(No Model.)

L. W. BOUTELLE.

MOLDER'S FLASK.

No. 522,959. Patented July 17, 1894.

Fig. 1.

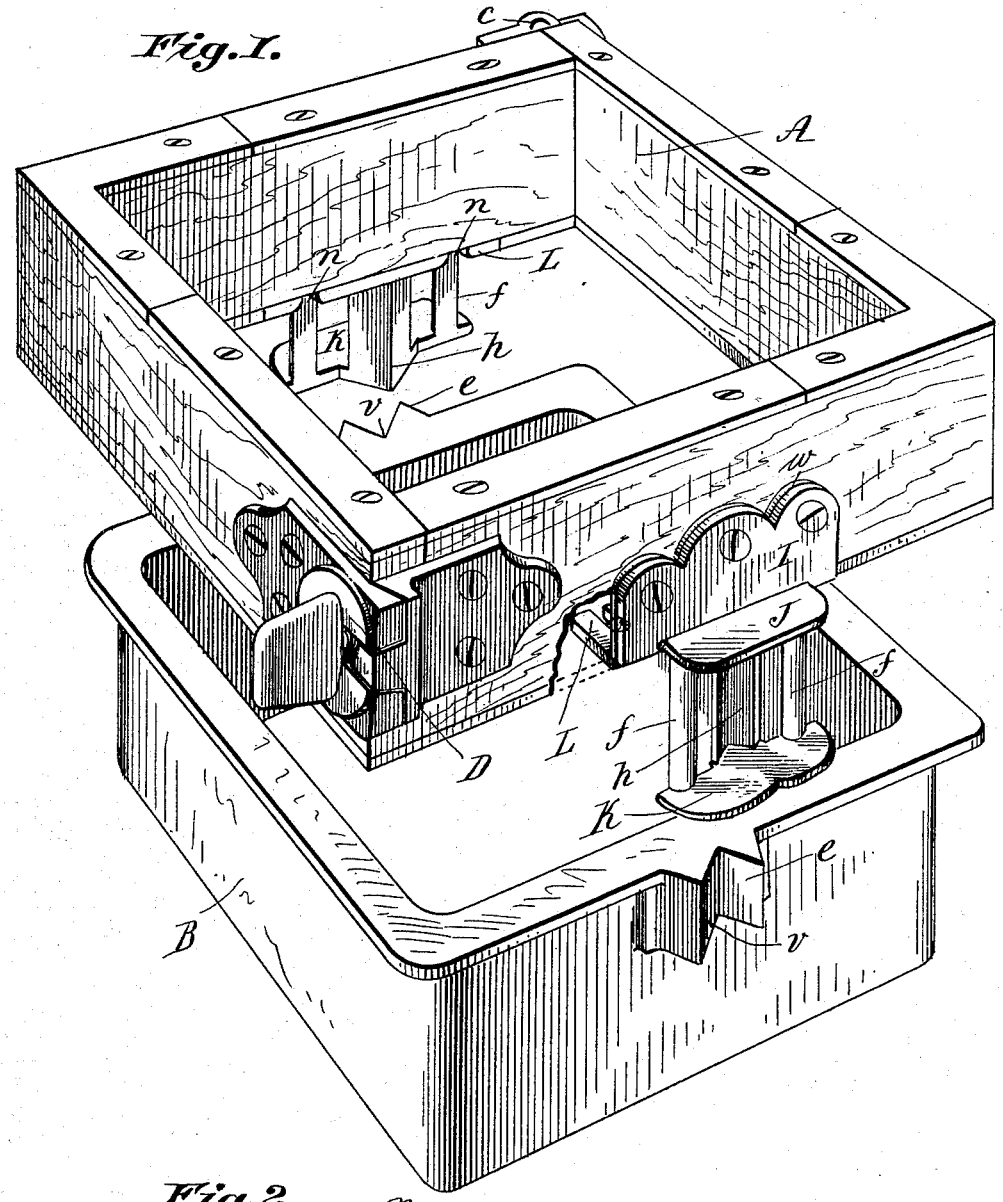
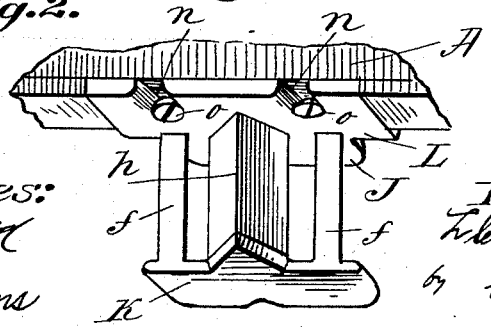


