No. 875,440. PATENTED DEC. 31, 1907.

W. S. LAMSON.

SAFETY TREAD FOR STEPS.

APPLICATION FILED FEB. 11, 1905.

Fig-1-

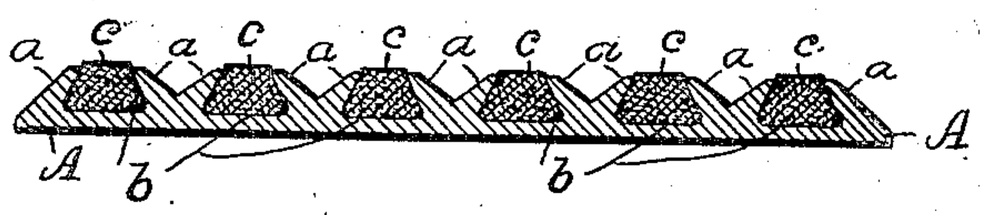
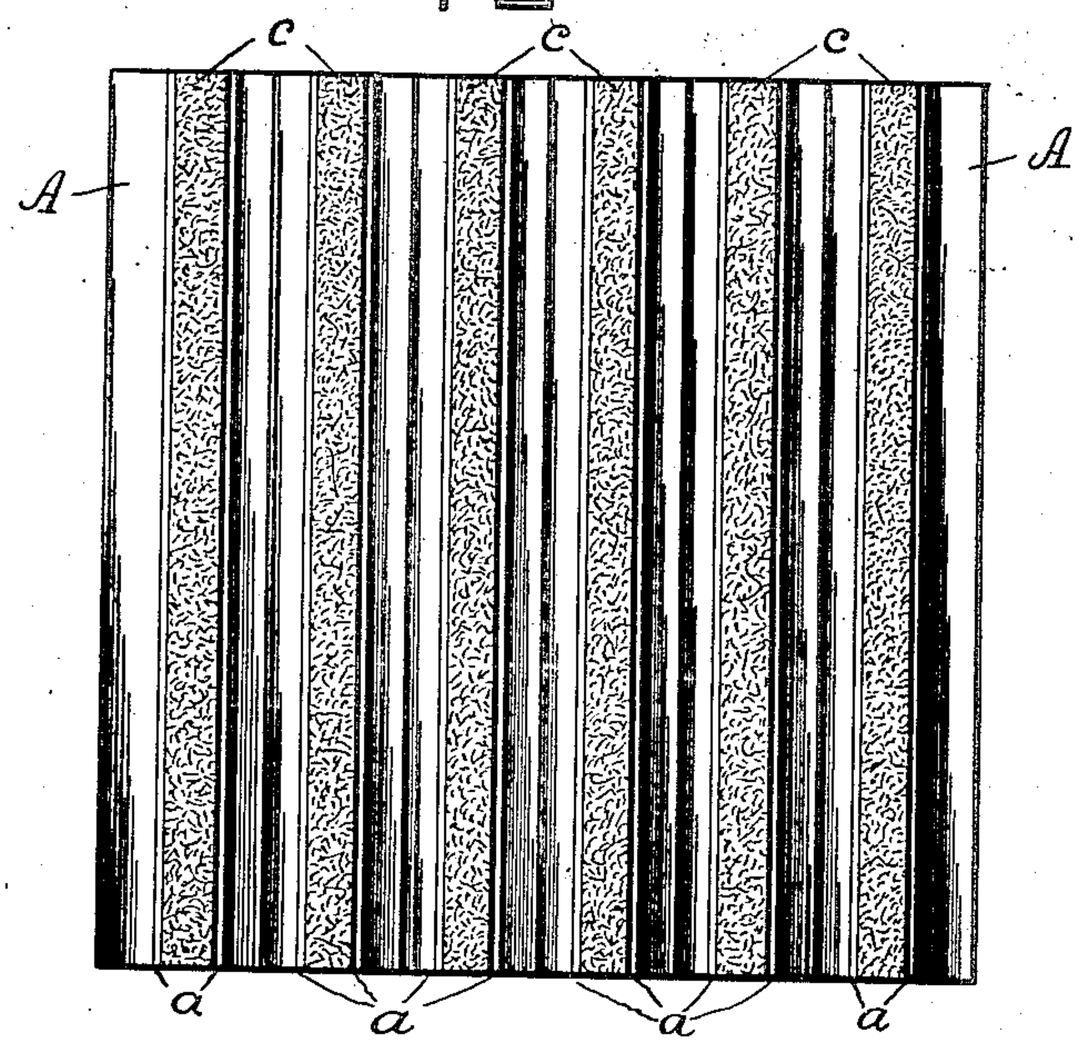


Fig-2-



WITNESSES:

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WILLIAM S. LAMSON, OF LOWELL, MASSACHUSETTS, ASSIGNOR TO AMERICAN MASON SAFETY TREAD COMPANY, OF SACO, MAINE, A CORPORATION OF MAINE.

