

No. 775,371.

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J. C. F. LAFEUILLE.
CENTRIFUGAL MOLDING MACHINE.

APPLICATION FILED MAY 8, 1903.

NO MODEL.

Fig. 1

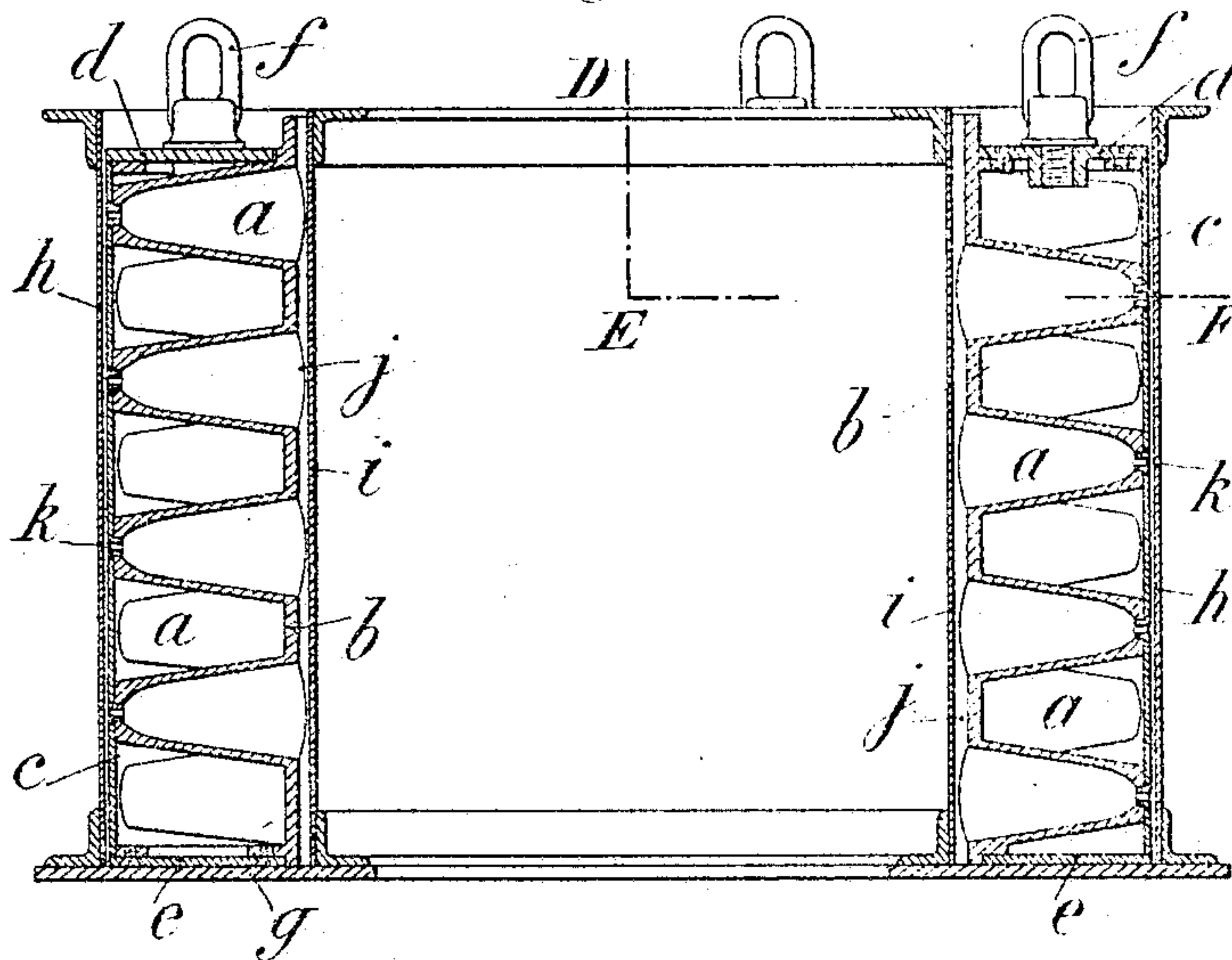


Fig. 3

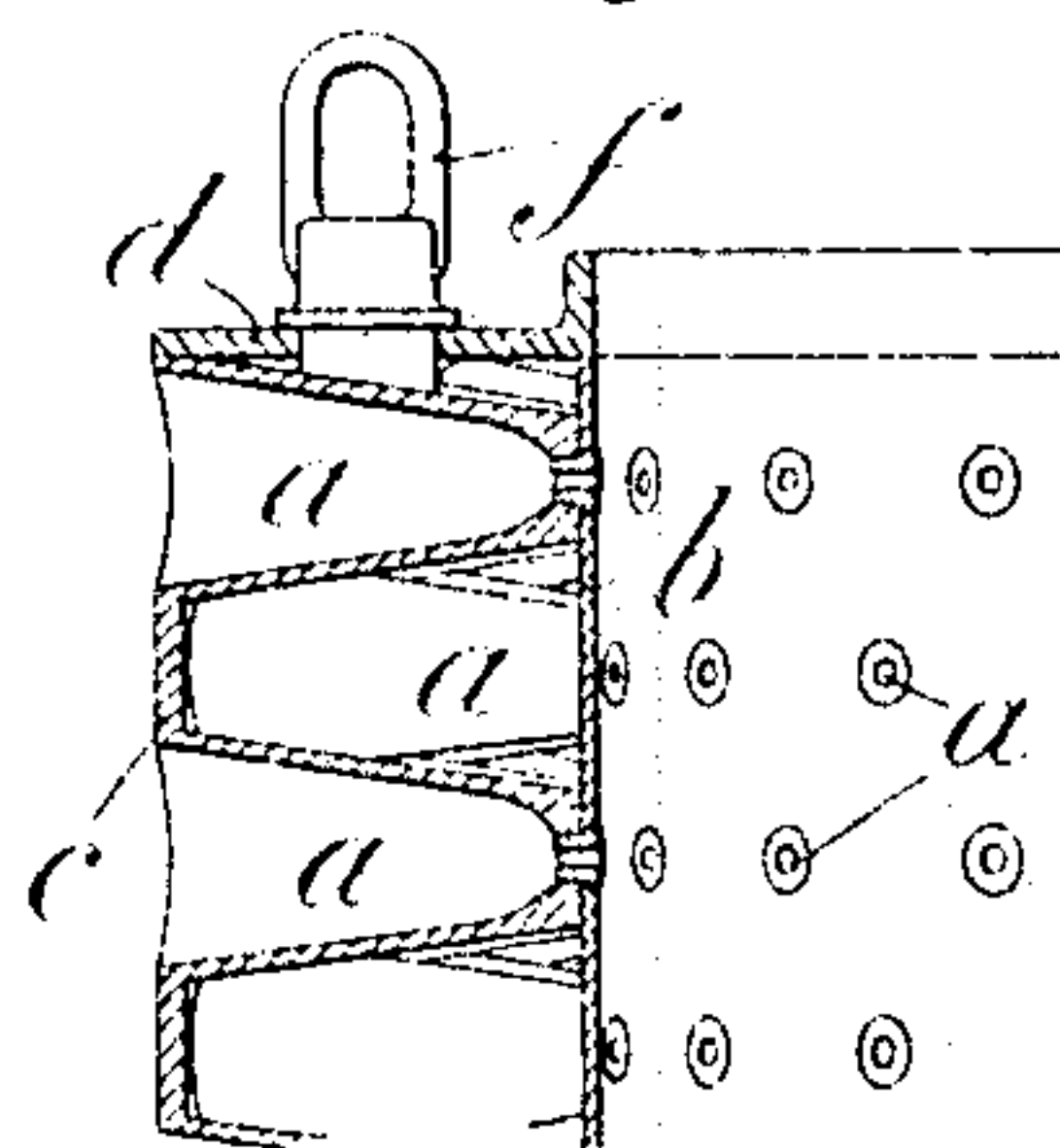


