

No. 670,295.

Patented Mar. 19, 1901.

M. P. REILLEY.
MOLDING APPARATUS.

(Application filed Apr. 19, 1900.)

(No Model.)

3 Sheets—Sheet 1.

Fig. 1.

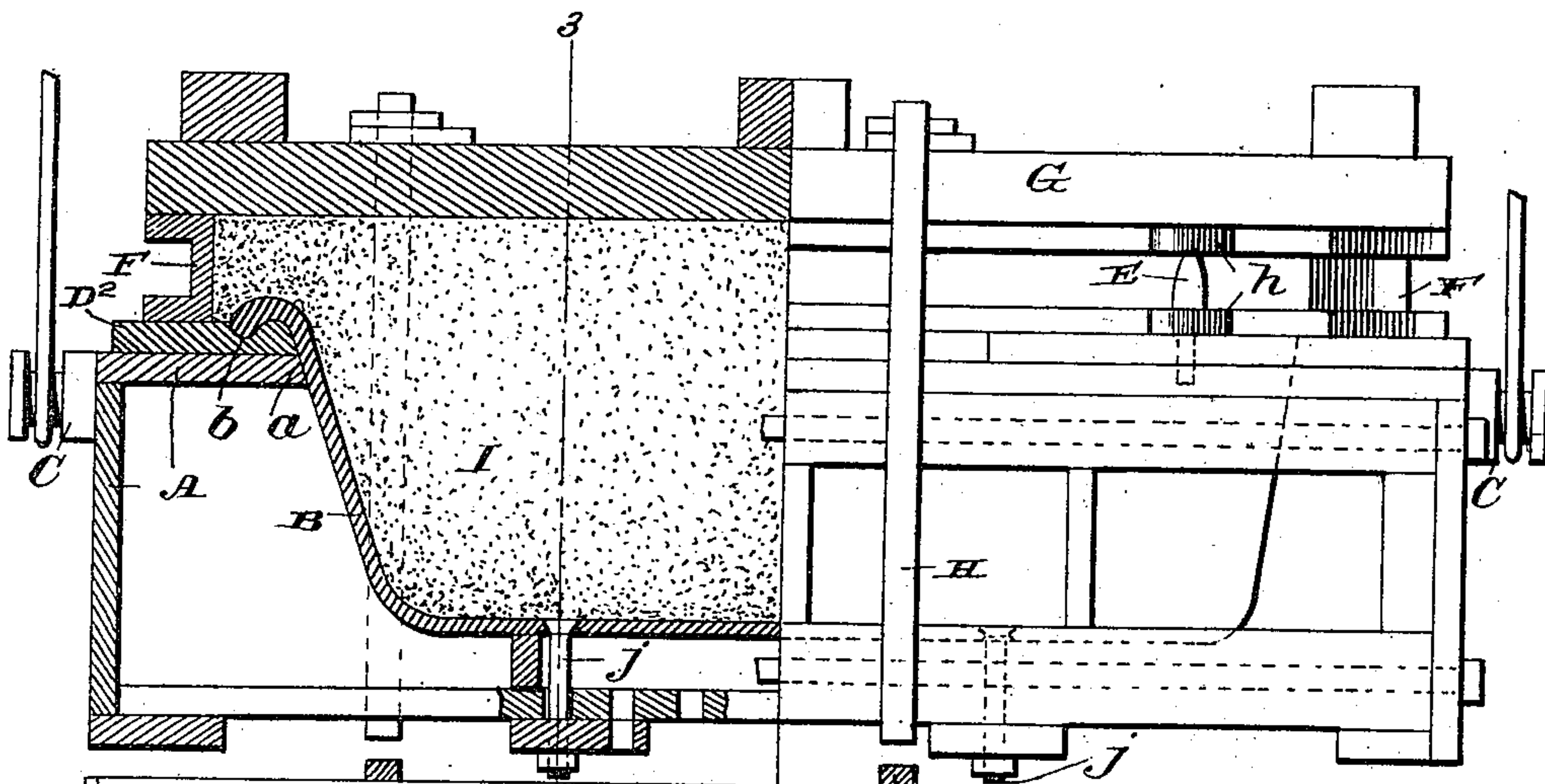


Fig. 2.

