United States Patent

[11] **3,568,579**

[72] Inventors **Leslie Hoad**
1 Manor Close, Totton, Hampshire;
Stewart C. Cronan, The Homestead,
Ashurst Bridge Road, Totton,
Southampton, Hampshire, England

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Continuation-in-part of application Ser. No. 479,586, Aug. 13, 1965, abandoned.

[54] **PORTABLE AND FLEXIBLE PAVING STRIPS**
3 Claims, 3 Drawing Figs.

[52] **U.S. Cl.** **94/7,** 161/406
[51] **Int. Cl.** **E01c 7/00**
[50] **Field of Search** 94/3, 7, 9; 161/406

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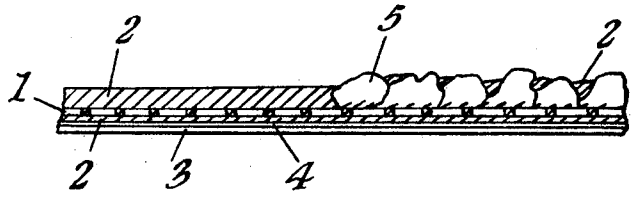
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Primary Examiner—Jacob L. Nackenoff
Attorney—Webster B. Harpman

ABSTRACT: The invention relates to a flexible paving strip which provides a good load-bearing paving surface but which is also particularly well adapted for transportation in the form of rolls which are readily manually laid, either as a temporary or permanent paving surface. The portable and flexible paving strip of the present invention comprises a layer of a bituminous-base binder carried and reinforced by a flexible backing and having adhered to one side of the layer an abrasion-resistant surfacing, e.g., an aggregate, and to the other side of the layer a flexible under cover bearing a layer of release agent in contact with the binder so that the undercover, when required on laying the paving strip, can be clearly separated from binder layer.



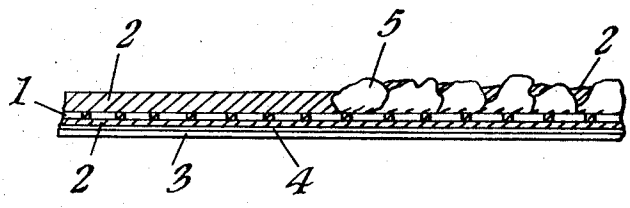


Fig. 1.

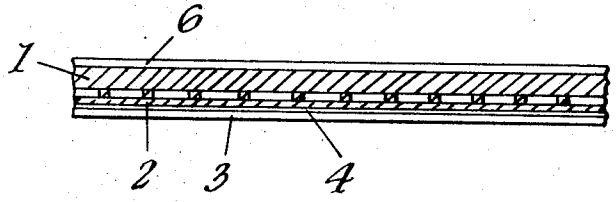


Fig. 2.

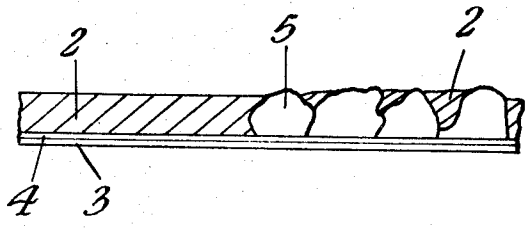


Fig. 3.

INVENTORS;
Leslie Hoad,
Stewart C. Cronan &

By: W. B. Hardman
ATTORNEY

PORTABLE AND FLEXIBLE PAVING STRIPS

The present invention relates to an improvement in or modification of the paving strip described and claimed in application Ser. No. 479,586, now abandoned, and is a continuation-in-part thereof

BRIEF DESCRIPTION OF THE INVENTION

There is provided by the present invention a portable paving strip comprising a flexible backing, a bituminous-base binder forming a layer carried on and reinforced by the flexible backing, an abrasion-resistant binder forming a layer carried on and reinforced by the flexible backing, an abrasion-resistant surfacing adhered to one side of the binder layer and a flexible undercover secured to the other side of the binder layer; the flexible undercover bearing a layer of release agent in contact with the binder to enable the undercover to be separated cleanly from the binder layer, and the thickness of the binder layer being such as to enable the abrasion-resistant surfacing to act as a load-bearing surface when the paving strip is laid on a firm supporting surface.

The abrasion-resistant surfacing may be layer of aggregate although a continuous surfacing such as polyethylene could be used; and it is preferred to use a bitumen (alternatively called an asphalt) as the binder.

