SAMUEL WILLIAMSON. 2 Sheets--Sheet 1.

Improvement in Molders' Flasks.

No. 127,398. Patented May 28, 1872.

Fig. 1.

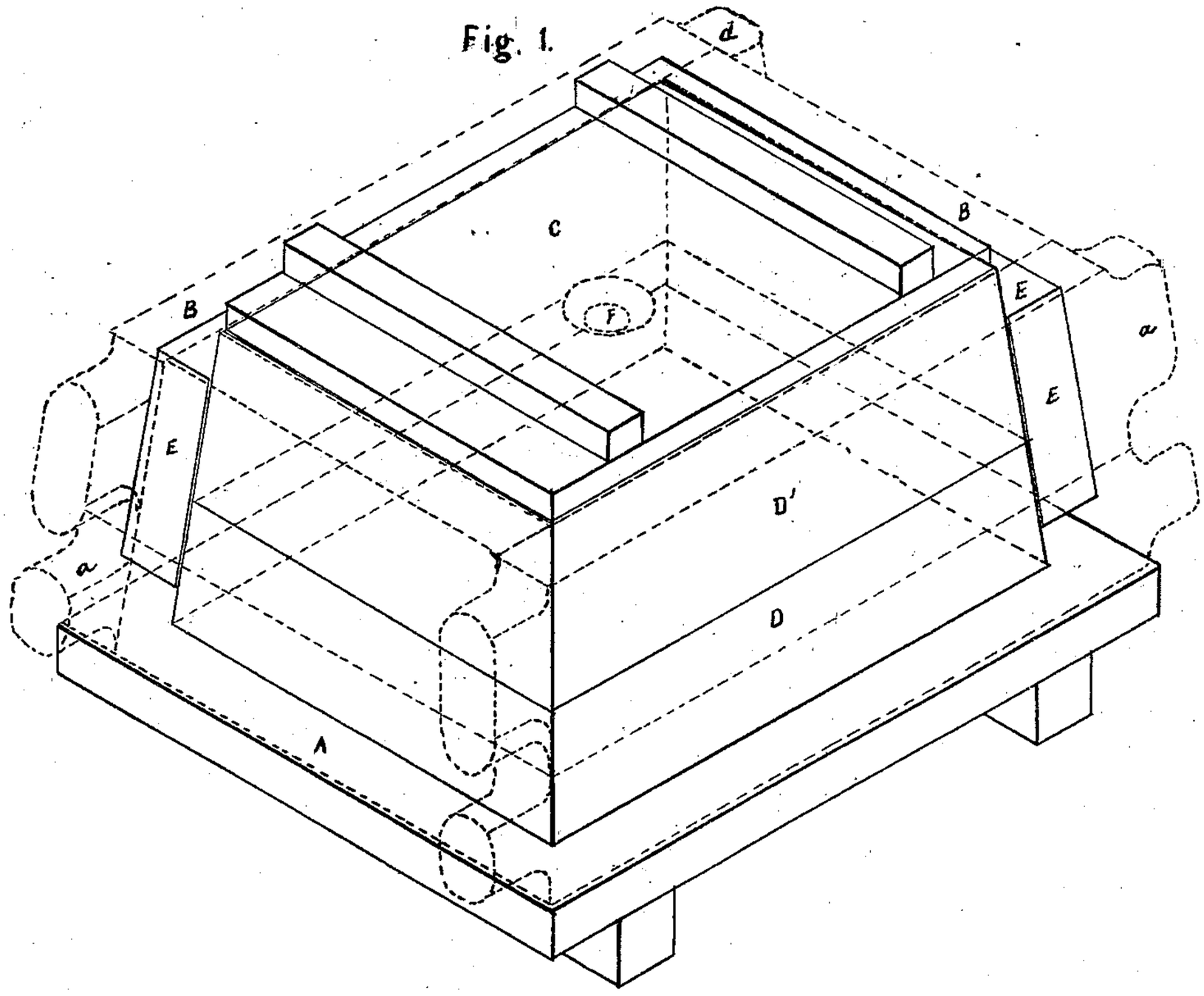
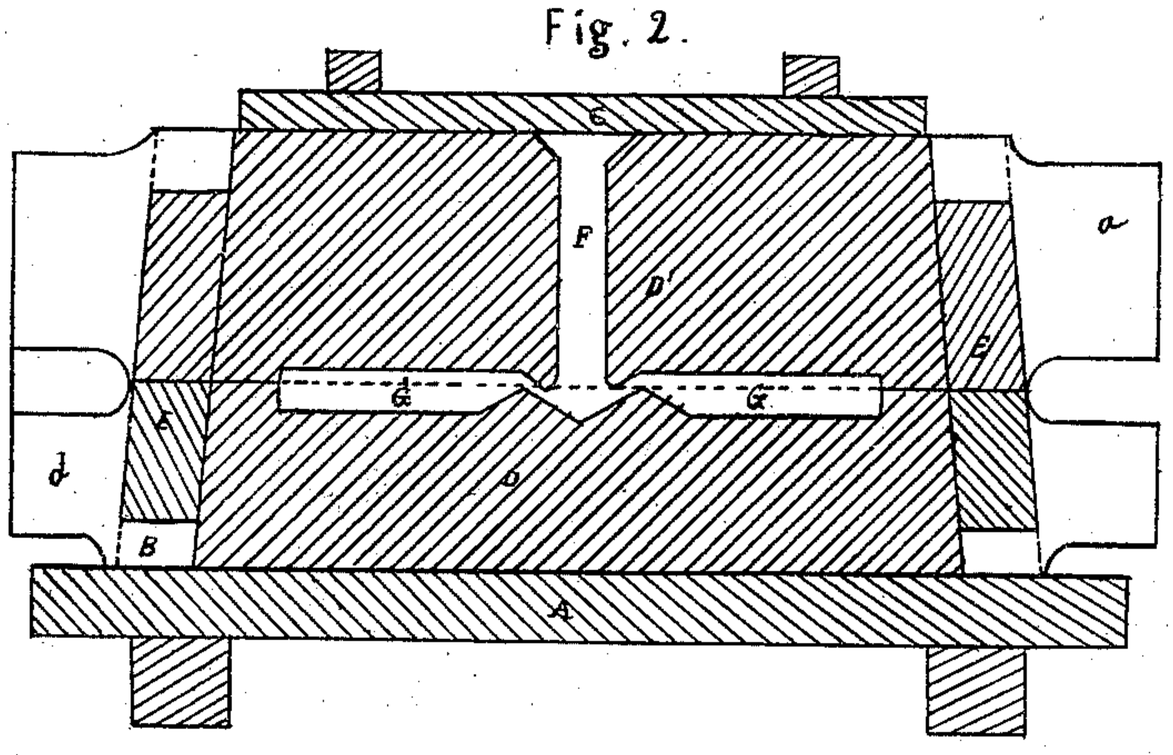


