

(No Model.)

F. H. RICHARDS.
METHOD OF MOLDING SEAT RINGS.

No. 496,002.

Patented Apr. 25, 1893.

Fig. 1

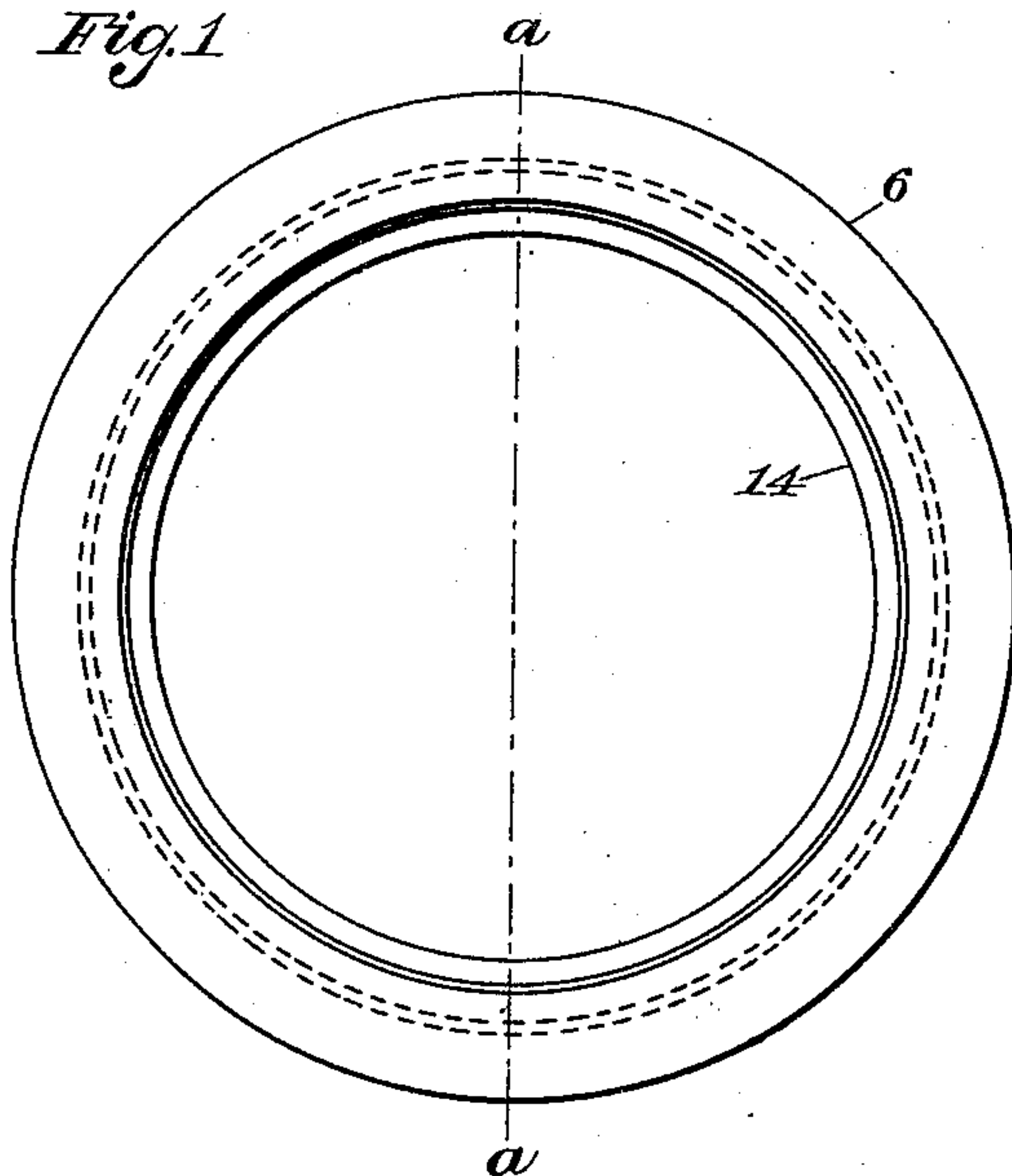


