

(No Model.)

W. J. LEWIS.
METHOD OF ROLLING METAL.

No. 409,049.

Patented Aug. 13, 1889.

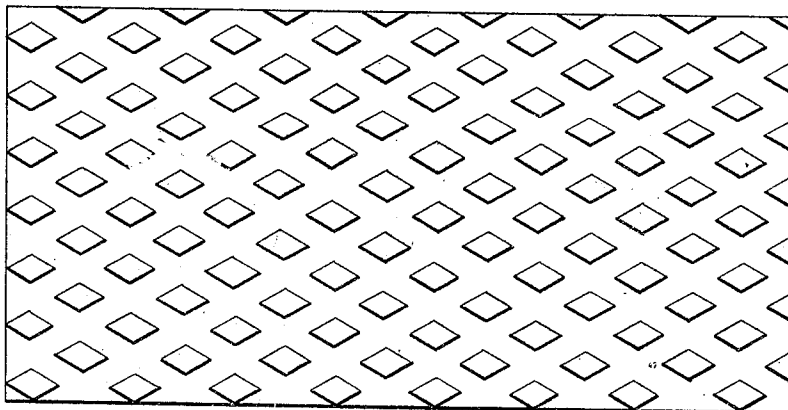
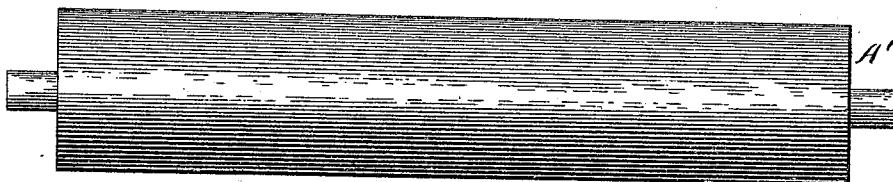


Fig. 2.



Fig. 1.



WITNESSES.

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WILLIAM J. LEWIS, OF PITTSBURG, PENNSYLVANIA.

METHOD OF ROLLING METAL.

SPECIFICATION forming part of Letters Patent No. 409,049, dated August 13, 1889.

Application filed May 9, 1889. Serial No. 310,138. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM J. LEWIS, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Methods of Rolling Metal; and I do hereby declare the following to be a full, clear, and exact description of the invention, reference being had to the accompanying drawings, which form part of this specification.

This invention has relation to the manufacture of iron and steel stair and floor plates, and has for its object the provision, as a new method of manufacture, of rolled plate having ribs, corrugations, or projections on its tread-surface, and particularly to the method for the production of a rolled plate having diamond-shaped or checkered projections on its upper or exposed surface, the projections being intended to relieve the surface of its otherwise plain and uniform character and to afford a footing to prevent slipping.

Floor and stair plates have heretofore been made of iron by casting in a mold having its inner surface grooved or channeled, so as to produce a corresponding irregular tread-surface on the cast plate.

I have found that the plates, when steel as well as iron is employed, may be rolled economically and expeditiously, and that various patterns may be produced on the tread-surface, the outlines of which will be shaped more distinct and which will be far more attractive and acceptable in appearance than those produced by casting.

In describing the method of rolling the plates I shall refer particularly to the production of the hobnail or diamond pattern, as the same fully illustrates my invention and is an example of a pattern in keeping with the conventional pattern most frequently seen on floor or stair plates produced by casting.

In the accompanying drawings, Figure 1 is a front elevation of a pair of rolls shaped for rolling plates according to my invention. Fig. 2 is a perspective view of a rolled plate bearing the diamond or hobnail pattern.

The rolls A A' are of the ordinary character, except that the roll A is grooved, ribbed, or fluted circumferentially and is primarily for rolling a plate with corresponding parallel grooves or ribs on its surface. Such a plate, or one bearing any other suitable pattern produced by rolling instead of by casting, is an exemplification of the broad idea or improvement comprehended by my invention.

The hobnail, checkered, or diamond pattern shown in Fig. 2 of the drawings is a modification of the broad idea, and is referred to not merely to show a special pattern, but to illustrate a particularly neat, attractive, and useful form of ornamentation, which may not only be produced by rolling, but may be produced by the rolls A A'.

The method or process of forming the diamond pattern is very simple, and consists in subjecting the plate to two passes through the rolls at different angles. In the first the plate is fed between the rolls anglewise—that is, one corner is presented to the rolls and the plate so guided that the surface will be grooved diagonally. For the next pass the plate is reversed—that is, the opposite corner is presented to the rolls and a second series of diagonal grooves formed intersecting the first and dividing the ribs into studs or projections.

Squares may be produced by rolling the plate the second pass at right angles to the first, while other patterns, the product or resultant of two sets of grooves at different angles, may be obtained by properly guiding the plate through the rolls.

If desired, the roll A may have any other pattern formed or cut upon its periphery, as I do not limit myself to the present pattern shown and described, the invention being broadly the method of rolling a stair-plate or floor-plate having a roughened, grooved, or reticulated surface by subjecting it to two or more passes at different angles to each other.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The method of forming rolled iron or steel floor or stair plates having their tread-surfaces grooved or reticulated, which consists in subjecting the plate to two or more passes
5 at different angles to each other between grooving or channeling rolls.

In testimony that I claim the foregoing I

have hereunto set my hand this 8th day of May, 1889.

WILLIAM J. LEWIS.

Witnesses:

E. K. STEPHENSON,

A. A. CONNOLLY.