(No Model.)

W. J. LEWIS.

ROLLED METAL PLATE.

No. 409,050. Patented Aug. 13, 1889.

Fig 2

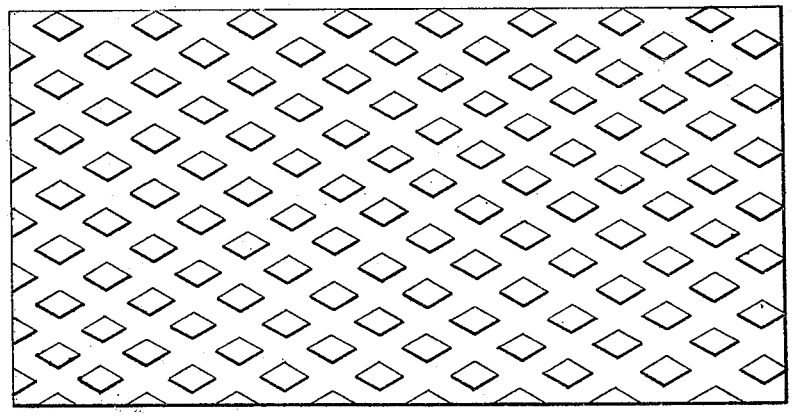
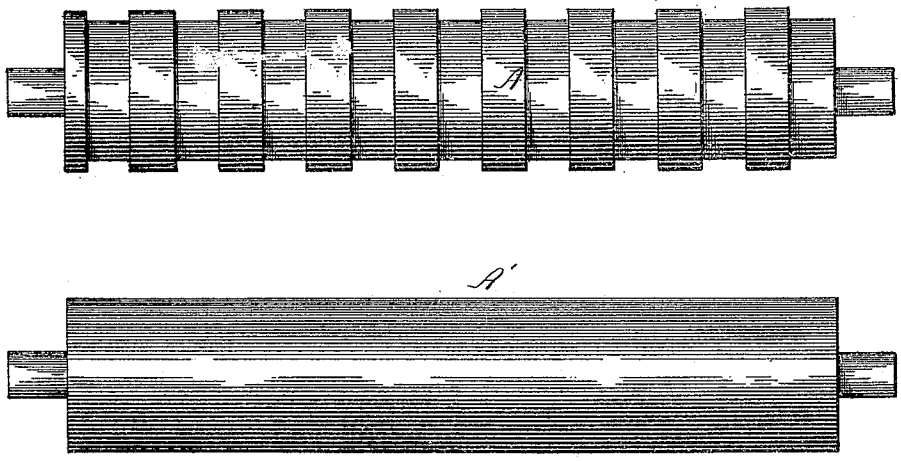


Fig 1



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INVENTOR-
by Connolly Bros
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N. PETERS. Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

WILLIAM J. LEWIS, OF PITTSBURG, PENNSYLVANIA.

ROLLED METAL PLATE.

SPECIFICATION forming part of Letters Patent No. 409,050, dated August 13, 1889.

Application filed June 17, 1889. Serial No. 314,543. (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 Rolled Metal Plates; 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 wrought-iron or steel plates produced according to the method described in my application for Letters Patent filed May 9, 1889, Serial No. 310,138, and has for its object the provision, as a new article of manufacture, of a wrought-iron or steel rolled plate of substantial strength and thickness, having its upper or exposed surface checkered or formed with diamond-shaped projections, the product of intersecting the grooves or channels formed in the process above referred to.

In the production of iron or steel plates having one of their surfaces relieved by projections or checkered work it has heretofore been customary to cast the metal in a suitable mold; but such product has been imperfect, lacking the sharpness and finish of a rolled plate and of less strength and durability. 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 exposed surfaces, the outlines of which will be shaped more distinct and 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 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 plan 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 paralleled 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 of 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 through the second pass at right angles to the first, while other patterns—the product or resultant of two sets or grooves at different angles—may be obtained by properly guiding the plate through the rolls.

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

I am aware that heretofore metal plates have been rolled with projections on their surfaces; but such plates have been formed of very thin material, with the projections or fins on one side coinciding with the depressions or *intaglio* on the reverse. Plates of

this character can only be formed from malleable metal first rolled into very thin sheets, and are unsubstantial and are lacking in strength, being adapted only for ornament or for surface covering. The plates produced according to my process are designed to be of any thickness, and in themselves constitute the body of the structure in which they are embodied. They are adapted for a variety of purposes, and may be used as a substitute for plain wrought or metal plates in any industrial relation where a flat plate of wrought-iron or steel is required.

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

As a new article of manufacture, a rolled wrought-iron or steel plate having one of its surfaces plain and the other surface formed with intersecting rolled grooves or channels, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand this 28th day of May, 1889.

WILLIAM J. LEWIS.

Witnesses:
HENRY LLOYD,
E. K. STEPHENSON.