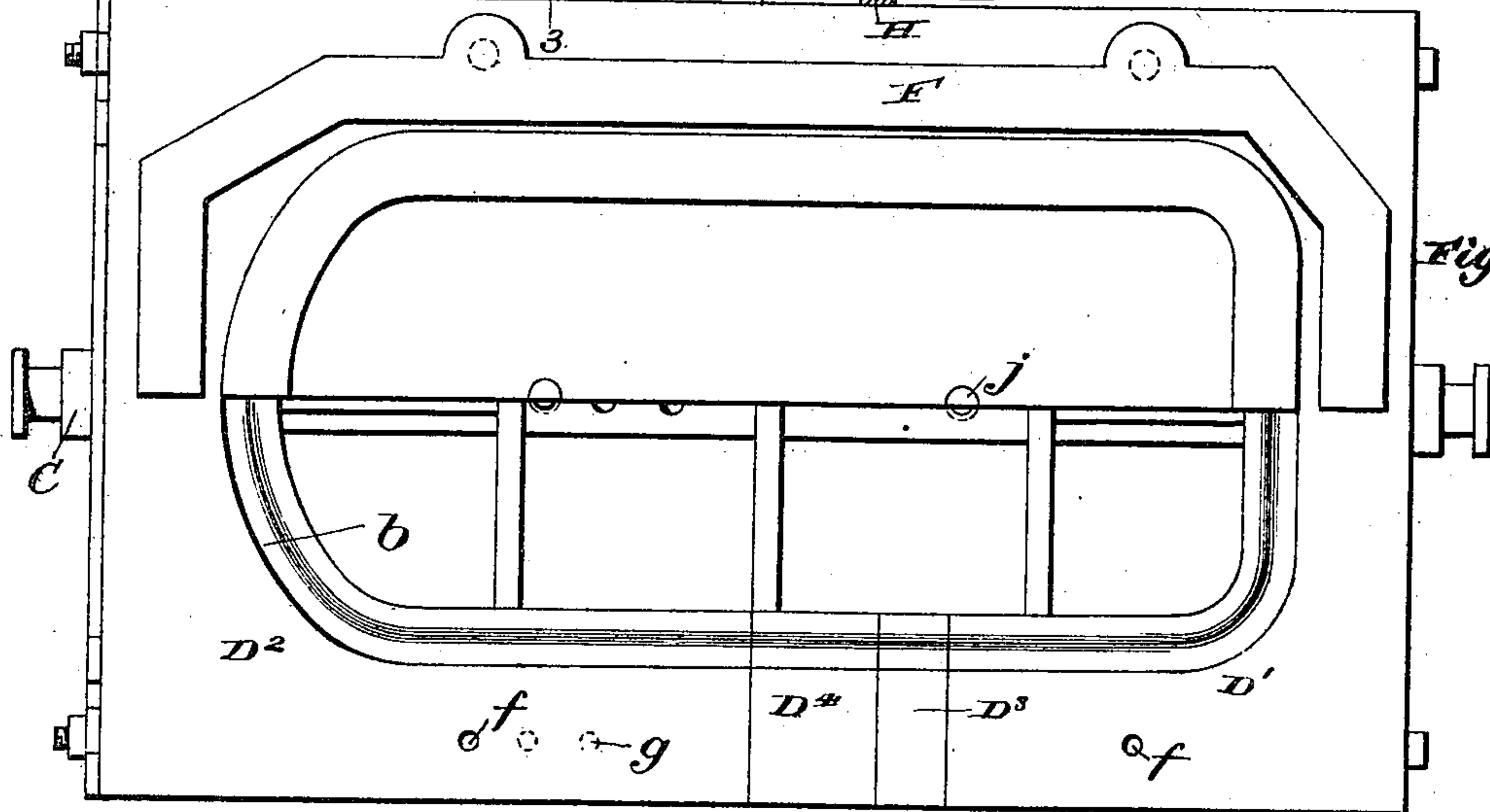
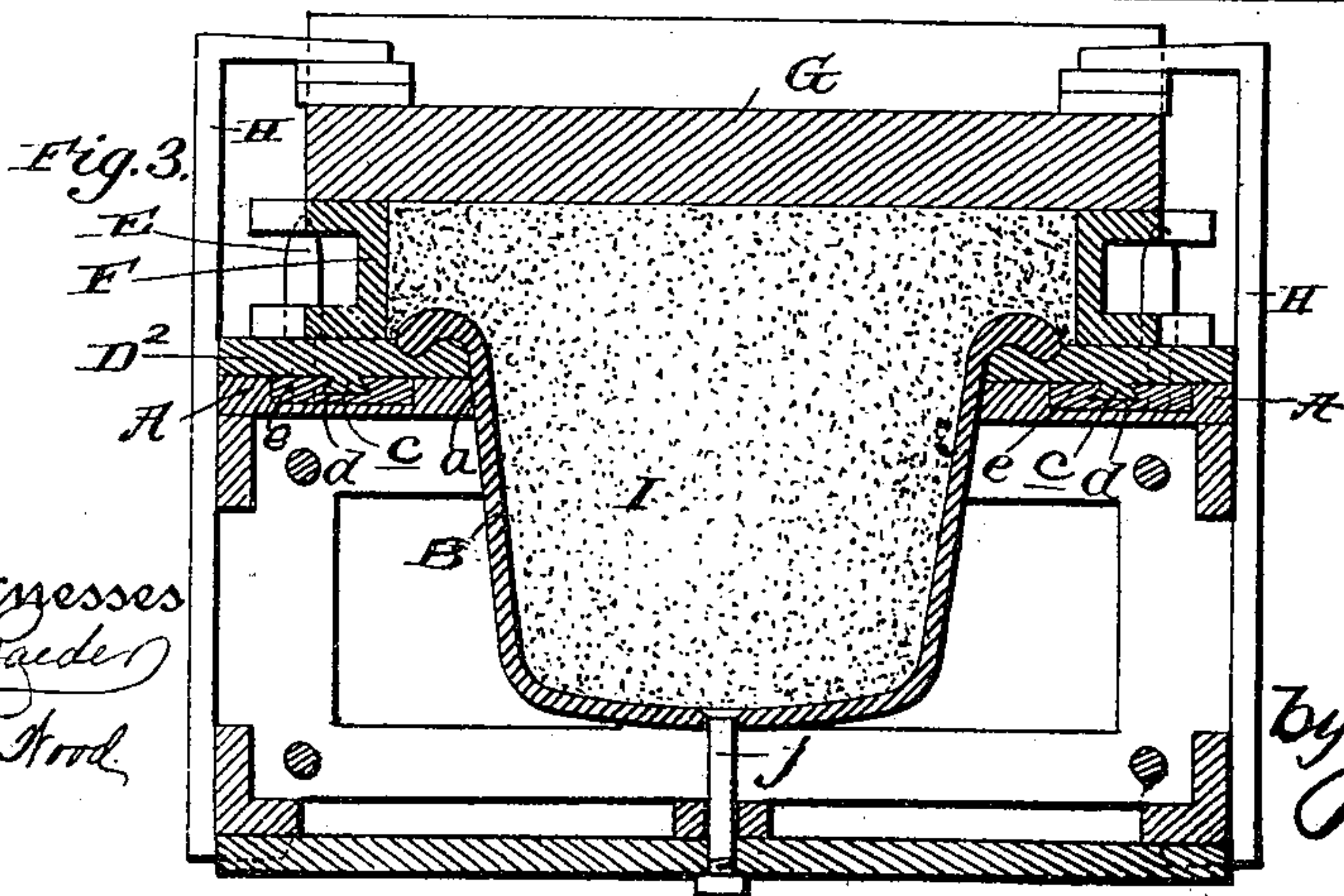


