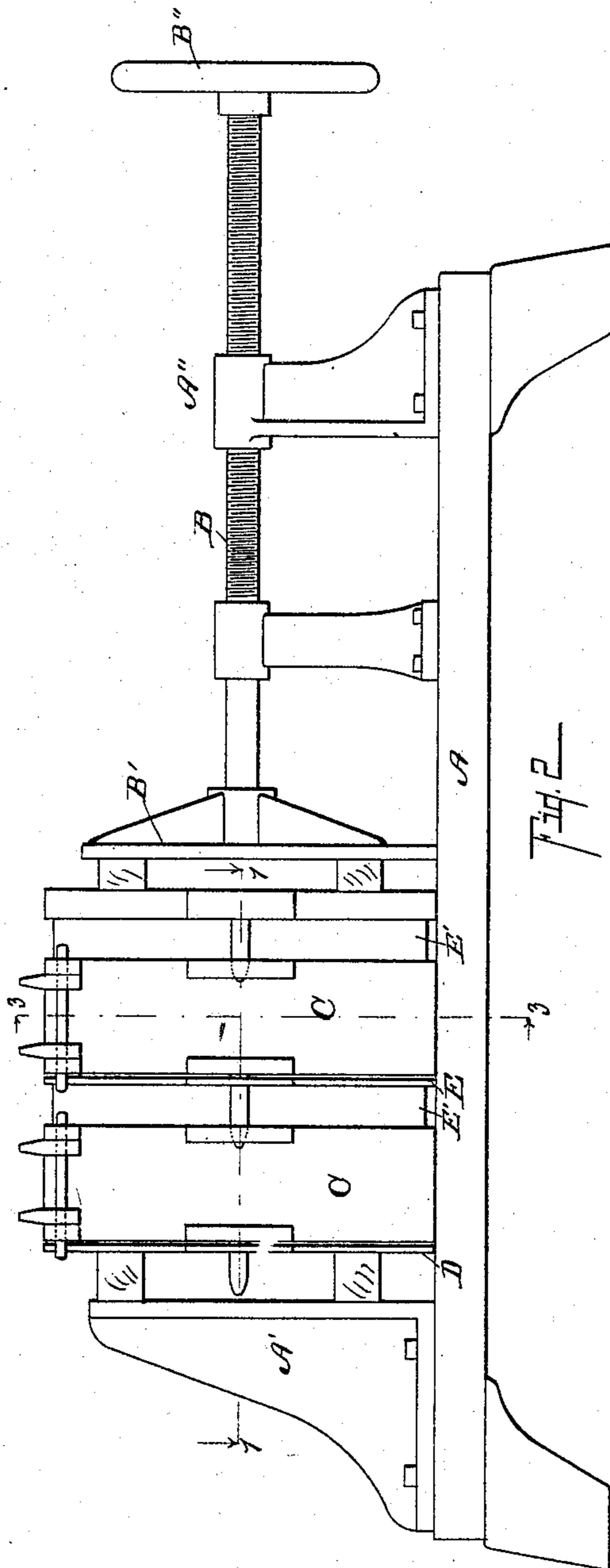
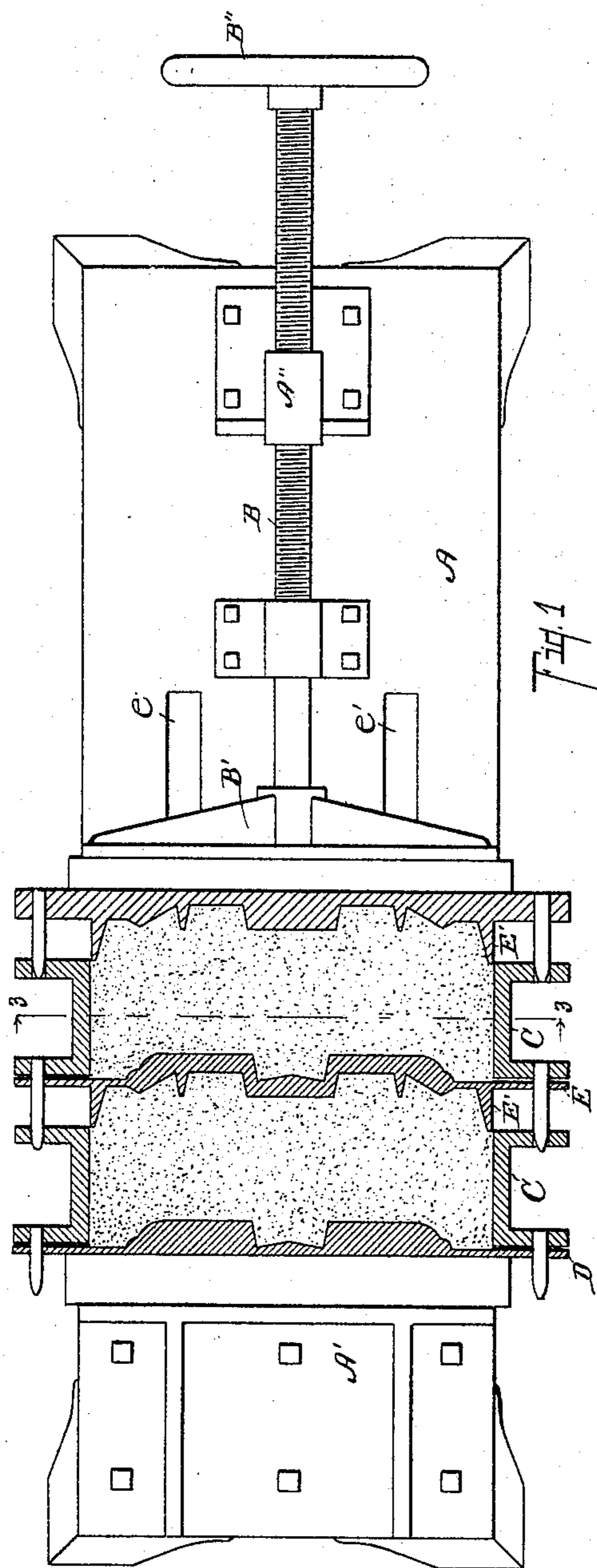