SAFETY-TREAD FOR STEPS.

No. 875,440. Specification of Letters Patent. Patented Dec. 31, 1907.

Application filed February 11, 1905. Serial No. 245,318.

To all whom it may concern:

Be it known that I, WILLIAM S. LAMSON, a citizen of the United States, residing at Lowell, in the county of Middlesex and Commonwealth of Massachusetts, have invented a certain new and useful Improvement in Safety-Treads for Steps, of which the following is a specification.

This invention relates to safety-treads, particularly for use on car-steps and stairways where the traffic is heavy and the wear is great and where there is unusual danger of slipping.

The object of this invention is to provide a tread surface consisting of non-slipping rough or irregular artificial stone,—such as granular or ground corundum, bicarborundum or similar grits or substance mixed with and united by a suitable binding substance,—said stone being secured in a base, frame or bed-plate of metal or material softer than said stone, in order that the adjacent clamping portions of the bed-plate may wear faster than the non-slipping stone portions and leave the latter exposed to contact.

While I do not confine myself to the exact form or material of the base, frame or bed-plate of the tread, I wish to state that in practice I have found it convenient to use a grooved bed-plate substantially like what is shown and described in United States patent, No. 481,702, to Mason, Mason and Codner and to mix up the stone composition in the form of a thick paste or mortar and to fill the grooves, channels or pockets of the bed-plate therewith, allowing the same to harden in the grooves. The filling may be applied by a mason's trowel in the usual manner.

I have found that a mixture of calcined magnesite, ground carborundum (silicide of carbon) made into a cement or mortar with magnesium chlorid and placed in the grooves of the plate, becomes very hard and non-yielding after a few hours and serves a very satisfactory purpose. This composition is very convenient for use and quickly becomes much harder than the bed-plate, the latter being preferably of mild steel, and is not deteriorated by rain or moisture or by changes of temperature.

Sand or emery may be substituted for the whole or any part of the carborundum.

In the accompanying drawing, Figure 1, is a plan of a tread constructed according to my invention and Fig. 2, a vertical section of the same on the line 2 2 in Fig. 1.

The drawing illustrates the best method of construction known to me at present.

A is a base-plate or bed-plate of cast or wrought metal, metallic alloy, or other suitable substance with raised ribs *a* and undercut or dovetail grooves *b* between said ribs substantially as shown and described in said patent. These plates may be produced by rolling, as therein described, or by other convenient means or methods, said plates not being of my invention. The grooves *b* are filled with a suitable plastic mixture *c* capable when it sets of becoming harder than the bed-plate and of forming an artificial stone preferably of a porous nature.

The base-plate may be of any material adapted to retain the filling or stone, provided said material be suitable for that purpose and be sufficiently softer than said filling, so that as the tread surface is worn down, the non-slipping composition or stone will always come to the wearing surface.

I claim as my invention:—

1. A non-slipping tread for steps having its tread-surface composed of artificial stone and having a base or frame of material softer than said stone.

2. A non-slipping tread for steps having its tread-surface composed of artificial stone containing carborundum, and having a suitable base or frame softer than carborundum to contain said stone.

3. A non-slipping tread for steps having its tread-surface composed of carborundum or other hard artificial porous stone, and with a suitable body of metal softer than the carborundum, said metal forming the foundation or basis of the step.

4. A tread for steps consisting of a metal base, provided with suitable channels or pockets filled with grits, held therein by an artificial stone cement and forming a non-yielding grit tread-surface.

5. A tread for steps consisting of a metal base provided with suitable dovetail channels or pockets filled with grits, held therein by a suitable cement and forming a non-yielding grit tread-surface.

6. A tread step consisting of a metal base, provided with suitable channels or pockets filled with hard-crystal stone grits, held within the said channels or pockets by an artificial stone cement, in such a manner as to

form a non-yielding irregular surface, substantially as specified.

7. A tread step consisting of a metal base provided with suitable dovetail channels or pockets filled with hard crystal stone grits, held within the said channels or pockets by a suitable cement in such a manner as to form a non-yielding irregular grit tread surface, substantially as described.

8. A non-slipping tread consisting of a grooved base plate, the grooves whereof are filled with a plastic composition containing an abrasive, allowed to harden therein.

9. A non-slipping tread consisting of a grooved base plate, the grooves whereof are filled with a self-hardening plastic composition containing an abrasive.

10. A grooved plate, the groove or grooves whereof are filled with a plastic gritty cement capable of hardening on exposure.

In testimony whereof, I have affixed my signature, in presence of two witnesses.

WILLIAM S. LAMSON.

Witnesses:

ALBERT M. MOORE,

GRACE CROWLEY.