

J. OLIVER.

Chilled Mold-Boards for Plows.

No. 148,235.

Patented March 3, 1874.

Fig. 1.

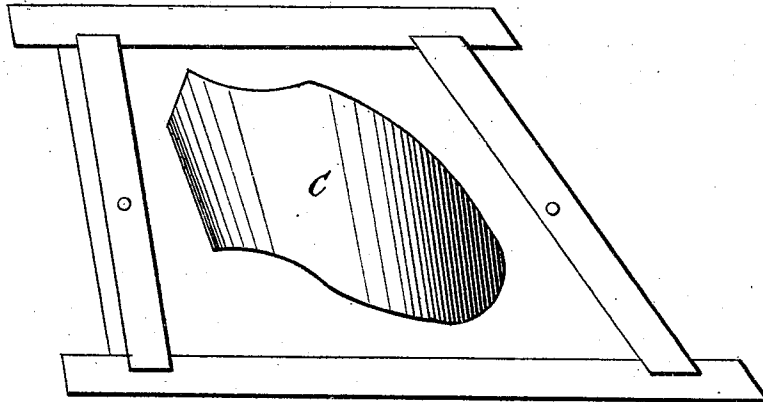
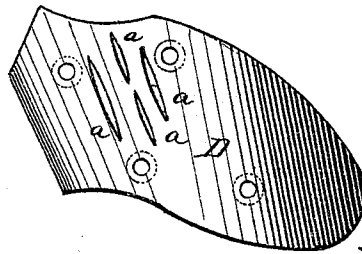


Fig. 2.



WITNESSES.

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JAMES OLIVER, OF SOUTH BEND, INDIANA.

IMPROVEMENT IN CHILLED MOLD-BOARDS FOR PLOWS.

Specification forming part of Letters Patent No. **148,235**, dated March 3, 1874; application filed January 29, 1874.

CASE A.

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 Chills for Casting Mold-Boards for Plows; 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 casting grooves in the backs of chilled mold-boards, for the purpose of preventing the twisting of the mold-board in casting, as will be herein-after more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe the manner in which I accomplish the object, referring to the annexed drawing, in which—

Figure 1 is a plan view of flask and chill. Fig. 2 is a view of the back of the mold-board.

When melted iron is poured into a flask containing a mold-board chill, the iron that is to form the face of the mold-board casting comes in direct contact with the chill, which rapidly cools the face of the casting, thereby chilling or hardening it to a greater or less depth. This chilling process contracts the face of the casting, to the depth it is chilled, more than the back of the casting, which is not chilled, in consequence of which the casting is sprung or warped out of shape to a greater or less extent, depending on the depth to which the metal is chilled. For instance, a mold-board that is chilled half through the thickness of the metal will warp more than one that is

chilled two-thirds through. This warping makes it difficult to fit chilled mold-boards to plow standards and points, and many are unfit for use after casting, while nearly all of them have to be ground, chipped, and filed on the backs, to make them fit properly, before they can be set up. To overcome this warping, I cast grooves in the back of the chilled mold-board castings at the point where they rest on the standards when set up for use.

In the back of the pattern D are made any suitable number of grooves, *a a*, of suitable depth, and the pattern, used in the usual manner, producing corresponding grooves in the back of the mold-board. These grooves effectually prevent the mold-boards twisting or warping, by separating in several sections that portion of the metal which forms the back or inclined part of the mold-boards, so that the backs, instead of being of one piece, to warp or twist by the unequal contraction in cooling, have the warp, twist, or strain confined to the narrow sections between the grooves, thereby breaking the power of the strain, which otherwise would twist the castings out of shape.

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

A series of grooves cast in the back of a chilled mold-board for plows, substantially as and for the purposes herein set forth.

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

JAMES OLIVER.

Witnesses:

C. H. WATSON,
HARRY C. SCOTT.