(No Model.) 2 Sheets—Sheet 1.

G. W. COPE.

MOLDING FLASK.

No. 596,853. Patented Jan. 4, 1898.

Fig. 1.

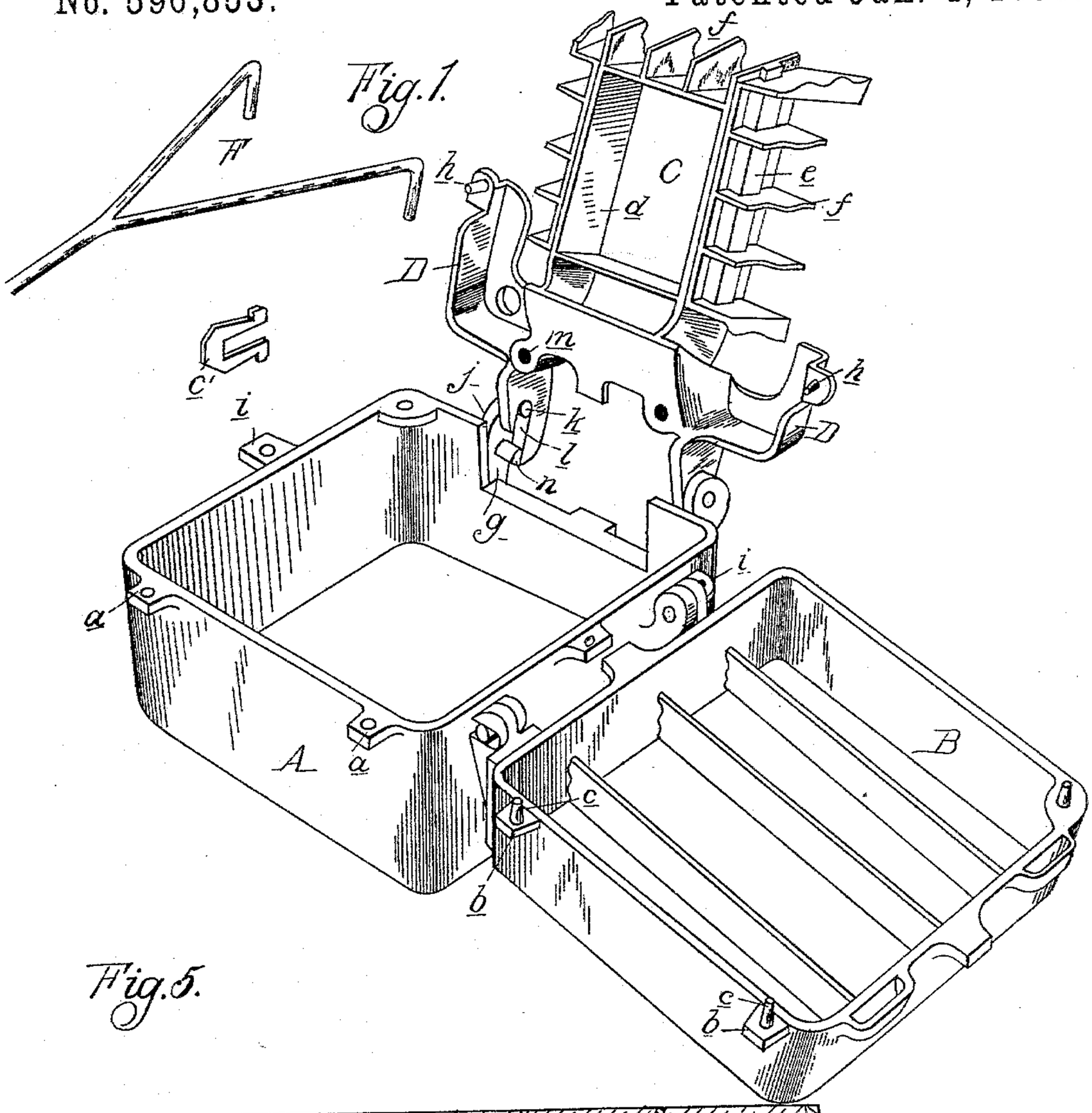
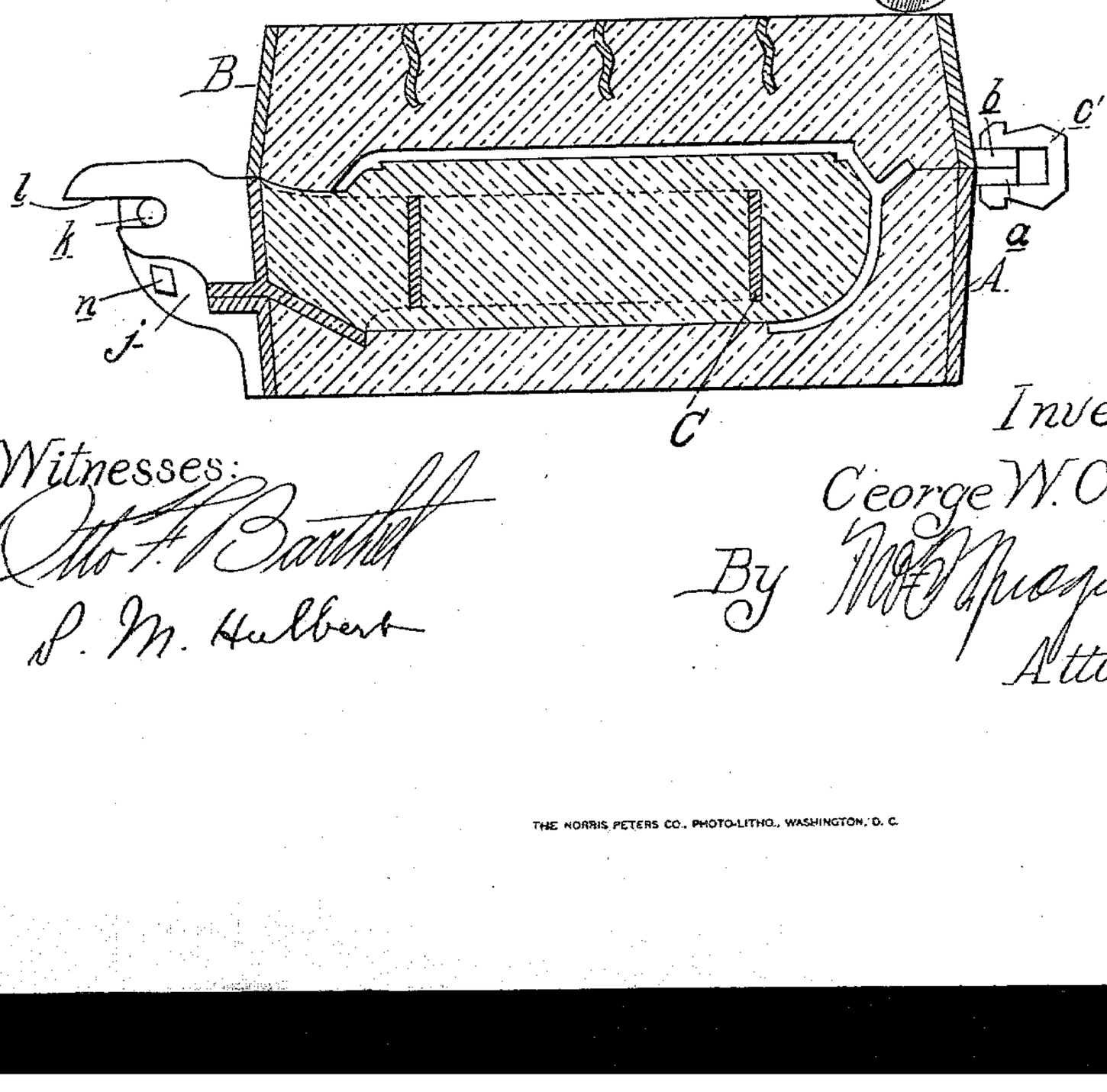


Fig. 5.



