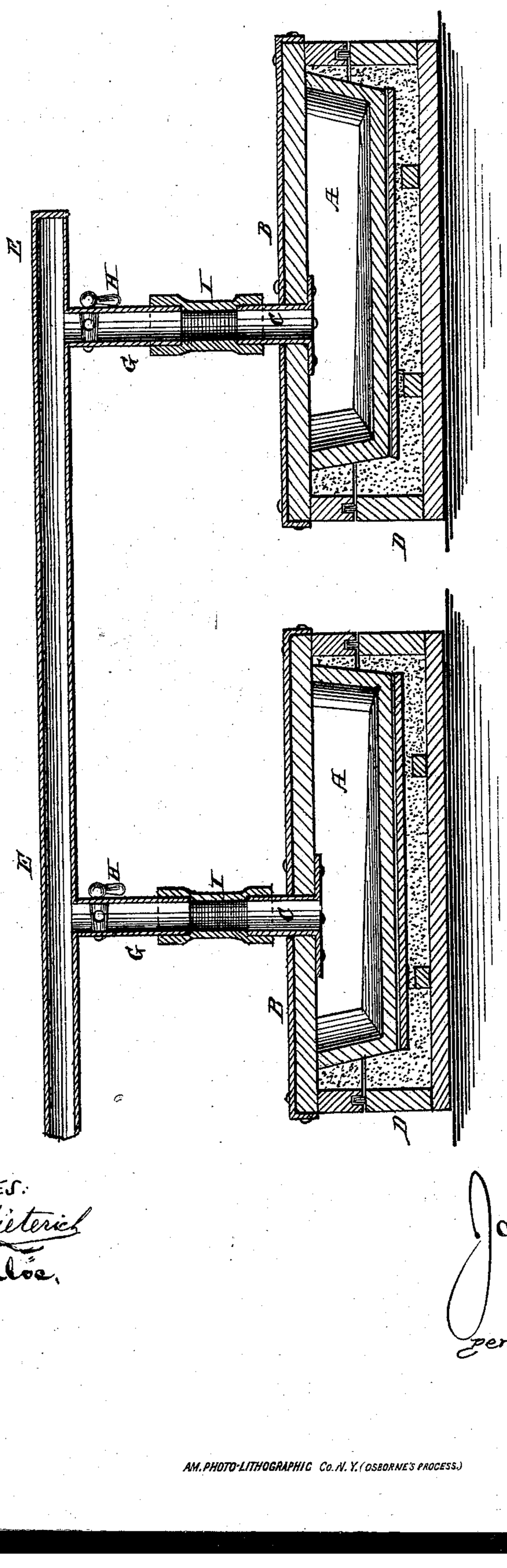
J. OLIVER.

Chills for Casting Mold-Boards.

No. 150,882. Patented May 12, 1874.



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UNITED STATES PATENT OFFICE.

JAMES OLIVER, OF SOUTH BEND, INDIANA.

IMPROVEMENT IN CHILLS FOR CASTING MOLD-BOARDS.

Specification forming part of Letters Patent No. **150,882**, dated May 12, 1874; application filed February 26, 1874.

To all whom it may concern:

Be it known that I, JAMES OLIVER, of South Bend, in the county of St. Joseph and State of Indiana, have invented certain new and useful Improvements in Device for Heating Chills for Casting Mold-Boards; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

The nature of my invention consists in a device for heating chills to be used in casting mold-boards by steam, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to use the same, I will now proceed to describe an apparatus whereby my process may be carried out, referring to the annexed drawing, in which the figure is a longitudinal section of a device embodying my invention.

A represents the ordinary chill-pan as used in the hot-water device. On the top of this pan I bolt a cast-iron cover, B, packed with rubber or other suitable material to make the joint steam-tight. Through the cast-iron cover B, at any desired point, is inserted a nipple, C, made of iron tubing, three inches long, more or less. Steam is brought from an ordinary steam-boiler to the chill D by means of steam-pipe E, laid under ground or overhead. From this main steam-supply pipe I bring a branch pipe, G, provided with a shut-off valve, H, to within three feet, more or less, of the chill to be heated, and connect this branch pipe with the nipple C in the pan-cover by means of a rubber tube, I, which allows the pans A to be placed in any convenient position in relation to the steam-pipe E, owing to the flexibility of the tube I.

Previous to connecting the chill with the branch pipe the flask J is molded up in the usual manner, and a few minutes prior to pouring in the melted iron steam is let into the chill-pan by opening the shut-off valve. Steam then enters the chill-pan, a portion of which is condensed by coming in contact with the cold iron. As the chill becomes heated the condensation of steam lessens, until, in a few minutes, the chill-pan is about half filled with boiling water and the remaining portion is filled with live steam.

By this means the chill is heated much hotter than is possible with the use of hot water applied in the usual manner; the sand is kept dry, as no slopping or boiling over occurs, and much time and labor are saved over the hot-water process. The foundry is not filled with steam-vapor as when hot water is used.

Any number of these flasks and pans may be set in a row and heated by means of branches from the pipe E.

I am aware that chills have been before heated by steam, and I do not, broadly, claim such device; but

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

The chill-pans A, provided with metal covers B, having nipples C, in combination with flexible tubes I, branch pipes G, with valves H, and the steam-pipe E, substantially as and for the purpose specified.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

JAMES OLIVER.

Witnesses:
J. D. OLIVER,
W. G. GEORGE.