

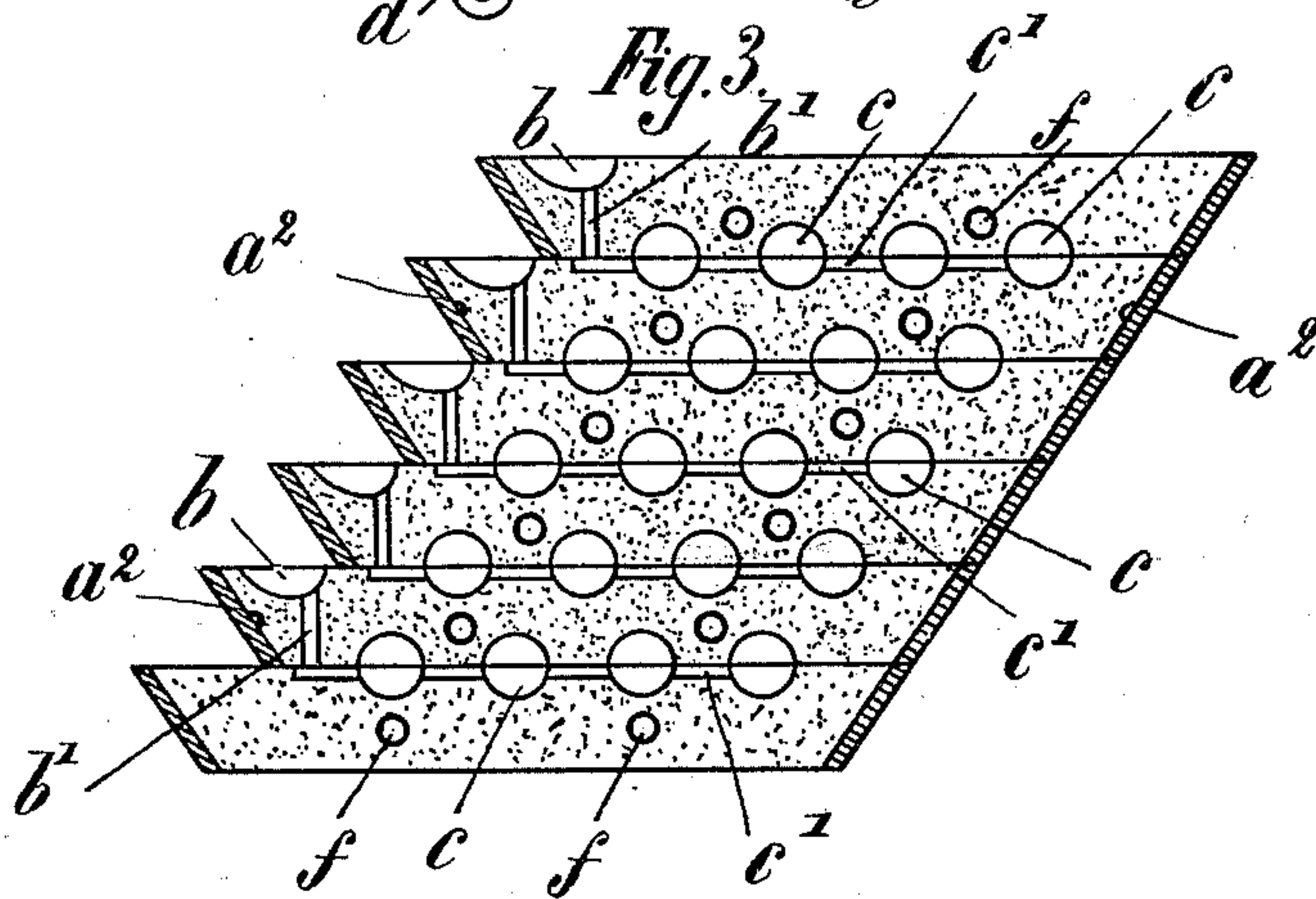
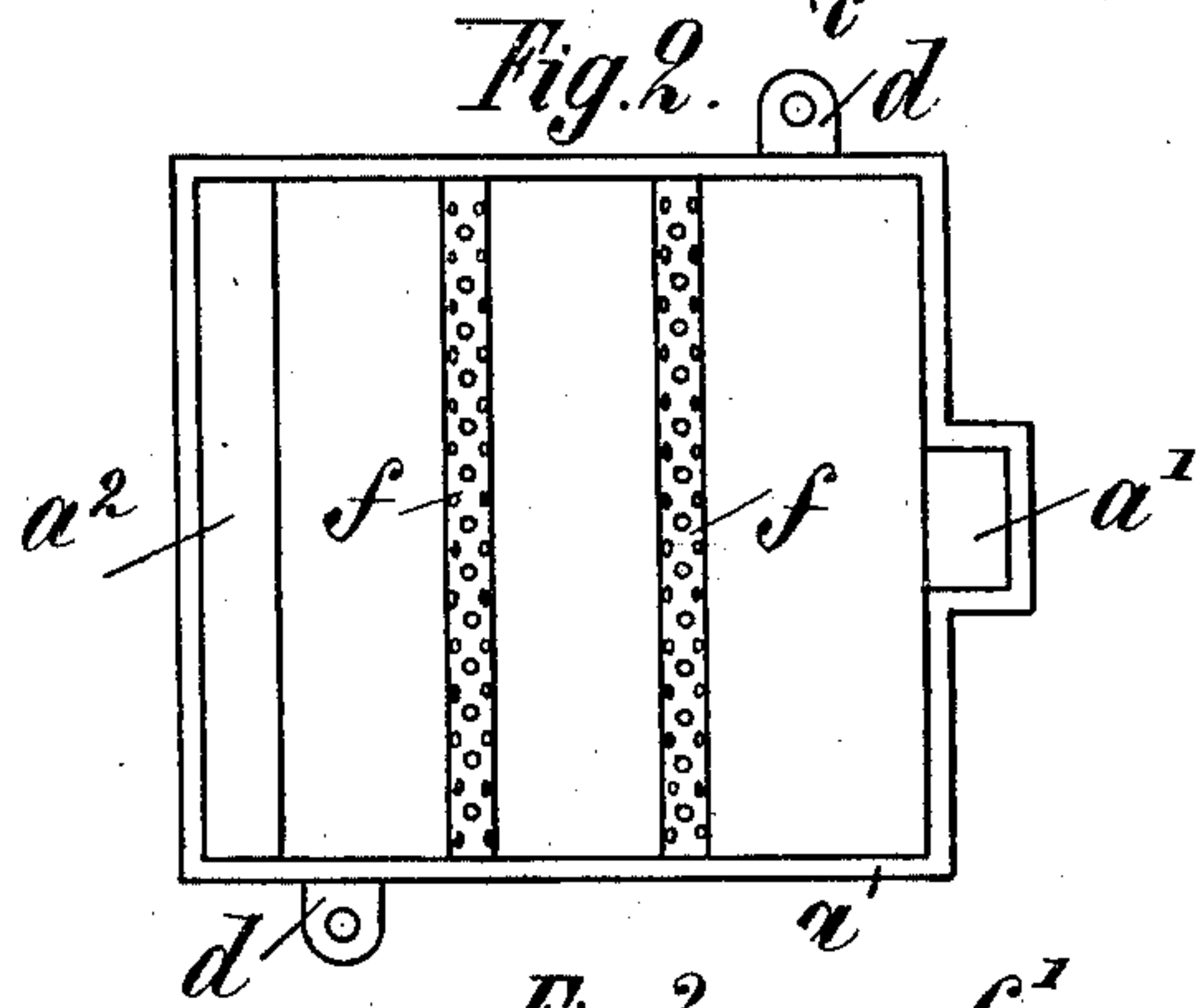
