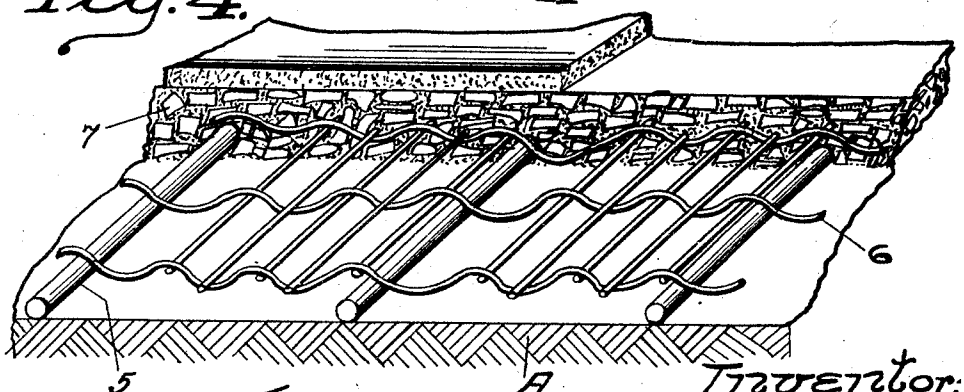


Fig. 3.

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UNITED STATES PATENT OFFICE.

ALBERT T. RHODES, OF WORCESTER, MASSACHUSETTS.

PAVEMENT AND METHOD OF MAKING SAME.

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To all whom it may concern:

Be it known that I, ALBERT T. RHODES, a citizen of the United States, residing at Worcester, in the county of Worcester and Commonwealth of Massachusetts, have invented a new and useful Improvement in a Pavement and Method of Making Same, of which the following, together with the accompanying drawings, is a specification.

My invention relates to pavements, or roadways, of the reinforced concrete type, and it contemplates an improved method of laying such a pavement, by which the incorporation of the reinforcing material in the pavement is greatly facilitated.

In ordinary practice, the reinforcing material is not put in place until after a suitable layer of stone has been deposited on the prepared sub-grade of the road; in consequence of this, the initially deposited stone must first be rolled and leveled, so as to provide a proper support for the reinforcement, or else the latter must be disposed wholly above said stone, and out of reinforcing relation thereto.

The present invention eliminates the disadvantages above set forth, by making the stone itself support the reinforcement in a predetermined level position, and this without any necessity for preliminary rolling and leveling of the stone, since the mere act of depositing the stone on the sub-grade accomplishes the desired result. The above and other advantageous features of my invention will hereinafter more fully appear, reference being had to the accompanying drawings in which—

Fig. 1 is a sectional view illustrating the first steps of my improved method.

Fig. 2 is a sectional view similar to Fig. 1, illustrating the final steps of my improved method.

Fig. 3 is a perspective view of a portion of a pavement illustrating a modification of the method disclosed in Figs. 1 and 2.

Fig. 4 is a sectional view similar to Fig. 1, illustrating a further modification of my improved method.

Like reference characters refer to like parts in the different figures.

Referring to Figs. 1 and 2, the prepared sub-grade on which the pavement is to be laid is designated at A, and the first step of my improved method involves the support of reinforcing material 1 above the level of the sub-grade. The reinforcing material 1 is preferably in the form of an open wire fabric, or reticulated metal, and the mesh of the same is large enough to permit stones of the size usually employed in road building, to pass therethrough. The material 1 is supported at any desired level above the sub-grade A by means of stakes 2 and hooks 3.

The next step in my improved method is to place a layer of broken stone 4 on the sub-grade, the stones passing through the reinforcing material 1 and ultimately filling up to and preferably above the level of said reinforcement, so as to completely imbed the same, as indicated at the left in Fig. 1. While the stone is being dumped on the sub-grade, the stakes 2 and hooks 3 serve to maintain the reinforcing material 1 at the proper level.

The stakes 2 are then withdrawn, thus leaving the material 1 imbedded in the stone 4 and supported thereby at substantially the same level at which it was originally supported by the stakes 2, as illustrated in Fig. 2. Upon the application of the usual grouting, which runs down into the spaces between the stones 4, as indicated at the left in Fig. 2, all of the materials, including the stone and the reinforcement, as well as any top surfacing that may be applied, are bound together in a solid mass.

A modification in the manner of carrying out my method is illustrated in Fig. 3, in which a number of pipes or bars 5 are employed for supporting the reinforcing material 6 above the sub-grade A. A layer of stone 7 is then applied to cover the material 6 and the pipes 5, after which the pipes 5 are moved lengthwise upon the sub-grade A to withdraw them from beneath the superposed stones. The removal of the pipes 5 leaves the reinforcing material 6 completely imbedded in the stones and supported thereby at the same level at which it was originally supported by the pipes 5. Grouting is then applied as before, to bind the whole mass together.

A still further modification of my method is shown in Fig. 4, in which the reinforcing material 8 is first laid flat on the sub-grade A with stiff rods or hooks 9 extending upwardly therefrom. A layer of stone 10 is then applied to cover the reinforcing material 8, the rods 9 being of sufficient length to project above the surface of the stone. The reinforcing material 8 is then raised by the rods 9 to the desired level within the layer

of stones 10, after which the grouting is applied as before, to bind the whole into a solid mass.

From the foregoing it is apparent that by my invention I have provided an improved method of laying a reinforced concrete pavement, in which the reinforcing material can be readily positioned at any desired level within the layer of stone, and which does away with necessity for leveling and rolling the stone in preparation for the reinforcement.

My improved method contemplates a distinct departure from the usual method of making a pavement in which the sand, stone and cement are mixed together before applying the same. In my method the reinforcing metal is temporarily supported first, then the stone alone, unmixed with cement is applied to permanently support the reinforcement, after which the grouting mixture of cement and sand is applied to unite the stone and the reinforcing metal.

I claim.

1. The method of making a pavement, which consists in providing means for supporting reinforcing material above a sub-grade, then applying a layer of stones, then withdrawing the supporting means to leave said material supported in said layer of stones, and finally applying grouting to unite the stones and the said material.

2. The method of making a pavement, which consists in temporarily supporting an open fabric of reinforcing material above a sub-grade, then applying a layer of stones to cover said fabric, the stones of said layer passing through the openings in said fabric to completely imbed the material in said layer, and finally applying grouting to unite the stones and the said material.

3. The method of making a pavement which consists in placing upright stakes on a sub-grade, then placing a wire mesh over said stakes, then supporting said mesh above said sub-grade by hooks attached to said stakes, then applying a quantity of stones onto said mesh of such size that they fall through to said sub-grade and in such quantity that they extend through said mesh and cover it completely, and finally applying a mixture of sand and cement over the stones to seep down between the interstices thereof and bind the whole into a compact mass.

4. The method of making a pavement which consists in placing upright stakes on a sub-grade, then placing a wire mesh over said stakes, then supporting said mesh above said sub-grade by hooks attached to said stakes, then applying a quantity of stones onto said mesh of such size that they fall through to said sub-grade and in such quantity that they extend through said mesh and cover it completely, then removing said stakes and said hooks, and finally applying a mixture of sand and cement over the stones to seep down between the interstices thereof and bind the whole into a compact mass.

Dated this fifth day of July, 1923.

ALBERT T. RHODES.