Fig. 2.



Witnesses.

R. C. Phillips

C. F. Manierre

Inventor

Sam'l Williamson

2 Sheets--Sheet 2.

SAMUEL WILLIAMSON.

Improvement in Molders' Flasks.

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Fig. 3.

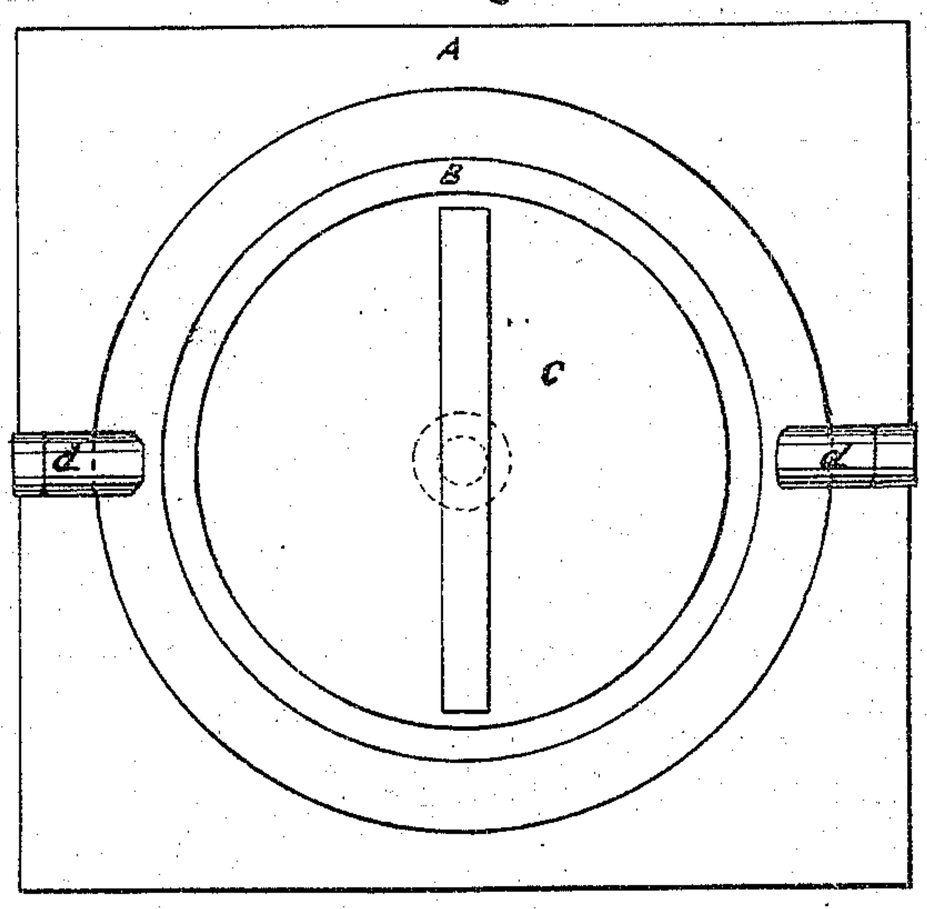
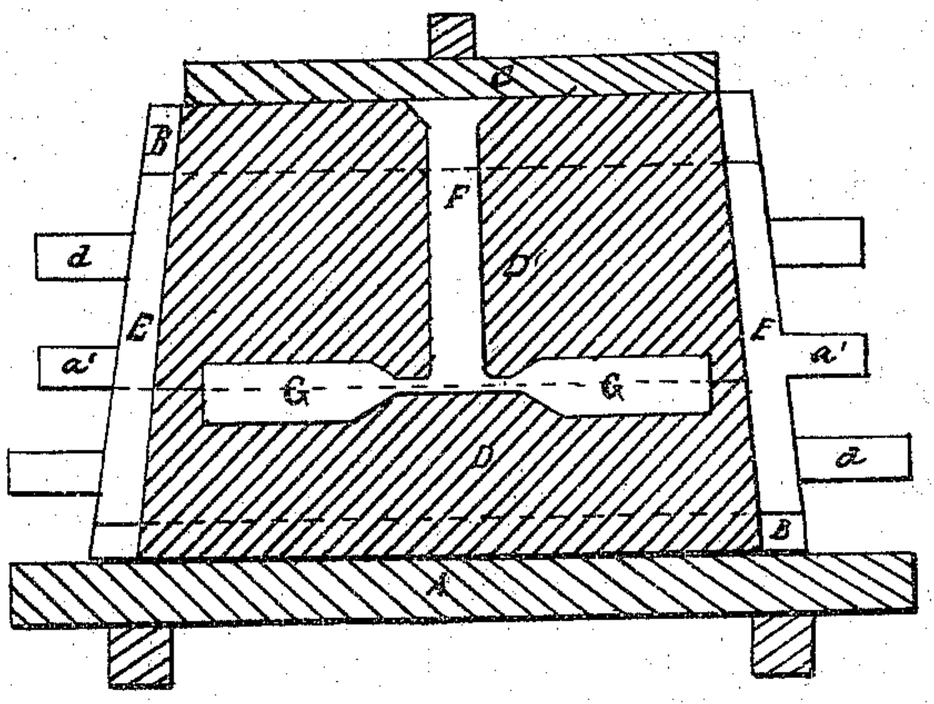


Fig. 4.