Fig. 2

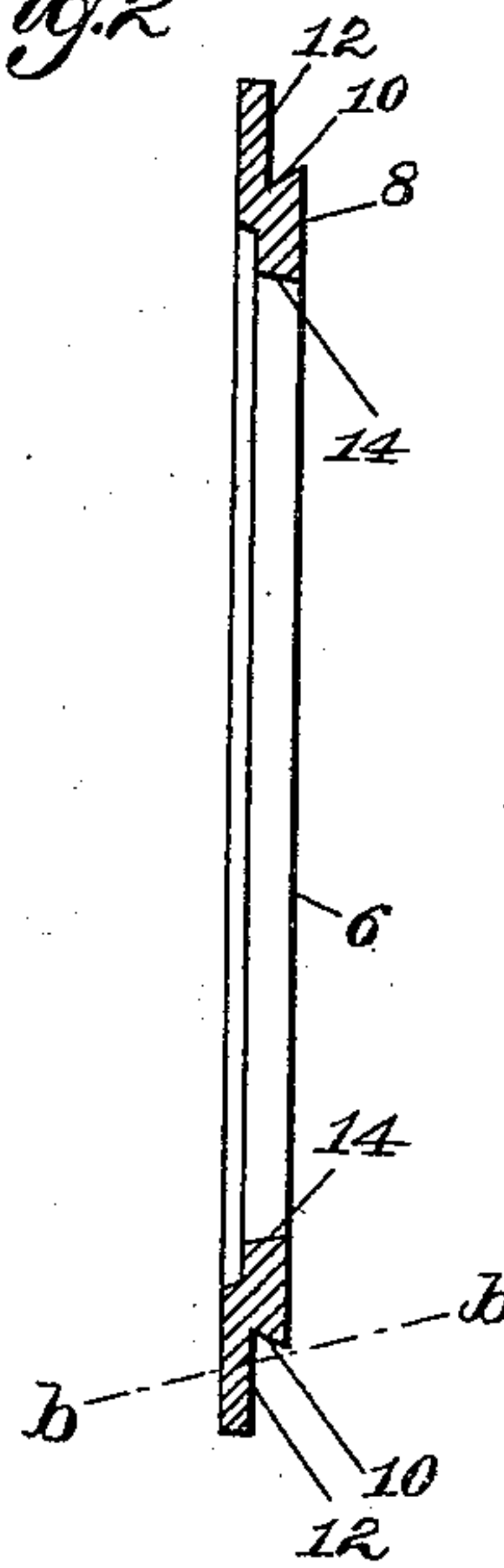


Fig. 3

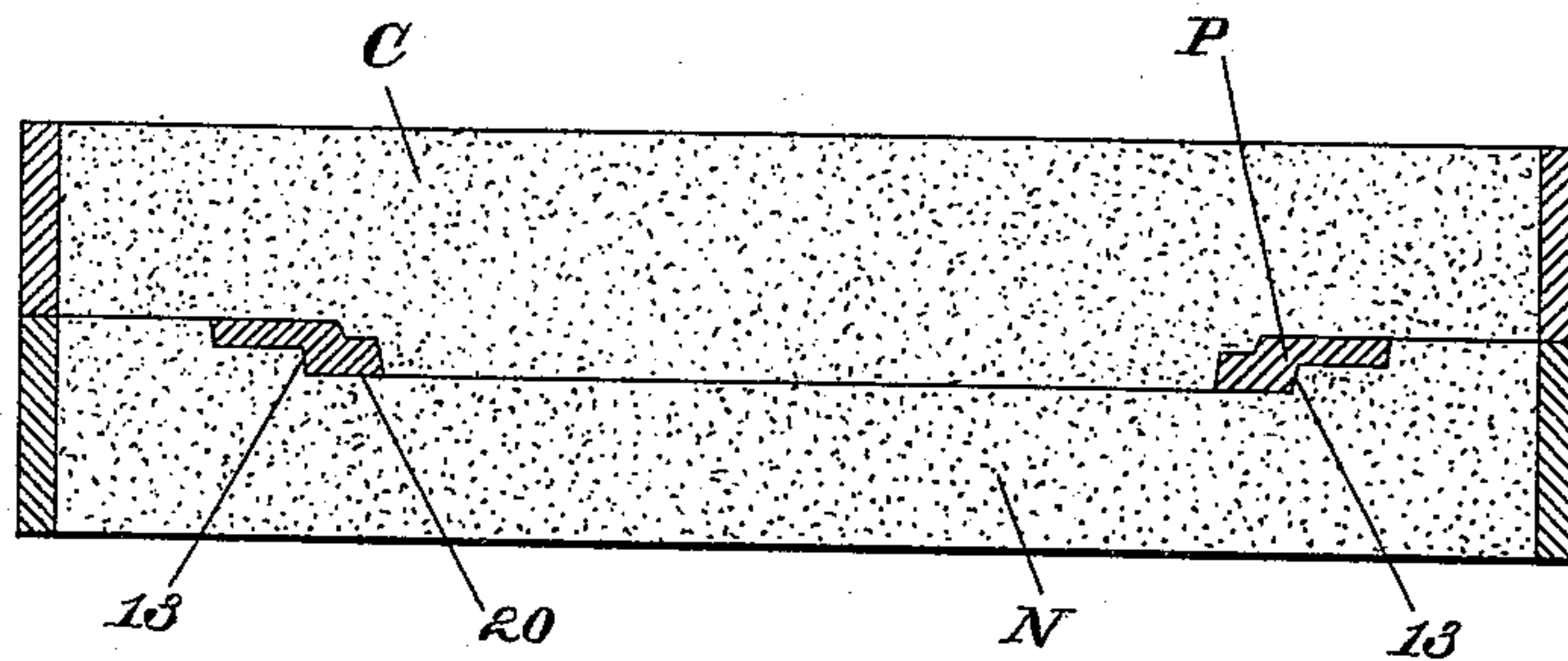