Fig. 4

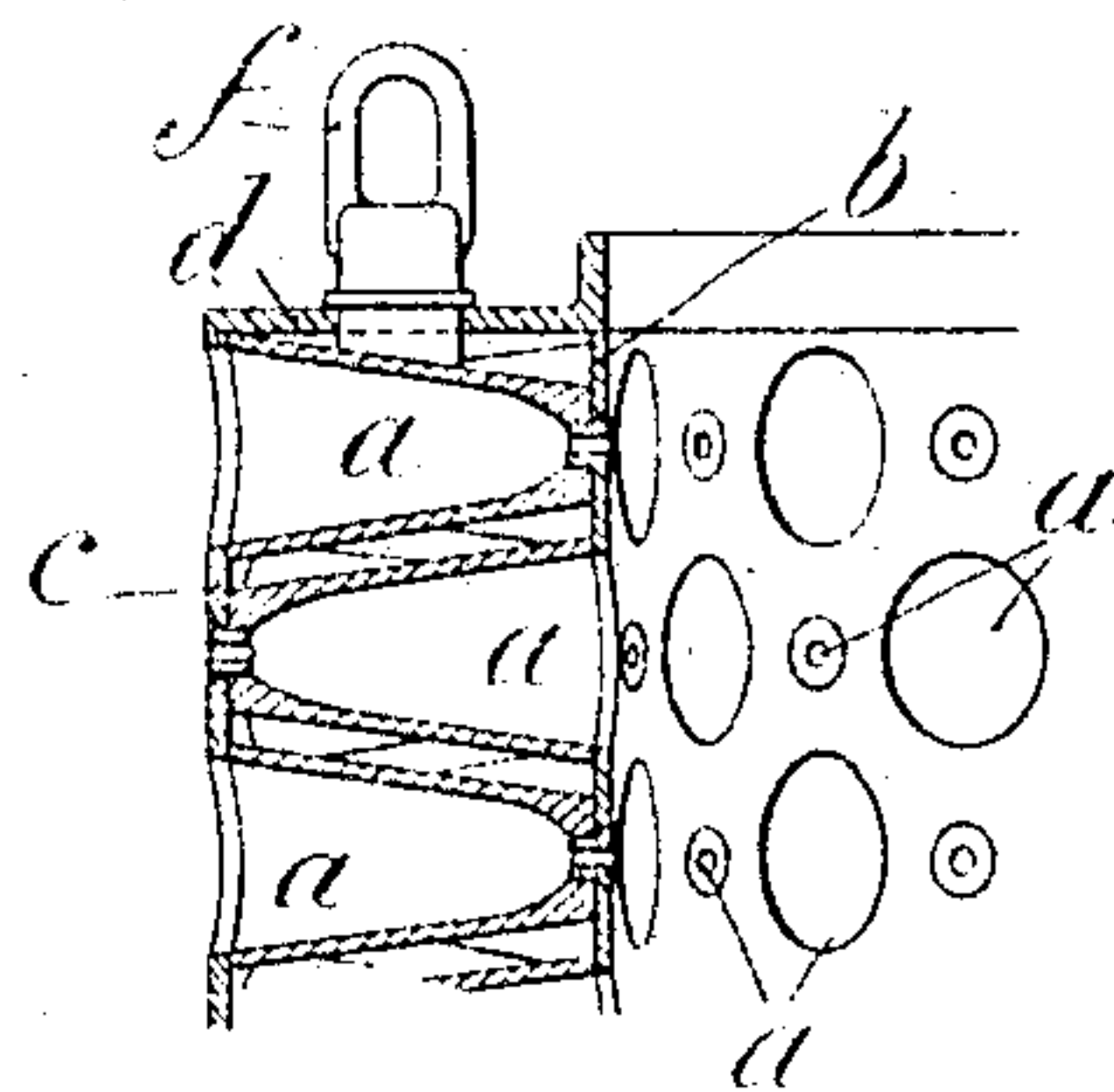


Fig. 2

