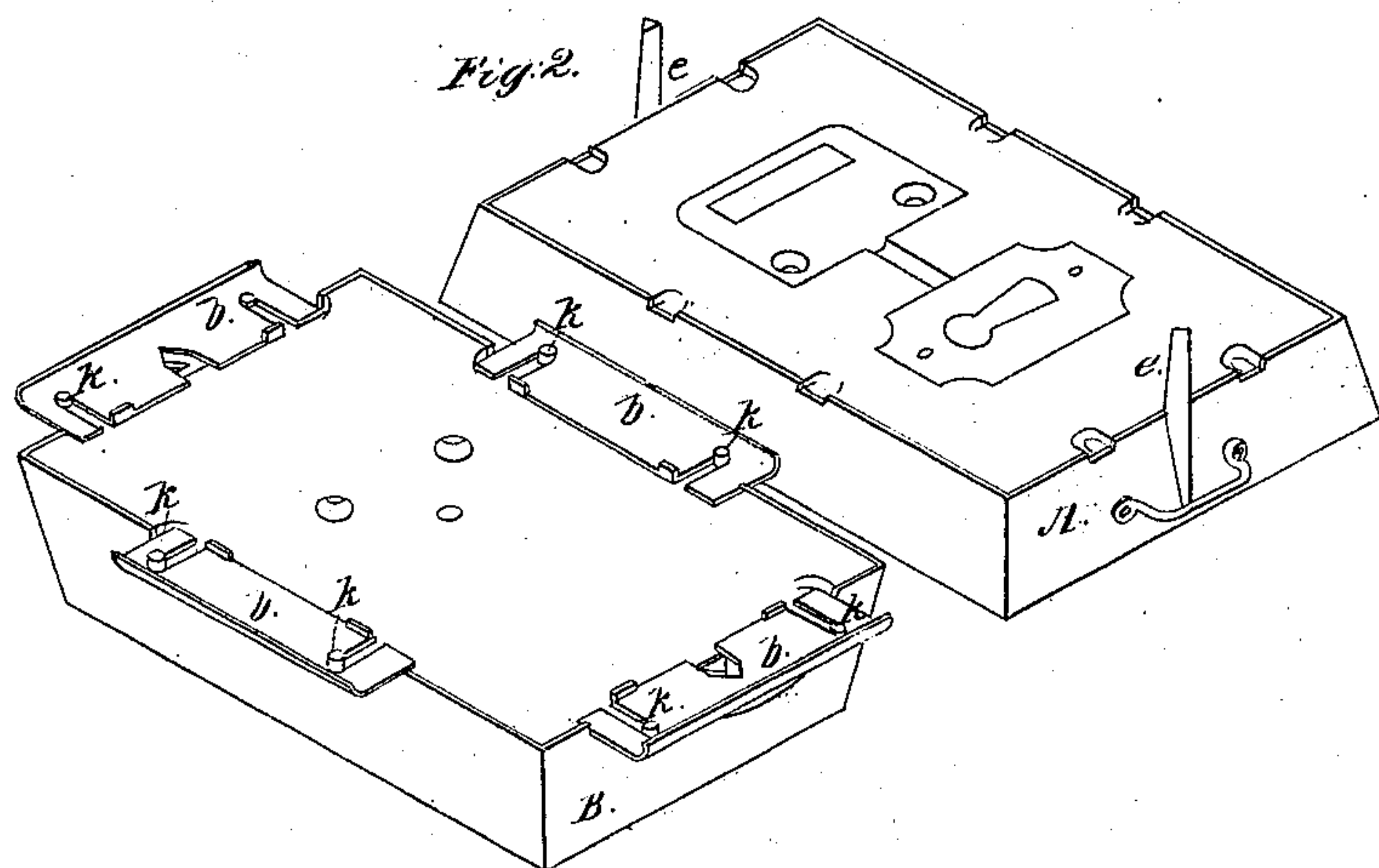
