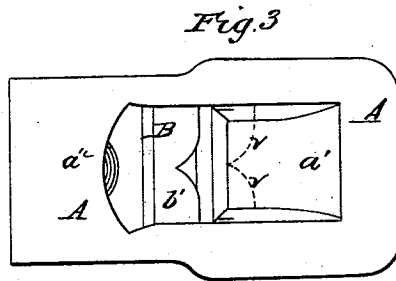
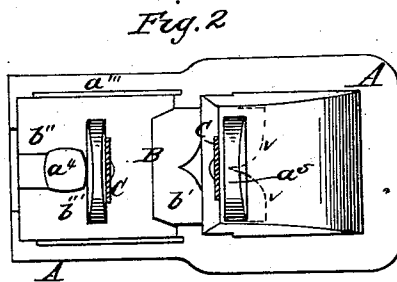
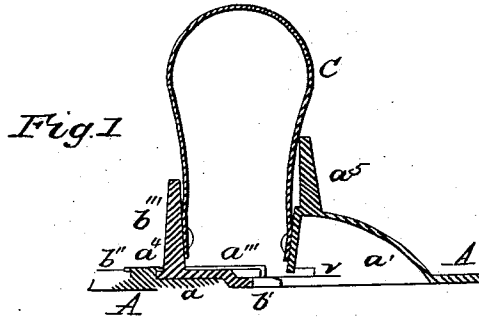


W. L. McDOWELL.

Implement for Undercutting Sand Cores in Flasks.

No. 100,172.

Patented Feb. 22, 1870.



Witnesses  
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# United States Patent Office.

WILLIAM L. McDOWELL, OF PHILADELPHIA, PENNSYLVANIA.

Letters Patent No. 100,172, dated February 22, 1870.

## IMPROVEMENT IN IMPLEMENT FOR UNDER-CUTTING SAND-CORES IN FLASKS.

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

I, WILLIAM L. McDOWELL, of the city of Philadelphia, in the State of Pennsylvania, have invented certain Improvements in the Implement for Under-Cutting or Indenting Sand-Cores in the Process of Molding for Castings, of which the following is a specification.

### *Nature and Objects of the Invention.*

In the process of molding patterns in sand-flasks it often becomes necessary either to under-cut or indent by hand certain parts of such cores as are molded and lifted with the coping, or to make the cores separately and insert them in cavities molded for the purpose in the coping. In molding for the production of the projecting lips of the lifter-cavities in the lids of the stove-plates, the former mode is generally adopted, but it requires considerable expenditure of time and practiced skill on the part of the molder.

The object of my improvements is to afford an implement whereby these under-cuts or indentations in the sand-cores in the flasks can be produced with greater accuracy, facility, and rapidity.

My invention relates to the combination with a plate having a cavity in its under side which will readily fit over and support the core of a sliding, cutting, or indenting tongue and a thumb-and-finger spring, in such a manner that by placing and holding the implement accurately and firmly over the projecting core to be under-cut or indented, and then compressing the spring the tongue will immediately be caused to penetrate the side of the core and thus make the under-cut or indentation required, and on then relaxing the pressure on the spring, its reaction will instantly withdraw the said tongue and allow the implement to be removed.

### *Description of the Accompanying Drawings.*

Figure 1 is a vertical longitudinal central section of my improved implement as constructed for making the under-cuts or indentations in the sand-cores required in molding for the "lifter" cavities in the lids of stove-plates.

Figure 3 is a representation of the under side of the implement.

Figure 2 is a view of the upper side of the same, having the bow of the spring cut off in order to more fully display the tongue.

### *General Description.*

A is the plate, and  $a'$  its cavity for receiving the sand-core;

B the slide and  $b'$  its tongue; and

C, the thumb-and-finger spring.

The plate A has, besides the opening into its cavity  $a'$ , an extension of the said opening to  $a''$ , for the reception and movements of the tongue  $b'$ .

The slide B is made wider than the tongue  $b'$  so as to lay down flat upon the upper side of the plate A, whilst the tongue  $b'$  comes flush with the under surface of the same. (See fig. 1.)

The slide B with its tongue  $b'$  is kept in line with the length of the opening in the plate A by the side edges of the said slide and the guide-ribs  $a'''$ , on the upper side of the plate A, while the said slide B is kept down upon the plate A by means of a flanged stud,  $a^4$ , of the plate, a slot,  $b''$ , in the slide B, allowing the latter to be moved freely forward and backward within certain required limits.

On the upper side of the slide B there is a thumb or finger-lug,  $b'''$ , for operating the slide and to which lug one end of the bow-spring C is riveted fast.

On the top of the cover of the cavity  $a'$  there is a like lug,  $a^5$ , which forms an abutment for the thumb or finger of the operator in compressing the spring C, the other end of the latter being riveted fast either to it or to the side of the cover of  $a'$ , as in fig. 1.

It will now be understood, without further description, that when this implement is placed and held firmly in juxtaposition over the core for which it is constructed, and the slide B then pressed forward by compressing the spring C between one's thumb and finger, the tongue  $b'$  of the said slide will penetrate the sand-core in  $a'$  until it reaches the position indicated by the dotted lines  $r r$ , and then on allowing the spring C to react the said tongue will be withdrawn from the core thereby and the implement removed by the operator, leaving the under-cut or indentation required in the core, the whole operation requiring but a few moments of time, but little skill, and resulting in the production of more perfect work than can be accomplished by either of the old methods.

### *Claim.*

I claim as my invention—

The combination with the plate A, provided with a suitable cavity,  $a'$ , for the reception of the core of the sliding tongue  $b'$  and spring C, substantially as and for the purpose hereinbefore set forth.

WM. L. McDOWELL.

Witnesses:

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JOHN MULLINER.