(No Model.)

O. J. WILLARD.

Joining Metal Plates.

No. 237,936. Patented Feb. 15, 1881.

Fig. 1.

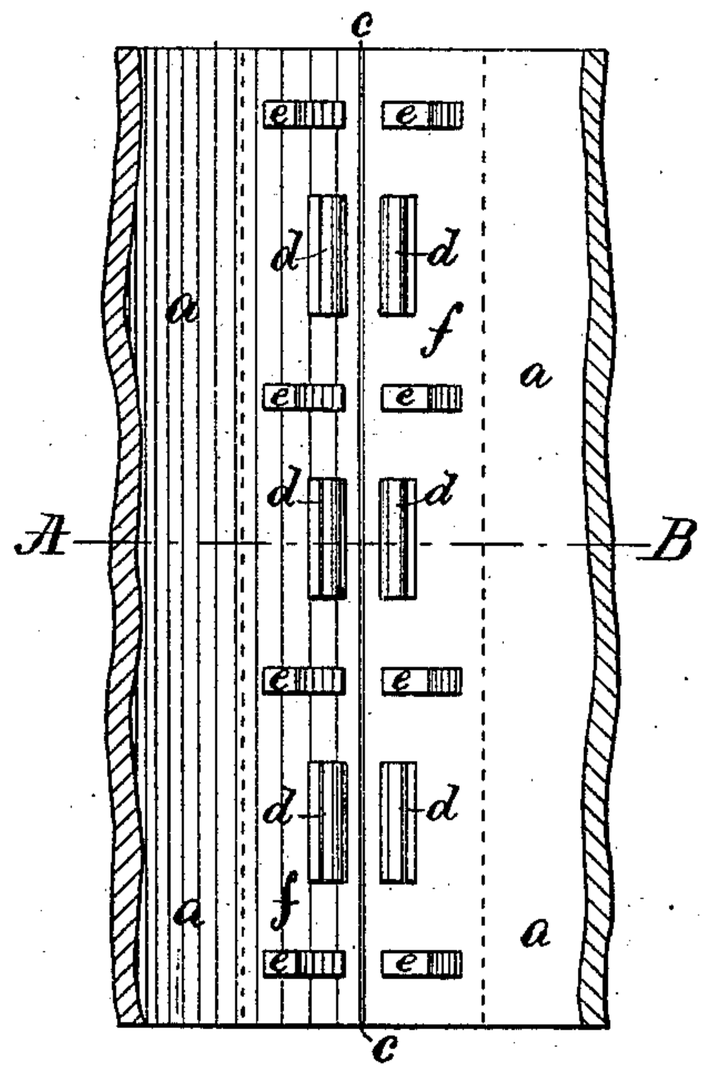


Fig. 2.

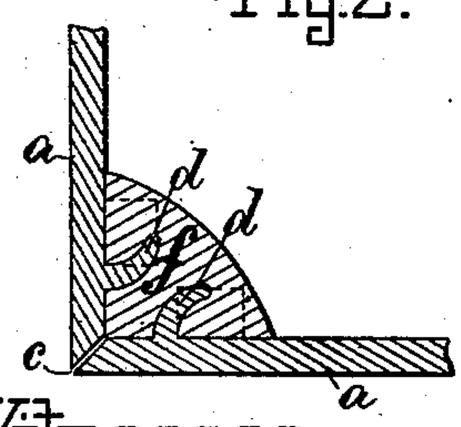
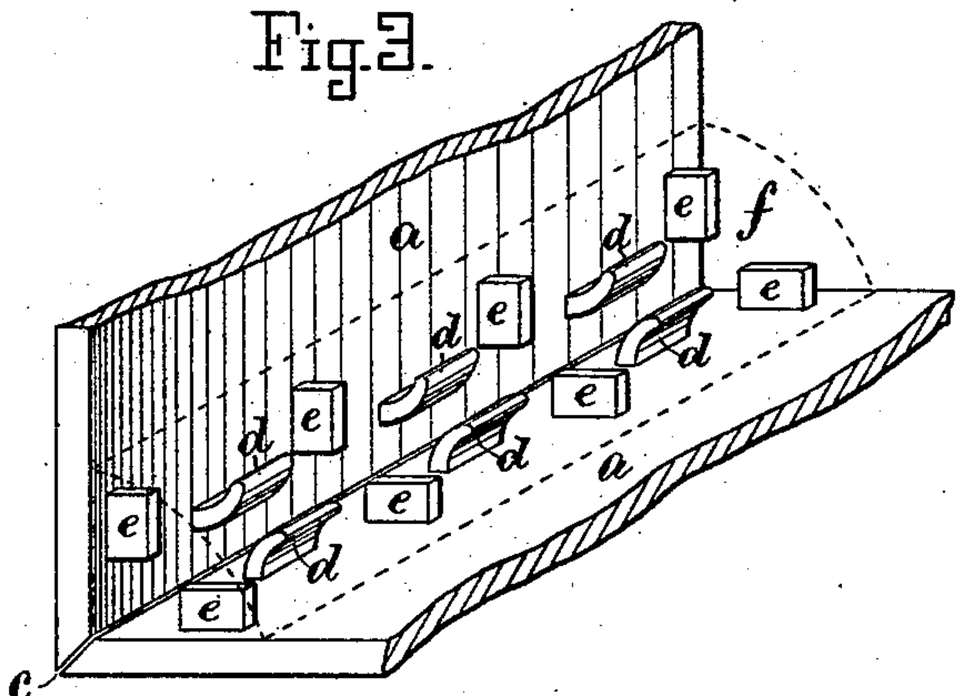