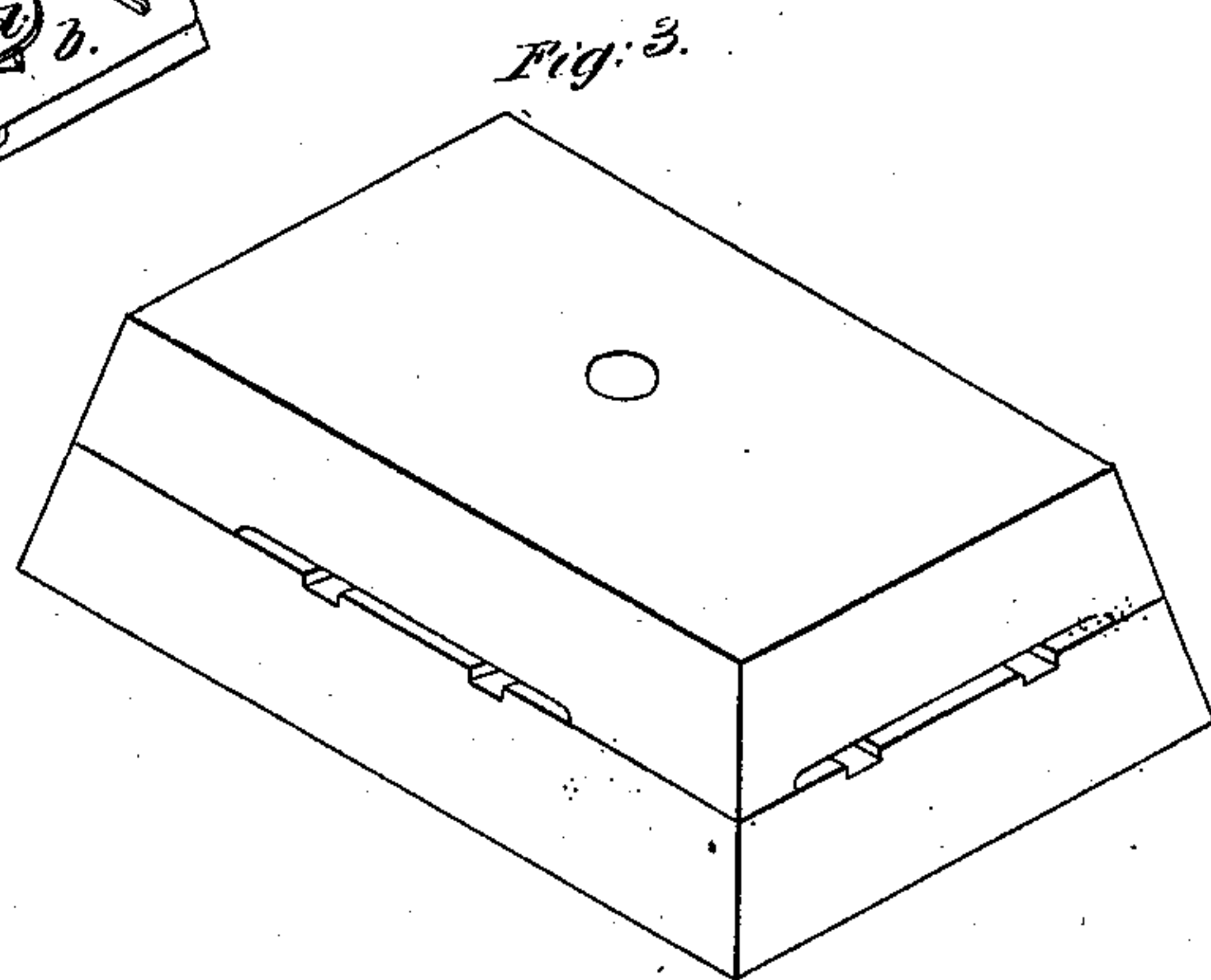
