(No Model.)

H. V. MOORE.

MOLDER'S APPARATUS.

No. 575,304. Patented Jan. 12, 1897.

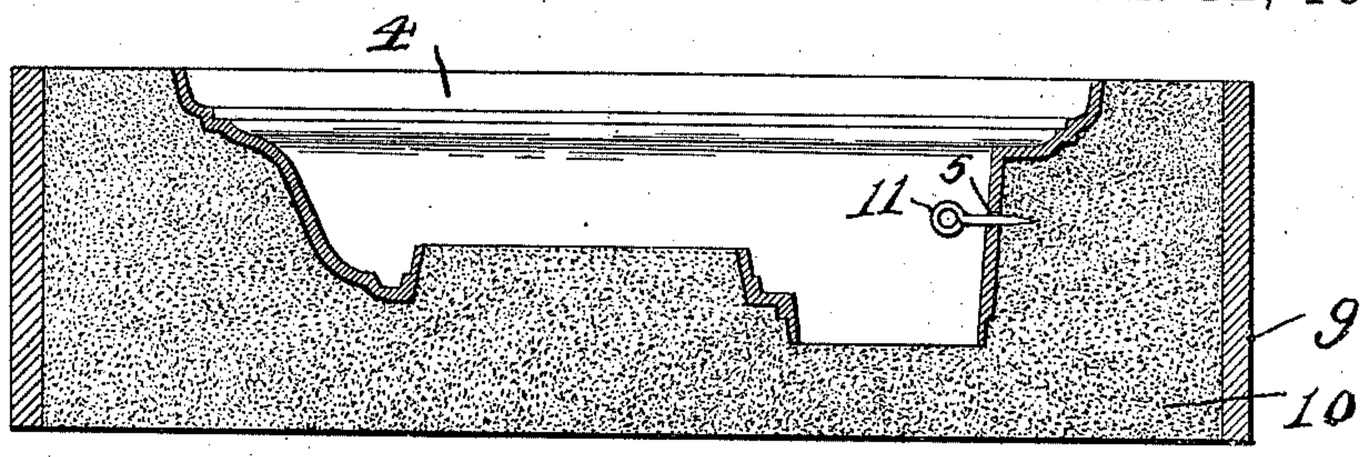

FIG. 3.

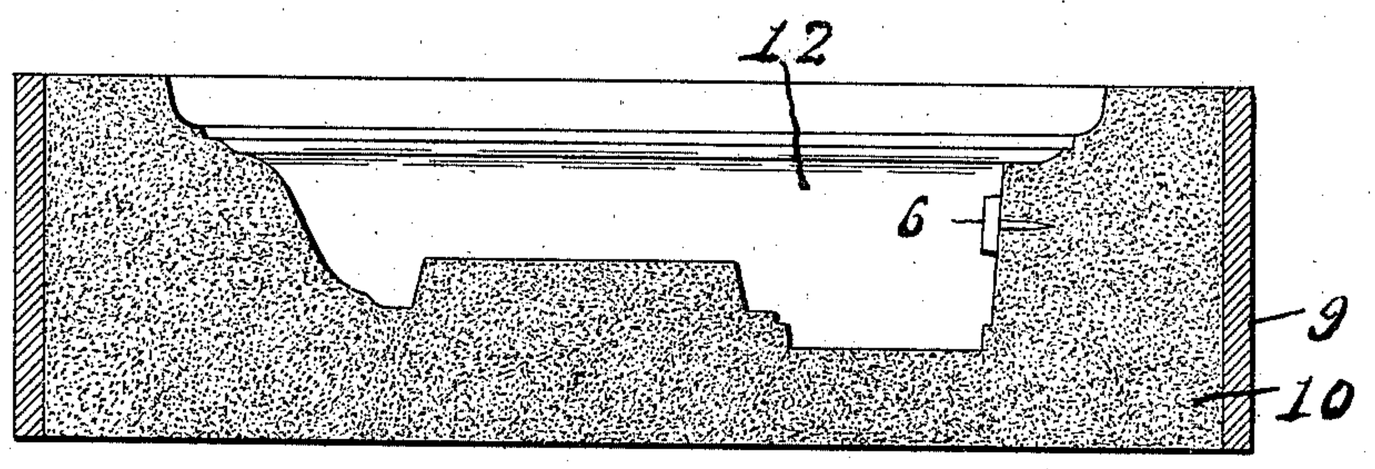

FIG. 4.

