

No. 721,173.

PATENTED FEB. 24, 1903.

J. J. FORSTER.

MANUFACTURE OF CAKES FROM POLYGONAL BLANKS.

APPLICATION FILED NOV. 13, 1902.

NO MODEL.

FIG. 1.

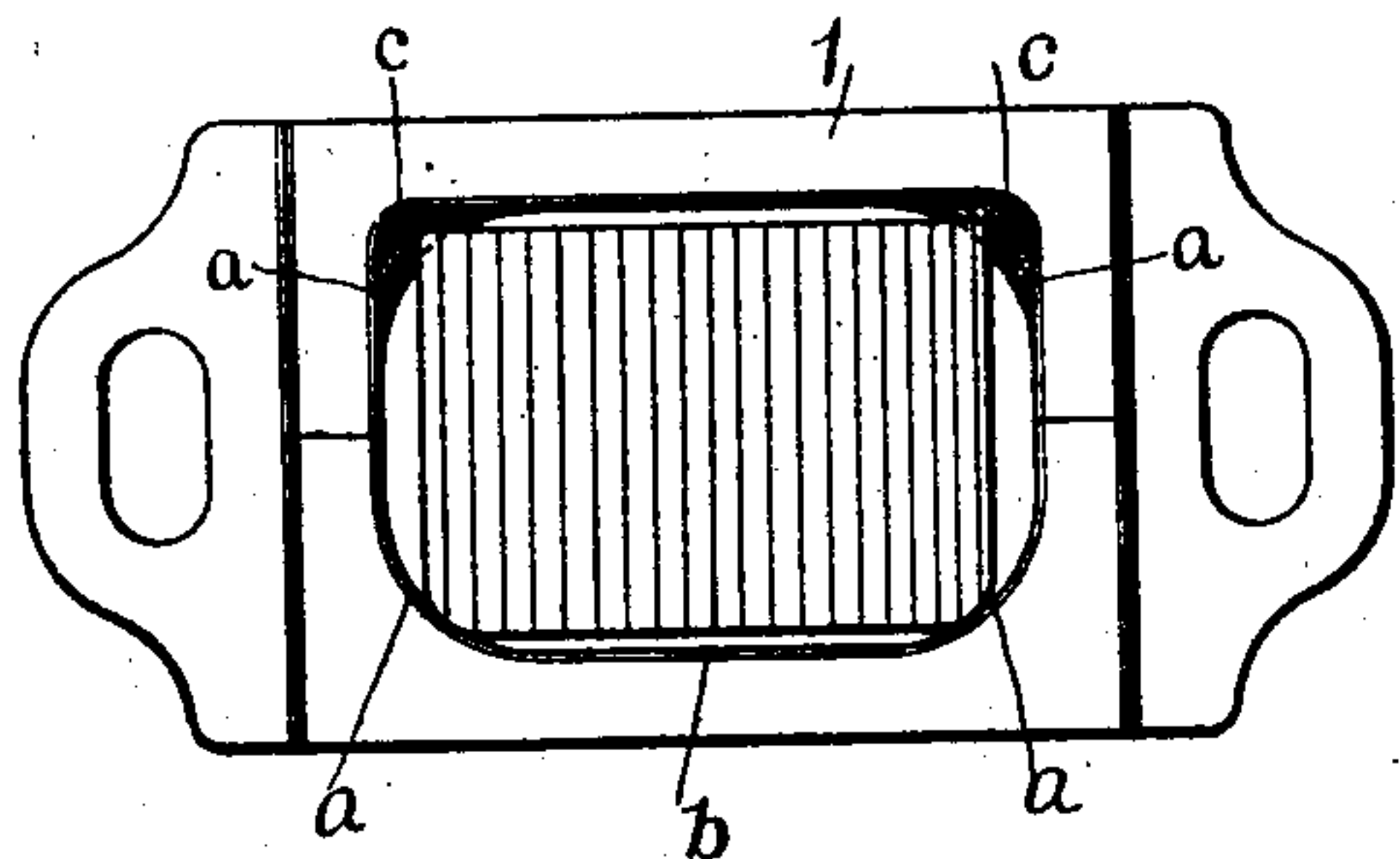


FIG. 2.