Fig. 2.



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UNITED STATES PATENT OFFICE.

LLEWELLYN W. BOUTELLE, OF ORANGE, MASSACHUSETTS.

MOLDER'S FLASK.

SPECIFICATION forming part of Letters Patent No. 522,959, dated July 17, 1894.

Application filed March 26, 1894. Serial No. 505,037. (No model.)

To all whom it may concern:

Be it known that I, LLEWELLYN W. BOUTELLE, a citizen of the United States, residing at Orange, in the county of Franklin and State of Massachusetts, have invented new and useful Improvements in Molders' Flasks, of which the following is a specification.

This invention relates to molders' flasks, the object being to provide such flasks with improved guiding and uniting devices which constitute advantageous substitutes for the common pins and plates usually attached to the cope and nowel parts of such flasks whereby they are brought to proper matched positions when connected one with the other. And the invention consists in the peculiarly constructed and adjustable flask guiding devices, all as hereinafter fully described and more particularly pointed out in the claim.

In the drawings forming part of this specification, Figure 1 is a perspective view of the cope and the nowel parts of a molder's flask having my improvements applied thereto. Fig. 2 is a perspective view of a portion of the cope part of a flask and of one of said guiding devices thereto attached.

The above referred to guide-pins and perforated plate heretofore ordinarily attached, the one to the edges of the cope side of the flask, and the other to the edge or border of the nowel part of the flask present certain inconveniences in handling the flask part by the molder which are obviated by the improvements herein described. First, the position of the said pins on the under edge of the cope part of the flask renders it difficult for the molder, when said cope part is filled with the sand of the mold, to see the perforations in the guide-plates on the upper border of the nowel part of the flask, whereby the parts may be conveniently and quickly matched, as is usual after properly dressing and trimming the impression of the pattern in the mold, and this difficulty of uniting the two parts conveniently oftentimes results in injury to the mold, and more time is expended in so matching the parts than is necessary, or economical, and said guide-pin and plate devices provide no means for an accurate registering adjustment of the cope and nowel parts of the flask, one to the other.

In the drawings, A indicates the cope part of the flask frame which is preferably jointed at *c*, at one corner, and provided at the opposite corner with ordinary locking and clamping devices, D. The said cope, A, is provided on its opposite sides with the cope-guiding and manipulating devices shown in the drawings and which consist of, preferably, integrally constructed guides one for each edge of the cope, as shown. Each of the said cope-guiding devices consists of a flange, I, fitted to be screwed against the outer side of the cope, as shown, and having a flange L at its lower edge extending at right angles to said flange, I, and extending over the under border of the cope, as clearly shown. The said flange, L, is slotted from its inner edge toward the flange, I, and screws entering the lower edge of the cope frame through said slots aid in retaining said guiding device on the flask frame, in conjunction with the screws which pass through the said flange, I, but the said slots, *n*, in the said flange, L, permit the said guiding device to be adjusted on the cope-frame outwardly, or inwardly, to take up for wear of the parts of said adjusting device or of the parts of the nowel of the flask with which said guiding devices engage. Said feature of the adjustment of the said guiding devices is an essential one in a flask construction and particularly so in flasks used for molding fine castings, for it is well known that the constant use of flask parts with the molding sand results in a continual wear, by grinding action, of the guiding devices attached to the cope and nowel parts of the flask. The strengthening parts, *f*, *f*, may be omitted if desired, leaving the central post, *h*, only, between the flanges, J, K. The parts of said flask guiding and adjusting devices which are a part of said flanges, I and L, and which extend at right angles to the latter named flange so as to engage with the nowel, B, and provide convenient handles, or finger pieces, for manipulating the cope part, A, consist of the following elements: The flange, J, projecting from the side of said flange, I, a second, or lower flange, K, united to the said flange, J, by the central angularly formed post, *h*, and two strengthening posts, *f*, one on each side of the said post, *h*. Each of said flanges, J and K, constitutes finger pieces for the molder, under which he places his fingers for lifting

