W. G. HYNDMAN.

METHOD OF SECURING METAL-PLATES ON STRUCTURES.

No. 191,763. Patented June 12, 1877.

Fig. 1.

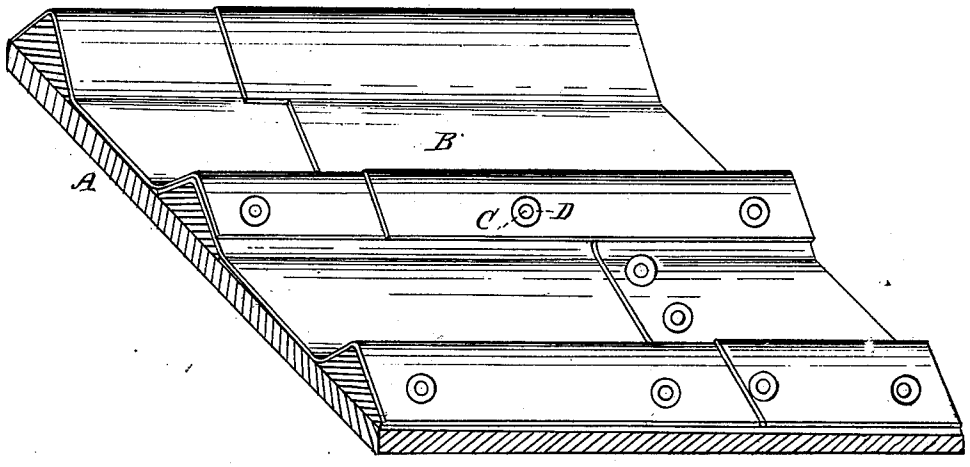

Fig. 2.

Fig. 4.

Fig. 3.

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IMPROVEMENT IN METHODS OF SECURING METAL PLATES ON STRUCTURES.

Specification forming part of Letters Patent No. **191,763**, dated June 12, 1877; application filed April 25, 1877.

To all whom it may concern:

Be it known that I, WILLIAM G. HYNDMAN, of Cincinnati, in the county of Hamilton and State of Ohio, have invented a new and valuable Improvement in Method of Securing Metal Plates upon Structures; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a section of a roof with metal plates connected thereto. Fig. 2 is a plan view of my improved washer. Fig. 3 is a longitudinal vertical section of the same; Fig. 4, a view of the wrought-metal barbed nail.

This invention has relation to the means used for securing sheet metal upon the roofs of houses and other places where such roofing is required.

Previous to my invention the great objections to the fastenings used were the liability of the metal plates becoming torn, caused by the unevenness of the size of the nail, and the impossibility of forming a perfectly air and water tight joint around the same; also, the ease and liability of their withdrawing by the contraction and expansion of the metal.

The purpose of the present invention is to remove, as far as possible, the above difficulties; and the invention therefore consists in a fastening for securing the metal roofing, composed of a concavo-convex washer, preferably of soft metal, in connection with a wrought-iron barbed nail.

In the accompanying drawings, A represents a section of a roof, and B the plates, of any suitable metal, connected and secured to the roof by the wrought-metal barbed nail C, and concavo-convex washer D, preferably of lead or other soft metal.

It will be seen that, with this nail, the use of a punch to form the nail-holes in the plates is entirely dispensed with, as the sharp point of the barbed nail easily cuts through several thicknesses of the metal plates, thereby saving time by its use, and the sharp point of the nail separates the fibers of the wood as it enters, said fibers soon after resuming their natural position, intertwining and bracing themselves between the barbs of the nail, which hold it in place as firmly as a screw.

In driving the nail home, the washer D, being composed of a soft material, accommodates itself to any unevenness of the surface of the metal plate, and the head of the nail is embedded and incased in the soft material composing the washer, thus forming a perfectly air and water tight joint, and removing the many objections heretofore experienced in the use of the old fastenings.

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

The method of fastening or securing metallic plates to structures by means of a wrought-metal barbed nail and a concavo-convex washer of soft material, substantially as and for the purpose set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

WILLIAM G. HYNDMAN.

Witnesses:

JOHN F. CURRIER,

ROBT. J. HYNDMAN.