

J. OLIVER.
Casting Mold-Boards.

No. 147,158.

Patented Feb. 3, 1874.

Fig. 1.

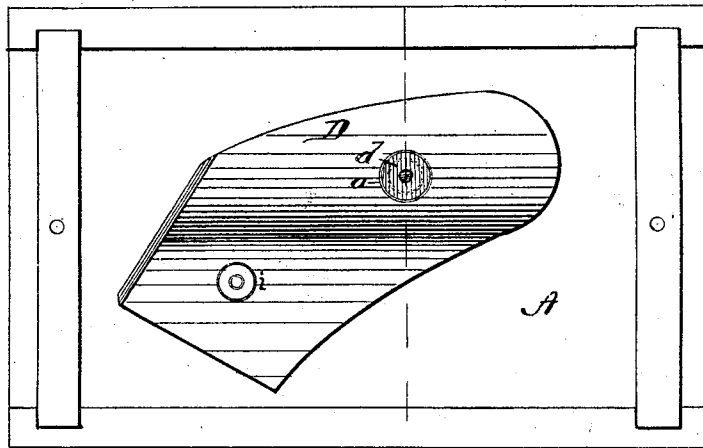


Fig. 2.

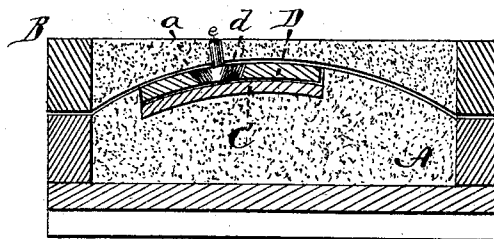
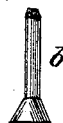


Fig. 3.



WITNESSES.

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JAMES OLIVER, OF SOUTH BEND, INDIANA.

IMPROVEMENT IN CASTING MOLD-BOARDS.

Specification forming part of Letters Patent No. **147,158**, dated February 3, 1874; application filed January 14, 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 Casting Plow Mold-Boards; and 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.

My invention relates to the process of casting beveled bolt-holes in mold-boards when cast on chills; and the nature of my invention consists in providing the mold-board pattern with tapering holes, having the largest diameter on the back, for the purpose of holding prints; also in the use of prints turned to fit the tapering holes in the pattern; and in the use of chilled cores, having stems corresponding with the stems of the prints, all as hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to use it, I will now proceed to describe how my process is carried out, referring to the annexed drawing, in which—

Figure 1 is a plan view of the drag of the mold with the chill and pattern in position. Fig. 2 is a transverse section of the entire mold through the line *xx*, Fig. 1; and Fig. 3 is a side view of the core used.

A represents the drag and B the cope of the mold. C is the chill, and D is the pattern. In the mold-board pattern D are formed tapering holes *a*, with the largest diameter on the back side of the pattern. *d* represents the print, made to conform to the shape of the hole *a*, and provided with a stem, *e*, the head of the print extending through the pattern D, and being flush with the chill C. The pattern D is placed on the chill C, and the print *d* placed in the hole of the pattern, the stem *e* extending upward in the cope, the same being filled and rammed with sand in the usual man-

ner, as shown in Fig. 2. The cope is now removed from the drag, and the print is removed with it from the hole in the pattern. The print is removed from the cope, and the core, or the stem of the core, inserted in the cope, in the impression made by the stem of the print. The pattern is removed from the face of the chill, and the cope replaced, when it is ready for casting.

The object of using the print of the form described is twofold: first, it forms a guide for the core; and also, by having the largest diameter on the back of the pattern, the sand is left more even when the print is removed. The core *b* is made with a stem similar to the stem on the print and the head inverted, or with the largest diameter to rest on the face of the chill, when it takes the place of the print, so that in casting the chill mold-board the hole in the same is the reverse of the hole in the pattern, as shown at *i*, Fig. 1, or the largest diameter of the hole in the mold-board is on the face of the same.

Holes may be made without the previous use of the print; but by using it the dies are prevented from getting out of place, and uniform results are secured, with great economy of time.

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

1. The pattern D, in combination with the print *d*, having tapering head, substantially as and for the purpose herein specified.

2. The core *b*, having head of reversed construction from the print, in combination with a mold and chill, for the purpose described.

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

JAMES OLIVER.

Witnesses:

F. C. NIPPOLD,
R. C. THOMPSON.