(No Model.)

G. WIARD.

CHILLED PLOW POINT.

No. 277,816. Patented May 15, 1883.

Fig. 1

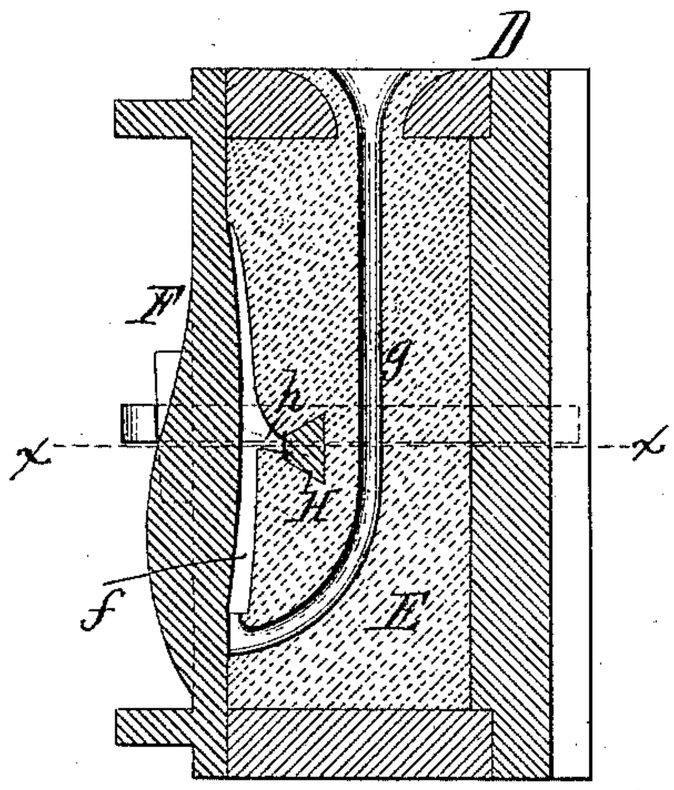


Fig. 2.

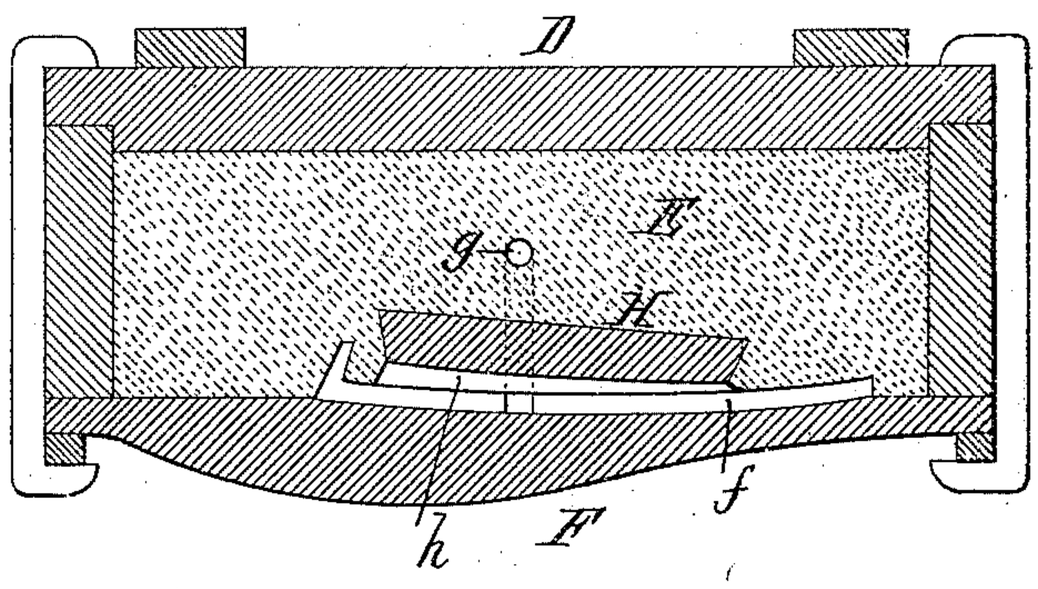
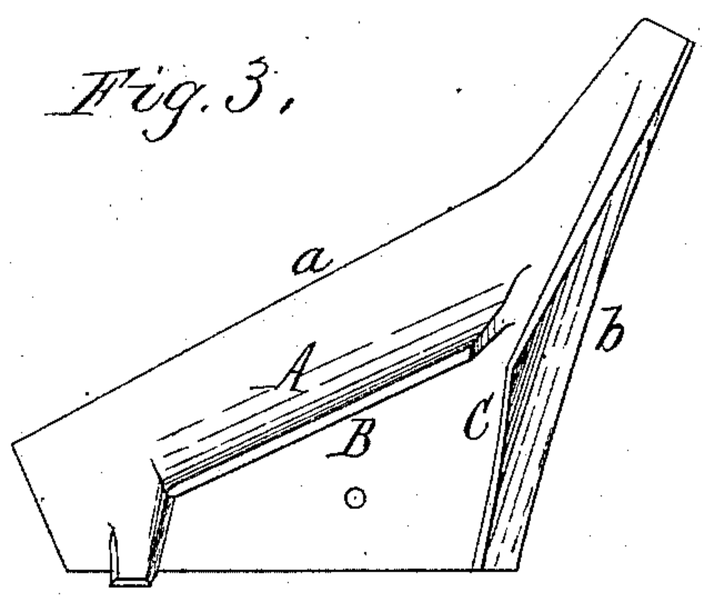


