Truesdale & Sennett,

Pattern for Casting.

No. 51,366. Patented Dec. 5, 1865.

Fig. 1.

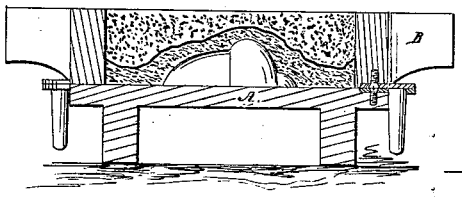


Fig. 2.

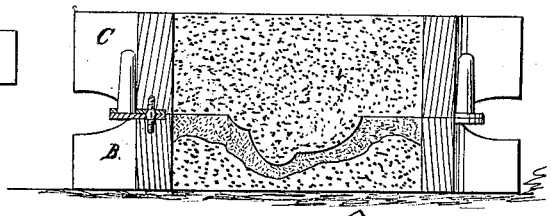


Fig. 3.

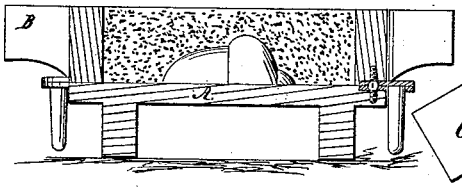


Fig. 4.

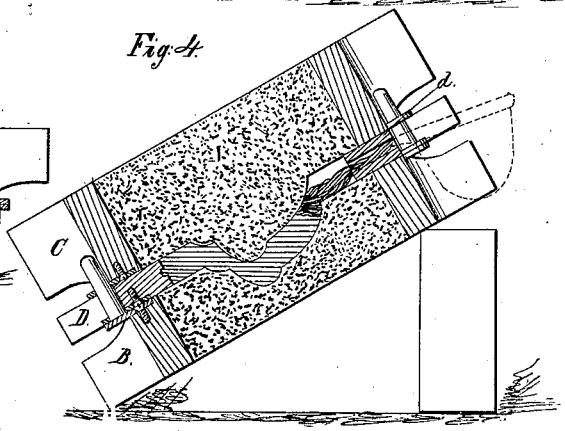


Fig. 5.

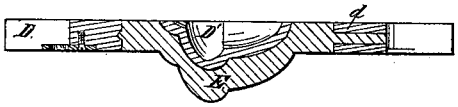


Fig. 6.

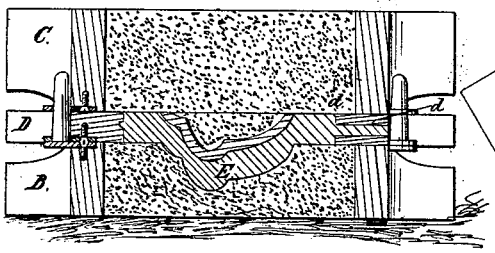
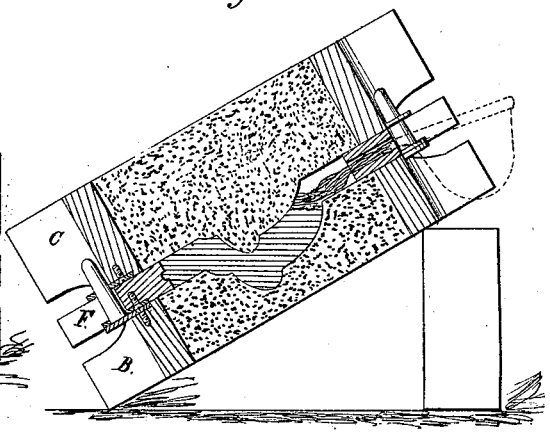


Fig. 7.



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UNITED STATES PATENT OFFICE.

CHARLES TRUESDALE AND ABNER J. SENNETT, OF CINCINNATI, OHIO.

IMPROVEMENT IN MANUFACTURE OF MOLDERS' MATCH-PLATES.

Specification forming part of Letters Patent No. 51,366, dated December 5, 1865.

To all whom it may concern:

Be it known that we, CHARLES TRUESDALE and ABNER J. SENNETT, of Cincinnati, Hamilton county, Ohio, have invented a new and Improved Process for the Manufacture of Patterns and Match-Plates; and we do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification.

