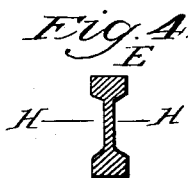
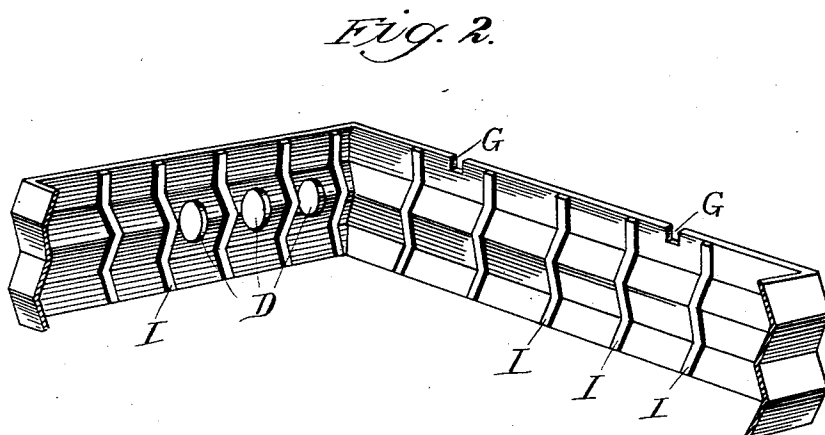
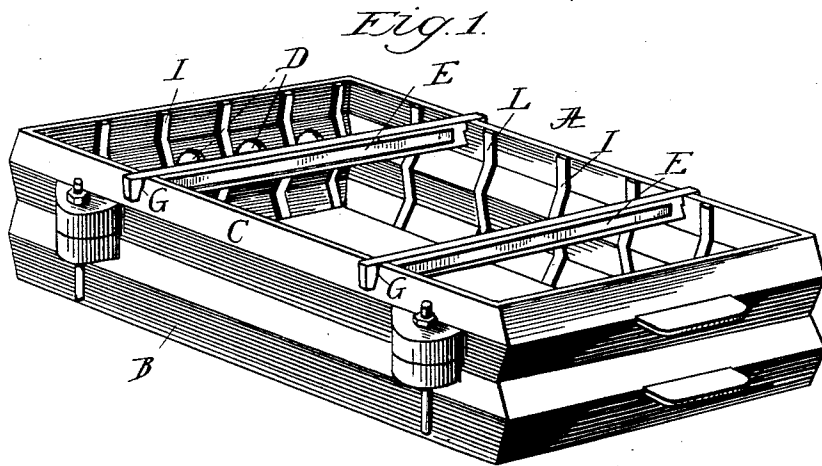


(No Model.)

R. M. BARNETT.
MOLDER'S FLASK.

No. 580,205.

Patented Apr. 6, 1897.



WITNESSES:

Edward C. Rowland.
Frank Roark

INVENTOR

Richard M. Barnett,
BY *Hebb & Myers*
ATTORNEYS

UNITED STATES PATENT OFFICE.

RICHARD M. BARNETT, OF NEWARK, NEW JERSEY.

MOLDER'S FLASK.

SPECIFICATION forming part of Letters Patent No. 580,205, dated April 6, 1897.

Application filed January 22, 1896. Serial No. 576,369. (No model.)

To all whom it may concern:

Be it known that I, RICHARD M. BARNETT, a citizen of the United States, and a resident of Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Molders' Flasks, of which the following is a specification.

My invention relates to molders' flasks, and has for its object an improved construction of the same whereby the several steps forming the molding operation are rendered more rapid and certain than with the flasks now in use.

Flasks for brass-molding, to which my invention particularly relates, are usually constructed of iron and consist of two parts or halves—viz., the under half or nowel and the upper half or cope. The operation of forming the mold is generally well known, and consists in the following steps or operation: The pattern is embedded for half its depth in a flat board, suitably hollowed to receive it, and the nowel is then placed upon the board and filled with moist sand. The sand is pounded down tightly around the pattern and the nowel is then turned over and the board removed. This operation forms one half of the mold. The upper surface of the sand is then sprinkled with sand in a dry condition to insure the parting of the cope from the nowel when removing the pattern, after which the cope is adjusted upon the nowel and filled with moist sand to form the upper half of the mold. The pattern is then removed, the flask clamped between two boards and turned on end, and the casting operation performed. It has been found in practice that the sand forming the upper or cope half of the mold cannot be packed as tightly and firmly as that of the nowel or lower half, for the reason that the lower half would be displaced and injured by the pounding necessary to effect it. When the mold is placed on end, preliminary to the casting operation, however, the sand in the upper or cope half frequently sinks down, so that the halves of the mold do not coincide, causing an imperfect casting. In large flasks the pressure on the sand during the pounding and casting operations is liable to spread the flask and unfit it for use. A still further difficulty, which is especially encountered in

