

G. P. SISSON.
 FLASK FOR CASTING.

No. 69,372.

Patented Oct. 1, 1867.

Fig. 1.

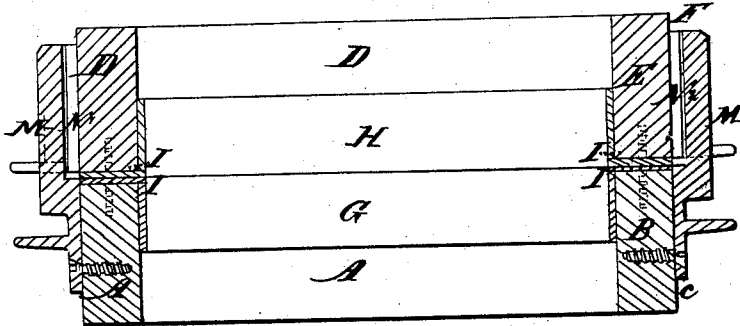


Fig. 2.

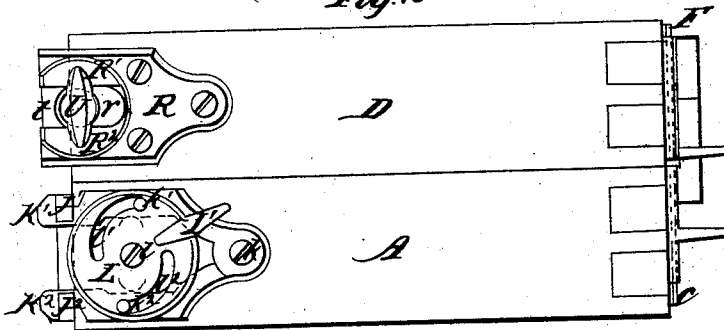


Fig. 3a

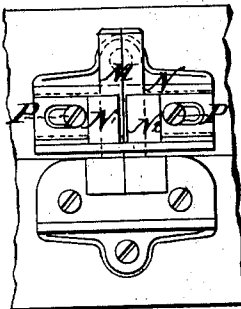


Fig. 3

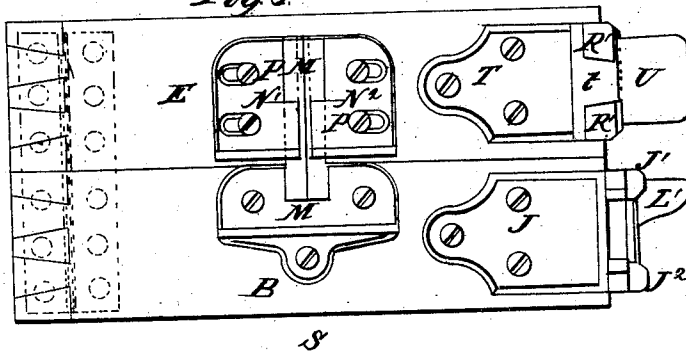


Fig. 4a

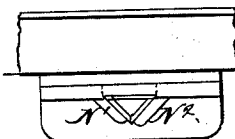
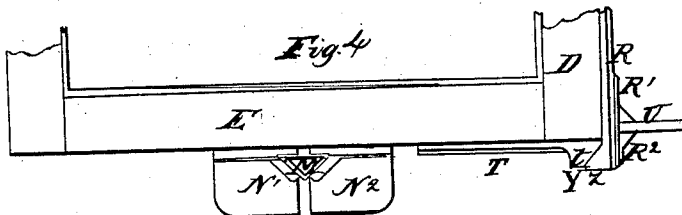


Fig. 4



Witnesses
 Geo. C. Ley
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GEORGE P. SISSON, OF FLORENCE, MASSACHUSETTS.

Letters Patent No. 69,372, dated October 1, 1867.

IMPROVEMENT IN FLASKS FOR CASTING.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, GEORGE P. SISSON, of Florence, in Northampton, in the county of Hampshire, and State of Massachusetts, have invented certain new and useful improvements in Removable Flasks for Moulding; and I do hereby declare that the following is a full and exact description thereof.

My invention applies to the moulding of all that class of small castings which are usually executed by what is termed "snap-moulding," and it allows the same system of moulding to be extended to larger castings than usual. It also increases the perfection and the facility of this style of moulding, which may in general terms be described as using the flask as a means merely of producing the mould, and not employing it as a support for the mould when the metal is poured. In snap-moulding, one flask will serve for making as many moulds as may be required, the flask being removed after each mould is perfected, and used as a means for making the next. As snap-moulding is ordinarily conducted, a limit is soon reached in the attempt to cast large work by this means, because the tenacity of the moulding-sand is not sufficient to resist the pressure of any considerable mass of melted iron; and as the flasks for moulding were heretofore constructed, there was always a liability of the fastening becoming detached or loosened at too early a period, so as to impair the correctness of the work.