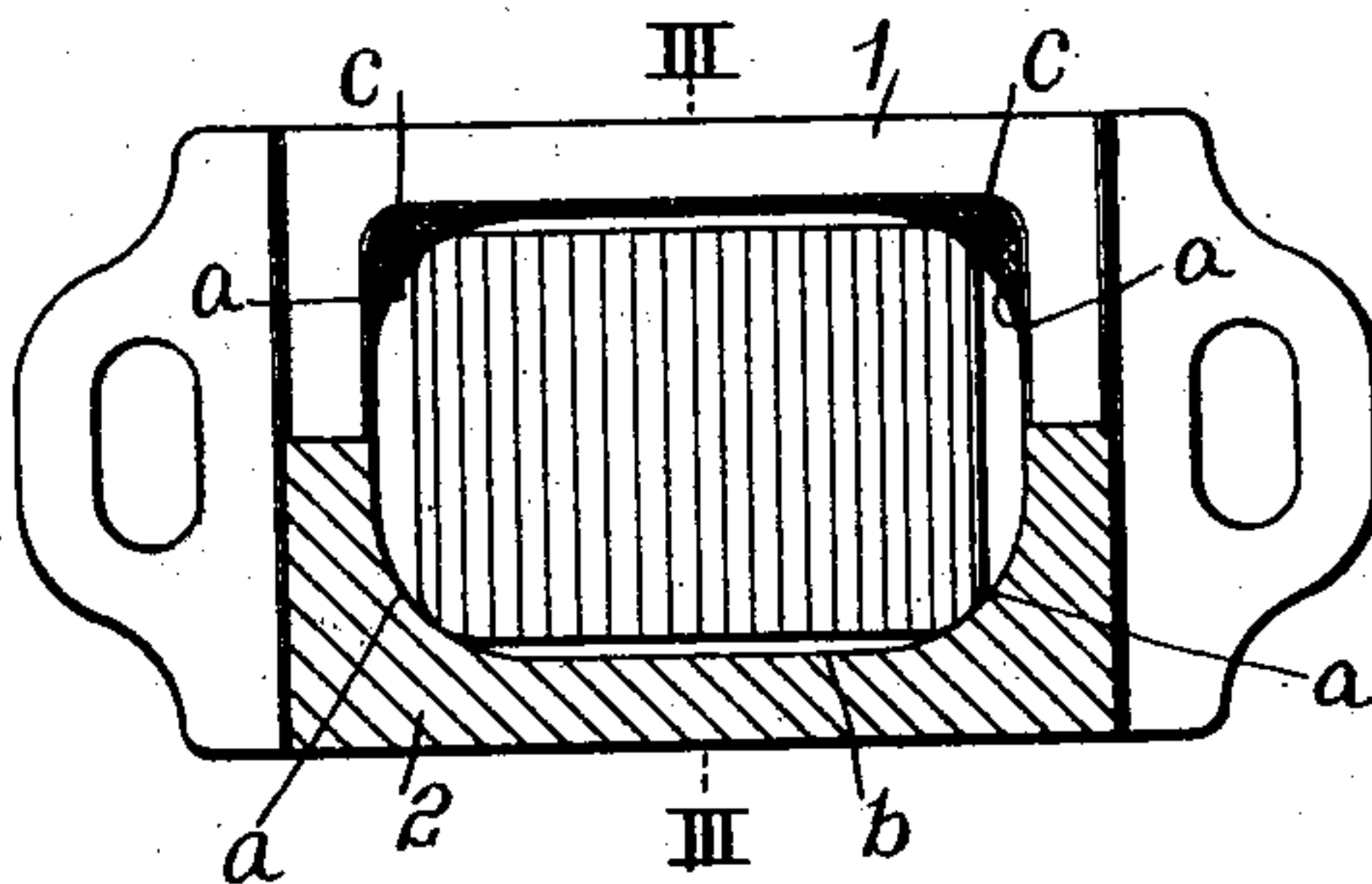


FIG. 3.