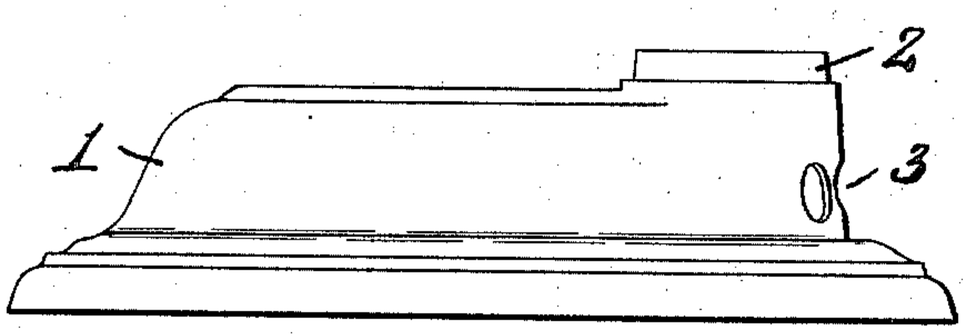

FIG. 1.

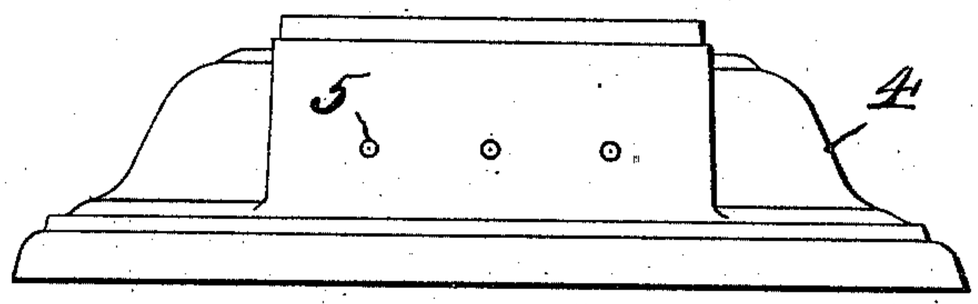

FIG. 2.

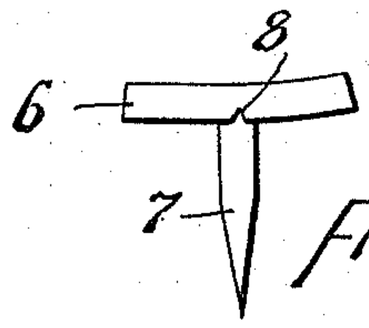

FIG. 6.

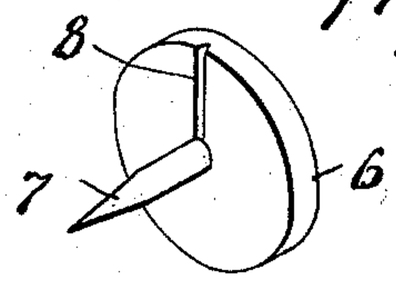

FIG. 5.

Witnesses:
E. R. Shipley.
M. S. Belden.

Harry V. Moore
Inventor
by James W. See
Attorney

UNITED STATES PATENT OFFICE.

HARRY V. MOORE, OF HAMILTON, OHIO, ASSIGNOR TO F. & L. KAHN & BROS., OF SAME PLACE.

MOLDER'S APPARATUS.

SPECIFICATION forming part of Letters Patent No. 575,304, dated January 12, 1897.

Application filed June 27, 1895. Serial No. 554,203. (No model.)