No. 782,538.

PATENTED FEB. 14, 1905.

A. K. BECKWITH.
MOLDING APPARATUS.
APPLICATION FILED SEPT. 9, 1903.

2 SHEETS—SHEET 1.



Witnesses:

Wm. H. Doughty
Otis O. Earl

Inventor,

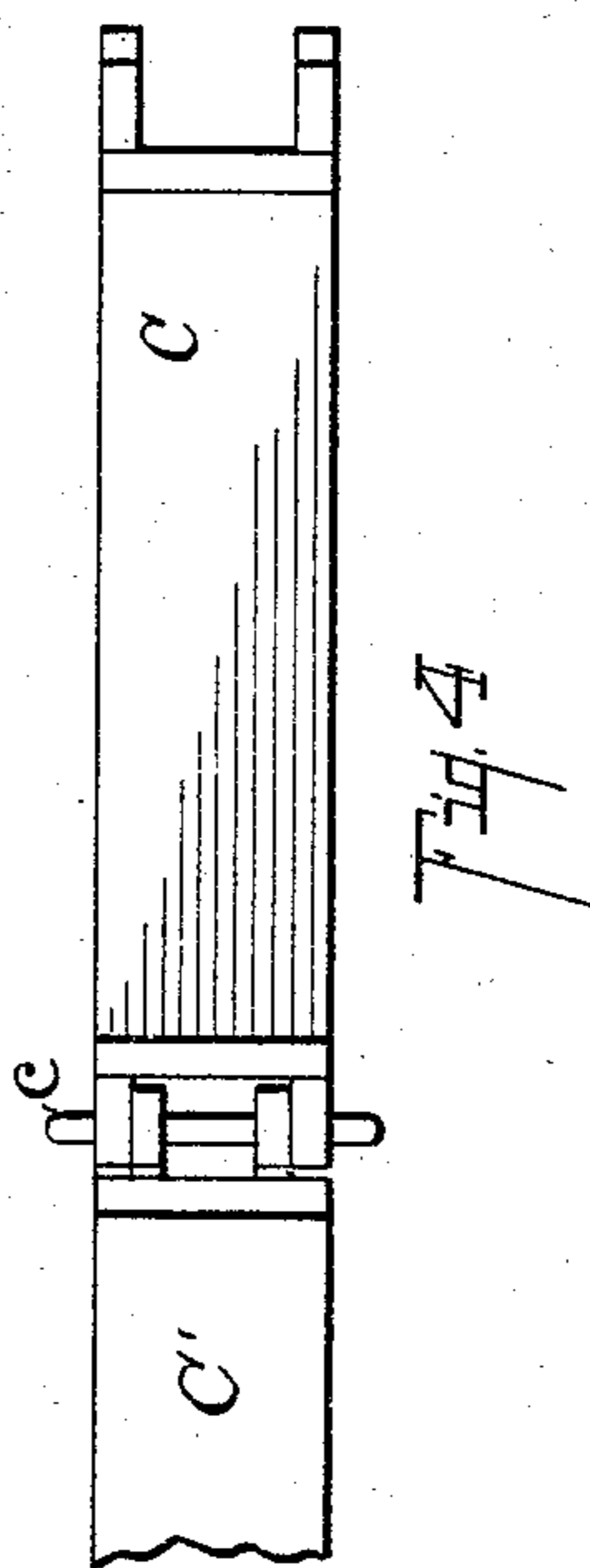
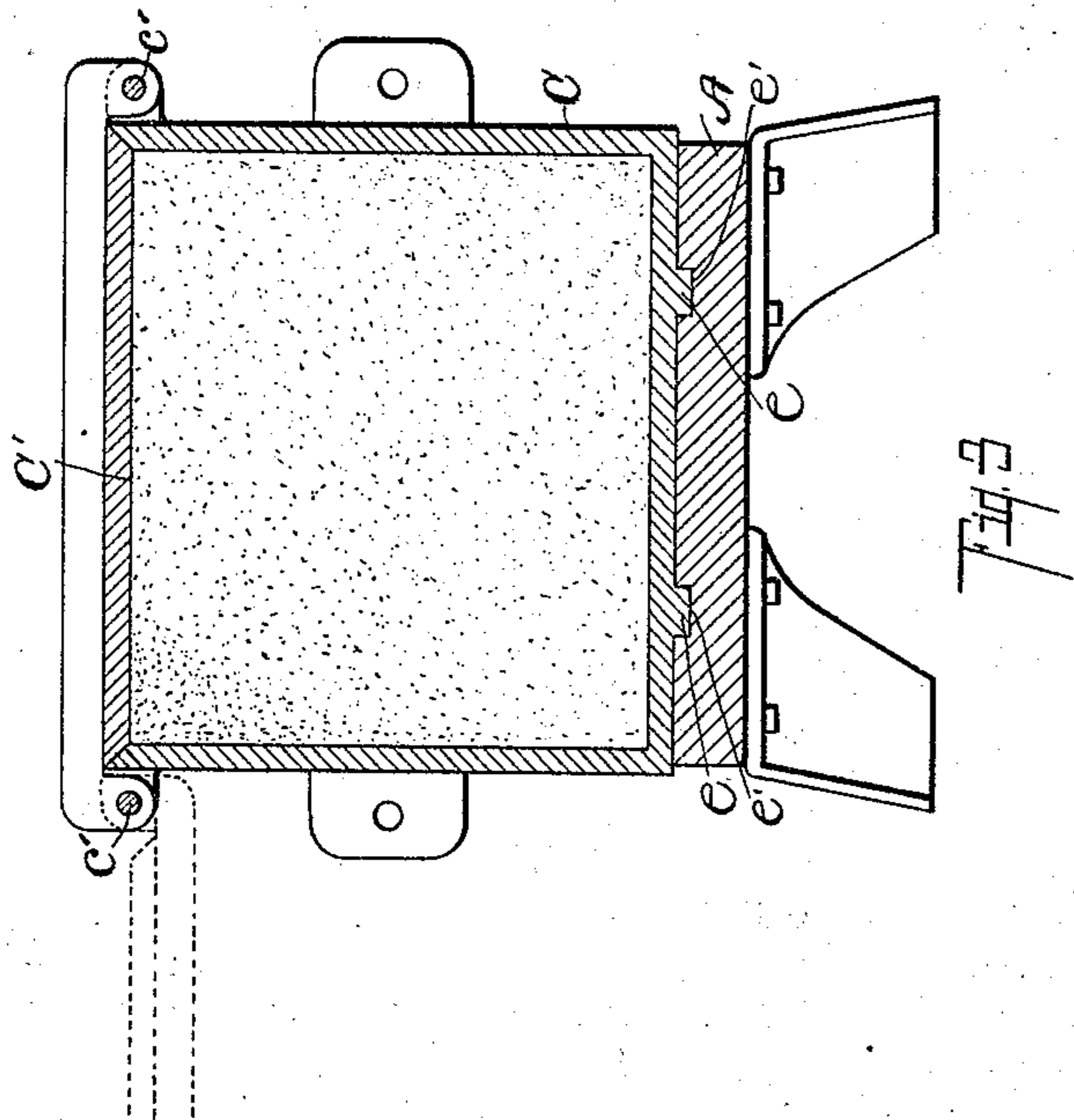
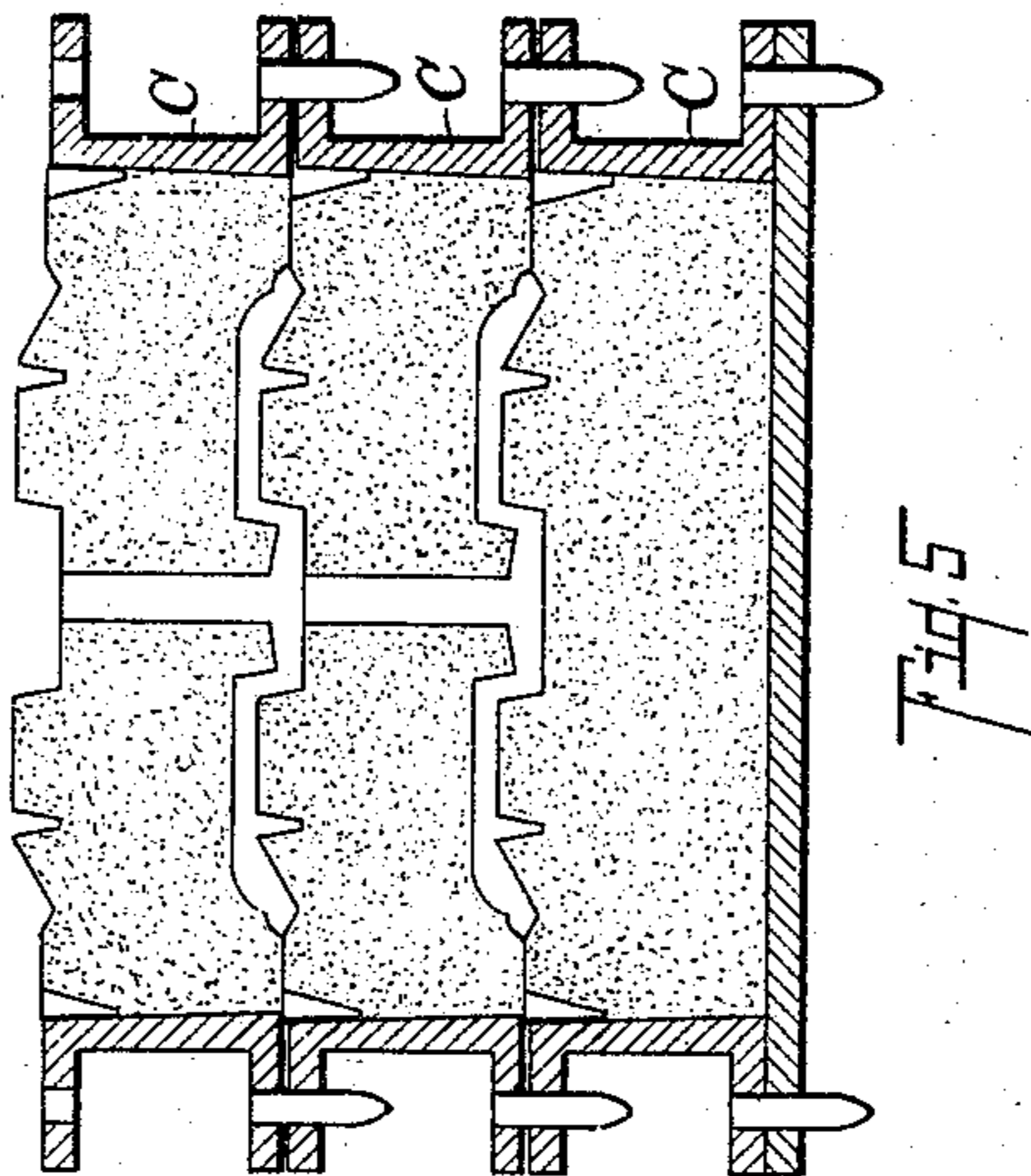