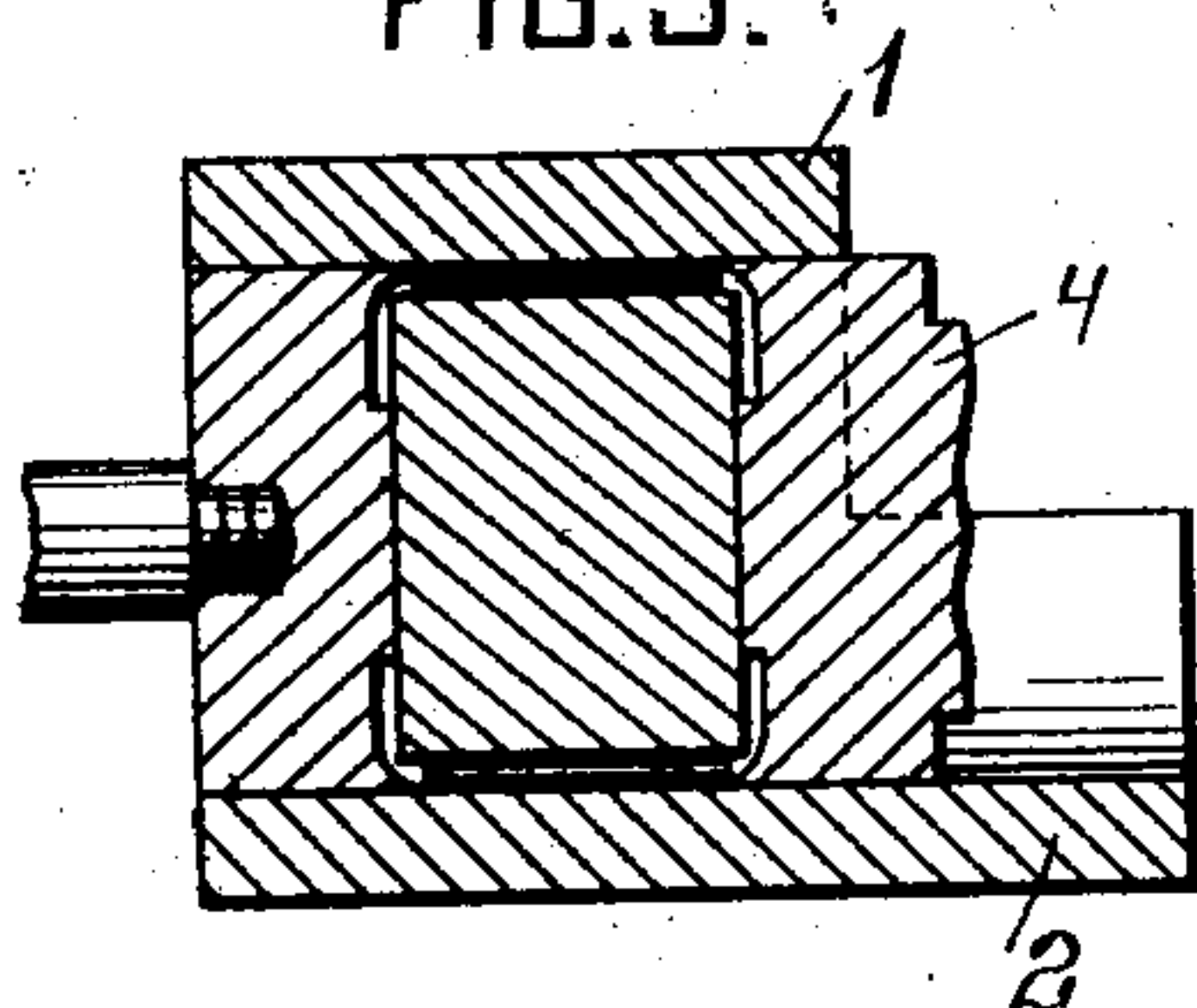


FIG. 4.