To all whom it may concern:

Be it known that I, HARRY V. MOORE, of Hamilton, Butler county, Ohio, have invented certain new and useful Improvements in Molders' Apparatus, of which the following is a specification.

This invention pertains to improvements in molders' apparatus for use in metal founding, and the invention will be readily understood from the following description, taken in connection with the accompanying drawings, in which—

Figure 1 is a side elevation of a stove-top produced by the aid of my improved apparatus; Fig. 2, a rear elevation of the pattern employed in producing the casting represented in Fig. 1; Fig. 3, a vertical section of half of the mold with the pattern in place therein and ready for withdrawal therefrom; Fig. 4, a similar section of the half-mold in condition after the pattern has been withdrawn and the chill-cores inserted; Fig. 5, a perspective view of one of the chill-cores, and Fig. 6 the plan of one of the chill-cores.

In the drawings, 1 indicates a top casting for a heating-stove; 2, the pipe at the top thereof; 3, air-ports in a vertical wall portion of the stove-top, such openings being usually covered by means of a sliding register; 4, the pattern to be employed in producing the mold for the casting represented in Fig. 1, this pattern being identical with the casting to be produced except as regards the matter of shrinkage and another detail to be now referred to; 5, small centering-holes through that vertical wall portion of the pattern where the air-ports 3 in the finished casting are to come, these small holes 5 corresponding in position with the centers of the air-ports 3; 6, a disk of metal having an exterior form and size corresponding with the air-ports 3, to be formed in the pattern, and having a thickness corresponding with the thickness of the wall of the pattern at these air-ports and having their peripheries formed with a taper or draft; 7, a pin projecting from the face of disk 6 and having a diameter about that of holes 5 in the pattern; 8, a guide-mark on disk 6; 9, the half-flask in which the half-mold is formed; 10, the sand therein forming the half-mold; 11, an awl or centering-pin of a size corresponding with holes 5 in the pattern, and 12 the cavity in the half-mold formed by the withdrawal of the pattern.

The mold is rammed up as usual and then opened, leaving the half-mold with the pattern in it, as indicated in Fig. 3. While the mold is being rammed up no attention need be given to holes 5 in the pattern, and these holes may and in practice generally do become filled with sand. When the half-mold is in the condition indicated in Fig. 3 and before withdrawing the pattern, the awl or centering-pin 11 is punched through each of the holes 5, thus punching a hole in the mold-sand outside the pattern. The awl is then removed and the pattern withdrawn, as usual. The chill-cores 6 are then put in place with pins 7 in the holes previously punched in the sand by the awl, the chill-cores being pressed up snugly against the sand-wall of the mold. This brings the peripheries of the chill-cores concentric with the points represented by the holes 5 in the pattern, and consequently gives the exact proper location to the chill-cores. The chill-cores will have such facial curvature as may be called for by the curvature of the wall of the casting in which the air-ports 3 are to be cast. It follows that the chill-cores must be put in place with the proper portion of their edges uppermost. Guide-marks 8 serve in determining the proper position for the chill-cores. When the chill-cores are in place, then the flask is closed in the usual manner. When the mold is thus closed, the chill-cores extend from outer wall to inner wall of the mold-space, and when the metal is poured these cores will form the air-ports in the casting. When the casting is shaken out, the chill-cores come with it and may be easily knocked out for reuse, and the removal of the chill-cores will be rendered easier if they have a wash of blacking or clay applied to them before being put into the mold.

I claim as my invention—

In a molding apparatus, the combination, substantially as set forth, of a half-flask, a pattern therein having a portion substantially at right angles to the face of the half-flask and having a hole through such portion

with its axis parallel with the face of the half-flask, sand in said half-flask around the pattern and against the exterior of said pattern portion at said hole, an awl adapted to fit said hole in the pattern, and a chill-core having a thickness corresponding with said pattern portion at said hole and having a pin projecting from its outer face of a size corresponding with said awl and hole.

HARRY V. MOORE.

Witnesses:
ABRAHAM ROLLINGER,
E. R. SHIPLEY.