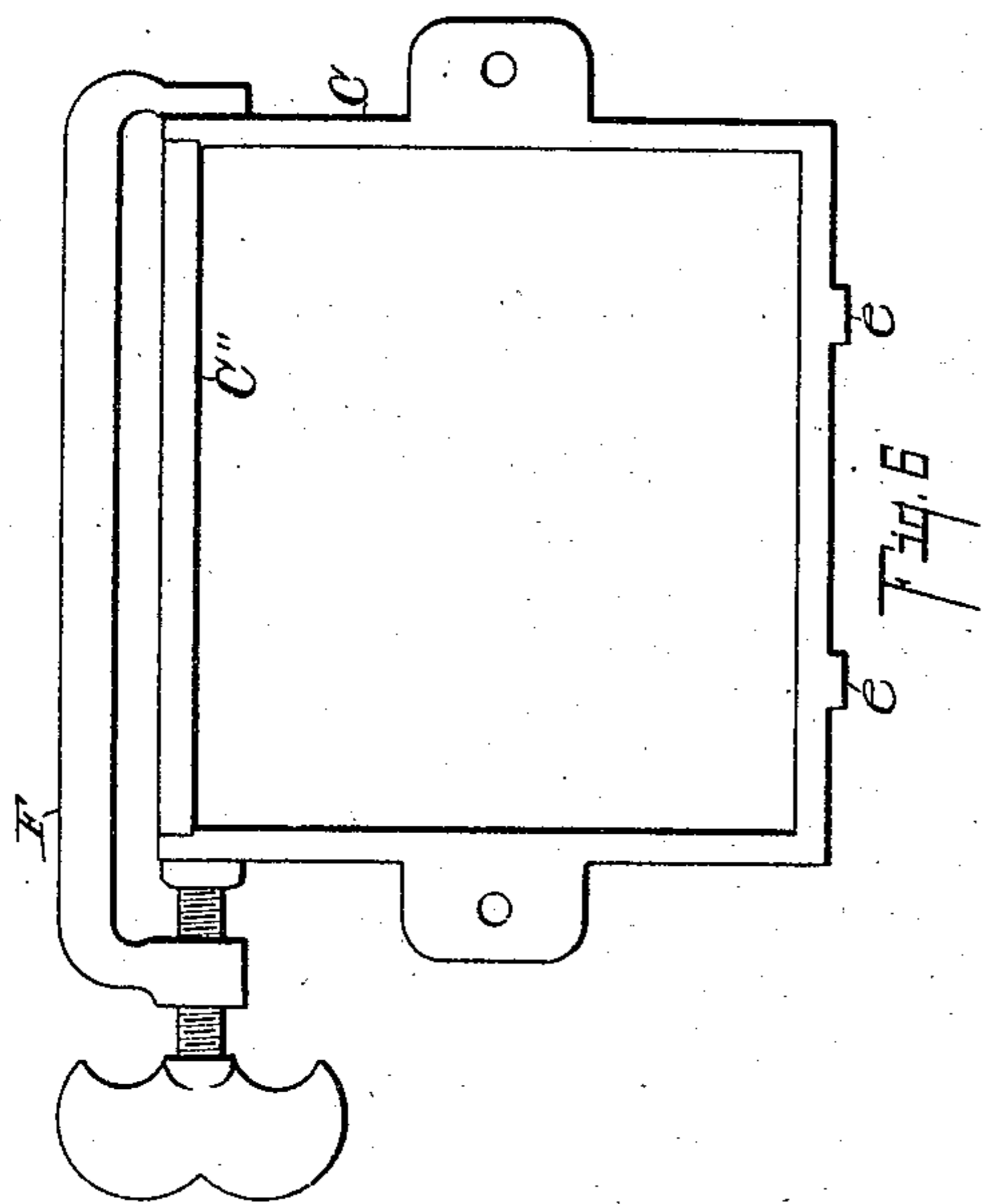
Arthur K. Beckwith
By *Fred L. Chappell*
Att'y.