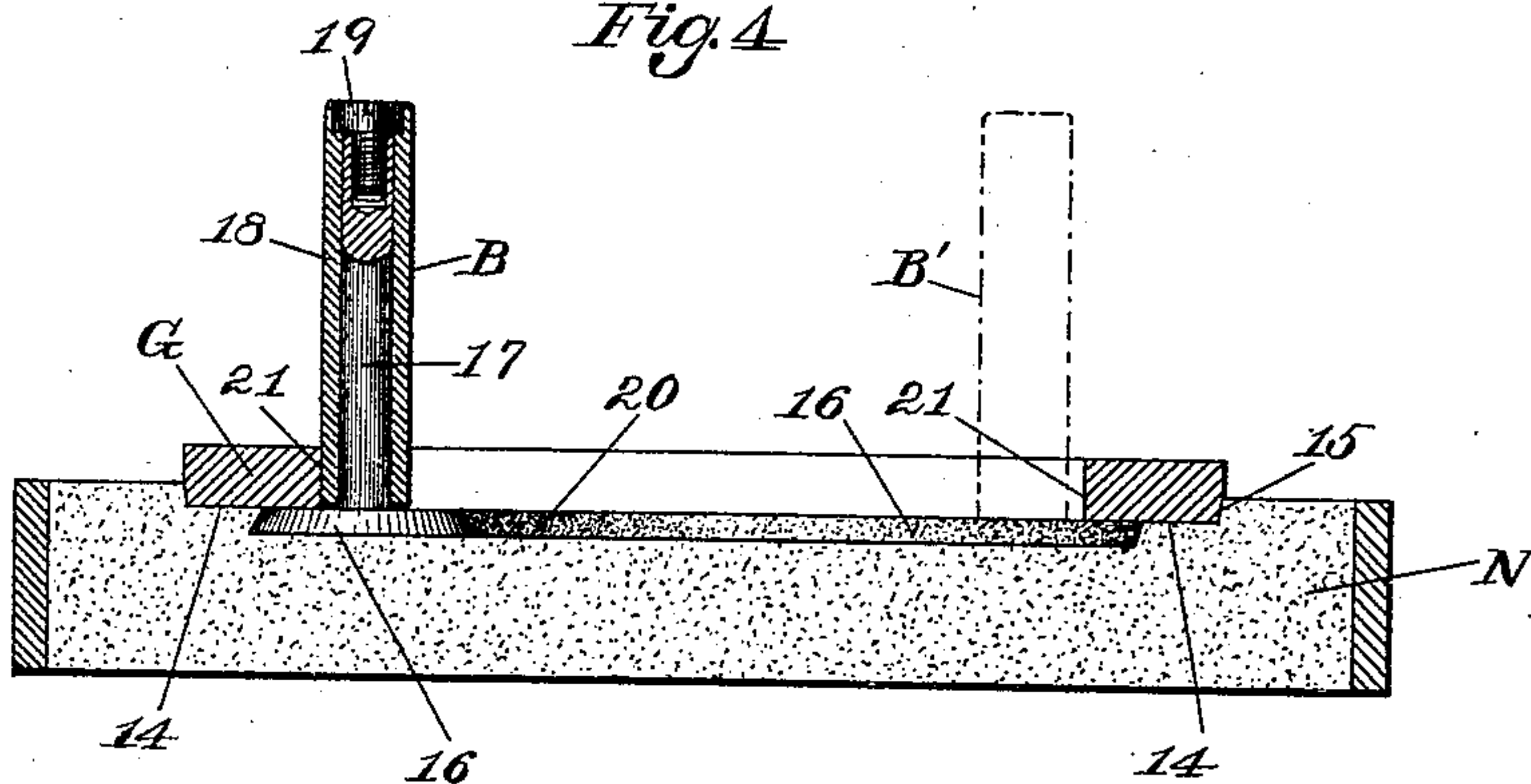


Fig. 4



Witnesses:

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METHOD OF MOLDING SEAT-RINGS.