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(No Model.) 2 Sheets—Sheet 2.

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MOLDING FLASK.

No. 596,853. Patented Jan. 4, 1898.

Fig. 2.

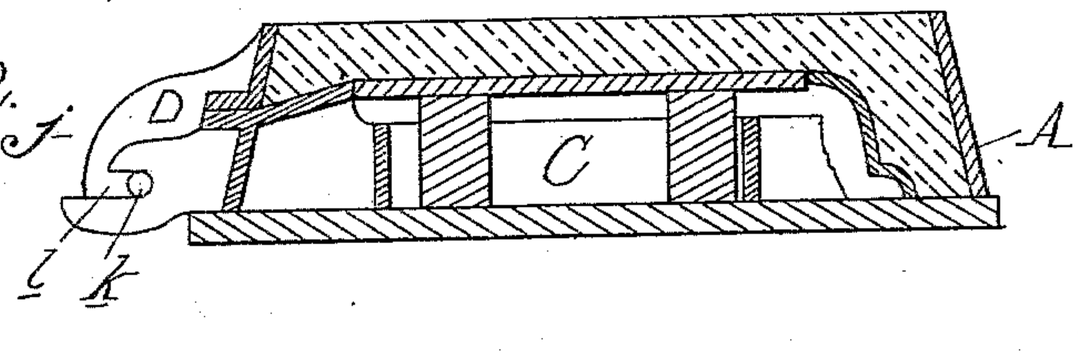


Fig. 3.

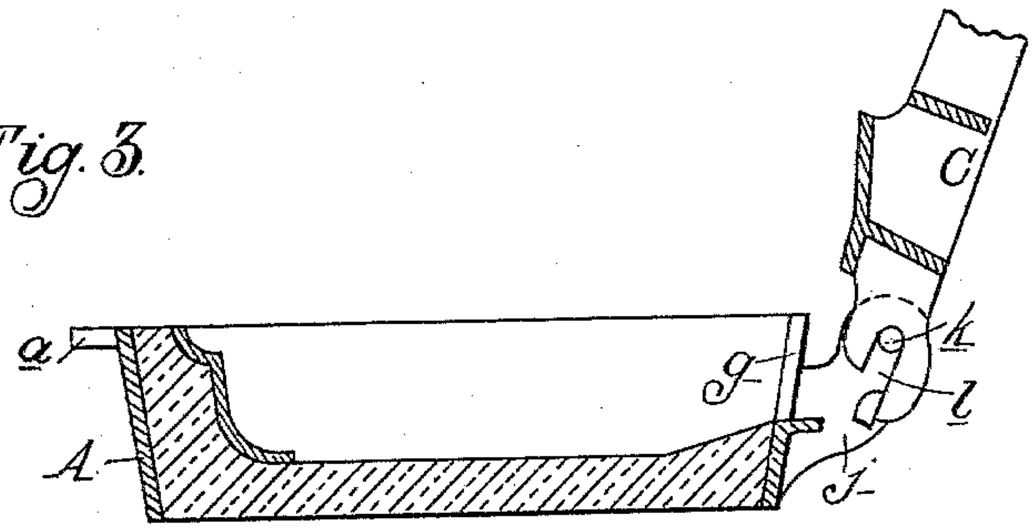


Fig. 4.