I will proceed to describe what I consider the best means of carrying out my invention, and will afterwards designate the points which I believe to be new therein. The accompanying drawings form a part of this specification.

Figure 1 is a vertical section on the line S S in fig. 3.

Figure 2 is a side elevation

Figure 3 is a side elevation at right angles to that of fig. 2, showing the side which is on the left in fig. 2.

Figure 4 is a plan view of a portion in a position corresponding to fig. 3.

Figures 3^a and 4^a represent modifications of the details.

Similar letters of reference indicate corresponding parts in all the figures. Tints are employed merely to aid in distinguishing parts, and do not indicate material. The material of the whole may be cast iron and wood.

A A are two pieces of pine or other suitable wood, firmly secured together at right angles. B B are similar pieces, similarly secured, and C is a broad and durable hinge, which connects them so as to form, when the opposite angle is also secured, a hollow rectangular frame, to serve as a flask, or, rather, as one of the complete parts, the "cope" or the "nowel" of the flask. D D and E E indicate the corresponding parts of the other portion of the flask, and F is the hinge for the same. So far as yet described, my flask is similar to the ordinary snap-flasks in common use. G and H are broad bands of cast iron, or other suitable rigid material, adapted to endure heat, and to afford the requisite strength. They are of less width than the corresponding portions of the flask, and are not adapted to open like the flasks, but are formed each in a single piece. They are of such size that they may be introduced easily previous to filling each part of the flask. I I are slight projecting pieces let into the wood, as represented, and adapted to form supports and guides for the bands G and H, the latter being notched with a file or otherwise, to receive these little projections or short shelves. In filling the nowel A A B B it is of course laid in an inverted position, so that the shelves I I lie close to the mould-board. The band G, on being dropped into position, rests also on the moulding-board, its notches receiving the shelves I I, as will be obvious. After ramming the moulding-sand, and completing the filling of the nowel in the ordinary manner, it is lifted and turned over, and the moulding-board removed. The cope D D E E is now applied, and the band H dropped into position. The lower edge of this band touches and rests upon what was originally the lower edge of the previously introduced band G, and its notch also fits on the short shelf I, in the base of the cope. After filling the cope with moulding-sand, and ramming it tightly in the ordinary manner, the entire cope D E F, and its contents, must be lifted to allow the removal of the pattern. This leaves the band H unsupported by the band G, on which it previously rested, and it might fall, carrying with it a portion of the moulding-sand, and destroying the mould, except for the short shelves I in the base of the cope, which now perform the important function of supporting the weight of the band H. After the pattern is removed, and the cope is again returned to its place on the nowel, the band H is again supported on the band G, and the short shelves I become, as before, of no effect. It would be sufficient to employ the short shelves I on the cope alone, but in practice I prefer to employ the same on both cope and nowel, as it frequently happens,

either through accident or design, that the flask is worked in a reversed position; that is, the part here described as the cope, becomes the nowel when reversed. When a flask is removed by opening both the cope and the nowel, and removing both, the moulding-sand remains in the form of a rectangular mass, not, as heretofore, supported alone by the tenacity or adhesion of its particles one to another, but also greatly aided by the presence of the two broad bands G and H. These embrace the mould, and should be of such width as is required to furnish a sufficient support. How wide these bands should be made for any given variety of casting, will depend on the shape and size of the article to be cast. I have represented a good width for ordinary practice. In moulding some articles it is not necessary to use two. It is sufficient to use the band G alone, which, by supporting the moulding-sand of the nowel alone, gives sufficient strength to enable the mould to dispense with any further support. It will be of course understood that my flasks may be made of various other shapes than the plain rectangular form here represented, and that the bands G and H may be correspondingly shaped. The edges may thus be scalloped in any irregular shape, and the entire flask may be circular, or partially circular, triangular, or pentagonal, or any other shape.

Having now fully described my invention, what I claim as new therein, and desire to secure by Letters Patent, is as follows:

I claim the bands G and H, or either of them, in combination with a snap-flask, and arranged to operate therewith, substantially in the manner and for the purpose herein specified.

GEORGE P. SISSON.

Witnesses:

WM. C. DRY,
FRANK A. HADICKE.