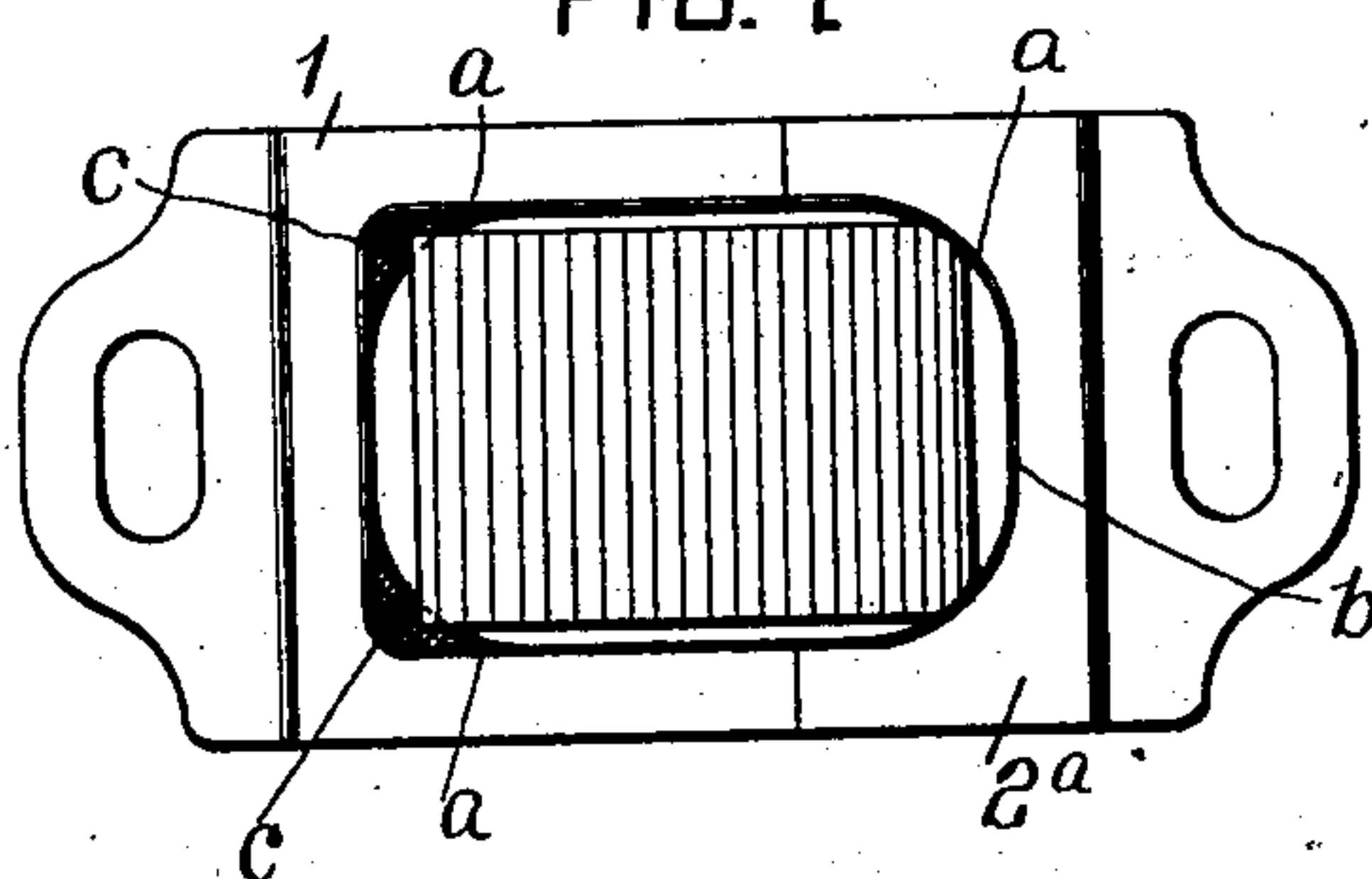


FIG. 5.

