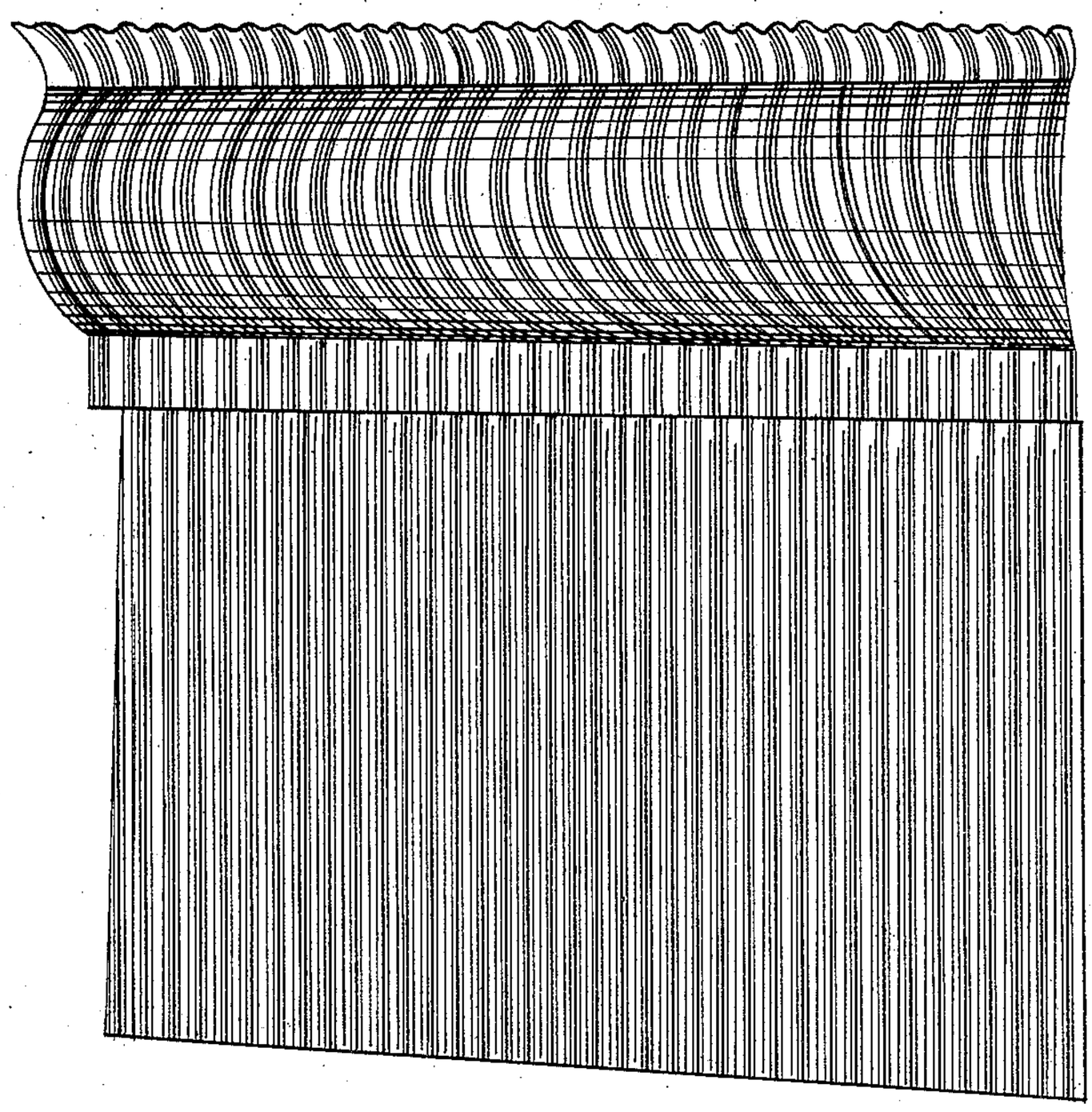
W. E. WORTHEN.

Sheet Metal Construction.

No. 34,224. Patented Jan. 21, 1862.



Witnesses
H. J. Cushing
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UNITED STATES PATENT OFFICE.

WILLIAM E. WORTHEN, OF NEW YORK, N. Y.

IMPROVEMENT IN ARCHITECTURAL SHEET METAL.

Specification forming part of Letters Patent No. **34,224**, dated January 21, 1862.

To all whom it may concern:

Be it known that I, WILLIAM E. WORTHEN, of the city of New York, in the State of New York, have invented a new and useful article of manufacture which I call "stone-faced" sheet metal or "architectural" metal; and I do hereby declare that the following, taken in connection with the drawing, is a full, clear, and exact description thereof and of the mode of producing the same.

The drawing is a perspective view of a piece of the metal.

Sheet metal—such as galvanized iron, iron, zinc, and sometimes copper—is now extensively used in cities for architectural purposes. Cornices, modillions, dentils, brackets, entablatures, and other parts of the exterior of buildings are made of sheet metal, and are usually painted and sanded, so as to resemble stone or marble. In spite of this painting and sanding these parts of the building still retain a metallic look, and are thus offensive to the eye. The difficulty results from the fact that it is almost or quite impossible to force the metal to assume a strictly plane surface or a curved surface of uniform curvature throughout, and the light falling upon these warped or waving surfaces plainly reveals the fact that they are not stone, but metal. If the warped surface is broken up, so that it will not reflect masses of light, the difficulty is removed, and even unpainted galvanized iron will have an appearance nearly resembling marble, provided the surface is so broken as to resemble in roughness marble that has been chisel or hammer dressed. If such surfaces are painted of proper color and sanded, the resemblance to stone is almost perfect.

In order to make my improved article of manufacture, I take sheet metal, galvanized iron by preference, and pass it between strong metal rollers having roughened surfaces which are counterparts or nearly so, each of the other, one of such rollers having a surface like chisel or hammer dressed or tooled stone, and by subjecting the sheets to strong pressure by means of such rollers and while passing between them I impart to the metal a surface like that cut or chiseled upon the rollers.

The piece of metal, of which the drawing is a representation, was passed through rollers whose surfaces were cut so as to resemble chisel-dressed stone, and the drawing is, in fact, a photograph taken from such a piece of metal that has not been painted or sanded. Two objects are secured by thus treating the metal—first, the giving to it the appearance of a stone surface, and, second, the taking out or partial removal of the warps—and the metal after passing through the rollers does not tend to resume a warped surface so readily as it would before the character of its surface was altered.

It is not essential that the rollers should be formed into any very exact resemblance of the surface of stone, all that is necessary being to break up the smooth surface of the metal by minute grooves or irregular projections and depressions sufficient merely to roughen and prevent unbroken reflection of masses of light, such roughening being wholly independent of the corrugating or molding of the surface afterward. My plan is merely to change the character of a surface and not to give contour or shape to the surface. The shaping is to be done afterward, and the upper part of the drawing represents sheet metal molded or corrugated after its surface has been roughened.

Sheet metal thus treated and used, either on plane surfaces, as in the lower part of the drawing, or molded, as shown in the upper part of the drawing, cannot, when painted and sanded and in place in a building, be distinguished by the eye from stone. Cornices, &c., made of it have the preference in the market over those made of metal with the ordinary surface, and the introduction of the article will probably lead to an increased demand for sheet metal for building purposes.

I do not claim ordinary corrugated metallic plates; but

I claim as of my own invention—

The new article of manufacture herein described, which I term "architectural sheet metal."

In testimony whereof I have hereunto subscribed my name.

W. E. WORTHEN.

In presence of—

W. T. CUSHING,

A. BOYD.