(No Model.)

N. G. STADER.

MOLDING FLASK.

No. 451,237. Patented Apr. 28, 1891.

Fig. 6.

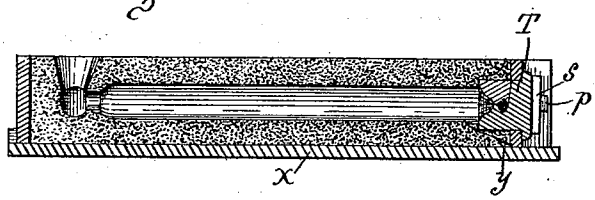


Fig. 5.

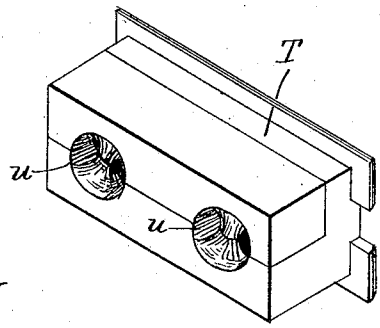


Fig. 3.

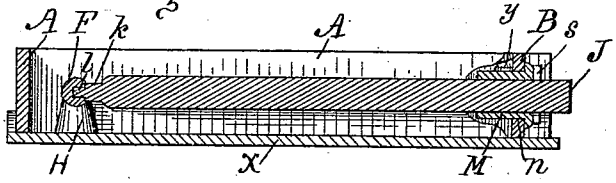


Fig. 2.

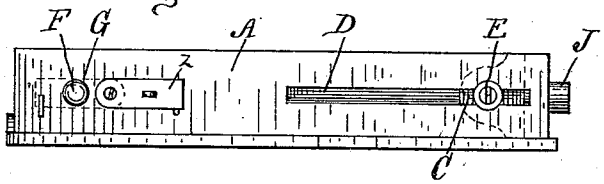


Fig. 4.

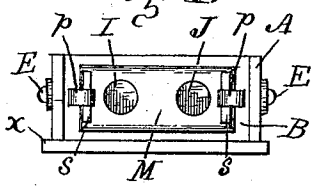
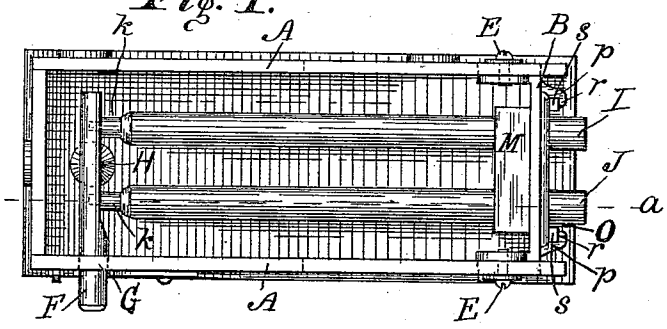


Fig. 1.



Witnesses

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NATHANIEL G. STADER, OF COLUMBUS, INDIANA.

MOLDING-FLASK.

SPECIFICATION forming part of Letters Patent No. 451,237, dated April 28, 1891.

Application filed September 29, 1890. Serial No. 366,437. (No model.)

To all whom it may concern:

Be it known that I, NATHANIEL G. STADER, a citizen of the United States, residing at Columbus, in the county of Bartholomew and State of Indiana, have invented a new and useful Improvement in Molding-Flasks, of which the following is a specification.

My invention relates to an improvement in flasks for molding sash-weights.

The object of my improvement is to provide means for molding and casting sash-weights of different lengths in one flask and with the same pattern or series of patterns.

The accompanying drawings illustrate my invention.

Figure 1 represents a plan of the flask in position for filling with sand; Fig. 2, a side elevation of the same; Fig. 3, a longitudinal section at *a*, and Fig. 4 an end elevation. Fig. 5 represents a view in perspective of the chill for forming the head and eye of the weight. Fig. 6 represents a section of the completed mold at the same line as Fig. 3, the patterns and their supports having been removed and the chill inserted and the flask turned over.