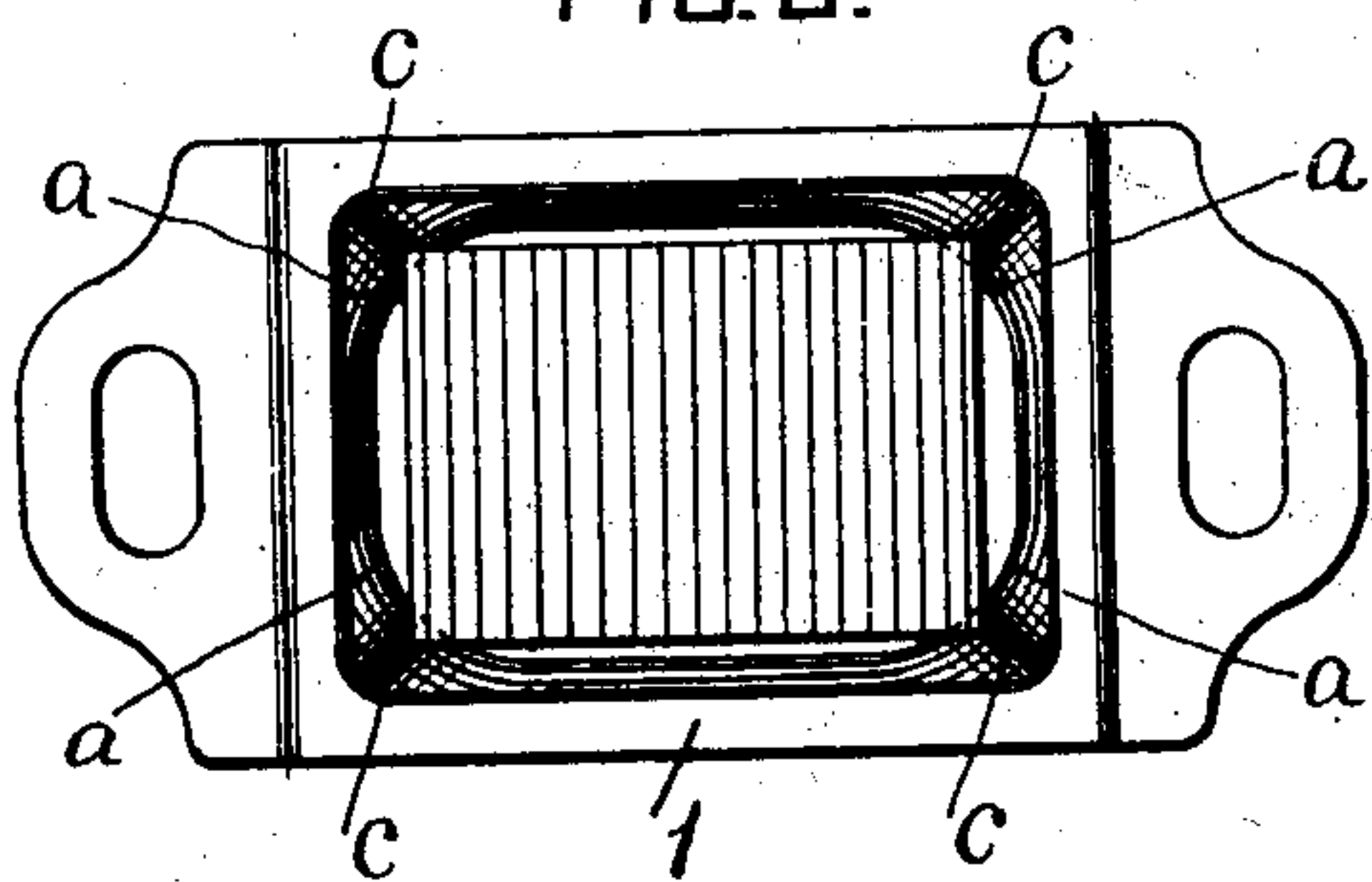


FIG. 6.