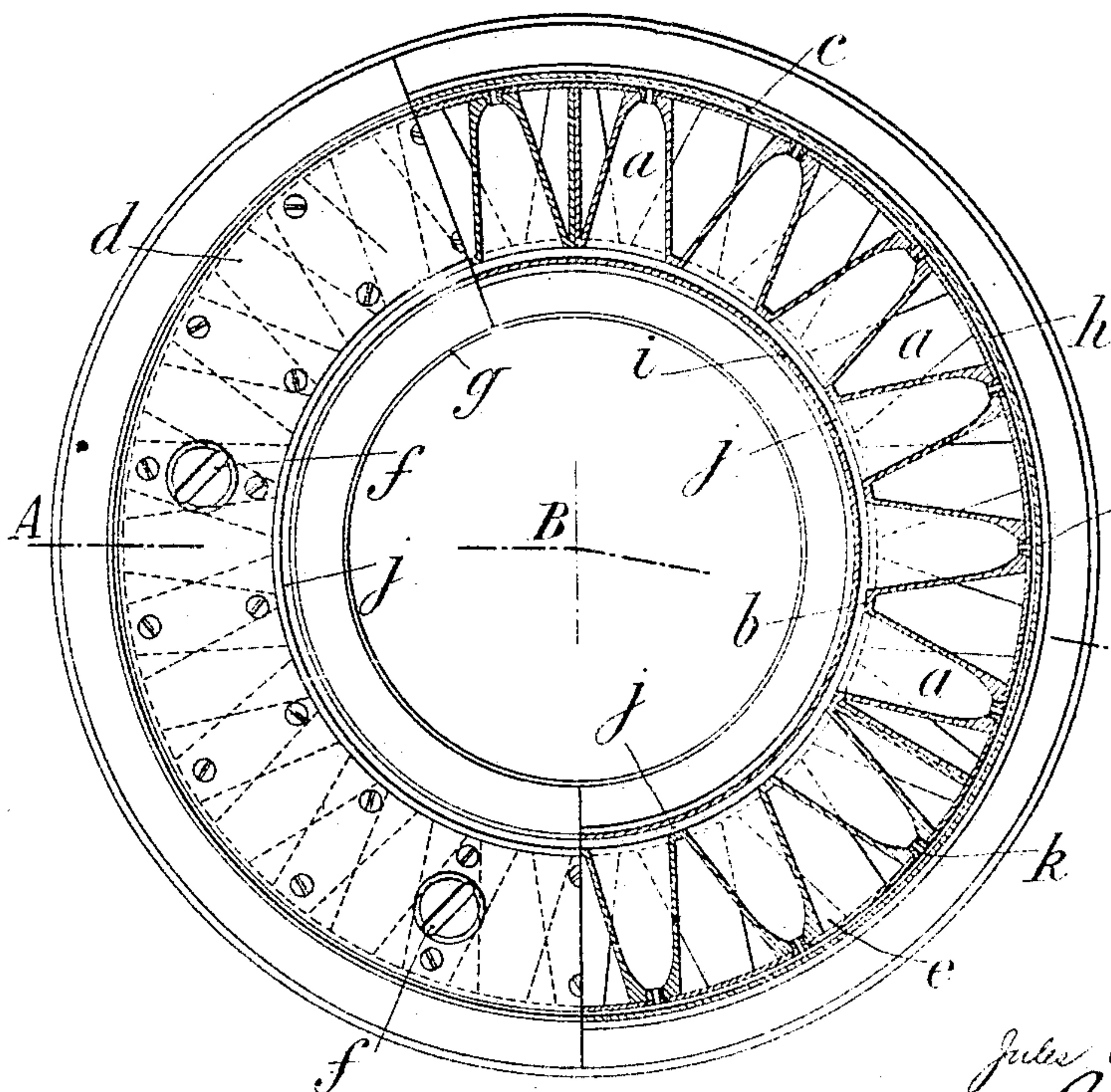
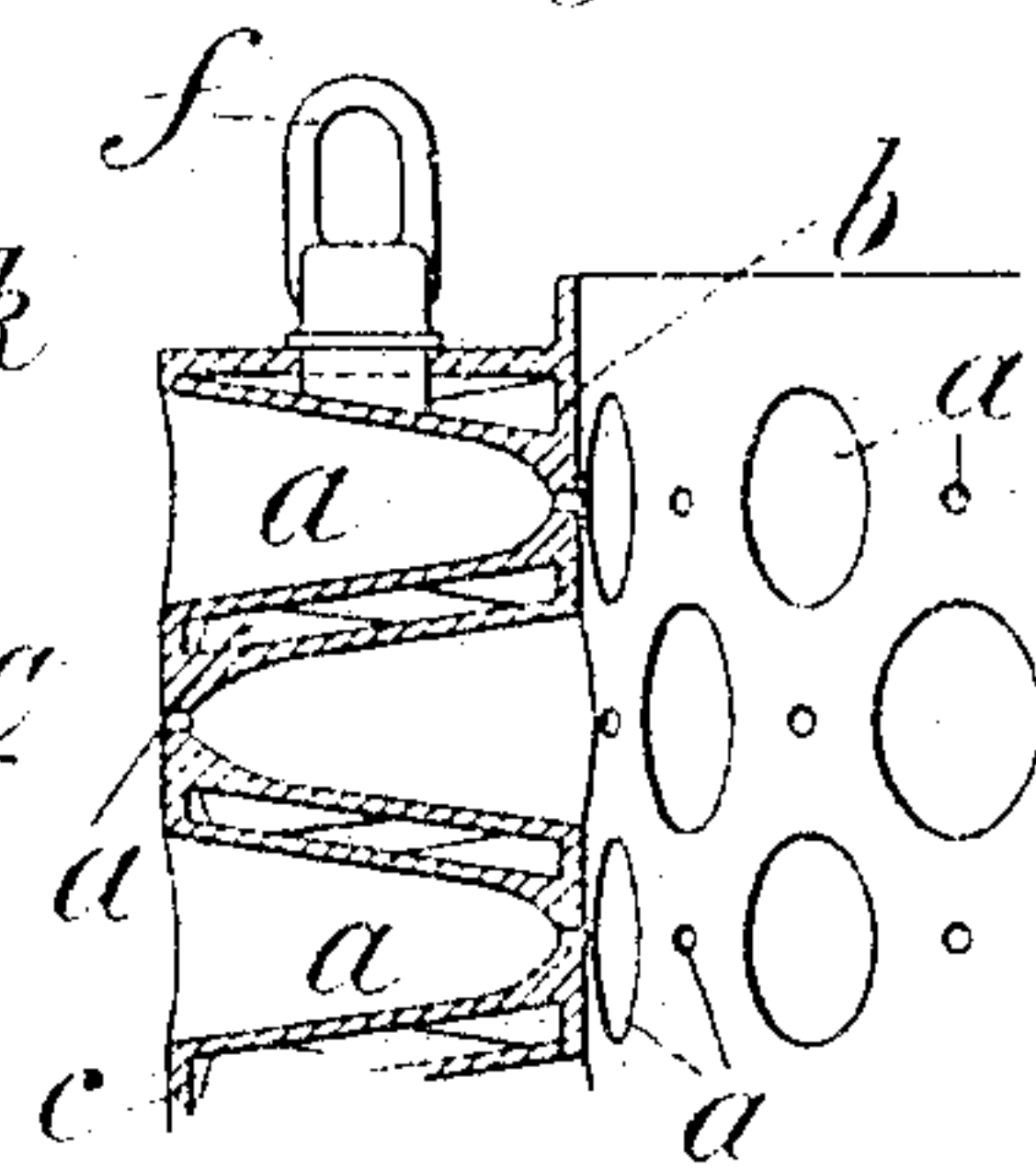


