

T. F. HAMMER.
MOLDERS' FLASK.

No. 177,395.

Patented May 16, 1876.

Fig. 3.



Fig. 2.

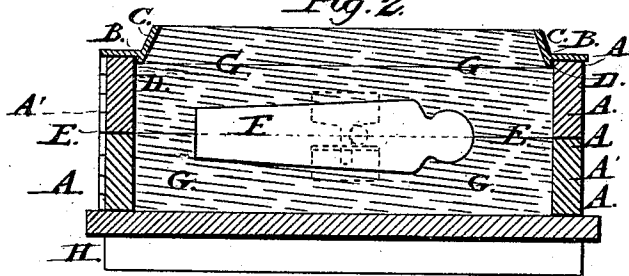
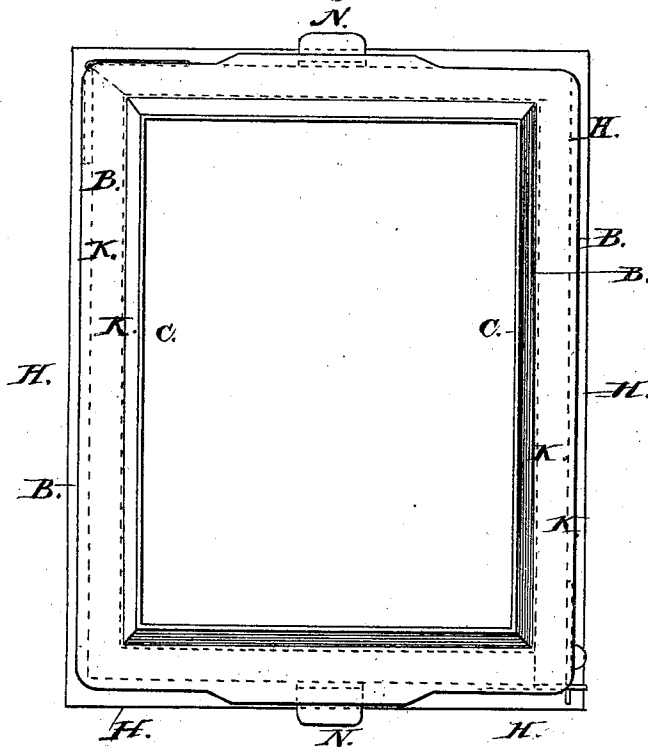


Fig. 1.



Witnesses
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THORVALD F. HAMMER, OF BRANFORD, CONNECTICUT.

IMPROVEMENT IN MOLDER'S FLASKS.

Specification forming part of Letters Patent No. **177,395**, dated May 16, 1876; application filed March 25, 1876.

To all whom it may concern:

Be it known that I, THORVALD F. HAMMER, of Branford, in the county of New Haven and State of Connecticut, have invented a new and useful Molder's Plate for Banking the Sand on Flasks for Molding-Machines, which invention is fully set forth in the following specification, reference being had to the accompanying drawings.

Figure 1 is a top view of the flask with the banking flange-plate on it, and bottom board under it. Fig. 2 is a vertical cross-section of the flask, the flange-plate, and the bottom board, showing also a pattern in the sand in said flask. Fig. 3 is a cross-section of the presser-board used in pressing down the banked sand in the flask.

The object of my invention is to facilitate the process of molding, when molding-machines are used for pressing the sand in the flasks instead of the common way of ramming by hand. It is a common practice, after the flask is filled with sand, to strike it off even with the top of the flask, then to use a presser-board, which fits neatly into the flask, and then, when the pressure is applied by the molding-machine, it forces the board down into the flask. In this process it is necessary to have the presser-board of a size and shape to exactly correspond with the inside of the flask used therewith, and if, as may often happen by rough and careless handling, the flask is in any forced out of its original shape, the pressure-board will not fit it, and therefore cannot be pressed down into it. To avoid any trouble of this kind, it is thought best to use a process by which the sand can be banked up above the flask to such an extent that its pressure down even with the top of the flask, or nearly so, will produce the required compactness therein to form the mold, and by this process boards of any convenient size, as large or larger than the top of the flask, may be used.

In order to use my newly-invented flange-plate, I prefer to make my flasks in the usual way, with square edges, as seen at A A A, Fig. 2. The section of the flask itself is seen at A' A' A' A'. The parting between the half flasks is seen at E, Fig. 2. F represents the pattern, and G G G G the sand in the

flask in Fig. 2. A cross-section of the flange-plate is also seen in Fig. 2, where B B shows the plate entirely covering the edges of the flask A' A', thus completely preventing the sand from resting thereon. C C shows the bevel or incline flange of the same with its lower edge extending down a short distance into the flask, as seen at D D, Fig. 2, for the purpose of keeping it in its proper place on the flask. As said flange C C regulates the amount of the banking of the sand, which is, after being filled into the flask and flange, struck off with a straight edge even with its top, it must be of the proper height above the flask to insure the necessary compactness in the sand when it is forced down with the presser-board, even, or nearly so, with the top of the flask, after the flange-plate is removed therefrom, and the inclination or bevel of the said flange C C must be such that after it is filled with the sand and it struck off as above mentioned, and the flange-plate removed, that no part of the sand thus banked above the flask, will, while it is being forced down with the presser-board, be forced over or on the edges of the flask, as that would prevent the presser-board from coming down closely on the flask.

At H, Fig. 2, is seen what may be called the bottom board of the flask, as it is there located, but when the lower part of the flask as seen in Fig. 2, was being filled, and the side now shown down was up, with the flange-plate on it as seen at B B, what is now shown as the bottom board H may have been used as the presser-board O of Fig. 3.

In Fig. 1, in dotted lines, is seen a top view of the flask A' A' A' A' resting on the bottom board, a small margin of which is seen at H H H H. At B B B B is seen the flat or horizontal part of the flange-plate, and C C shows the bevel or inclined part of the same. At N N is shown the lugs for the steady-pins of the flasks to keep the two parts of the same together properly.

In using my invention I take one-half flask A' A' and place it bottom, side, or edge up on a board, on which is placed the pattern to be molded, and I then place the flange-plate B B C C on the then upper edge of the half-flask A' A', and fill them both up with sand above the top of the flange, and then strike it off

even with the top of the same with a straight-edge, then remove the flange-plate B C, and thus the sand will be left banked above the top of the flask A' A' to an extent equal to the altitude of the flange C above the said flask. I then place the presser-board H on the banked sand, and apply a sufficient pressure to the said board by means of a molding-machine or otherwise, to force it down closely, or nearly so, to the top of the flask A' A'. I then turn the flask over, using the presser-board H as a bottom board, as seen in Fig. 2, and remove the board upon which the flask A' and pattern have been resting, leaving the pattern in the sand, and dress up, if necessary, the parting E, and apply parting sand, using any method desired to form the gate or sprue. I then place the other half-flask on the one now filled with sand, and on its top I place the flange-plate B C, and fill up with sand, and strike off the same as before; re-

move the flange-plate, put on the presser-board O, and apply the pressure, all as above described; then lift off the presser-board O and the upper half-flask A' A', and remove the pattern in the usual way, and close the flask, and it is then ready to receive the metal.

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

1. The above-described molder's plate B B C C, having projections D D, all substantially as and for the purposes shown and described.

2. The flange-plate B B C C D D, in combination with a molding-flask with square or flat edges, as seen at A A, Fig. 2, all substantially as and for the purposes set forth.

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Witnesses:

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