Fig. 3.



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UNITED STATES PATENT OFFICE.

GEORGE WIARD, OF BATAVIA, NEW YORK, ASSIGNOR TO THE WIARD PLOW COMPANY, OF SAME PLACE.

CHILLED PLOW-POINT.

SPECIFICATION forming part of Letters Patent No. 277,816, dated May 15, 1883.

Application filed April 4, 1882. (No model.)

To all whom it may concern:

Be it known that I, GEORGE WIARD, of Batavia, in the county of Genesee and State of New York, have invented a new and useful Improvement in Chilled Plow-Points, of which the following is a specification.

It is well known that plow-points which are chilled on their faces or edges warp, spring, or otherwise change their form more or less, owing to the unequal hardening of the molten metal, sometimes to such an extent as to render them unfit for use; also, that strains are produced in the castings by this unequal contraction of the metal, which render such castings liable to be broken by comparatively light shocks or blows, and which often cause the fracture of such castings in the absence of any other cause.

The object of my invention is to remedy this difficulty; and my invention consists of a plow-point having its face and the back of one of its ribs chilled, whereby two rigid surfaces of metal are formed on the face and back of the point, which prevent the intermediate body of molten metal from springing or warping the point in hardening, thereby producing a true point.

In the accompanying drawings, Figure 1 is a vertical section of the mold in which the points are cast. Fig. 2 is a horizontal section thereof in line *x x*, Fig. 1. Fig. 3 is a rear elevation of the plow-point.

Like letters of reference refer to like parts in the several figures.

A represents the body of the plow-point, *a* the front edge, and *b* the base thereof.

B C are two ribs arranged on the rear side of the body A, and forming an angular recess, which receives the lower end of the standard. The rib is arranged parallel with the front edge of the point, or nearly so, and is arranged nearer the center of the body A than the rib C, which is arranged along the base *b* of the point.

D represents the flask or frame of the mold, and E the sand which is rammed into the flask D.

F represents the chill-plate, secured to the side of the flask D; and *f*, the hollow space formed in the sand, corresponding in form with the plow-point to be produced, and designed to receive the molten metal. The chill-plate F forms the outer wall of the hollow space *f*, and the body of sand E the inner wall thereof.

g represents the passage or channel leading from the top of the mold to the bottom of the hollow space *f* for conducting the molten metal to the latter.

h represents the enlargement on the rear side of the hollow space *f*, in which the rib B on the back of the plow-point is formed, and H represents a bar of iron embedded in the sand E of the mold, so as to form the rear or inner wall of the enlargement *h* of the space *f*, as clearly shown in Figs. 1 and 2. The molten metal enters the space *f* through the channel *g*, and those portions of the metal which come in contact with the chills F and H set or harden immediately, thereby forming rigid bars or plates on the extreme front and rear sides of the point. The molten metal contained in the space *f* between the hard portions of the metal in contact with the chills sets gradually from the chilled portions inward until the metal has become completely hard and cold. The rigid chilled portions on both sides of the casting prevent the intermediate mass of soft metal from drawing the casting out of shape in hardening, thereby producing a plow-point which is true in all respects. This is very essential, as even slight variations in the form of these points render it difficult to attach the points to the standards, while considerable variations render such attachment impossible. A similar chill-bar may be employed to chill the back of the rib C, if desired.

I claim as my invention—

A plow-point constructed on its back with a rib or enlargement, and having its face and the rib or enlargement chilled, substantially as shown, and for the purpose set forth.

GEORGE WIARD.

Witnesses:
JOHN W. PRATT,
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