Fig. 3.



Witnesses
C. H. Gaeder
Sarah Ford

Inventor
M. P. Reilly
by James J. Shuey
Attorney

No. 670,295.

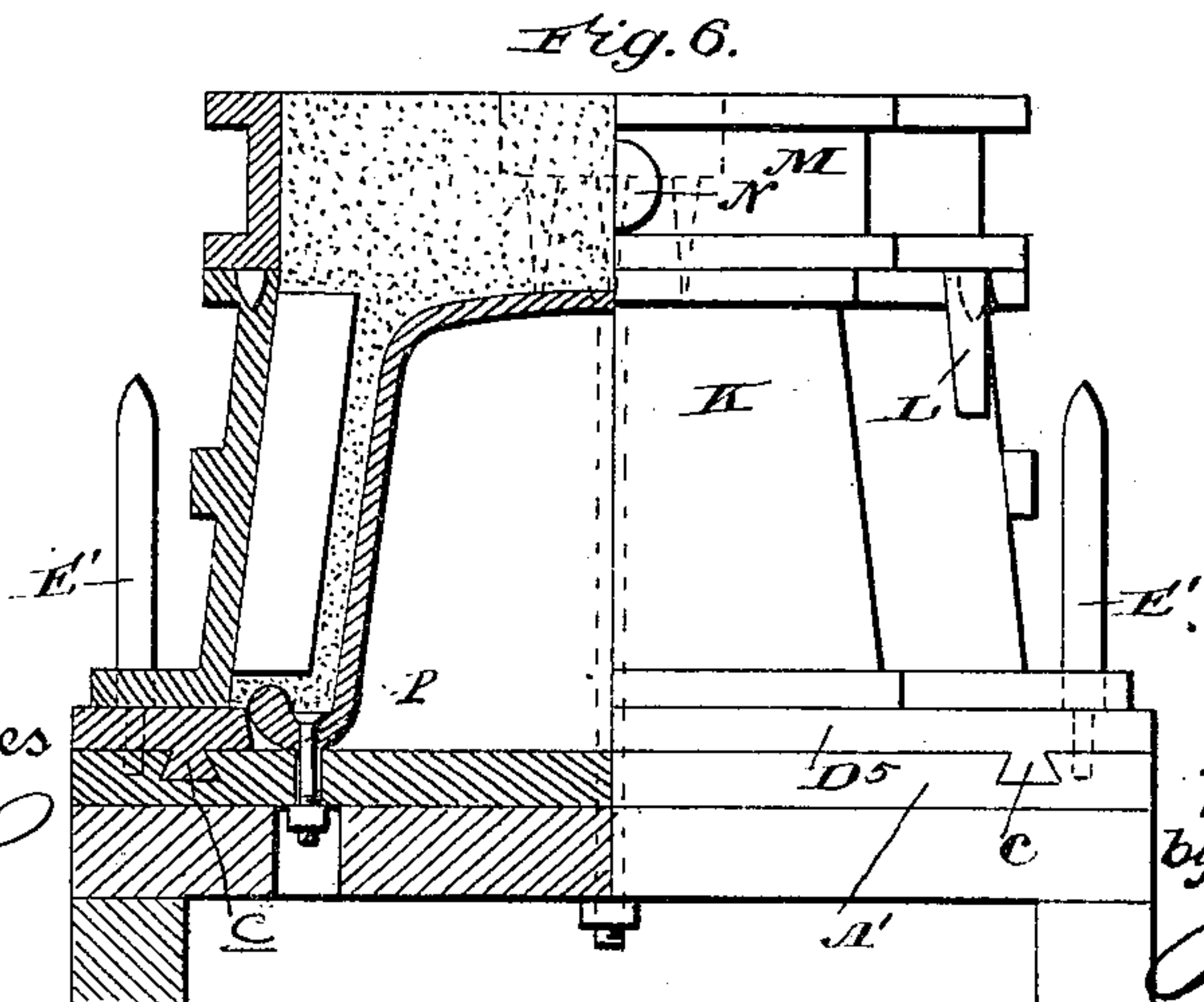
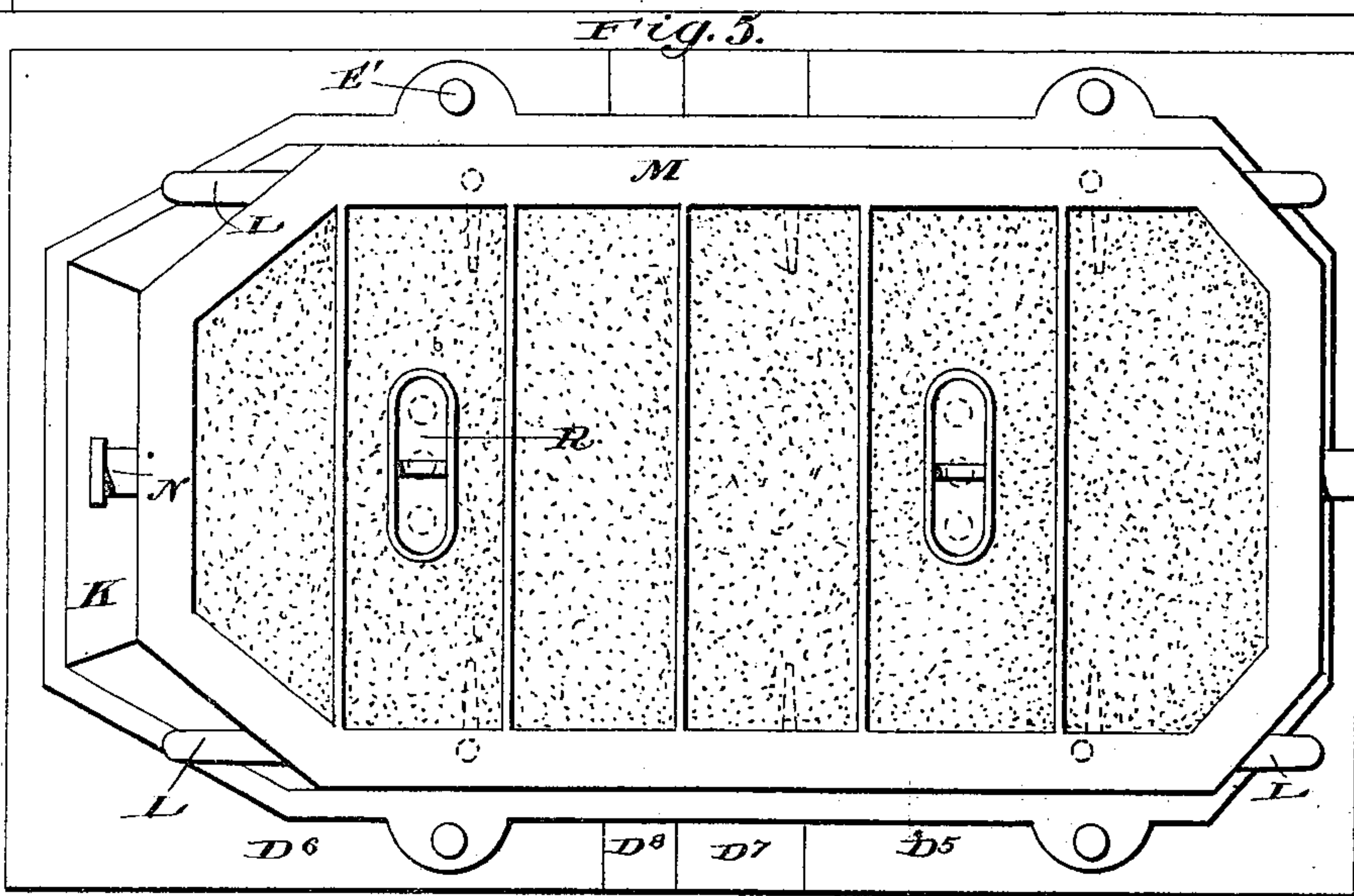
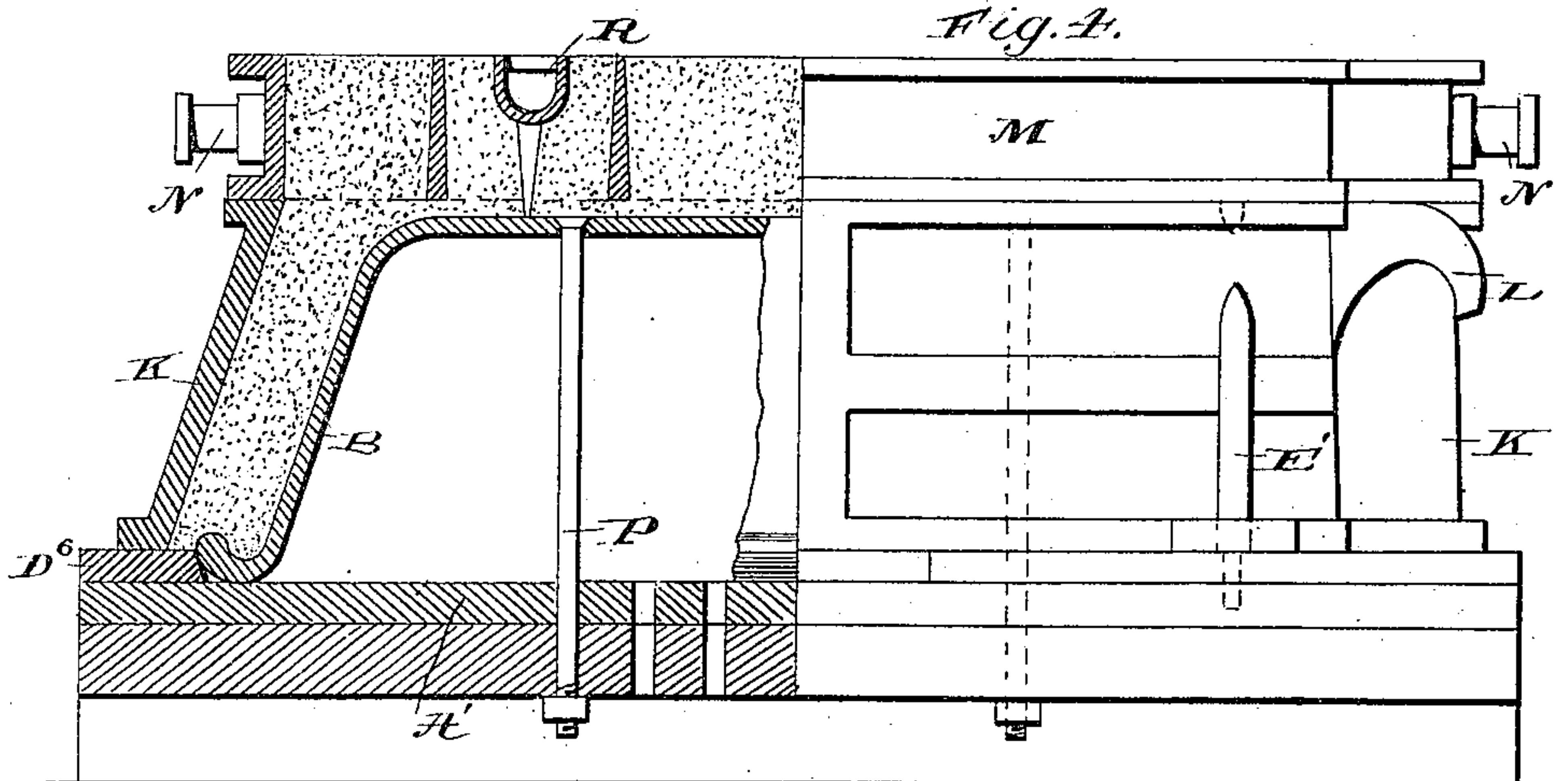
Patented Mar. 19, 1901.