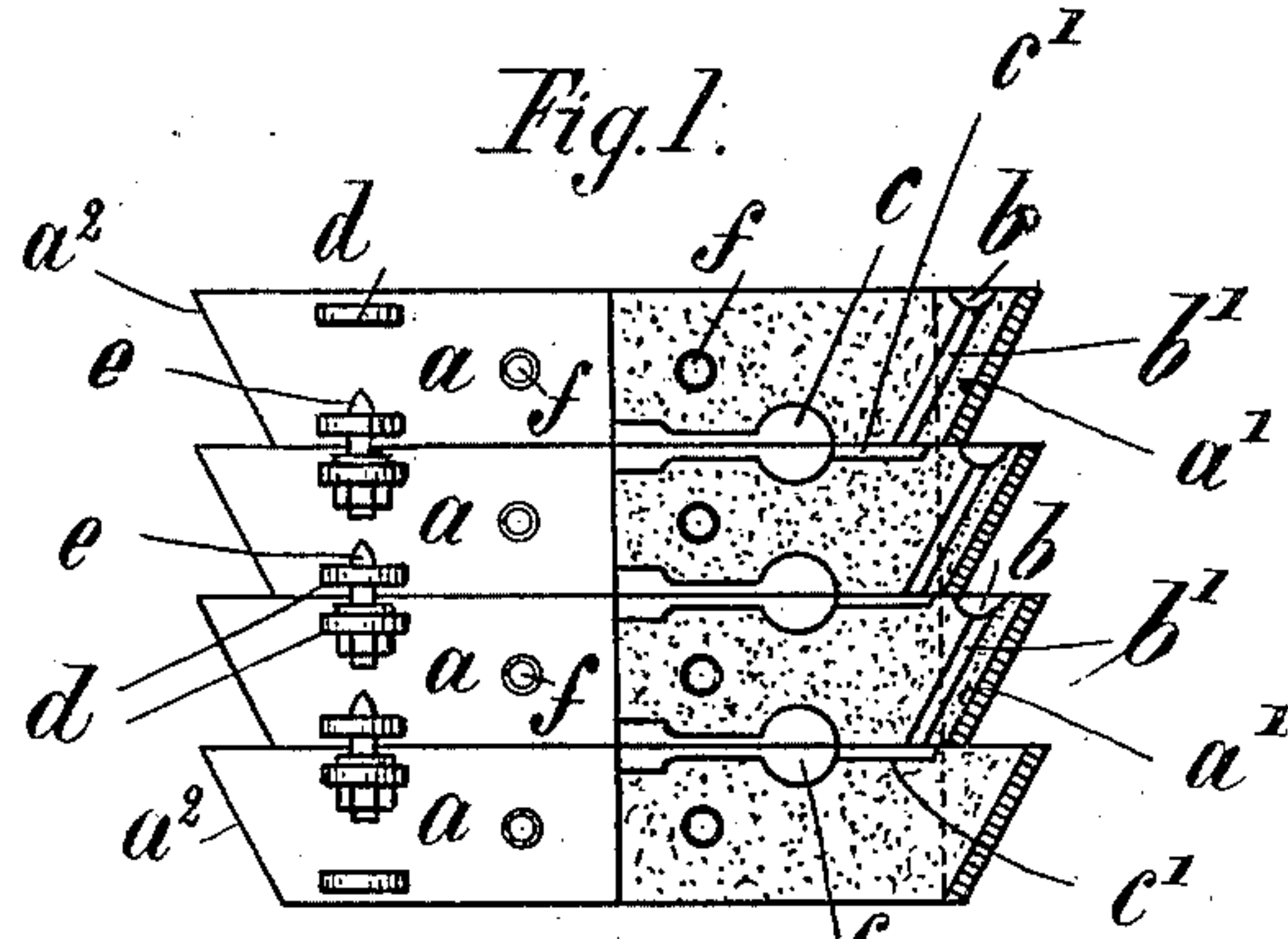
No. 652,129.

