

(No Model.)

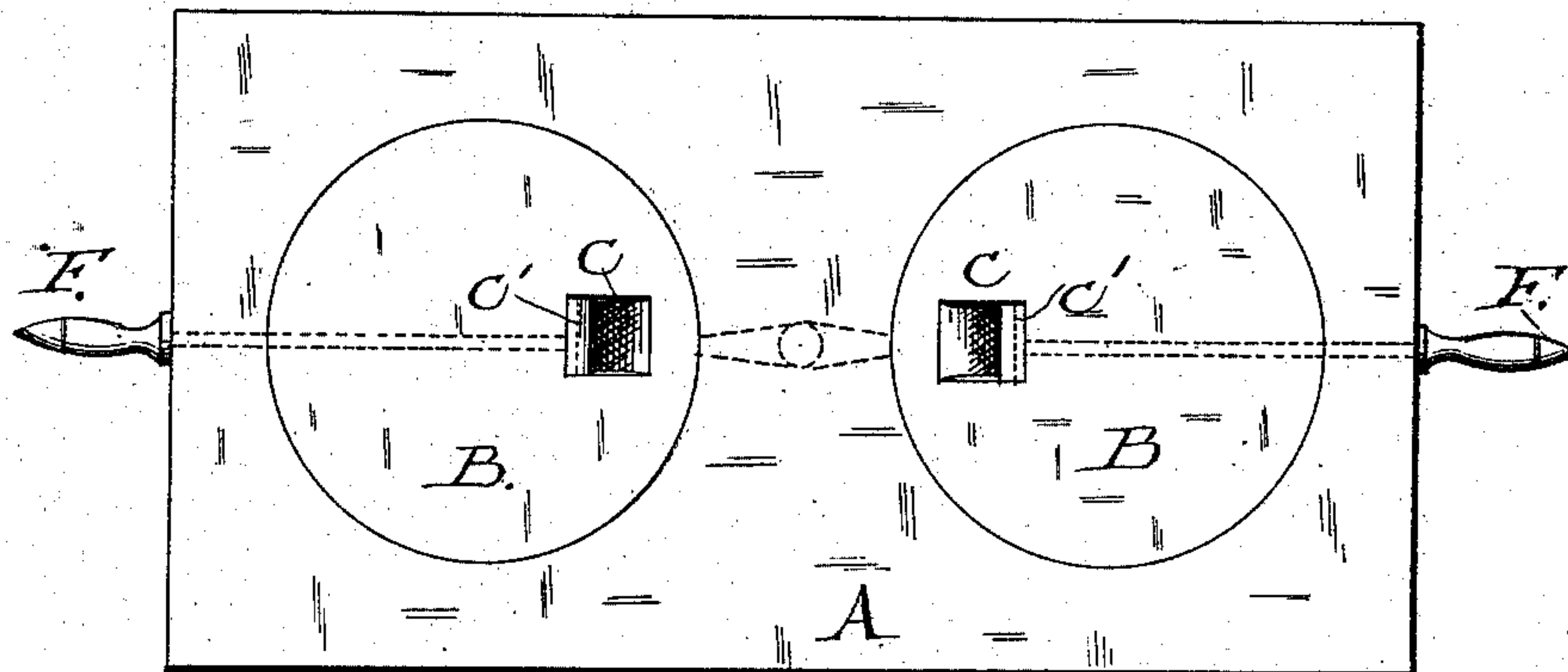
W. H. SMITH.

PATTERN FOR MOLDING STOVE LIDS.