M. P. REILLEY.
MOLDING APPARATUS.

(Application filed Apr. 19, 1900.)

(No Model.)

3 Sheets—Sheet 2.



Witnesses
Chas. H. Rader
Samuel H. Ford

Inventor
M. P. Reilly
by *James J. Sherry*
Attorney

No. 670,295.

Patented Mar. 19, 1901.

M. P. REILLEY.
MOLDING APPARATUS.

(Application filed Apr. 19, 1900.)

(No Model.)

3 Sheets—Sheet 3.

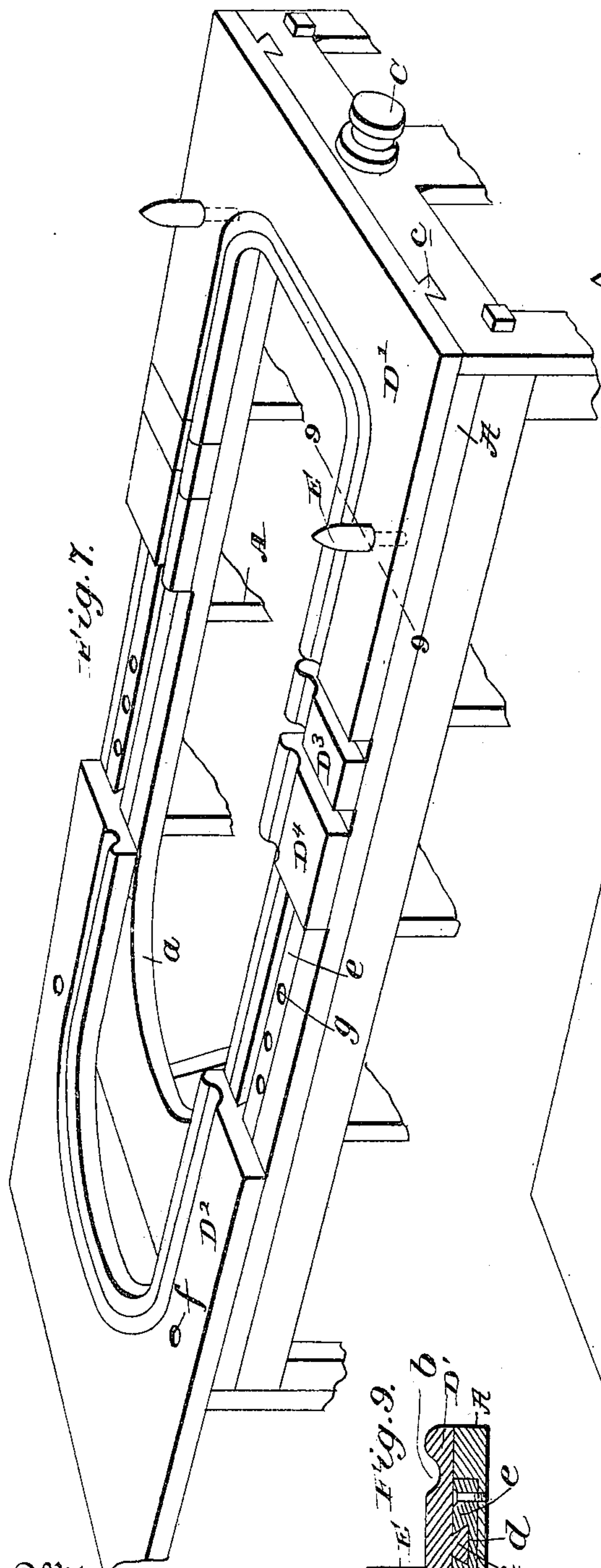


Fig. 7.

