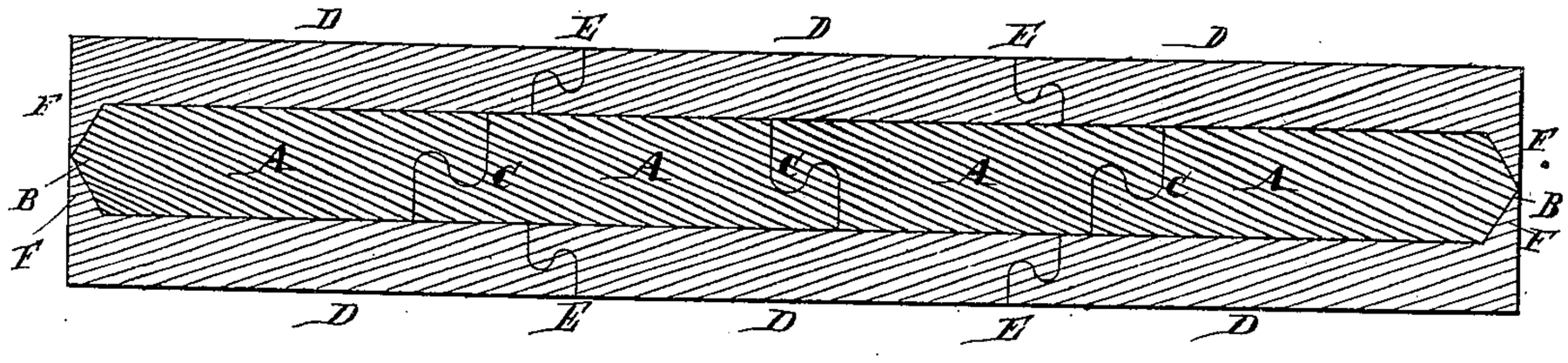
(No Model.)

W. G. HOWELL.

PILE OF IRON AND STEEL.

No. 271,637. Patented Feb. 6, 1883.



Attest
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Inventor:
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UNITED STATES PATENT OFFICE.

WILLIAM G. HOWELL, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO WILLIAM GERHARD, OF SAME PLACE.

PILE OF IRON AND STEEL.

SPECIFICATION forming part of Letters Patent No. 271,637, dated February 6, 1883.

Application filed July 31, 1882. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM G. HOWELL, of the city and county of Philadelphia, and State of Pennsylvania, have invented an Improvement in Piles of Combined Iron and Steel for the Manufacture of Boiler-Plates, &c., of which the following is a specification.

My invention has reference to the manufacture of sheets or plates of combined iron and steel or iron-covered steel; and it consists in making a pile of combined iron and steel, from which to roll said plates or sheets, by placing peculiarly-formed bars of iron upon equivalently-shaped bars of steel, whereby said bars may be made very thin without danger of the joints, after rolling, being unwelded, as more fully set forth in the following specification, and shown in the accompanying drawings, which form part hereof.

Heretofore it has been customary to make a pile by placing only a single iron bar upon one side of a steel billet or pile of steel bars; but never, to my knowledge, has a series of plates been laid side by side with their narrow edges in contact and having their joints so formed that a sure weld is the result.

The object of my invention is to form a pile of combined iron and steel of sufficient width that wide boiler-plate may be rolled therefrom, as well as sheets from which to make skelps for pipe and boiler-flues.

In the drawing is shown a cross-section of my improved pile of combined iron and steel.

A are the steel bars, and D are the iron bars, which are preferably made of puddle-bars. The joints C between any two adjoining edges of the steel bars A are made in such a manner that they fit into or lap upon each other. The same is true of the joints E between the edges of the iron bars D. The outer edges of the two end steel bars are jointed, as at B, and the end puddle-bars, D, are provided with corresponding projections, F, which, when the steel bars A are inclosed by the puddle-bars D, form a complete pile of combined iron and steel having a rectangular cross-section. A pile of this construction may be made very wide.

When this pile is heated and passed through the rolls the iron and steel are welded together, as is also the steel to steel and iron to iron, no matter how thin the puddle-bars may be, this being one of the most important features of the pile.

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

1. The herein-described pile of combined iron and steel from which to manufacture boiler-plate, skelps for pipe and boiler-flues, &c., which consists of two or more bars of steel placed side by side, the edges of said bars lapping upon each other, the said steel bars being covered with wrought-iron or puddle bars laid side by side, and having their adjacent edges lapped one on the other, substantially as set forth.

2. The herein-described pile of combined iron and steel from which to manufacture boiler-plate, skelps for pipe and boiler flues, &c., which consists of two or more steel bars, A, having pointed edges B and joints C, in combination with iron bars D, having projections F and joints E, the whole forming a pile substantially rectangular in cross-section, substantially as described.

In testimony of which invention I hereunto set my hand.

WM. G. HOWELL.

Witnesses:
R. S. CHILD, Jr.,
R. M. HUNTER.