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BY A. P. C.

M. TIBERGHIE
RUBBER-COVERED PAVING-BLOCKS
Filed June 9, 1941

Serial No.
397,308
3 Sheets-Sheet 1

Fig. 1

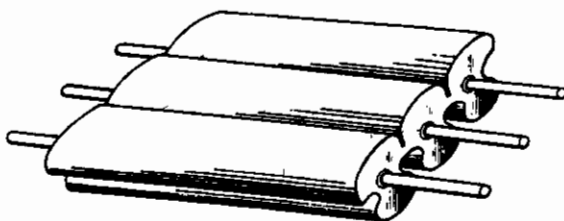
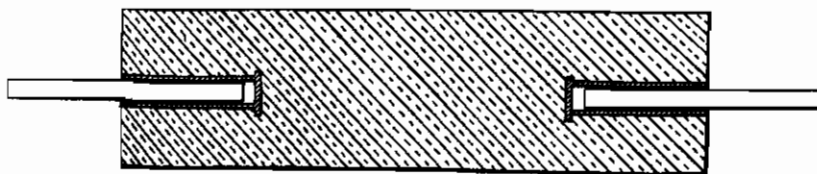


Fig. 2



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Fig. 3

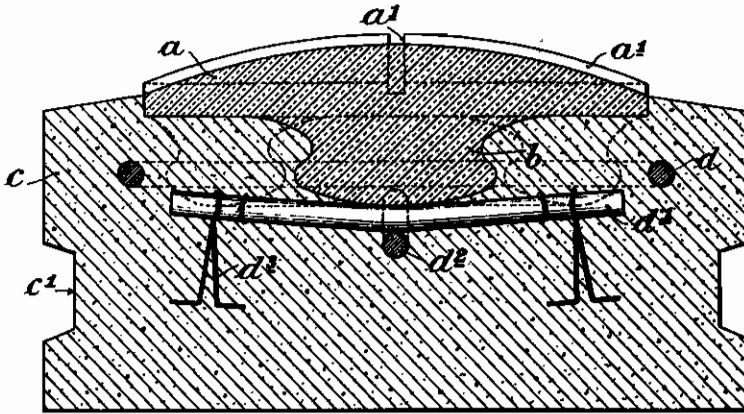


Fig. 4

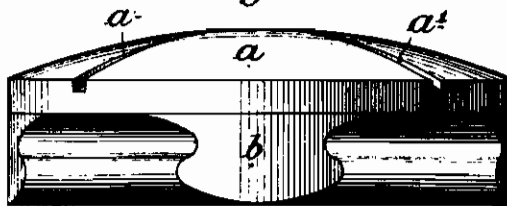
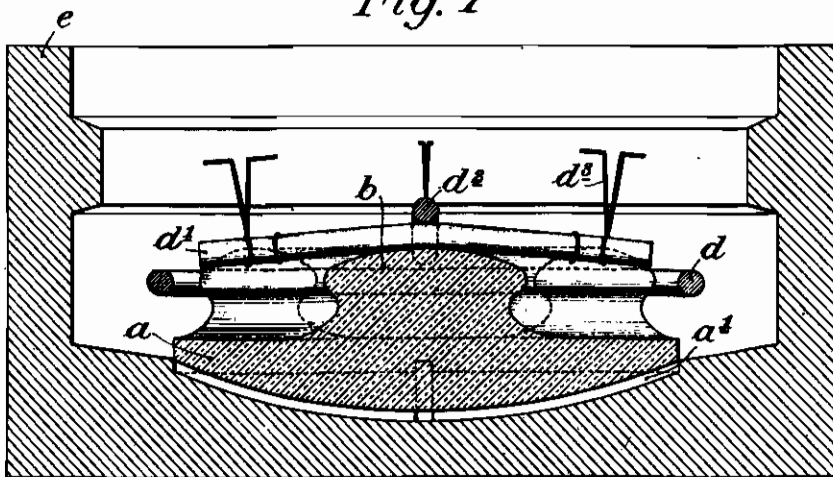