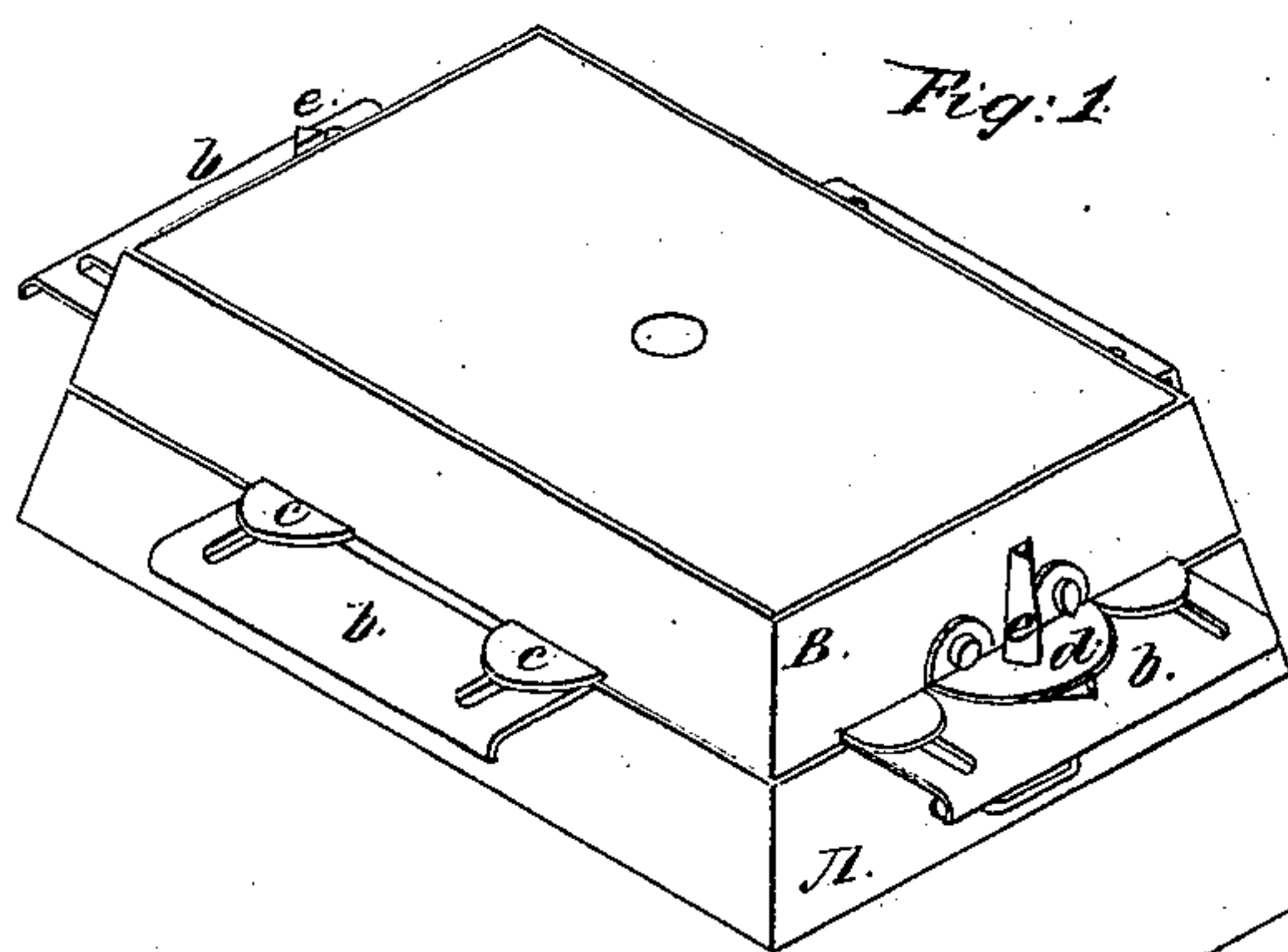