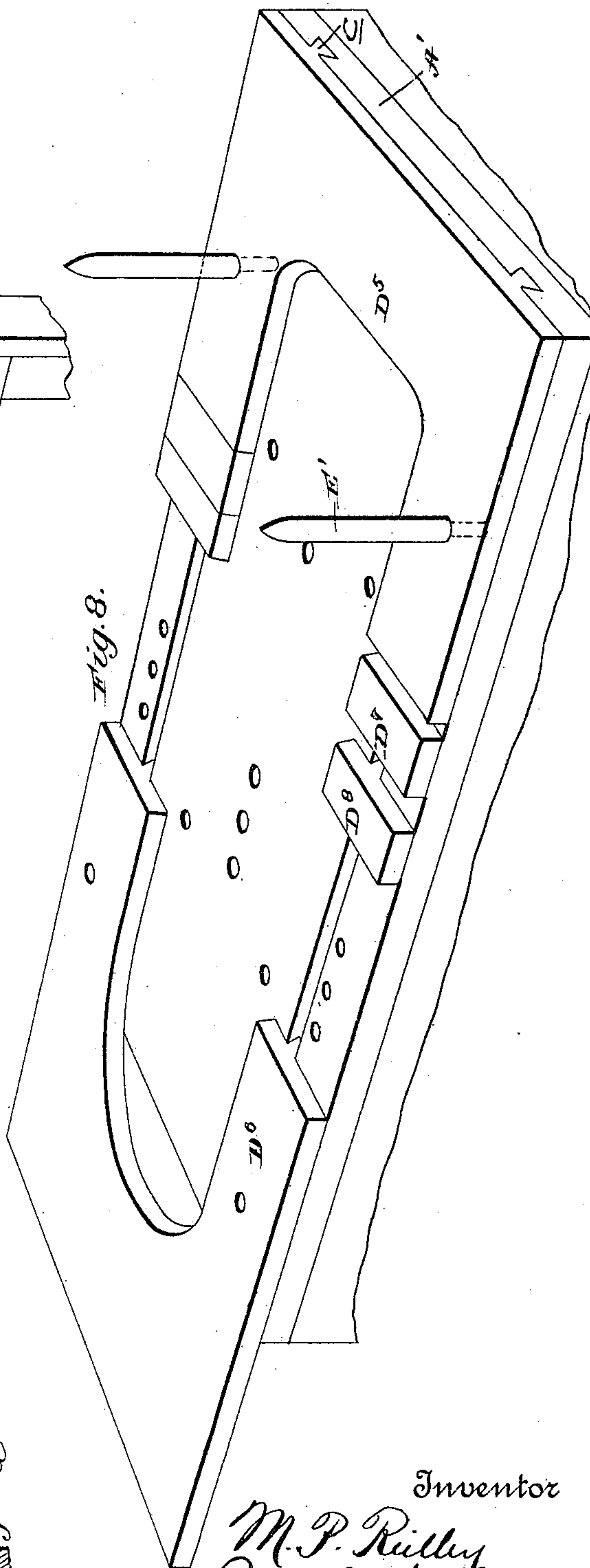


Fig. 8.