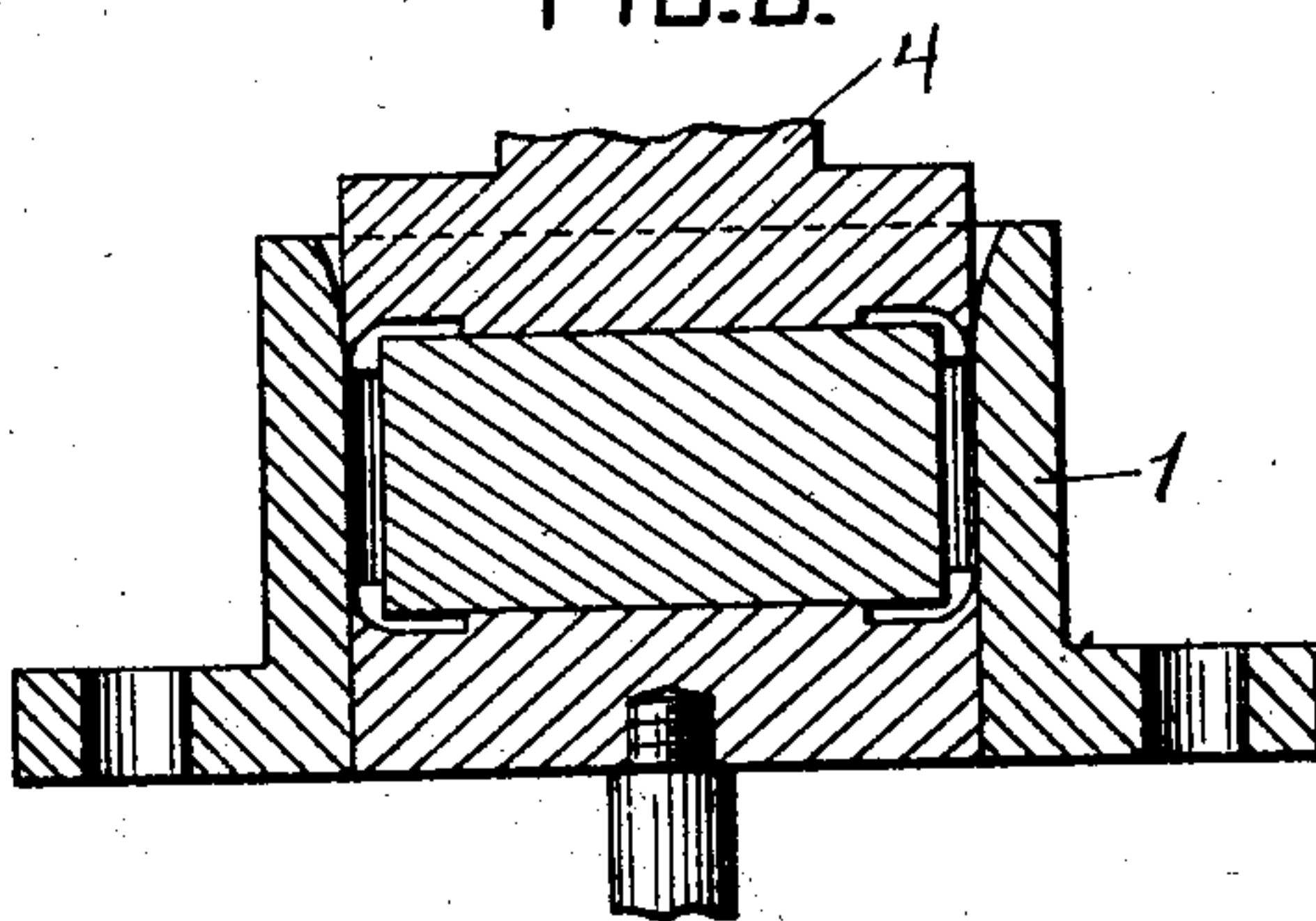
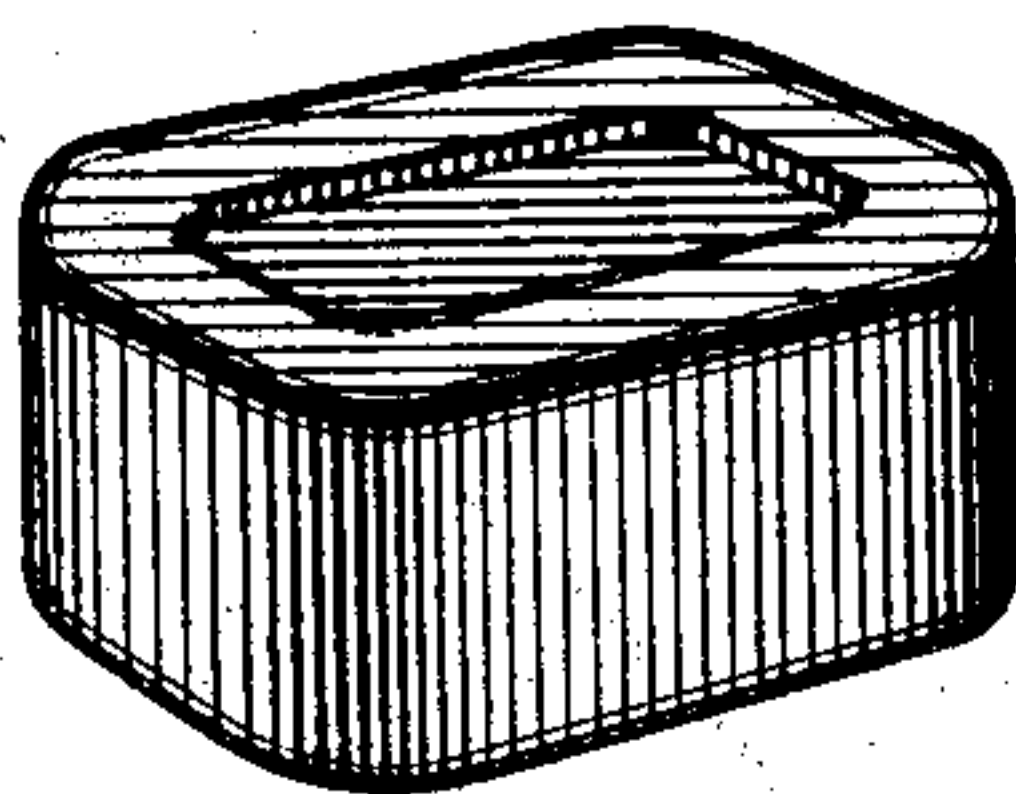