Among the bitumens which may be employed in the present invention, may be mentioned the following:

Petroleum Bitumens

i. Straight run–A bitumen obtained after the final stages of distillation of a petroleum of suitable type.

ii. Cut-Back Bitumen–A bitumen, the viscosity of which has been reduced by the addition of a volatile diluent.

iii. Blown Bitumen–A bitumen modified by blowing of air through the bitumen, under controlled temperature conditions. This process alters the characteristics of the bitumen to give it more "rubbery" properties. Bitumens so produced are known as "air-blown," "blown," or "oxidised" grades.

iv. Colored Bitumen–A bitumen colored by addition of a proportion of powdered pigment. There are in existence, light colored bitumens which are particularly suitable for coloring pigmenting.

v. Rubberized bitumen–A bitumen containing natural or synthetic rubber. The rubber which is incorporated in the bitumen by mixing at elevated temperatures, imparts elasticity to the bitumen and increases flexibility at low temperatures and stability at high temperatures.

Natural Asphalt

A naturally occurring mixture of bitumen and finely divided mineral matter which is found in well defined surface deposits. Otherwise known as Lake Asphalt.

The bitumen present in Lake Asphalt is of a fairly light color and is suitable for pigmenting with powdered colored pigments to produce a colored bitumen binder. To make Lake Asphalt suitable for use as a binder in "paving strips" it is necessary to reduce the viscosity by the addition of a suitable diluent, such as a petroleum distillate or coal tar distillate.

If the paving strip is to be one from which the undercover may readily be removed, a release agent may be incorporated in the paving strip during manufacture thereof, by application in the form of a thin film to the undercover before the undercover is applied to the flexible binder-carrying backing. The undercover bearing the release agent may be a material of a nonabsorbent surface, such as metal or treated paper, e.g., metal-surfaced paper or nonabsorbent plastics sheeting and the release agent may be applied thereon by screeding, rolling or spraying. Although the release agent acts upon the bitumen binder at the interface with the undercover to soften the binder, nevertheless, there is still sufficient adhesion between the binder and the undercover to prevent separation of the undercover during handling of the paving strip.

The release agent mentioned above needs to be applied to the undercover during manufacture of the paving strip but a release agent maybe used which can be incorporated in the material of the undercover beforehand. Thus, the undercover may consist of a material serving to lessen the adhesion between the binder and the undercover while still leaving the requisite degree of adhesion. An advantage of using treated paper is that it separates cleanly from the binder and that it is manufactured as such and its use as the undercover, therefore, avoids having to apply a release agent as a step in or as a preliminary to, the manufacture of the paving strip itself. In the case when the aggregate layer or layer of other abrasion resistant material is dispensed with, the undercover may be treated on both sides with the release agent in order to prevent convolutions of the strip from sticking to each other.

In accordance with the present invention, the paving strip may be formed without the flexible backing and the aggregate of the paving strip may be replaced by a waterproof material such as polythene.

An embodiment of the present invention will now be described, by way of example only, with reference to the accompanying drawings in which:

FIG. 1. is a side elevation of the paving strip of the embodiment in flat or unrolled condition;

FIG. 2. is a like view to FIG. 1. of a modification of the paving strip thereof; and

FIG. 3. is a like view of FIG. 1. of a further modification of the paving strip thereof.

In the three FIGS., like reference numerals indicate like parts.

In FIG. 1, the paving strip shown comprises a flexible backing strip 1 impregnated with a bitumen to form a layer of binder 2. To the underside of the backing strip 1 is secured an undercover 3 bearing a thin film 4 of a release agent which although it does not prevent adhesion of the undercover to the binder layer 2 loosens the adhesion so that the undercover may be readily separated by hand. To the upper surface of the binder, a layer 5 of aggregate has been applied so that the aggregate is firmly retained by the binder. For clarity, part of the aggregate layer has been omitted from FIG. 1.

In the modification of FIG. 2, the aggregate employed in FIG. 1 has been replaced by a layer 6 of polythene (polyethylene) and in FIG. 3, the flexible backing strip 1 has been omitted. FIG. 3 as FIG. 1 omits part of the aggregate layer in the interests of clarity. It will be understood that the polythene layer could also be employed in the embodiment of FIG. 3 in place of the aggregate.

We claim:

1. A portable paving strip comprising a flexible backing, a bituminous-base binder forming a layer carried on and reinforced by the flexible backing, an abrasion-resistant surfacing adhered to one side of the binder layer and a flexible undercover secured to the other side of the binder layer; the flexible undercover bearing a layer of release agent in contact with the binder to enable the undercover to be separated cleanly from the binder layer, and the thickness of the binder layer being such as to enable the abrasion-resistant surfacing to act as a load-bearing surface when the paving strip is laid on a firm supporting surface.

2. A portable paving strip as claimed in claim 1, wherein the abrasion-resistant surfacing consists of a layer of aggregate.

3. A portable paving strip as claimed in claim 2, wherein the bituminous binder is a bitumen.