No. 782,538.

PATENTED FEB. 14, 1905.

A. K. BECKWITH.
MOLDING APPARATUS.
APPLICATION FILED SEPT. 9, 1903

2 SHEETS—SHEET 2.



Witnesses:

Henry H. Doughty
Otis A. Earl

Inventor,

Arthur K. Beckwith
By *Fred L. Chappell*
Att'y.

UNITED STATES PATENT OFFICE.

ARTHUR K. BECKWITH, OF DOWAGIAC, MICHIGAN.

MOLDING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 782,538, dated February 14, 1905.

Application filed September 9, 1903. Serial No. 172,487.

To all whom it may concern:

Be it known that I, ARTHUR K. BECKWITH, a citizen of the United States, residing at the city of Dowagiac, in the county of Cass and State of Michigan, have invented certain new and useful Improvements in Molding Apparatus, of which the following is a specification.

This invention relates to improvements in molding apparatus.

The objects of this invention are, first, to provide a simple and efficient means of forming a series of molds similar to that described in Letters Patent No. 738,279, issued to me on September 8, 1903; second, to provide a simple and efficient flask and match-plates adapted to produce such molds in a speedy and satisfactory manner and secure an even compression of the sand of the mold with the minimum amount of manipulation.

Objects relating to details of construction will appear from the description to follow.

I accomplish the object of my invention by the devices and means described in the following specification.

The invention is clearly defined, and pointed out in the claims.

A structure embodying the features of my invention is fully illustrated in the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a plan view of my improved molding apparatus, the molds being shown in sections, taken on a line corresponding to line 1 1 of Fig. 2. Fig. 2 is a side elevation view of the complete apparatus. Fig. 3 is a transverse detail sectional view taken on line 3 3 of Fig. 1, showing the details of the formation of the flasks. Fig. 4 is a plan view of one of the flasks appearing in Fig. 3 with the hinged side swung out of engagement. Fig. 5 is a central sectional view of a portion of a complete multiple mold, two complete single molds being illustrated. Fig. 6 illustrates a modification of the flask in which the side is removable but not hinged.