Our invention relates to a mode of obtaining the reverse side from pattern-blocks for ornamental castings or relievos, stove-designs, patterns, &c.

Figures 1 to 7, inclusive, represent successive stages of our process.

Upon a pattern-block, A, having the customary guide eyes or plates, we place a drag, B, and pour over the block A sufficient plaster-of-paris to form a preliminary matrix, and ram in behind with sand. (See Fig. 1.) We then turn the drag and pattern-block, withdraw the block from the plaster cast, put the cope C on the drag, fill the cope with molding-sand, and compress the sand in the usual way. (See Fig. 2.) We then lift or separate the cope C from the drag B, destroy the preliminary matrix, and return the drag B to the pattern-block A, and again fill the drag B, but this time wholly with molding-sand. (See Fig. 3.) We then turn the drag and pattern-block and withdraw the block from the drag. We then reverse the drag and place upon it an open wooden frame, D, having suitable eyes to fit the pins of the drag, and a gate, *d*, for the reception of a mastic composed of two parts of mineral pitch, one part of pulverized soapstone or brick-dust, and one part of sawdust or other suitable molding composition, which is then poured in, the entire flask being set at a suitable cant to insure the entrance of the composition without washing away the face of the mold. (See Fig. 4.) The composition cast, having sufficiently cooled, is then withdrawn, frame and all, from the flask, and its obverse surface D′ is coated with wax, or a mixture of paint and sand or other suitable substance, to a corresponding thickness with that desired for the ultimate cast or pattern. (See Fig. 5.)

The cast E thus obtained is a permanent and durable fac-simile of the block A, the delicate outlines of which, being usually worked in putty or wax, are very fragile and easily injured.

By the process described the most delicate outlines are preserved in a durable form, and not liable to injury by workmen.

The block A can be preserved or worked over for other purposes.

A complete composition cast may now be obtained by taking a sand mold of Fig. 5, as at Fig. 6, and replacing the plate D E with an empty frame, F, and running composition therein. (See Fig. 7.) We have then a permanent and exclusively composition cast of both surfaces of the object, which cast may be used for any length of time in the ordinary way of using match-plates.

To obtain either castings or metallic patterns from the composition casts made in the manner described above, they are molded in the usual way that single and double faced match-plates are.

The usual way of obtaining a reverse side from a pattern-block is to take the block and inclose it with a frame with the customary pins and guide-eyes and take a cast therefrom in plaster, then remove the cast and put a thickness on the plaster with wax or with a composition of paint and sand. A reverse obtained in this way is subject to the following among other disadvantages:

First, when the cast is taken the wood absorbs a portion of the moisture from the plaster and expands before the plaster sets, and when dry the wood contracts. Thus the frame becomes lower than the plaster cast, and to a certain extent loose therefrom, thereby rendering it impossible to obtain a perfect casting. It can only be used with success before the wood contracts.

Second, a reverse obtained in this way is liable to absorb moisture from the atmosphere and natural dampness of foundries, which causes it to easily crumble.

Third, the waste of material. Owing to the causes stated above, new reverse sides to pattern-blocks, such as desirable designs for stove-patterns, have to be frequently taken, and each cast so taken must have a thickness put on the reverse, the old material being thrown out as refuse.

The following are among the many advantages of a composition cast made in the manner described:

First, it will not change from the effects of atmospheric heat or cold and is impervious to moisture.

Second, it is easily prepared for use. If

properly made, is ready for the molder after being cast, with no other labor than putting on the thickness. (See Fig. 5.)

Third, an original being cast and the thickness put on, it can be copied or duplicated to any extent desirable, and is ready for use after being cast, with no other labor.

Fourth, the composition tenaciously adheres to wood, never liable to become loose, and if by accident the casts should be injured the material can be remelted and used again.

Our process may be slightly modified by applying the thickness of wax or paint and sand to the plaster matrix, (see Fig. 1,) so as to dispense with the operations shown in Figs. 5, 6, and 7.

We claim herein as new and of our invention—

The mode or manner, substantially as described, of obtaining two-faced match-plates in mastic from the original block.

In testimony of which invention we hereunto set our hands.

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ABNER J. SENNETT.

Witnesses:
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