Patented June 19, 1900.

O. S. MICHAELSEN.
MOLDING BOX OR FLASK.

(Application filed Jan. 13, 1900.)

(No Model.)



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UNITED STATES PATENT OFFICE.

OLOF STRUVE MICHAELSEN, OF ALTONA-OTTENSEN, GERMANY.

MOLDING BOX OR FLASK.

SPECIFICATION forming part of Letters Patent No. 652,129, dated June 19, 1900.

Application filed January 13, 1900. Serial No. 1,341. (No model.)

To all whom it may concern:

Be it known that I, OLOF STRUVE MICHAELSEN, a subject of the King of Prussia, Emperor of Germany, and a resident of Altona-Ottensen, in the German Empire, have invented certain new and useful Improvements in Molding Boxes or Flasks, of which the following is a specification.

This invention relates to improvements in molding boxes or flasks of that class in which, as in machine-molding, the cope and drag are contained in one frame and a plurality of such superposed frames constitute a corresponding number of bipartite molding-boxes; and the object of this invention is to obviate the inconvenience hitherto accompanied with such molding in that common ingates passing through the entire pile of flasks were employed, whereby the lower molds were subjected to a higher pressure of the metal than the uppermost molds. I attain this object by providing each molding box or frame with one or more lateral enlargements or pockets designed to form the ingate for each mold and arranged in such a manner that the metal may be easily poured in at each mold separately.