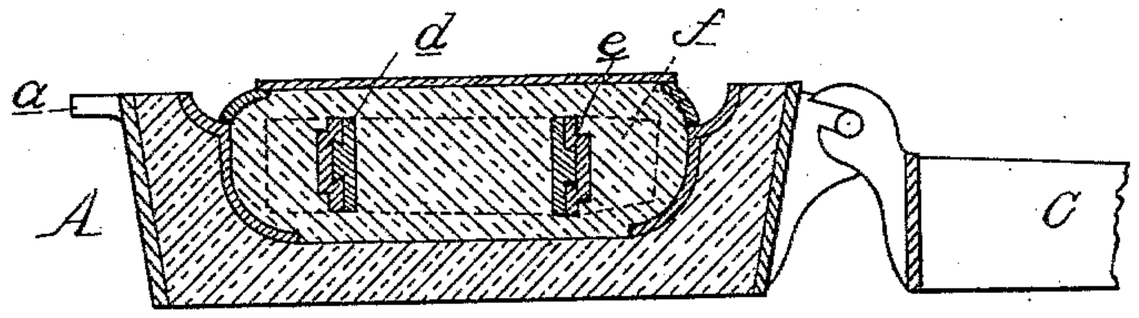
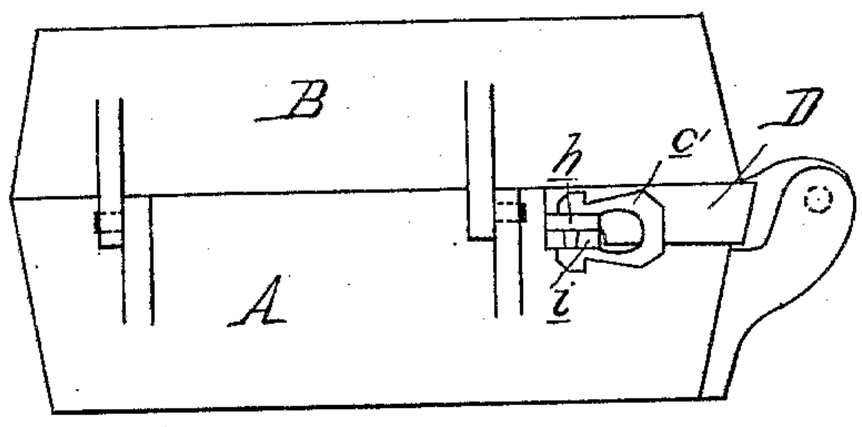


Fig. 6.



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UNITED STATES PATENT OFFICE.

GEORGE W. COPE, OF DETROIT, MICHIGAN.

MOLDING-FLASK.

SPECIFICATION forming part of Letters Patent No. 596,853, dated January 4, 1898.

Application filed July 26, 1897. Serial No. 645,955. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. COPE, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Molding-Flasks, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to molding-flasks of that class designed to be used in casting hollow ware with green sand cores; and it is the object of my invention to provide means for more readily forming the core and holding it in its exact position, whereby the work is facilitated and a superior product obtained.

The invention consists in the means employed for securing and guiding the anchor for the core; further, in the peculiar construction of said anchor, and, further, in the peculiar construction, arrangement, and combination of parts of the flask, all as more fully hereinafter described and claimed.

In the drawings, Figure 1 is a perspective view of the flask in its opened position. Fig. 2 is a longitudinal section through one section of the flask containing one part of the pattern, the anchor, and the follow-board. Fig. 3 is a similar view of the section reversed and the follow-board removed. Fig. 4 is a section at right angles to Figs. 2 and 3, with the core formed around the anchor and the remaining portion of the pattern in position. Fig. 5 is a section similar to Figs. 2 and 3 of the mold complete with the pattern removed. Fig. 6 is an elevation thereof.

The flask comprises two sections A and B, preferably formed of metal and detachably hinged together on one side, preferably by means of lugs projecting from one section, having laterally-projecting pintles thereon, and slotted lugs on the other section adapted to engage with said pintles. These sections are provided with suitable means for guiding them to an exact position in closing and for locking them together, such as the apertured lugs *a* on the section A and the lugs *b* on the section B, having the taper-pins *c*, adapted to enter the apertures in the lugs *a*, while the loops *c'* serve to clamp the lugs *a* and *b* together.

C is the anchor for the core, which may be of any suitable shape, according to the shape of the core, the drawings showing it as comprising a central rectangular section *d*, the detachable side sections *e*, having a dovetail engagement with the section *d*, from which they may be removed by sliding longitudinally, and the wings *f*, extending radially from the sections *d* and *e*.