Fig. 7



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Fig. 5

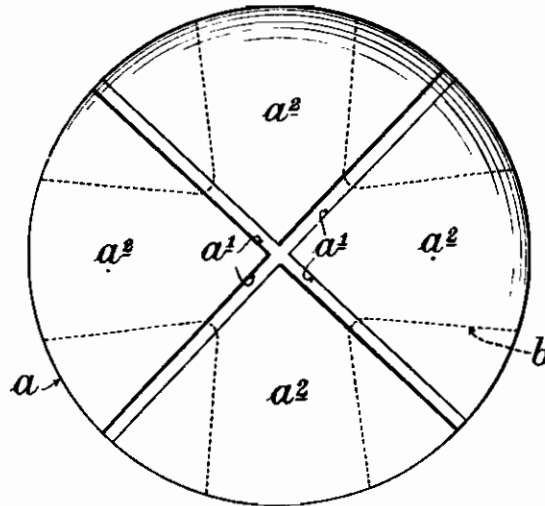
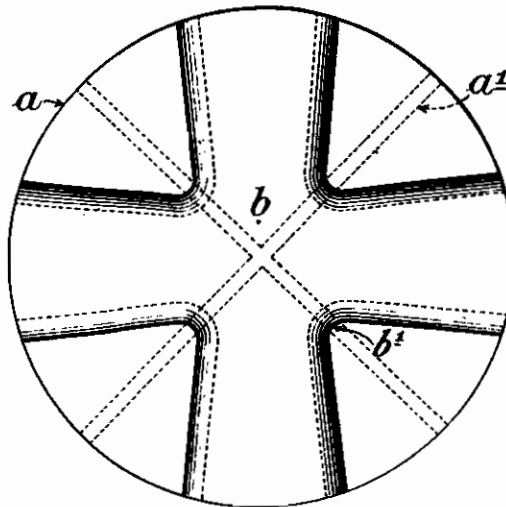


Fig. 6



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ALIEN PROPERTY CUSTODIAN

RUBBER-COVERED PAVING-BLOCKS

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Application filed June 9, 1941

In my co-pending application, Ser. No. 248,598, filed December 30, 1938, I have described the arrangement of a ribbed rubber covering on the rolling surface of paving-blocks or slabs for road coatings.

Said ribbed rubber covering is distinguished, in particular, by the shape of the cross section of its embedding ribs, said cross section being similar to that of a mushroom the profile of which presents only rounded curves of relatively large radius.

Owing to this cross section, having no sharp angles, the rubber preserves a certain sliding freedom in all directions against the walls, also rounded, of the rigid mass in which it is embedded, this allowing the covering to resiliently distort upon the passage of the loads without being subjected to excessive strain at any particular points; the pressures exerted against the rigid walls are in fact uniformly distributed and the risk of local breaking or of deterioration of the rubber and of the cement which would be inevitable if the contact surfaces had sharp angles, is eliminated, as well as the risk of the ribs of the covering being torn out of their housings.

On the other hand, said covering is quite independent of the iron fittings serving to reinforce the rigid block in which said covering is embedded; this independence avoids all dislodgement of the rubber and of the cement by the repeated distortion of metallic elements under the action of the rolling loads.

The present invention relates to the application of such rubber coverings, no longer to independent elements but to road coatings, made of concrete, asphaltic compounds or the like. The rubber coverings are then directly placed on the coating layer before it sets so that their lower ribs are completely embedded therein and intimately fit therein when it sets.

The present invention has also for object the application of these characteristic arrangements to coverings of circular shape or more generally to coverings liable to be subjected to pulling off stresses according to any transverse and variable directions.

In the accompanying drawings which show an indicating and non limiting example of carrying out the invention.

Fig. 1 illustrates a perspective view of a covering according to the invention,

Fig. 2 shows a longitudinal section thereof made through a rib.

Figs. 3 to 7 show, by way of example, a cement

block of circular shape covered with a rubber covering, also circular, and which can serve as signalling stud on public highways.

Fig. 3 is an axial section thereof.

Fig. 4 is an elevation of the separate covering.

Figs. 5 and 6 are top plan and underside plan views of the latter.