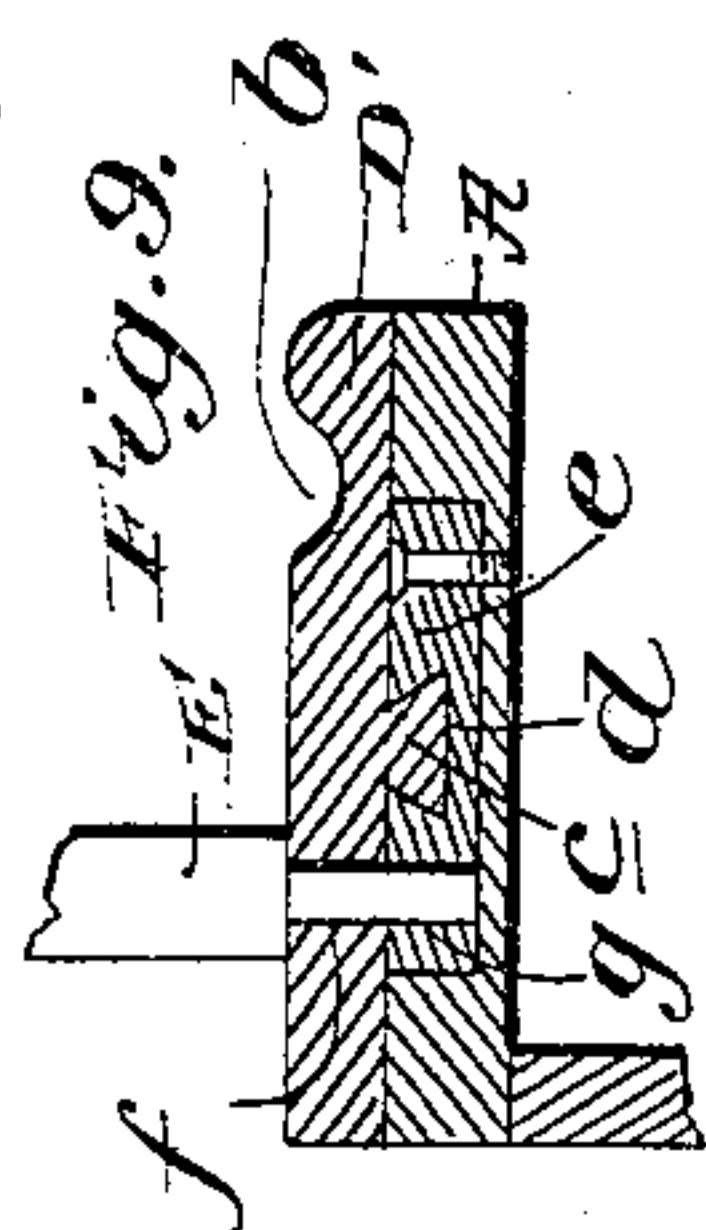


Fig. 9.

Witnesses
C. H. Under
Sarah Hood

Inventor
M. P. Reilly
By James J. Sherry
Attorney

UNITED STATES PATENT OFFICE.

MATTHEW P. REILLEY, OF ELLWOOD CITY, PENNSYLVANIA.

MOLDING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 670,295, dated March 19, 1901.

Application filed April 19, 1900. Serial No. 13,504. (No model.)

To all whom it may concern:

Be it known that I, MATTHEW P. REILLEY, a citizen of the United States, residing at Ellwood City, in the county of Lawrence and State of Pennsylvania, have invented new and useful Improvements in Molding Apparatus, of which the following is a specification.

My invention relates to certain new and useful improvements in apparatus for use in connection with the molding of bath-tubs and the like, and its novelty and many advantages will be fully understood from the following description and claims when taken in conjunction with the accompanying drawings, in which—

Figure 1 is a view, partly in section and partly in side elevation, illustrating a portion of my improved apparatus and the manner of making a core for molding bath-tubs. Fig. 2 is a plan view of the same with parts broken away. Fig. 3 is a transverse section taken in the plane indicated by the broken line 3 3 of Fig. 1. Fig. 4 is a view, partly in section and partly in side elevation, illustrating a portion of my improved apparatus and the manner of producing a cheek for use in conjunction with the core. Fig. 5 is a plan view of the same. Fig. 6 is a view of the same, partly in transverse section and partly in end elevation. Fig. 7 is a broken perspective view illustrating a portion of a follow-board equipped with my improved sectional parting-plate. Fig. 8 is a similar view illustrating another kind of parting-plate. Fig. 9 is a transverse section taken in the plane indicated by the broken line 9 9 of Fig. 7.

In said drawings similar letters designate corresponding parts in all of the several views, referring to which—

A is a follow-board, which is formed of a framework of wood and is provided in its upper side with an opening *a* to receive a pattern B and is also provided at its ends with trunnions C, as shown, and D' D² D³ D⁴ in Figs. 1 to 7 and 9 are sections of my improved parting-plate. The said sections are of the shape shown and are provided in their upper sides, adjacent to their inner edges, with grooves *b* to receive the head usually provided on the flanges or rims of bath-tub patterns. They are also provided with depending dovetail tongues *c*, which are arranged in correspond-

ingly-shaped grooves *d*, formed in metallic plates *e*, secured in a flush position in the upper side of the follow-board, whereby it will be seen that while the sections are free to move in the direction of the length of the follow-board they are securely held against both lateral and upward movement.

E E are pins which are designed to rest in coincident apertures *f g* in the end plates D' D² and flush plates *e*, so as to secure the parting-plate sections against movement on the follow-board. There are a series of apertures *g* provided in conjunction with each of the apertures *f* and pins E, this provision being made in order to permit of the end sections D' D² being fixed in various positions, with two (more or less) of the sections D³ D⁴ interposed between them at either side of the opening *a*.

By virtue of the construction described it will be readily observed that the single follow-board may be adapted to receive and properly hold bath-tub patterns of various lengths, it being simply necessary when a long tub is to be cast to increase the number of sections interposed between the end sections D' D² and when a smaller tub is to be cast to remove one or more of the interposed sections at either side of the opening *a*. This will be appreciated as a material advantage when it is remembered that follow-boards for use in the molding of bath-tubs are very expensive.

A' (see Fig. 8) is a board which may be and preferably is arranged on a suitable base, as shown, and D⁵, D⁶, D⁷, and D⁸ are cheek or flask-supporting plate sections which are designed to be adjustably fixed on the board A' by comparatively long guide-pins E' in the same manner that the sections D', D², D³, and D⁴ are secured by pins E on the follow-board. The opening within the several sections D⁵, D⁶, D⁷, and D⁸ may be readily increased or diminished in size to receive large and small bath-tub patterns by increasing or diminishing the number of the interposed cheek parting-plate sections.

F is a drag-flask which is cast in one piece and is provided at its sides with apertured lugs *h* to receive the pins E when it is placed on the follow-board after the manner shown in Fig. 1.

G is a bottom board designed to be placed

on the drag after the core is rammed up, and H H are clamps of any suitable construction through the medium of which the superposed follow-board, drag, and bottom board are held in their proper relative positions.

