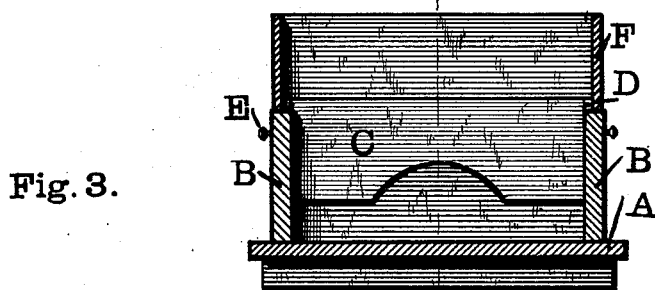
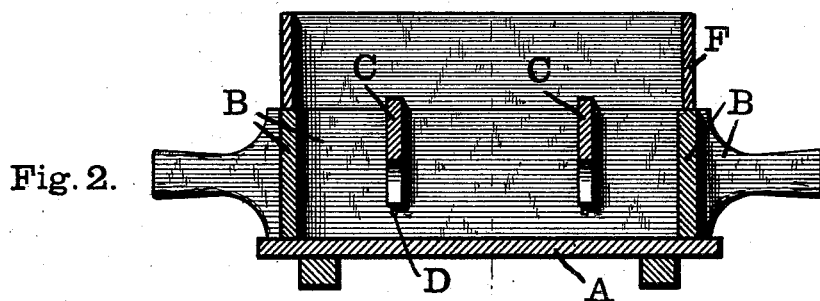
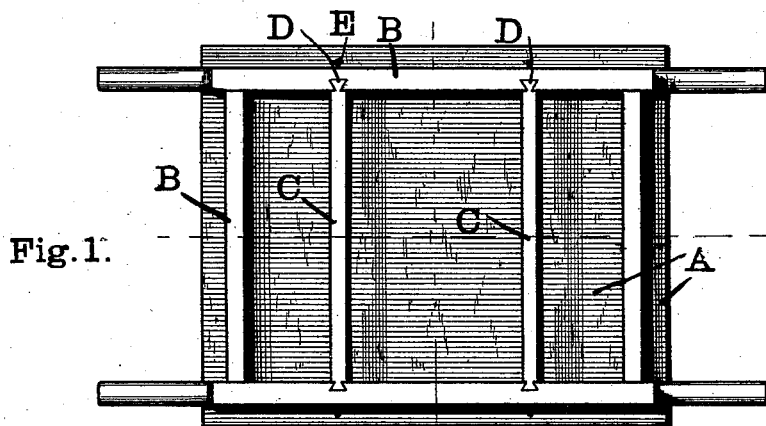


(No Model.)

H. TABOR.  
MOLDER'S FLASK.

No. 347,448.

Patented Aug. 17, 1886.



Harris Tabor

Witnesses:  
W. L. Garver,  
W. A. Seward.

by James W. See

Inventor

Attorney

# UNITED STATES PATENT OFFICE.

HARRIS TABOR, OF NEW YORK, N. Y., ASSIGNOR TO THE TABOR MANUFACTURING COMPANY, OF SAME PLACE.

## MOLDER'S FLASK.

SPECIFICATION forming part of Letters Patent No. 347,448, dated August 17, 1886.

Application filed May 5, 1886. Serial No. 301,224. (No model.)

*To all whom it may concern:*

Be it known that I, HARRIS TABOR, of New York, New York county, New York, have invented certain new and useful Improvements in Molders' Flasks, of which the following is a specification.

This invention pertains to improvements in flasks used by metal founders, and relates particularly to a novel arrangement of cross-bars, the object in view being to adapt flasks provided with cross-bars for use with molding-machines. The molding-machines referred to comprise that general class which, by a ramming or pressing operation, compact the sand into a flask. Flasks used in connection with such molding-machines have heretofore generally been used without cross-bars, and where cross-bars were used it became necessary in many cases to tuck the sand in under the cross-bars by hand. This difficulty has heretofore generally tended to restrict the operation of such molding-machines to work which could be done in small flasks, the flasks so small as not to need cross-bars for the support of the sand within the flasks.

