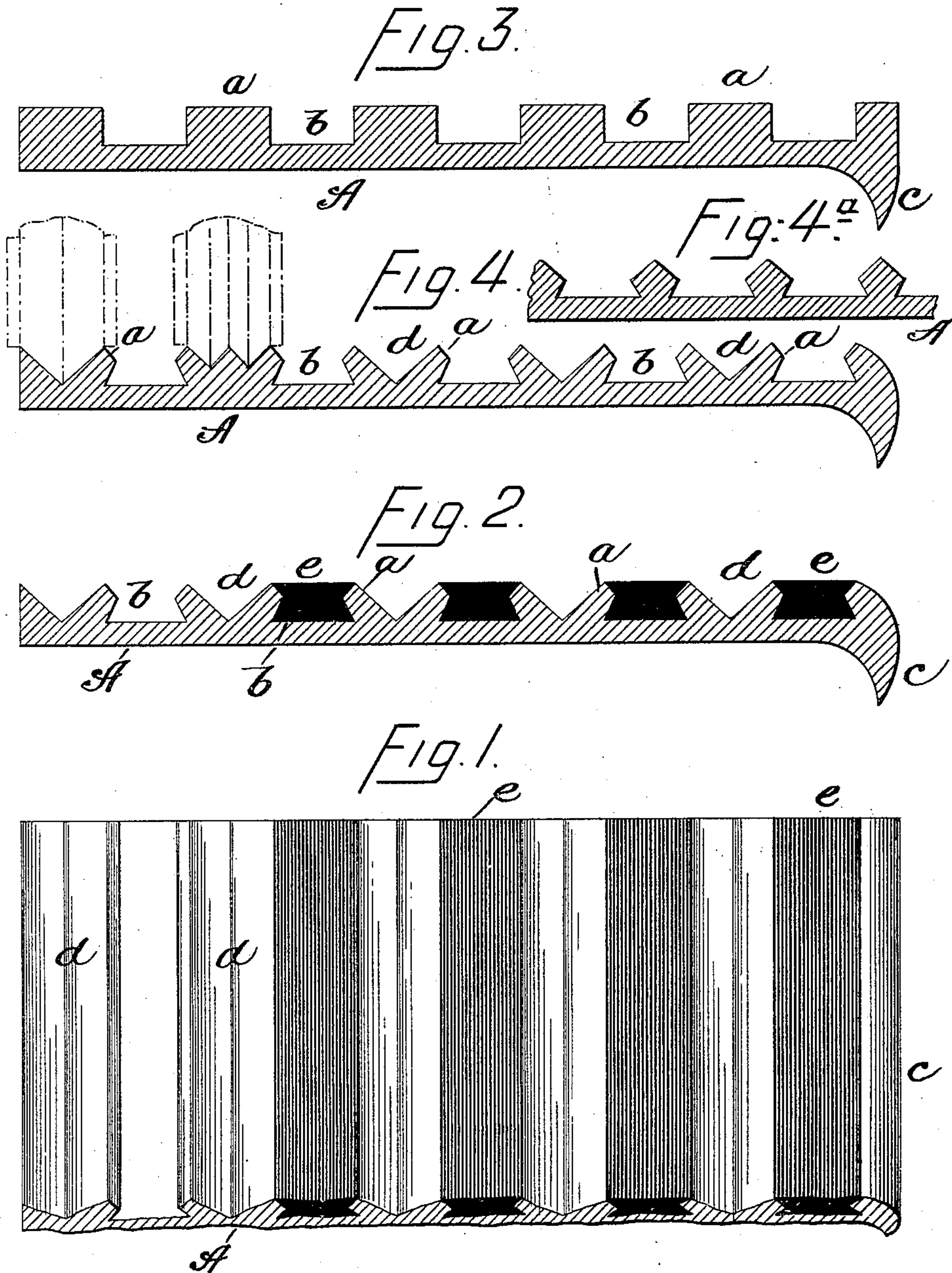


(No Model.)