In the accompanying drawings, Figure 1 is an elevation, partly in section, of a pile of my improved molding boxes or flasks ready for casting; Fig. 2, a top view of a molding box or flask properly freed from sand, and Fig. 3 a vertical section through a pile of molding boxes or flasks piled up in a somewhat-modified manner.

Similar letters refer to similar parts throughout the several views.

The frame *a*, Fig. 2, forming the flask, is provided with one or more chute-like lateral pockets *a'*. When desired, these pockets may extend throughout the entire breadth of the frame *a* or the frame be formed with one or more flaring side walls. In Figs. 1 and 2 I have shown flask-frames having at one side a small pocket *a'* and at the opposite side a flaring side wall or extended pocket *a''*, as this will be readily understood from the drawings. The extra space obtained by these lateral pockets *a'* or *a''*, respectively, is designed to receive that part of the sand into which the ingates *b*, preferably of bell-mouth shape, are to be made, so that when the molds are ready and

the several flask-frames *a* piled up in the usual manner, as shown in Fig. 1, the ingates *b* remain uncovered. In consequence of this arrangement at each ingate the metal may be easily poured in the corresponding mold in this way, each mold being therefore filled up separately and subjected only to that pressure which corresponds to the difference in height between its ingate and the mold proper.

In employing the ordinary molding boxes or frames, especially when a larger number of flasks is used in superposition and a common gate provided for all molding-boxes, the several lower and lowermost molds of the pile have to sustain a considerable pressure, as the difference in height between the common ingate and the respective molds is here much greater and increases with the height of the pile of flasks. This disadvantage is entirely obviated by means of my above-described improved flasks or molding-boxes with laterally-projecting ingate-pockets, as will be understood from the foregoing explanations.

The producing of the mold or molds *c* of the ingates *b* and of the runners or channels *c'* and *b'*, through which the molten metal finds its way from the ingate to the mold, is well known and needs, therefore, no further description.

The several molding boxes or flasks are connected or secured together by means of lugs or ears *d* and guide-pins *e*, which allow of their separation and also their replacement to exactly the same relative position; but such locking devices are also well known, and a further description is therefore not necessary.

To enable the gases and air to escape from the mold and sand and to hold the sand in position, the frames *a* of the flasks are transversely provided at suitable distances with perforated tubes *f*. These tubes *f* may be of any suitable form, number, and shape and may be so arranged as to form at the same time suitable cross connections between the opposite side walls of the frame.

In the modification shown in Fig. 3 the flasks are provided at opposite sides with two flaring side walls *a''*, and the ingates *b* are arranged at one side. As is evident from this figure, the flasks are piled up in an oblique position in order to obtain a still-easier access to the ingates.

Having fully described my said invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination of a series of superposed molds and their flasks, each larger at the top than at the bottom, so that a portion of the top of one mold will project beyond the bottom of the other, and a runner in the projecting portion of each mold, substantially as set forth.

2. The combination of a series of superposed molders' flasks each open at top and bottom and each larger at the top than at the bottom, whereby each has a portion projecting beyond the one next above, and molds therein and a runner from the projecting portion of each flask to the mold, substantially as and for the purpose set forth.

3. The combination with a series of molders' flasks, each open at top and bottom, a series of superposed molds in contact with each other and a projecting portion on each flask and mold, and a runner extending from each projection between the proximate molds, substantially as set forth.

4. The combination of a series of super-

posed molders' flasks, each open at top and bottom and each provided with a pair of slanting sides and larger at the top than at the bottom, whereby each projects beyond the one next above, molds in each flask in contact with one another, and a runner from a projecting portion of each flask to the molds, substantially as set forth.

5. In combination, a series of molds and flasks, each having slanting sides and larger at the top than at the bottom, the rear slanting sides in alinement and the opposite sides forming stepped free spaces each containing a runner, substantially as set forth.

6. A series of open-ended molders' flasks, having their front and rear straight walls not parallel, their rear walls in alinement and forming stepped free spaces for the runner at the front, tubular perforated cross-braces in each flask and means for positioning the flasks, substantially as described.

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Witnesses:

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