My improvements will be readily understood from the following description, taken in connection with the accompanying drawings, exemplifying my invention, in which—

Figure 1 is a plan of a half-flask in place upon a bottom-board; Fig. 2, a longitudinal vertical section of the same, shown with a superposed sand-box; and Fig. 3, a vertical transverse section of the same, shown also with a superposed sand-box.

In the drawings, A indicates a bottom-board; B, a half flask set thereon in the usual manner ready to be filled with sand and rammed; C, cross-bars separably inserted in the flask, and adapted to have a vertical movement therein; D, guides in the flask-walls engaged by the ends of the cross-bars; E, retaining-pins inserted through the outer walls of the flask, and intended to engage the ends of the cross-bars and hold them in normal downward position, and F a sand-box set upon the top of the flask, and forming an upper prolongation of the same.

The cross-bars are to have any of the usual or suitable forms at their lower edges to adapt

them for the pattern in hand, and the ends of the cross-bars fit in guides in the flask so as to cause the cross-bars to be held in definite position sidewise, the guides having preferably such downward depth as will limit the downward movement of the cross-bars and prevent their moving downward farther than necessary to bring their tops substantially flush with the top of the flask. The pins E may be applied, if necessary, their office being to retain the cross-bars in place in the flask in their downward position and prevent their falling out of the flask when the same is turned upside down, when full of sand or empty.

In using the improved flask a half-flask is placed empty over the pattern on the bottom-board, as usual, the cross-bars being inserted in their guides, but left with their upper edges projecting above the upper edges of the walls of the flask. No special means are provided for preventing the cross-bars from dropping downward to their ultimate position, and none are needed. If the cross-bars were of very great depth proportionate to their length, and accurately and smoothly fitted to their retaining-guides, then the cross-bars might tend to move downward by mere gravity; but the cross-bars in the flask are most always comparatively shallow, and their fitting in their guides will seldom embody anything in the way of refined workmanship, and, besides that, the flasks are liable to more or less distortion. These things alone and together cause the cross-bars, when placed in position, to settle evenly at their ends, and to cant and to bind somewhat in the flask sufficiently to require that a certain amount of pressure be applied to push them downward. The flask is then filled with sand, as usual, either by shoveling or by chute, the sand-box being placed upon the flask, if desired, in order that a single charge of sand may be sufficient to fill the flask after ramming. Portions of the sand thus loosely placed in the flask settle down under the cross-bars. The flask, with its contents, and the sand-box, if used, is then subjected to the ramming action of the molding-machine. This action results in the compacting, as usual, of the sand which is between the cross-bars, the cross-bars being at the same

time pressed downward by the action of the ramming-machine, this downward movement of the cross-bars serving to push the cross-bars into their ultimate position, and to firmly compact the sand which has been directly beneath them. The action of the ramming-machine is thus caused to act upon all of the sand in the flask, notwithstanding the presence of the cross-bars. The retaining-pins E, if employed, may then be pressed inward to engage holes in the ends of the cross-bars and prevent their displacement when the flask is turned over. In the illustration the guides for the ends of the cross-bars are formed by grooves in the sides of the flasks, and these grooves are of such downward depth as to prevent the cross-bars being pressed downward farther than is desired.

Instead of placing the cross-bars in the flask before any sand is placed therein, the flask may be partially filled before the cross-bars are placed in position, the cross-bars in such case serving, as before, to press downward upon the sand directly beneath.

I claim as my invention—

The combination of a molder's flask and cross-bars separated therefrom and adapted for vertical motion therein, substantially as and for the purpose set forth.

HARRIS TABOR.

Witnesses:

A. B. GRIGGS,  
WM. E. STIGER.