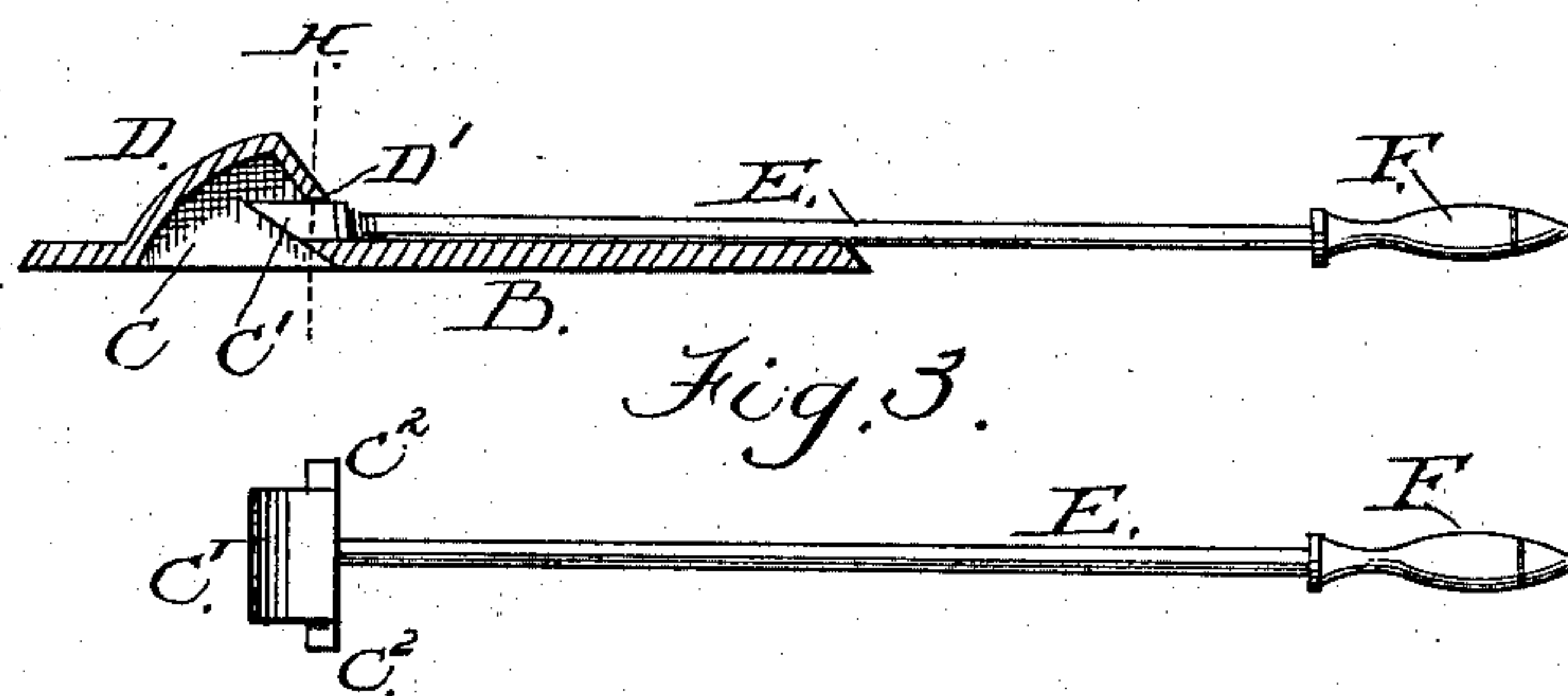
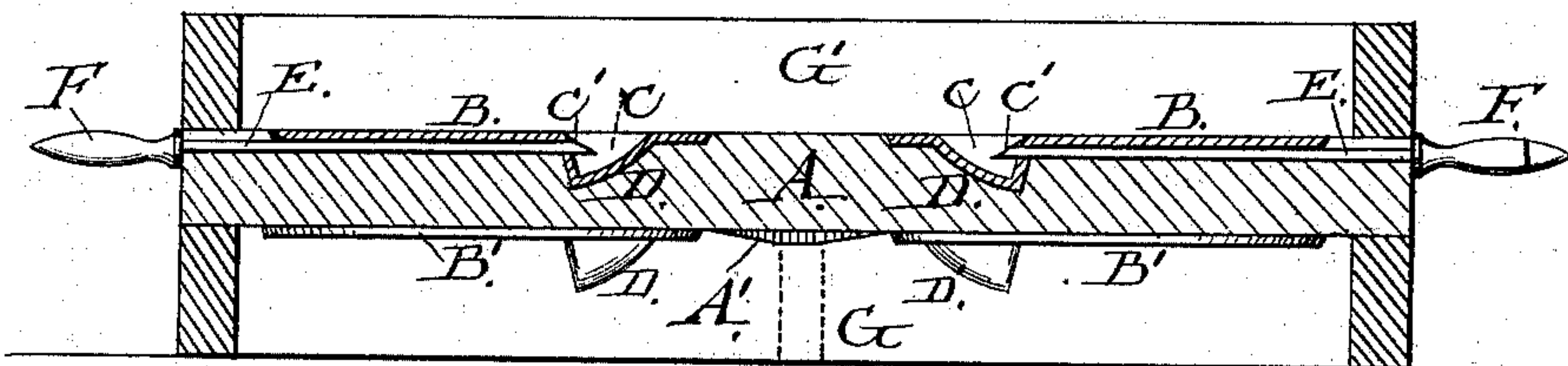
No. 278,370.

Patented May 29, 1883,

*Fig. 1.*



*Fig. 2.*



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# UNITED STATES PATENT OFFICE.

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## PATTERN FOR MOLDING STOVE-LIDS.

SPECIFICATION forming part of Letters Patent No. 278,370, dated May 29, 1883.

Application filed February 16, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM H. SMITH, a citizen of the United States, and a resident of the city of Reading, county of Berks, and State of Pennsylvania, have invented a new and useful Improvement in Patterns for Molding Stove-Lids, of which the following is a specification.