and lowering the cope side of the flask. The lower flange, K, or finger piece, is particularly useful in placing the cope side of the flask when holding the mold therein, onto the nowel and in so placing it that no jar of the cope need take place in the endeavor to enter the cope guiding devices into the recesses, or pin-holes, in the nowel, as ordinarily practiced, for the position of the fingers of the molder under the flange, K, on the cope side of the flask enables the molder to determine, by the contact of his fingers with the nowel of the flask, the exact position in which the said guiding devices must be to enter at once into the guiding groove of the nowel; and hence the cope can be placed on the latter while containing the sand mold without danger of breaking or injuring the lines of the molded part. This feature is a particularly useful one when matching flask parts in which are contained cores in the mold for it enables the molder to place the cope onto the mold and cores in the nowel, without misguiding the cope in such a way that the edges of the mold are injured. The nowel, B, to provide it for use with the said cope guiding devices, and particularly with the angularly constructed post, *h*, has thereon (and preferably cast as a part of said nowel) a projection, *e*, having a V-shaped groove therein whose form is like that of the surface of said post, *h*, and in which the said post is received when the cope, A, is placed on the nowel. It is said projection, *e*, with which the fingers of the molder when under said flange, K, as aforesaid, and when he is placing the cope on the nowel, that said fingers are brought in contact with, whereby he is enabled to properly enter in the first instance, the lower end of the post, *h*, into said groove, *v*, in the nowel, which is of V-form in cross-section. The use of the said guiding and manipulating device on the cope and the construction of suitable grooves on the nowel to receive said cope-guiding devices are not confined to a flask constructed as shown in the drawings, but either part of the flask may be hinged, or not, as shown, or constructed by casting or otherwise whereby a non-opening flask is produced, and the parts of the flask, that is to say, the cope and the nowel, may be either of rectangular, circular, or other form to either of which the guiding devices herein described may be applied to the cope and nowel parts whereby the perfect registering of one part with the other is secured.

In Fig. 1 there is shown a thin piece of wood, leather, or similar material, *w*, placed between the flange, I, and the adjoining side of the cope, A. The use of such a piece, *w*, in adjusting the flanges, I and L, and their connected parts on the cope frame is obvious, for it is easily understood that by reducing the thickness of said piece, *w*, the said flanges and connected parts may be carried slightly nearer the center of the cope frame by turning up the screws therein thereby causing the post, *h*, to enter more closely into the groove, *v*, on the nowel. The same object may be obtained in connection with said adjustment by removing a part of the surface of the outside of the cope frame under said flange, I, but the insertion of some piece similar to said part, *w*, is more convenient and serves every needed purpose of means of adjustment of flanges, I and L, and their connected flask guiding parts.

What I claim as my invention is—

Guiding and registering devices for the nowel and cope parts of molders' flasks, consisting of a nowel part having a groove in the outer opposite sides thereof of V-form in cross-section, combined with guiding and flask-manipulating devices secured adjustably to the opposite sides of said cope parts and projecting beyond the border thereof in the direction of the plane of said sides, consisting of the flanges, I and L, secured adjustably to said cope-border, the post, *h*, extending from said flanges for engaging with said groove in the nowel, and the flanges, J and K, one at each end of said post, substantially as set forth.

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