FIG. 7.



WITNESSES:

Herbert Bradley.  
Fred Kirchner.

INVENTOR

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Att'y.



# UNITED STATES PATENT OFFICE.

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TO ROBERT L. MURDOCK, OF AVALON, PENNSYLVANIA.

## MANUFACTURE OF CAKES FROM POLYGONAL BLANKS.

SPECIFICATION forming part of Letters Patent No. 721,173, dated February 24, 1903.

Application filed November 13, 1902. Serial No. 131,116. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN J. FORSTER, a citizen of the United States, residing at Avalon, in the county of Allegheny and State of Pennsylvania, have invented or discovered a certain new and useful Improvement in the Manufacture of Cakes from Polygonal Blanks, of which improvement the following is a specification.

10 The invention described herein relates to certain improvements in the manufacture of soap, the improvements pertaining more especially to the production of cakes oval in contour—i. e., having their corners rounded.

15 In the manufacture of soap cakes the soap is formed into a large slab or block, which is then cut transversely and longitudinally into substantially rectangular blanks having approximately the dimensions of the cake to be produced. If the blank is so proportioned  
20 relative to the mold in which the cake is to be formed that a considerable lateral expansion of the blank is necessary in order to fill the mold, the texture of the soap is so changed  
25 and injured that the cake is liable to crack and break into two or more pieces. The permissible lateral spread of the blank is so small that when forming cakes having any material rounding of the corners the blank must be  
30 larger than the largest rectangle inscribable within the mold. In other words, the corners of the blank must be cut off to produce an approximation to shape desired. It has been found that if the surfaces of the blank are  
35 fresh—i. e., newly cut when pressed—the soap will adhere to the mold, so that the corners of the blank cannot be removed during the pressing operation; but the trimming must be done a sufficient time in advance of the  
40 pressing to permit of the formation of a skin or film on the surface of the cake. This trimming of the cakes involves considerable time and labor, and although the scraps produced can be remelted such remelting is an item of  
45 some considerable expense.

The object of the present invention is to provide for the formation of oval cakes without any preliminary trimming of the rectangular blanks. The invention is hereinafter  
50 more fully described and claimed.