SPECIFICATION forming part of Letters Patent No. 496,002, dated April 25, 1893.

Application filed July 11, 1892. Serial No. 439,690. (No specimens.)

To all whom it may concern:

Be it known that I, FRANCIS H. RICHARDS, a citizen of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Methods of Molding Seat-Rings, of which the following is a specification.

This invention relates to improvements in the manufacture of valve-gates made according to the invention described in Letters Patent of the United States No. 476,313, granted to me June 7, 1892, to which reference may be had; the object being to furnish an improved process whereby the seat-rings described and claimed in said Letters Patent may be molded.

In the drawings accompanying and forming a part of this specification, Figure 1 is a plan view of the seat-ring in its finished form. Fig. 2 is a sectional view of the same, in line *a a*, Fig. 1. Fig. 3 is a sectional view of the mold, showing the pattern in place between the cope and nowel thereof. Fig. 4 is a sectional view of the nowel, showing the implements in place for completing the formation of the nowel.

Similar characters designate like parts in all the figures.

The seat-ring shown in Figs. 1 and 2, and described and claimed in my aforesaid Letters Patent, consists of the seat-ring proper, designated by 6, and the projecting lock-rim 8 whose inner edge forms a calking-ring, 14, and whose outer edge is beveled or inclined for the purpose of locking the seat-ring in place by engaging an under-cut lip, or edge, on the plate of the valve-gate. The inclined edge 10, being located directly beneath the seat-face, 12, of the seat-ring, acts, by reason of its location, in a direct manner for securely locking the ring in place. But this construction of the ring, according to the usual methods of molding similar articles, interferes very materially with the ready molding of the piece. To overcome this difficulty is the purpose of my present invention.

The pattern P, Fig. 3, for the seat-ring is a ring-shaped piece corresponding in form and size with the form of the finished seat-ring, with the single exception that the under-cut at 10, Fig. 2, is in said pattern filled up to a

line corresponding to the dotted line *b b*, Fig. 2, so as to have the draft at 13, Fig. 3, required for permitting the drawing out of the pattern when the two parts, the nowel N and the cope C, shall have been completed so far as illustrated in Fig. 3. The mold having been completed as illustrated in Fig. 3, the cope C is then taken off, and the pattern P drawn in the usual manner. Next, a retaining-gage, as G, is set upon the face 14 of the nowel, closely within the outer face 15 thereof. The purpose of said gage, or ring, G, is to hold in place the material of the nowel, and to furnish a stop for the under-cutting implement. This implement, B, in the preferred form thereof shown in Fig. 4, consists of a disk, 16, whose outer edge is beveled to correspond with the required angle of the under-cut, and whose stem bears against the inner side of the gage-ring G when the disk 16 of said implement has been forced outward into the material of the nowel sufficiently to completely form the under-cut, as illustrated in the left-hand portion of Fig. 4. At the right-hand in Fig. 4, the under-cutting implement is shown by dotted lines at B', in position ready for beginning the under-cutting of the nowel. As a means for facilitating the rolling of the disk 16 as the implement B is passed around the mold, the stem, 17, of said disk is usually and preferably fitted to revolve in the sleeve or handle 18, being held therein by a screw, as 19, or by other suitable means not shown.

In using the implement, the operator seizes the same by the handle 18, and setting the disk 16 on the surface 20 of the mold, carefully slides the implement outward, first to the position shown by dotted lines in Fig. 4, and then firmly crowds the same outward to the position shown in solid lines in Fig. 4, after which the disk is steadily rolled around the mold with the handle of the implement in contact with the inner surface 21 of said gage-ring G. The mold having been thus completed by the under-cutting of the nowel, the gage-ring is next removed and the two parts N and C are made ready and closed preparatory to the pouring of the casting, in the usual manner.

Having thus described my invention, I claim—

The improved process herein described for molding disk-shaped seat-rings having under-cut anchorage-flanges, consisting in first molding the seat-rings with a draft-face on the side thereof next to the ring-surface, clamping said ring-surface of the mold by a gage-plate, and under-cutting the draft-face by rolling the sand thereof against and under the gage-plate by a roller running in the plane of the seat-disk and against said gage, as described.

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Witnesses:

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