*Livingston, Roggen & Adams,  
Molders' Flask.  
No 5,841. Patented Oct. 10, 1848.*



# UNITED STATES PATENT OFFICE.

LAURESTON R. LIVINGSTON, JOHN J. ROGGEN, AND CALVIN ADAMS, OF  
PITTSBURG, PENNSYLVANIA.

## IMPROVED MOLDER'S FLASK.

Specification forming part of Letters Patent No. 5,841, dated October 10, 1848.

*To all whom it may concern:*

Be it known that we, LAURESTON R. LIVINGSTON, JOHN J. ROGGEN, and CALVIN ADAMS, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and Improved Molder's Flask; and we do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 represents in perspective the upper and lower parts of our flask united with a mold formed therein. Fig. 2 represents the parts thereof separated containing their respective portions of the mold, and Fig. 3 the form of the mold after the flask has been withdrawn therefrom.

Similar letters indicate like parts in all the figures.

The nature of our invention consists in giving the sides of the flask an inward inclination from the bottom of its lower portion, A, commonly called the "drag," to the top of its upper portion, B, commonly called the "cope," for the purpose of enabling the molder to withdraw the flask from the mold formed therein, and using the same flask for forming any number of molds.

We generally cast the respective parts of our improved flask of iron. *e e* are the guiding-pins rising from each end of the drag A. *d d* are ears cast with or bolted to each end of the cope B, having apertures formed therein into which the guiding-pins *e e* accurately fit when the cope is placed upon the drag, thereby retaining the two parts of the flask together in the usual manner. *c c* are ears cast upon or secured to the sides and ends of the cope in the position shown in Fig. 1. *k k* are pins projecting downward from the under sides of the ears *c c*. *b b* are sliding plates secured to the under sides of the ears *c c* by means of slots in the plates, the edges of which fit into notches in the sides of the pins *k k*, on which the plates slide freely out and in. Recesses are cast or formed in the lower edge of the ends and sides of the cope, through which the sliding plates *b b* can be forced into the mold.

The process of molding in our improved flask is substantially the same as is pursued in molding with the ordinary forms of flasks.

Previous to packing the sand in the cope of

our improved flask the sliding plates *b b* are forced inward into the positions represented in Fig. 2, which serve to retain the sand therein while the cope is lifted from the drag to withdraw the patterns and finish the mold. After finishing the faces of the respective portions of the mold the cope is placed upon the drag and the sliding plates *b b* are withdrawn into the positions represented in Fig. 1. Both portions of the flask are then withdrawn from the mold, leaving it of the form represented by Fig. 3, and are again used for forming other molds.

Our improved flasks may be made of a rectangular, curved, or any other form that may be desired, the gist of our invention consisting in giving the sides of both portions (the cope and drag) of our improved flask an inward inclination from bottom to top, making the top of each portion smaller than its base, so that they can be raised from the mold formed therein without injuring the same, and also the combining with the upper portion or cope of the flask a suitable number of sliding plates or their equivalents for retaining the sand therein when the cope is removed from the drag, for the purpose herein described.

We shall sometimes combine sliding plates with the drag of our improved flask should it be found necessary.

Having thus fully described our improved molder's flask, what we claim therein as new, and desire to secure by Letters Patent, is—

The inclining of the sides of the upper and lower portions thereof (commonly called the "cope" and "drag") inward from bottom to top, in combination with the sliding plates *b b*, or their equivalents, connected therewith, substantially in the manner and for the purpose herein set forth, not intending by this claim to limit ourselves to the exact form, number, and arrangement of parts as herein represented and described, but to vary them as we may deem expedient, while we attain the same end by means substantially the same.

L. R. LIVINGSTON.  
JOHN J. ROGGEN.  
CALVIN ADAMS.

Witnesses:

Z. C. ROBBINS,  
WM. D. WOOD.