large flasks, is the falling of the sand from the cope during the operation of removing the pattern, and this difficulty, which is technically known as "dropping the cope," is of frequent occurrence and necessitates the making of a new mold.

It is the object of my invention to provide means whereby the objections just pointed out may be avoided; and to this end my said invention consists in the details of construction and the combination and arrangement of parts hereinafter described and claimed.

Referring to the accompanying drawings, illustrating my invention, in the several figures of which like parts are similarly designated, Figure 1 is a perspective view of my improved device. Fig. 2 is a similar view, partly broken away, and showing the braces removed. Fig. 3 is a side of the brace, and Fig. 4 is a cross-section of the same.

In the drawings, A is the flask, consisting of the nowel B and cope C, these parts being beveled, as shown, to support the sand. This beveling of the cope and nowel is old and forms no part of my invention, and while it materially increases the efficiency of the flask it has been found inefficient in practice to properly support the sand.

At one end of the flask A are arranged the holes D, through which the molten metal is poured into the mold.

During the operation of making the mold, and also during the casting operation, the sides of the flask are subjected to a severe outward strain, occasioned in the one case by the heavy pounding upon the sand necessary in making a firm mold and in the other case by the shock and weight of the molten metal. To prevent this spreading action, I provide the braces E, having at their ends slots F, which fit into suitable slots G in the flask A, so that when the braces E are adjusted in position the top edges thereof will be flush with the edges of the flask, as shown in Fig. 1. The braces E are also provided with longitudinal grooves H, for a purpose hereinafter described.

As hereinbefore stated, the sand in the cope or top portion of the mold cannot be packed as tightly and firmly as that in the nowel, for the reason that the pounding necessary to accomplish this would displace the sand form-

ing the lower half of the mold. This necessarily causes a lack of stability of the sand in the cope, and when the cope is lifted to remove the pattern the sand forming the upper half of the mold frequently drops out of the cope upon the nowel, destroying the mold. In order to obviate this difficulty, I form the grooves H on either side of the braces E, as shown particularly in Figs. 3 and 4. The sand enters into these grooves H and the braces form supports for the sand and keep the same in place.

After the pattern has been removed the flask is clamped between boards and is turned up on end for the casting operation. It has been found in practice that more or less jarring will occur during this action, and by reason of the fact that the upper half of the mold is less firmly and tightly packed, as hereinbefore pointed out, that portion will sometimes be jarred or will sink by its own weight, so that the halves of the mold do not coincide and an imperfect casting is the result. To prevent this action, I arrange around the inside of the flask the vertical ribs I, which extend inwardly a distance, depending upon the size of the flask. These ribs I form supporting-points for the sand and prevent the sinking or settling just described. The ribs I also materially strengthen and reinforce the flask and render it less liable to in-

dentation during the hard usage to which it is subjected.

The braces E are freely removable, and while I have shown them in the drawings as two in number it is obvious that any desired number may be employed, the number being determined by the size of the flask.

While I have described my invention as applied to brass-molding, it is obvious that it may be used with good results in forming the molds for other metals. It is also obvious that the braces may be applied to the nowel, if desired, although shown in the drawings as applied only to the cope.

What I claim as new, and desire to secure by Letters Patent, is—

A flask for metal molding having its edges cut to form notches, said flask being provided with removable braces extending across the same, said braces having in their ends notches to fit the notches of the flask, and being provided on each side with a longitudinal groove to support the sand, substantially as described.

Signed at New York, in the county of New York and State of New York, this 16th day of January, 1896.

RICHARD M. BARNETT.

Witnesses:

ALBERT SCHIFFERS,
EUGENE V. MYERS.