Witnesses
R. C. Phillips
G. A. Hancock

Inventor.
Sam'l Williamson

UNITED STATES PATENT OFFICE.

SAMUEL WILLIAMSON, OF CINCINNATI, OHIO.

IMPROVEMENT IN MOLDERS' FLASKS.

Specification forming part of Letters Patent No. 127,398, dated May 28, 1872.

SPECIFICATION.

Be it known that I, SAMUEL WILLIAMSON, of Cincinnati, in the county of Hamilton and State of Ohio, have invented a new and useful Improvement in Flasks or Frames used in molding what is known as open sand-work or casting without the flask or frame, and in a sleeve or jacket which is applied after the flask has been removed; and I do hereby declare that the following is a full, clear, and exact description of my said improvements, reference being had to the annexed drawing making part of this specification, in which—

Figure I is an isometric projection of my improved flask together with the jacket, bed-board, follower-board, and the mold already prepared to have the flask removed. Fig. II is a cut section through the center, showing the bed-board, the mold, the follower-board, and the jacket. Fig. III is a plan of one of my improved flasks of metal, circular in form, and Fig. IV is a cut section of Fig. III through its center, showing the mold ready for the metal except that the follower-board C should be removed and the ordinary weight substituted.

The same letters refer to the same things in all the drawings.

Description.

A, bed-board; B, flask or frame; C, follower-board; D and D′, mold in sand; E, jacket or sleeve; F, gate or sprue; G, mold or matrix; *a*, *a*, &c., handles of flask; *a′*, handles of jacket.

Small castings in iron, brass, &c., are often made in molds formed in what is commonly called "snap-flasks," or flasks that open and leave the mold without a flask; thus many molds may be made in the same flask. In all such cases the sides of the mold are left without any other support than the sand, which often breaks away or bursts, allowing the metal to run out.

My improvement consists in making the flask or frame tapering toward the top or upper side, thus allowing the flasks to be drawn off the mold when completed without being hinged. In order to do this readily and perfectly after the mold has been completed and the flask closed, the follower-board C is placed upon the top of the mold D and D′, as shown in all the figures, and held firmly down upon the mold while the flask B is drawn up, leaving the mold upon the bed or bottom-board A, as shown in Figs. I, II, and IV. The follower-board C and the flask B are used continually, making any required number of molds, in the manner above described. Before casting, however, an ordinary weight (which may be of the same size and shape as the follower-board C, and of any thickness) is placed upon the mold, (having a hole in its center for the passage of the metal,) and the jacket or sleeve or clamp E, which is a frame or box when wood is used, and a section of a conical cylinder or hollow cone, when a circular flask, as shown in Figs. III and IV, are used, of the same taper of the flask B, and of such size that it can drop down upon the mold D and D′ to about the position shown in Figs. I, III, and IV, covering the part or joint between the cope and drag D′ and D, and at the same time clamping or securing the mold all round from bursting or running out. This sleeve, as soon as the metal has set, may be removed to another mold, and thus used many times during the same run. This sleeve, if it be clamped to the bottom-board A, will serve as a weight, since the sand in the cope D′ can only rise up by crushing or breaking up. This sleeve may be of wood or metal, as also the flasks, and they may of course be of any shape, as square, round, octagon, oblong, &c.; but having all their vertical sides tapering or beveled, more or less, as shown in all the figures. This sleeve or clamp when put upon a mold thus formed not only prevents the metal from running out at the joint or part by stopping the joint by covering it; but also acts much as a slicker does to seal up the joint.

By the use of flasks made in this manner and the jacket E much heavier and larger castings may be made in open sand molds than has hitherto been done and with great facility.

Claim.

In connection with a tapering sand-mold, the tapering jacket or sleeve E, as and for the purposes set forth.

SAML. WILLIAMSON.

Witnesses:

R. C. PHILLIPS,

C. N. DANENHOWER.