The anchor C is provided with a shank which extends out through one side of the flask, the section A being cut away at *g* to permit of this, and outside of the flask the shank is provided with guiding and clamping means, such as the arms D, extending around to the sides of the flask, having taper-pins *h* engaging with the apertured lugs *i* on the flask and loops for clamping the arms and lugs together.

In order to facilitate the lifting of the core in or out of the flask, the shank of the anchor is preferably hinged to the section of flask through which it passes. This may be done by providing the flask with lugs *j*, having pintles *k*, and the shank of the anchor with the slotted bearings *l*, adapted to engage with said pintles.

In practice to form a mold with the flask constructed as described the operator proceeds as follows: Supposing the article to be cast is a hollow stove-base, the first step is to place the anchor and one section of the pattern on the mold or follow board. The section A of the flask is then placed around the pattern on the board, first engaging the pintle *k* with the slotted bearings *l*, and the sand is then filled in and rammed up, as shown in Fig. 2. The flask is then reversed, the follow-board is removed, and the sand for the core filled in, rammed up, and stricken off, Fig. 4, after which the remaining section of the pattern is placed in position, the upper section B of the flask turned down, and sand filled in and rammed up.

To remove the pattern, the section B is first turned back and the upper part of the pattern taken out. The core is then lifted by turning the anchor back on its hinges, which may be readily accomplished by engaging a hooked lever F, with sockets *m* in the shank of the anchor. The lower part of the pattern is then removed, after which the core and section B of the flask are turned back in posi-

tion and locked by placing the loops c' on the lugs $a\,b$ and arms D and lugs i. When thus secured, the core will be held in precisely the same position as when the pattern was in the mold, on account of the guide-pins h engaging with the apertured lugs i. At the same time the core is held firmly against floating by the clamps securing the arms D to the lugs i.

With a flask thus constructed the work of forming the mold may be performed more expeditiously and accurately than with a flask in which the anchor is entirely separate therefrom and must be lifted bodily from the flask when the pattern is removed. With the latter construction it is generally necessary for two men to assist each other in lifting the core out of or back into the mold, as well as requiring the exercise of care in laying down the core that it may not be injured.

With my flask a single man by using the lifting-lever F may readily turn up the core out of the mold, while suitable stops n on the lugs j serve to hold it in this position out of harm's way until it is to be replaced in the mold.

Another advantage of my flask is that on account of the fact that the core is always replaced in exactly the same position in the mold the pattern may be made with less stock, and consequently the casting with less metal, than where there is a chance for slight variation in position.

As shown in Fig. 1 of the drawings, I preferably hinge the upper section of the flask and the anchor on adjacent sides of the lower section of the flask, so that the workman may have the remaining two adjacent sides of the flask free from obstruction.

What I claim as my invention is—

1. In a molding-flask, the combination with an annular flask-section of a core-anchor hinged to said section and adapted to extend laterally thereinto.

2. In a molding-flask, an anchor for a core having a shank extending out through one side of the flask, said shank being hinged to said flask and provided with exterior guiding and securing means.

3. The combination with a molding-flask and an anchor for a core therein, of a shank for said anchor extending out through one side of the flask, a lug on the flask to which said shank is hinged, an arm on said shank extending around to an adjacent side of the flask, a guide bearing and support for said arm and a clamp for detachably securing said arm to its support.

4. A molding-flask comprising an upper and a lower section hinged together at one side and an anchor for a core hinged to the lower of said sections on an adjacent side and adapted to swing in a plane at substantially right angles to that in which the upper member of the flask swings.

5. The combination with a molding-flask, comprising the annular sections A and B hinged together, of a core-anchor hinged to one of said sections and extending laterally thereinto.

In testimony whereof I affix my signature in presence of two witnesses.

GEO. W. COPE.

Witnesses:
M. B. O'DOGHERTY,
OTTO F. BARTHEL.