The flask consists of a rectangular frame A, one of whose ends is permanently secured to the sides, while the other end B is adjustably secured along the sides, so as to lengthen or shorten the capacity of the flask. Said flask is made deep enough to contain all the sand required for the mold instead of having a cope and a drag section, as in ordinary flasks.

The adjustable end plate B is made, preferably, of metal, is provided at each end with a rib C, which enters a corresponding slot D, extending longitudinally along the adjacent side of the flask, and is adjustably secured to said sides by clamping-screws E E.

F is a cylindrical bar, which passes transversely across the flask near its fixed end and about midway its depth and forms a pattern for the runner, through which the metal is poured. One end of bar F is supported in and projects through an opening G in one side of the flask, and the other end is supported on a short sprue pattern H, which rests on the bottom board *x*.

I and J are sash-weight patterns, preferably cylindrical in form and of suitable length to extend from the bar F out through the adjustable end plate B when adjusted at any point along the sides of the flask. The inner ends of the patterns I and J are supported by bar F, said ends being turned smaller than the body of the pattern to form runners *k* and tenons *l*, which enter corresponding holes in the side of the bar. The outer ends of the patterns are supported in a bearing-block M, which is removably mounted in end plate B, the end plate having a central opening *n*, through which the bearing-block is inserted, or withdrawn, and the bearing-block being perforated, so that the patterns may rest and slide longitudinally therein, and having on its outer side projecting flanges O, which limit the inward movement of the bearing-block, and are notched at the ends to engage guiding-lugs *p p*, projecting from the outer side of plate B. Said lugs are notched on their inner edges, as at *r*, to receive wedges *s*, or other suitable fastening devices, to hold the bearing-block in position.

For the purpose of forming an eye in one end of the weight to receive the window-cord I use a chill consisting of a longitudinally-divided iron block T, having an exterior form corresponding to that of the bearing-block M, so that when said bearing-block is removed from the mold, as hereinafter described, the chill will exactly fill its place, the chill being guided and supported by brackets like *y*, Figs. 3 and 6, which project from the inner side of plate B. The inner face of the chill is provided with recesses *u u*, corresponding in position with the bearings for the patterns in the bearing-block, but extending only partly through the block.

The operation of molding is as follows: The flask being in the position shown in Fig. 3, and the bearing-block M being mounted in plate B, the sash-weight patterns, of which there may be one or several, are passed through the block M and their inner ends connected with bar F. Plate B is now adjusted along the sides of the flask, so as to leave within the flask the required length of sash-weight pattern, the remainder of the pattern projecting outside. The flask is now filled with sand, which is properly packed about the patterns,

the flask being turned over so that both sides may be rammed. The sash-weight patterns are now drawn out longitudinally through the bearing-block, which is then itself withdrawn from the end plate B. The chill-block T is then inserted and secured in the end plate in place of the bearing-block, thus closing the ends of the weight-molds and forming a mold for the eye of the weight. Bar F is now drawn out through the side of the flask and the opening in the flask closed by a suitable plug, which is held in place by a latch-bar *z*, pivoted to the flask and arranged to swing over the opening therein. The sprue pattern is then removed and the mold is ready for the metal.

I claim as my invention—

1. In a molding-flask, the combination of the frame having one end adapted to be adjusted along its sides to regulate the effective length of the flask and the bearing-block perforated to form a support for the pattern and removably secured in said adjustable end, substantially as and for the purpose set forth.

2. In a molding-flask, the combination of the frame having one end adapted to be adjusted along its sides to regulate the effective length of the flask, the bearing-block perforated to form a support for the pattern and removably secured in said adjustable end, and the chill-block adapted to fill the place of said bearing-block when it is removed and having on its inner face a recess corresponding in position to the perforation in the bearing-block, substantially as and for the purpose set forth.

3. In a molding-flask, the combination of the frame, the end plate adjustably secured in said frame, the perforated bearing-block removably secured in said end plate, the bar mounted in an opening in one of the slides of the flask and projecting transversely therein opposite the adjustable end plate, and the pattern connected to and supported by said bar at one end and passing through the bearing-block at the other end, and the chill-block adapted to fill the place of the bearing-block when it is removed, all arranged to co-operate to form a mold for a casting, substantially as set forth.

NATHANIEL G. STADER.

Witnesses:

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