Fig. 7 shows in plan view the arrangement of the covering and the reinforcements of the block before casting the cement in the mould.

The rubber coverings according to Figs. 1 and 2 can be contiguous in the axis of the road and form a continuous coating. But they will be more generally spaced apart only in individual elements or groups of elements embedded in certain particular places of the coating. In particular, their surface can to that effect be painted in a light colour so as to serve for signalling purposes, for instance by forming the dotted line marking the middle of turns in roads where there is a large amount of traffic, and thus delimiting the spaces for the up and down lines of cars.

The coverings will obviously be arranged in such a manner that their ribs are directed at right angles to the axis of the road. The lower ribs can freely work within the cavities of the coating under the action of the wheels of the vehicles. They can also freely work under the action of expansions—which are not negligible in the case of a continuous coating as they are in the case of a coating composed of elementary paving-blocks or slabs.

In order that the coverings may also work transversely in the coating under the action of expansions or of any other factors, they comprise at each end of each of their ribs, a reinforcement of suitable cross section, one half of which, after placing in position, will be rigid with the coating, and the other half of which will serve as guide for the covering, to hold it in place in its distortion. For that purpose, in order that said reinforcement can slide according to its axis in the covering, the latter advantageously comprises, at each end of each of its ribs, a metal socket, the inner diameter of which is slightly greater than that of the reinforcement, incorporated with the covering when it is manufactured and rendered rigid therewith by an end flange embedded in the mass of said covering.

Of course, without departing from the invention, various modifications can be made; reinforcements can even not be used or they can be left intimately embedded in the rubber of the

covering by doing away with the sockets. The particular use to which the coverings are to be put will determine the detail characteristics to be given thereto.

In the case of Figs. 3 to 7, it is convenient to provide the lower face of the covering with a plurality of ribs arranged according to different directions, for instance cross-wise or in star shape, all these ribs having the characteristic profile above mentioned.

Furthermore, in order to ensure a still more positive attachment of said ribs in the rigid mass of cement or the like which surrounds them, it is advantageous to give to each rib a cross section, which is no longer constant, but varying gradually at different points of its length; for instance, each rib can have a width increasing from the centre of the covering up to the periphery, or varying by undulations, etc.

In this example, the covering is formed of two rubber members *a* and *b* superposed and rendered rigid together by vulcanisation, said members being each moulded by means of rubber of a nature suited to its particular function; the member *a* is to resist, in particular, to wear by friction, and the member *b* in particular, to pulling off stresses; moreover, member *a* can be coloured in its mass in order to serve for signalling purposes.

Said member *a* has the form of a disc, the upper face of which is bulged and presents two diametral grooves *a*₁ *a*₁ arranged cross-wise and intended to increase the resiliency whilst allowing the intermediate portions of rubber *a*₂ *a*₂ to flow one towards the other when they are crushed by a load.

The lower member *b* has the shape of a cross the four branches of which are located under the solid parts *a*₂ and have a cross section in the shape of a mushroom of a knob of rounded contours, the width of each branch increasing from the centre to the outer end.

Fig. 6 shows that said branches are joined to each other also by rounded parts or beads *b*₁.

The covering thus constituted is embedded in a block of cement *c* of cylindrical shape, having a circular groove *c*₁ in its periphery, and reinforced by iron fittings *d* *d*₁. Said iron fittings do not penetrate into the rubber and are completely embedded in the cement.

For moulding, the covering is placed on the bottom of the mould *e*; the iron fitting *d* in the form of a collar, is placed about it and takes a bearing by clamping it on the ends of the branches *b*; then the iron fittings *d*₁, in the form of slightly bent rods, are placed cross-wise on the centre of the covering, according to planes bisecting the angles formed by the branches *b*. On said iron fittings can be previously secured hooks *d*₂ which must also be embedded in the cement. It then suffices to case the cement in the mould.

It is to be understood that the invention includes all modifications comprising substantially equivalent arrangements; for instance, the number of branches *b* or ribs of the covering, their shape, the number and the shape of the iron fittings, etc., can vary as well as the shape and dimensions of the block of cement or other rigid material.

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