Fig. 5



Witnesses:
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UNITED STATES PATENT OFFICE.

JULES CHARLES FERNAND LAFEUILLE, OF PARIS, FRANCE.

CENTRIFUGAL MOLDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 775,371, dated November 22, 1904.

Application filed May 8, 1903. Serial No. 156,266. (No model.)

To all whom it may concern:

Be it known that I, JULES CHARLES FERNAND LAFEUILLE, engineer, a citizen of the Republic of France, and a resident of 174 Boulevard Malesherbes, Paris, France, have invented certain new and useful Improvements in Molds for the Manufacture of Sugar Loaves; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention relates to a new and improved construction of multiple or compound mold for the manufacture of sugar loaves whereby the molding of the loaves and the operations to which these are subjected in the centrifugal machine after molding are facilitated and rendered more economical. The said compound mold, which can be made in one or more pieces, is made of annular form corresponding to that of the annular space in the drum of the centrifugal machine, and it is formed with cavities of the form of sugar loaves, which are filled with the "masse-cuite," which is molded into the said form and in which cavities it is afterward subjected to the operations of draining, purging, and clarifying by centrifugal action.

In the ordinary process of manufacturing sugar loaves each loaf is produced separately by running the masse-cuite into a conical sheet-iron mold, in which it is allowed to set and in which it is then drained, purged, and clarified either with or without centrifugal action. This mode of operating not only requires a large number of molds and large spaces for storing them while the sugar is being treated, but also the charging the molds and the subjecting them to centrifugal action requires a large expenditure of time and causes considerable losses of sugar, and the space within the centrifugal drum is not effectually utilized, as it is not possible to arrange the separate molds so as to fill the drum

to its full height. The present new compound mold of annular form obviates all these disadvantages.

Figure 1 of the accompanying drawings shows a compound mold constructed according to the present invention placed within an annular tank which is sometimes used for filling the mold, the figure being a vertical section on line A B C of Fig. 2, which shows a horizontal section on line D E F, Fig. 1. Figs. 3, 4, and 5 show part vertical sections of modified forms of the mold.

In the construction employed by preference (shown at Figs. 1 and 2) the compound mold consists of an annular structure of a diameter and height corresponding to the annular space in the drum of the centrifugal machine into which it is to be placed.

The compound mold consists of two cylindrical walls *b* and *c*, fixed to annular top and bottom plates *d* and *e*. To the cylindrical walls are joined the ends of the conical molds *a*, arranged in radial positions with the larger open ends situated at the inner wall *b*, while the apices are joined to the outer wall *c* and are formed with openings *k*. In Figs. 1 and 2 the molds *a* are shown as cast in one piece with the wall *b* and are fixed in any suitable manner to the outer wall *c*, which has holes formed in it corresponding to those of the molds.

Instead of being constructed as described the compound mold may be formed of a single casting in which are formed the cavities *a* of sugar-loaf form, as shown at Fig. 5. In this case in order to prevent the compound mold from being too heavy it may with advantage be made of compressed paper-pulp, hardened wood, or the like.

The molds *a* can be grouped in various ways. At Figs. 1 and 2 they are all arranged, as above described, with their larger ends at the inner wall, and each horizontal row is shifted relatively to the rows immediately above and below it, or, in other words, they are arranged in zigzag rows vertically, whereby a greater number of molds can be arranged in a given space than if they were all in line with each

other. At Fig. 3 the arrangement is the same; but the position of the molds is reversed, the larger ends being turned toward the outer wall and the apices toward the inner wall.

At Fig. 4 the molds are arranged in vertical straight rows one above the other and with the apices alternately directed outward and inward both in the vertical and in the horizontal direction.

In the top plate *d* are fixed eyebolts *f*, by means of which the compound mold is raised or lowered by suitable hoisting-gear, such as a crane or traveler.

When the sugar is to be subjected to centrifugal action in the cold, the above-described compound mold is filled with sugar in an annular sheet-iron tank consisting of a bottom plate *g* and two slightly-tapering cylindrical walls *h* and *i*, Figs. 1 and 2. The masse-cuite is run into the annular space *j* left between the inner wall of the mold and that of the tank and is thus made to fill all the molds *a*, the air escaping from these through the openings *k*. The compound mold is then removed from the tank and is left standing until the masse-cuite has set, after which the mold is placed in the drum of a centrifugal machine, where the sugar is subjected to the operations of draining, purging, and clarifying in the ordinary manner, the syrup or clarifying liquor escaping through the ends of the molds *a*, which are turned toward the outer side. For clarifying the liquor is introduced into the annular space existing between the

inner face of the compound mold and the inner wall of the centrifugal drum.

The masse-cuite can also be subjected to centrifugal action while hot. In this case the empty compound mold is placed in the centrifugal drum and the masse-cuite is poured into the annular space between its inner wall and that of the drum, whence it passes into the molds *a*.

Having thus described the nature of this invention and the best means I know of carrying the same into practical effect, I claim—

1. An annular sugar-mold comprising two concentric cylindrical walls, conical sugar-molds arranged between the walls having their bases and apices alternately in the inner and outer wall, the bases of said molds being open and the apices having small holes through them and the adjacent wall, substantially as described.

2. A sugar-mold comprising several sectors united to form a rigid annulus having an inner and outer wall, conical sugar-molds between the walls having their bases open, and a perforation through their apices and the adjacent wall, the bases and vertices being arranged alternately both in a vertical and horizontal direction, substantially as described.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

JULES CHARLES FERNAND LAFEUILLE.

Witnesses:

J. ALLISON BOWEN,
HENRY THIESSE.