In using the apparatus shown in Fig. 1 to form a core of a mold for casting a bath-tub the pattern B is placed in the opening *a* of the follow-board and connected to said board through the medium of bolts *j*. The core I is then rammed up, after which the drag-flask F is placed on the pins E and guided thereby to its proper position on the parting-plate sections. The drag is now rammed up and the bottom board G is placed on the drag, and the follow-board, drag, and bottom board are connected by the clamps H, after which the whole is rolled by means connected to the trunnions C, and the bottom board is placed on a solid foundation. With this done the clamps H are removed and the follow-board and pattern are lifted off the core. When the follow-board and pattern are thus lifted off, a true parting is made by virtue of the employment of the parting-plate, and the core is ready for dressing or finishing of the same. Also slicking around the rim of the pattern is obviated, which is a material advantage, since it results in the saving of considerable time of the molder.

In practice a number of cores are made in the manner described and are left on the bottom boards ready for use.

K in Figs. 4 and 6 is a cheek, which in lieu of being formed in sections is cast in one solid piece and is provided at its four corners with hooks L. The casting of the cheek in one piece renders the said cheek cheap and at the same time extremely strong and durable, while the provision of the hooks L permit of the cheek being lifted steadily without tilting. M is a cope, which is also cast in one piece and is provided at its ends with trunnions N, and P P are bolts, two on each side and two in the longitudinal center, through the medium of which the pattern is connected to the board A'.

In using the portion of the apparatus shown in Figs. 4 to 6 I first put the pattern B, with the usual reinforcing-frame in it, on the plate on board A' and then guide the cheek to its position on the plate by the pins E', which take through apertured lugs on the cheek. With this done the cheek is rammed up and the cope is placed on the cheek and also rammed up, after which the gates R are drawn out and the cope and cheek are lifted off and dressed. They are then closed over the core on the bottom board G with the aid of four guiding-pins removably seated in said drag. After the flask is closed the pins may be taken out to be used on the next flask and also to permit of the ready removal of the cheek and tub subsequent to the molding operation.

When bath-tubs having flanges flat on their under sides are to be molded, the grooves *b*

in the parting-plate or parting-plate sections D' D² D³ D⁴ are not essential and may be omitted.

When it is desired to make but one size of tub, it is obvious that a one-piece parting or pattern-supporting plate may be employed on the follow-board and a one-piece cheek or flask-supporting plate on the board A' in lieu of the sectional plates shown and described.

It will be appreciated from the foregoing that when a bath-tub is molded with the aid of my improved apparatus but a single roll is necessary, while when a tub is molded after the ordinary manner a first and then a second or great roll are necessary. It will also be appreciated from the foregoing that subsequent to the molding of a bath-tub according to my invention the tub may be readily removed from the board G without the necessity of lifting it over pins, and thereby render it liable to breakage, as is the case when the tub is made after the ordinary manner.

Having thus described my invention, what I claim is—

1. In an apparatus for use in connection with the molding of bath-tubs and the like, a board, and a plate thereon made up of U-shaped end sections, and side sections interposed between the end sections; one of the end sections and the side sections being adjustable, substantially as specified.

2. In an apparatus for use in connection with the molding of bath-tubs and the like, a board having a plate made up of U-shaped end sections, and side sections interposed between the end sections; the said sections being adjustable and removable, substantially as specified.

3. In an apparatus for use in connection with the molding of bath-tubs, a follow-board having an opening to receive a pattern and also having a parting-plate made up of U-shaped end sections, and intermediate sections interposed between the end sections; said end and intermediate sections being adjustable and removable, substantially as specified.

4. In an apparatus for use in connection with the molding of bath-tubs, a follow-board having an opening to receive a pattern and also having a parting-plate provided adjacent to its inner edge with a groove to receive the head on the flange of a bath-tub pattern, substantially as specified.

5. In an apparatus for use in connection with the molding of bath-tubs, the combination of a board having sockets a plate arranged on the board and made up of adjustable and removable sections, some of said sections having apertures adapted to coincide with those of the board, and removable pins seated in the coincident sockets and apertures of the board and plate-sections, respectively, and adapted to serve as guides, substantially as specified.

6. In an apparatus for making cores for molding bath-tubs and the like, the combina-

tion of a follow-board having an opening and also having a parting-plate and guide-pins extending upwardly therefrom, a pattern arranged in the opening of the follow-board, 5 and a flask member cast in one piece; said member being arranged on the parting-plate and having apertured lugs receiving the guide-pins, substantially as specified.

7. In an apparatus for making cores for 10 molding bath-tubs and the like, the combination of a follow-board having an opening and also having a parting-plate made up of a plurality of adjustable and removable sections, guide-pins seated in the follow-board 15 and plate-sections and extending upwardly from the latter, a pattern arranged in the opening of the follow-board, and a flask member arranged on the parting-plate and having lugs receiving the guide-pins, substantially 20 as specified.

8. In an apparatus for making cores for molding bath-tubs and the like, the combina-

tion of a follow-board having an opening and also having a parting-plate, guide-pins seated in and extending upwardly from the latter, a 25 pattern arranged in the opening of the follow-board, and a flask member arranged on the parting-plate and having lugs receiving the guide-pins, substantially as specified.

9. In an apparatus for use in connection 30 with the molding of bath-tubs and the like, a board, a plate made up of a plurality of sections arranged on the board, tongues on the one, and complementary grooves in the other, whereby the sections of the plate are adjust- 35 ably keyed on the board, substantially as specified.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

MATTHEW P. REILLEY.

Witnesses:

EDWARD DITHRIDGE,

EDWARD M. REILLEY.