Fig. 3.



Witnesses.

Henry Chadbourn.

John H. Foster

Inventor.

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UNITED STATES PATENT OFFICE.

OSBORNE J. WILLARD, OF MAYVILLE, NEW YORK.

JOINING METAL PLATES.

SPECIFICATION forming part of Letters Patent No. 237,936, dated February 15, 1881.

Application filed October 27, 1880. (No model.)

To all whom it may concern:

Be it known that I, OSBORNE J. WILLARD, a citizen of the United States, residing at Mayville, in the county of Chautauqua and State of New York, have invented certain new and useful Improvements in Joining Metal Plates; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in joining metal plates of cast-zinc or other cast metals used for monuments as well as architectural or other works; and it consists in providing the interior sides of the adjoining plates, near their edges, with a series of inwardly-extending hook-shaped projections and rectangular lugs, which are covered and surrounded with hot molten zinc or other suitable metal after the adjoining plates have been put in their relative position in which they are to be permanently secured, and in this manner I am able to join metal plates together in a very firm and durable manner without the need of tinning or otherwise manipulating the surfaces of the adjoining parts near the joint. This manner of joining metal plates is particularly well adapted for joining cast-zinc plates for monuments, and when used for this purpose the hot molten zinc that is poured around and over the hooks and rectangular lugs aforesaid will fuse with the metal plates, and thus effect a still stronger connection between them. When the molten metal is poured in the angle of the plates to be united permanently, the hooks and rectangular lugs become embedded, as it were, in the molten metal, and in this position the hooks serve to prevent the plates from expanding from each other at a right angle to the joint, and the rectangular lugs serve to prevent the plates from moving in the direction of the joint, and in this manner a powerful duplex lock-joint is obtained at the junction of the plates, depending not alone on the fusion of the hot molten metal with the plates, (which fusion may be dispensed with,) but principally upon the combination of the hooked and rectangular lugs, as above set forth.

On the accompanying drawings, Figure 1 represents an interior front view of the angle of two plates with my device. Fig. 2 represents a cross-section on the line A B, (shown in Fig. 1;) and Fig. 3 represents an inside perspective view of the joint.

Similar letters refer to similar parts wherever they occur on the different parts of the drawings.

a a represent two adjoining metal plates, which are jointed at any desired angle. Each plate is provided, near the meeting edge *c*, with alternate inwardly-extending hook-shaped projections *d d d* and rectangular lugs *e e e*, as shown, and for the purpose set forth.

f represents the molten zinc or other metal or alloy that is poured at the joint, so as to completely cover and surround the hooks *d d d*, as well as the rectangular lugs *e e e*, as shown, and for the purpose described.

The invention, as above described, is equally well adapted for uniting plates adjoining each other on the same level, as may be required in uniting the two parts of what are termed "double-front monuments," or for other or similar purposes.

Heretofore metal plates have been provided, at or near their adjoining edges, with longitudinal cleats, recessed or notched intermediate their ends, and secured together by a body of metal cast around and into the space between the cleats, as in the United States Patent No. 232,074; but such is not my invention.

Having thus fully described the nature and construction of my invention, I wish to secure by Letters Patent, and claim—

The metal plates *a*, each provided with the alternating hook-shaped projections *d* and rectangular lugs *e*, secured together by metal cast around the same, all substantially as and for the purpose described.

In testimony whereof I have affixed my signature in presence of two witnesses.

OSBORNE J. WILLARD.

Witnesses:

ALBAN ANDRÉN,

HENRY CHADBOURN.