JONATHAN MASON, JOSEPH MASON & W. S. CODNER.
TREAD FOR STAIRS, &c.

No. 481,702.

Patented Aug. 30, 1892.



Witnesses:
George Barry.
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Fig. 5.



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UNITED STATES PATENT OFFICE.

JONATHAN MASON AND JOSEPH MASON, OF LONDON, AND WILLIAM S. CODNER, OF STOKE NEWINGTON, MIDDLESEX, ENGLAND.

TREAD FOR STAIRS, &c.

SPECIFICATION forming part of Letters Patent No. 481,702, dated August 30, 1892.

Application filed June 11, 1892. Serial No. 436,339. (No model.) Patented in England April 7, 1891, No. 5,988; in France April 25, 1891, No. 212,953, and in Belgium April 29, 1891, No. 94,712.

To all whom it may concern:

Be it known that we, JONATHAN MASON and JOSEPH MASON, builders and contractors, of 15 Barbican, in the city of London, and WILLIAM SQUIRES CODNER, iron-merchant, of 10 Queen Elizabeth Walk, Stoke Newington, in the county of Middlesex, England, have invented certain new and useful Improvements in Treads for Stairs and the Like, of which the following is a specification.

This invention relates to a novel manufacture of treads for stairs, coverings for floors, cover-plates for coal-holes, openings for hydrants, manholes for sewer-ways, &c., steps for carriages and other vehicles, foot-plates for locomotives, deck-coverings for ships, and for other purposes, the object of the invention being to produce a durable non-slipping surface.

In the accompanying drawings, Figure 1 shows in plan view our invention as adapted to a stair-tread by way of example. Fig. 2 is a transverse section of the same, and Figs. 3 and 4 may be said to be diagrams showing two stages in the production of the treads according to our invention. Fig. 4^a shows a modified form of rib, and Fig. 5 is a cross-section of the filling material.

A is the base-plate, of hard metal—say mild steel—which forms the wearing-surface, and *e* are strips of a softer material—say lead—which are let into the base-plate and which form a non-slipping surface.

In carrying out our invention we form the plate with raised ribs and intermediate spaces undercut or of dovetail shape in cross-section, so as to provide a key or holding surface for the soft filling-pieces.

In the production of the plates we prefer to roll them; but we may also cast them, stamp them, or produce them in any other manner to receive the strips.

When producing the plates A with the raised ribs and dovetail spaces by rolling when hot, we may proceed in the following manner—that is to say: We first obtain a plate with rectangular ribs *a* and spaces *b* and with

a nosing *c* in the ordinary manner. We next subject the plate so formed to a second rolling operation with rolls of the forms (more or less) indicated by dotted lines at Fig. 4, by means of which each rib *a* is cut open, as it were, and one or more V-grooves *d* may be formed longitudinally thereof. At the same time the sides of the spaces will be pushed inward to give to the spaces *b* a double-dovetail shape, as seen at Fig. 4, or the rolls may be of inverted-V shape to produce a rib of the form shown at Fig. 4^a, in which figure the spaces will still be dovetailed. The plate so formed is ready to receive the strips of soft material. We next take strips of lead *e* of the section shown at Fig. 5 or a similar section, place them in the spaces *b*, and subject them to pressure in a rolling-mill or otherwise, by which means the spaces *b* become filled up with the soft material flush with the highest point of the ribs *a*, as shown in Figs. 1 and 2, thus forming a non-slipping treading-surface having a frame, so to speak, formed by non-wearing hard-metal ribs *a*.

The production of covering-plates of various kinds and other articles will be effected in practically the same manner, the plate being preferably inclosed in a metal frame.

The filling material may (in place of lead) be tarred rope, which will be compressed into the spaces while the plate is warm, or other soft non-slipping material may be employed.

What we claim is—

A tread for stairs and other purposes, consisting of a plate A, of hard metal, provided with ribs *a* and undercut or dovetail-shaped spaces *b* between the ribs, in combination with filling-pieces *e*, of soft non-slipping material, placed in the spaces *b*, as and for the purpose set forth.

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