In the accompanying drawings, forming a

part of this specification, Figure 1 is a front elevation of a mold adapted to the practice of my invention, showing a blank in position to be pushed into the mold. Fig. 2 is a view  
55 showing the blank in the mold, but prior to final compression. Fig. 3 is a sectional elevation on a plane indicated by the line III III, Fig. 2, showing the mold and plungers. Fig. 4 is a view similar to Fig. 1, illustrating a  
60 modification in the construction of the mold. Fig. 5 is a plan view of a further modification of the mold. Fig. 6 is a sectional elevation of the mold shown in Fig. 5, with the pressing-plungers; and Fig. 7 is a perspective view  
65 of a cake of soap formed in accordance with my improved method.

In the practice of my invention the blanks, rectangular in cross-section, are cut to such a size relative to the cake to be produced that  
70 an injurious enlargement of the blanks in pressing will not be required. In pressing these blanks two or more corners of the blank are first compressed or worked into the planes of corner finish, and then by pressure on the  
75 opposite sides or top and bottom the blank is caused to spread edgewise, except at the corners, to completely fill the mold. This preliminary reduction of the corners of the blank can be effected in several ways—as, for ex-  
80 ample, when employing what is known as “center-feed” machines, where the blank is dropped down edgewise immediately in front of the mold 1, a corner-shaping plate 2 is provided. As shown in Figs. 1, 2, and 3, the up-  
85 per and inner surfaces of the plate are made to conform in contour with a portion of the lower part of the mold—that is, the plate is provided with corner-shaping portions or fillets  
90 *a* and with a relatively straight or plain intermediate portion *b*, said portions being in alinement with and practical extensions of the lower side and corners of the mold. In feeding the rectangular blanks they drop or are forced edgewise down onto the plate 2 by a  
95 striker, so that the lower corners of the blanks striking against the fillets *a* are reduced or pressed back to or approximately to the plane of corner finish. The blanks are then forced  
100 into the mold by the plunger 4, and during this movement into the mold the other or upper corners slide along the inclined outer



portions *c* of the fillets *a* of the upper corners of the mold, thereby effecting a pressing back or reduction of the upper corners to or approximately to the plane of corner finish. It will be observed that all the corners of a rectangular blank are shaped before or as the blanks reach a position in the mold where they will be subjected to shaping pressure whereby the cakes are finally formed. It is characteristic of this method of shaping the cakes that there is not any removal of any portion of the blank nor any rupture of the skin thereon that would cause an adherence of the soap to the mold.

When a side feed mechanism is employed—*i. e.*, is shifted horizontally in front of a horizontally-arranged mold—a preliminary shaping-plate 2<sup>a</sup> is arranged at the end of the mold, as shown in Fig. 4, so that the corners at the front end of the blank are reduced or pressed back by the fillets *a* when the blank is pushed into position in front of the mold and the corners at the rear end are reduced or pressed back by the inclined or beveled fillets *a c* at the end of the mold opposite the plate.

When an open-topped mold is employed, as shown in Figs. 5 and 6, the fillets *a* at all the corners have their outer portions beveled or inclined, as at *c*, so that the pressing back or reduction of the corners of the blank to the plane of corner finish is performed simultaneously on all the corners as the blank is forced into the mold.

It frequently happens that the blanks are not rectangular, due to improper cutting or warping during drying. Under such conditions some of the corners will be reduced more than others, and in some cases where distor-

tion is excessive only two will be effected during the preliminary shaping operation.

I claim herein as my invention—

1. As an improvement in the art of forming cakes from blanks of compressible material, the method herein described which consists in pressing back or reducing certain portions of the blank to or approximately to the plane or planes of finish, and then bringing the blank to the finished size and shape by pressure, substantially as set forth.

2. As an improvement in the art of forming cakes from rectangular blanks of compressible material the method herein described, which consists in reducing or pressing back two or more corners of the blank to or approximately to the planes of corner finish and then bringing the other portions of the partially-shaped blank to the desired planes of finish, substantially as set forth.

3. The method herein described of making oval-ended cakes from compressible materials by first cutting or severing a polygonal blank greater in thickness than that of the finished article, but with one or more lateral sides or ends (except at the corners) a little inside the plane of finish, then reducing two or more of the corners by lateral compression down to or within the plane of finish and then by top and bottom compression enlarging the reformed blank to the desired planes of finish, substantially as set forth.

In testimony whereof I have hereunto set my hand.

JOHN J. FORSTER.

Witnesses:

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