In the drawings the sectional views are taken looking in the direction of the little arrows at the ends of the section-lines, and similar letters of reference refer to similar parts throughout the several views.

Referring to the lettered parts of the drawings, the base A of the frame is provided with guiding-gooves *e' e'*. A bracket A' is secured at one end, and a pair of brackets A'' is provided at the opposite end to receive a hand-screw B, operated from a hand-wheel B''. A suitable head B' is provided at the opposite end of the screw, so that the structure thus provided serves as a press for properly pressing the flasks and patterns together to form the multiple mold. The flasks are made up open at the top and bottom, similar to the flasks I have referred to in my former patent, except that as here used they are laid on their sides, and one side, as C', appearing in Fig. 3, is made removable, the same being preferably hinged at one side, as at *c*, a detachable pin *c'* being provided for coupling the same to the other side of the flask, the object being to place a series of flasks, as C, side by side with match-plates E, having suitable flanges between, the whole being suitably guided together by the usual guide-pins and perforated ears formed on such flasks and match-plates. These are placed on the base A within the press which I have described. When properly in position, the top sides of the flasks are opened and molders' sand or other suitable molding material is poured into the flasks until they are level full, when it is stricken off, the top side of the flask is closed, and pressure applied to properly compact the sand. The entire stack of flasks is then removed from the press, and the mold set up, as appears in Fig. 5, the match-plates being removed from between the molds. The sprue-holes are cut down through the center, as appears in Fig. 5, so that the series of molds can all be filled at a single pouring.

In Fig. 6 I show the flask somewhat modified. The top side C'' is not hinged, but suitable shoulders are provided for it to rest within the side of the flask, and a clamp F clamps the same securely in position, which clamp is applied during the process of pressing the molds.

In the use of this device I desire to remark that while it will be found the most desirable to put the sand in loosely and compress the same by means of the press, suitable lugs *e* be-

ing provided on the flask to enter the grooves
e' e' to guide the same together, yet the flasks
can be placed in position and the sand rammed
in at the side of the mold until the same is
5 full, the sand then stricken off, and the detach-
able side of the flask can then be put in posi-
tion. The several molds can then be sepa-
rated and the match-plates removed and the
molds stacked up as before. By following
10 these directions a series of molds can be made
at a single operation or of course a single
mold can be made, it obviously being prefer-
able to make an entire series, as the operation
can then be greatly simplified and cheapened.

15 Having thus described my invention, what
I claim as new, and desire to secure by Letters
Patent, is—

1. In a molding apparatus, the combination
of a suitable base having guideways or grooves
20 therein; a press arranged horizontally on said
base; a series of flasks having removable sides
for the purpose of filling the same and having
guiding-lugs adapted to engage said ways or
grooves; a series of match-plates having cor-
25 responding patterns on both sides, and having

projecting retaining-flanges adapted to fit
within the flasks, said match-plates being
adapted to be placed between the flasks,
whereby said flasks can be filled and pressure
applied thereto, and a series of molds thus 30
formed at a single operation, as specified.

2. In a molding apparatus, the combination
of a suitable base; a press arranged horizon-
tally on said base; a series of flasks having
removable sides for the purpose of filling the 35
same; a series of match-plates having corre-
sponding patterns on both sides, and having
projecting retaining-flanges adapted to fit
within the flasks, said match-plates being
adapted to be placed between the flasks, 40
whereby said flasks can be filled and pressure
applied thereto and a series of molds thus
formed at a single operation, as specified.

In witness whereof I have hereunto set my
hand and seal in the presence of two witnesses. 45

ARTHUR K. BECKWITH. [L. s.]

Witnesses:

T. W. CLYBORNE,
W. H. SAWYER.