This improvement relates more particularly to the mode adopted to form the lifter-recess and its lip in the stove-lid or other parts of the same, whereby the same is cast without recourse to cores, wires, or chills.

The object of the improvement is to produce a stove-lid, cross-piece, &c., of a uniform level surface upon its upper face, undisfigured by chills, wires, or core-marks, to facilitate the molding of the same in green sand, and to increase the output of the individual molder. These results are attained by the use of a special card used in combination with the flasks, as shown in the accompanying drawings, forming a part of this specification, and in which similar parts are designated by similar letters—

Figure 1 representing a plan of the card, in which the stove-lids are shown with their face up; Fig. 2, a section through the flasks, card, and patterns, showing the drag rammed up preparatory to the reversal of the same and the ramming up of the cope; Fig. 3, a detail section and plan of the withdrawing apparatus, in all of which—

A represents the card, into and upon which the patterns are affixed, as usual in snap-flask molding; A', the sprue; B, the stove-lid pattern's upper face; B', the stove-lid pattern's under face; C, recess for lifter; C', lip or bar in the recess, whereby the lid is lifted. This lip in the pattern is a movable piece, having projected ends C<sup>2</sup>, that even up the back of the recess-shell and prevent the projection of the lip within the recess beyond the desired point. D is the shell of the recess; D', an opening at the rear of the same for the introduction of the lip C' C<sup>2</sup>, as shown in Fig. 3; E, a rod attached to the lip-piece, which is sunk below the surface of the card, and has a handle, F, exterior to the same for the purpose of manipulating the lip. I do not confine myself to this mode

of operating the lips, as the lids or other pieces may be differently arranged upon the card, and a single rod, by branches therefrom, be adjusted to operate all the several lips at one time. I give preference to the plan shown, as being the least expensive.

The operation of molding is as follows: The snap-flasks, as usual, are provided with pins fitted to the card and to each other in such manner that it is indifferent as to which cope or drag of the lot may be selected. Each set, when paired, will have, when rammed up upon the card A, a fac-simile of the article to be cast within the same. In this case the drag G' is first rammed up and reversed with the card. The handles F are then pulled away from the card, which, by the rod E, connection with the lip-piece C' C<sup>2</sup>, draws the same out of the sand held within the recess C of the lid-pattern. This permits the card to be lifted off, there being nothing to interfere with the removal of the card after the lip-piece is withdrawn from the recess. This is followed up until the required number of drags are molded up. The card is reversed and the same number of copes completed, the sprues A' being supplemented by a gate or riser, as shown in dotted lines. The copes are then placed upon the drags and the flasks poured in the usual manner, the result being a cover or lid of a uniform, smooth, and unruffled face, a clean-cut lip of a strong and neat form, and well adapted for the service it is to perform.

I am well aware that I am not the first to use a movable piece to form lips for the lifter in a stove-lid; but in all which have come to my knowledge (except Patent No. 32,465, June 4, 1861, M. C. Burleigh, of which more anon) the lips were formed as isolated projections each side of the recess longitudinally, and were uncertain in the casting and liable to breakage, and, forming part of the face of the lid, left a fin on the face of the casting, whereas my lip is transverse to the recess and forms an integral portion of the lid, and will withstand as much service as the lid itself. Being so constructed that the lip is withdrawn from the mold below the face of the lid, it leaves no mark to show the manner of its construction and saves the labor of the grinder in facing



the same. In the Burleigh arrangement, to which allusion has been made, the lip-piece was also transverse to the lifter-recess, but as it is arranged to be molded required the separate handling of the piece, with a liability to crush the sand, and, from its construction and position in the recess when cast, forming a dirt-receptacle on its upper face and a weak and imperfect lifter-bar, my improvement, on the contrary, when cast, presenting a lifter-bar inclined from the top face of the lid to the base of the recess, and a horizontal and parallel under face for the lifter, my bar being in strength equal to the lid.

15 Having shown the construction of my invention, its mode of application, and described its advantages, I desire to secure by Letters Patent the following claims thereon:

1. The card A, provided with the patterns B B B' B', sunk in and in relief thereon, in combination with the movable pieces C' C<sup>2</sup>, rods E, handles F, shells D, openings D', and lifter-recesses C, for the purpose described, and substantially as shown.

2. A stove-lid pattern, B, provided with a lifter-shell, D, with opening D' and recess C, a movable lip-piece, C' C<sup>2</sup>, and rod E, with handle F attached thereto, in combination with card A, provided with a recess for the rod E, substantially as shown, and for the purpose set forth.

WM. H. SMITH.

Witnesses:

F. PIERCE HUMMEL,  
THOMAS P. KINSEY.