

No. 765,981.

PATENTED JULY 26, 1904.

J. R. MEYERS.

CHEESE MOLD OR HOOP.

APPLICATION FILED MAR. 27, 1903.

NO MODEL.

Fig 1

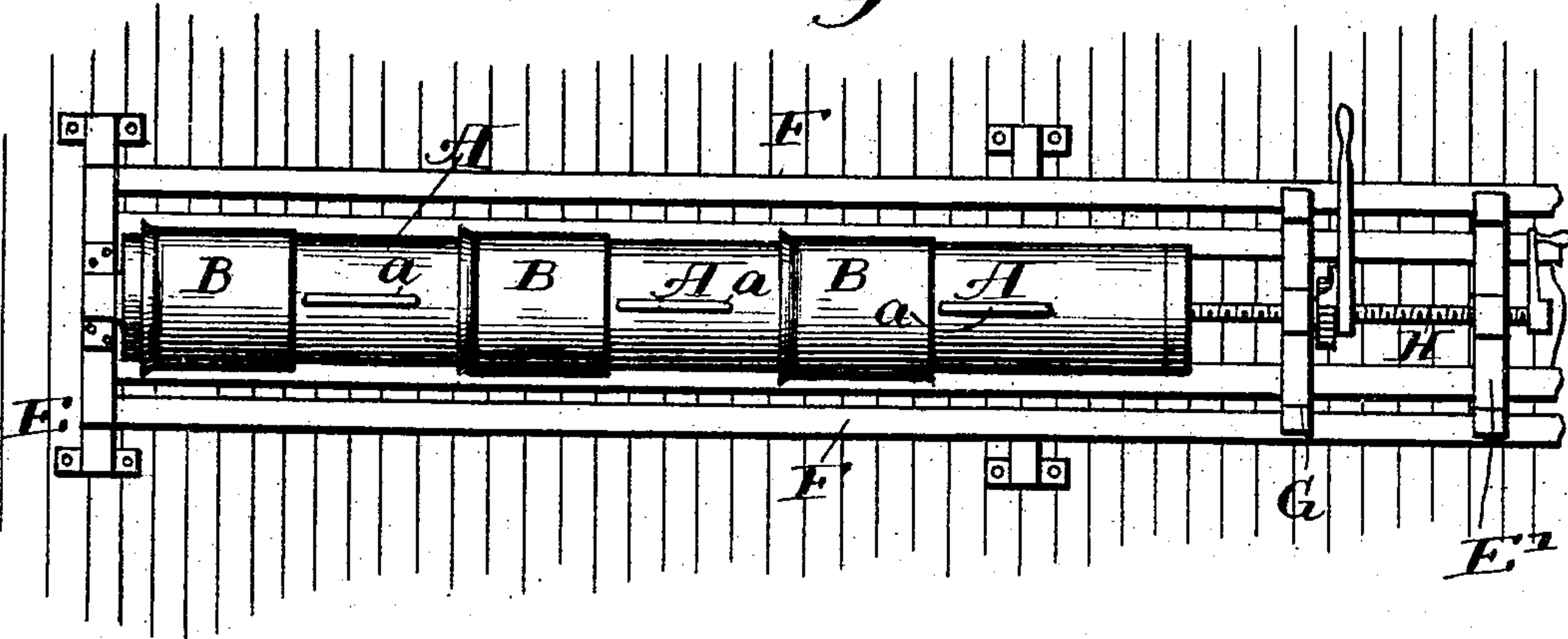


Fig 2

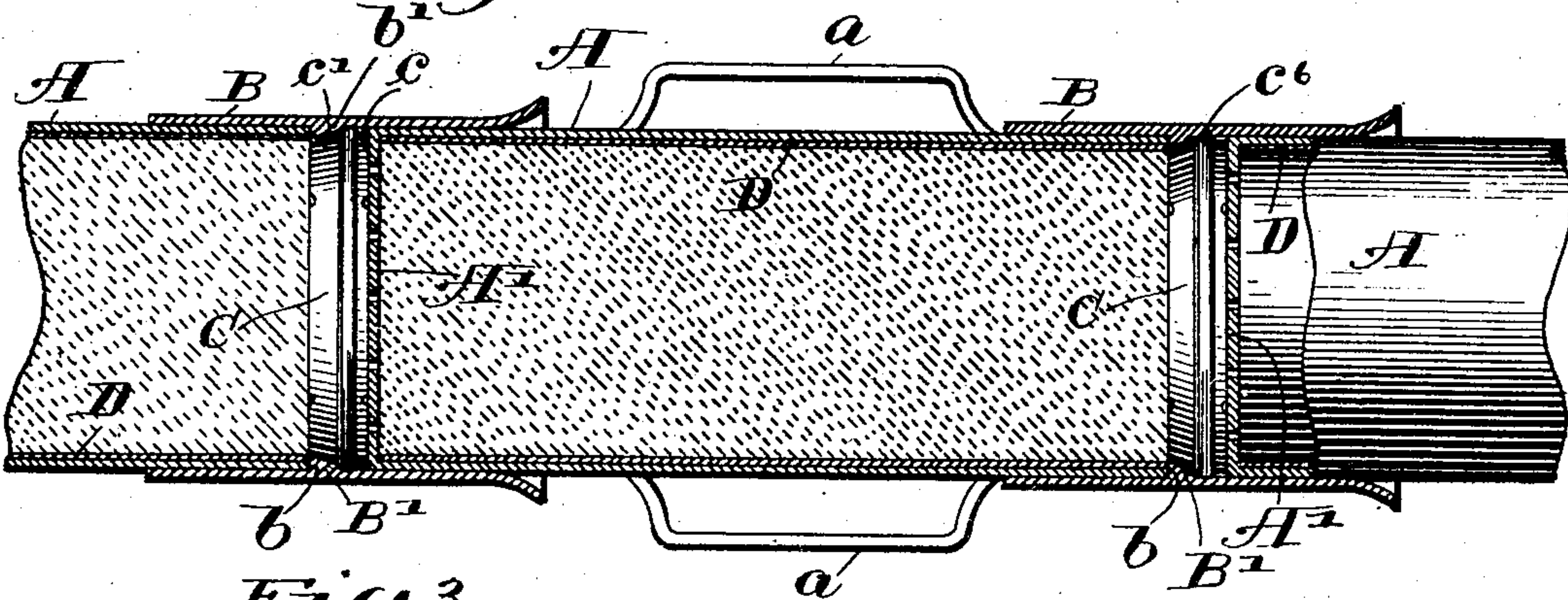


Fig 3

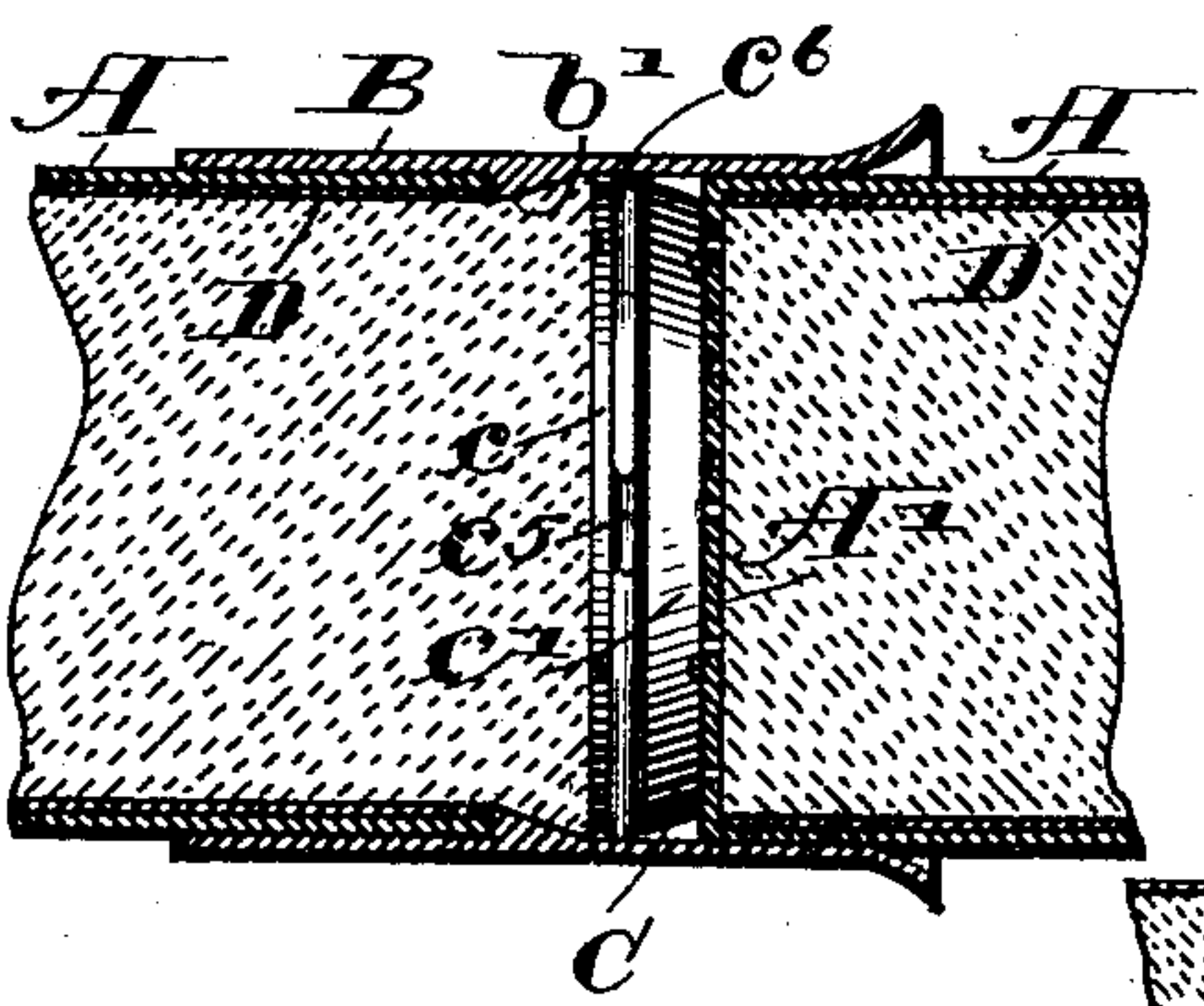


Fig 6



Fig 4

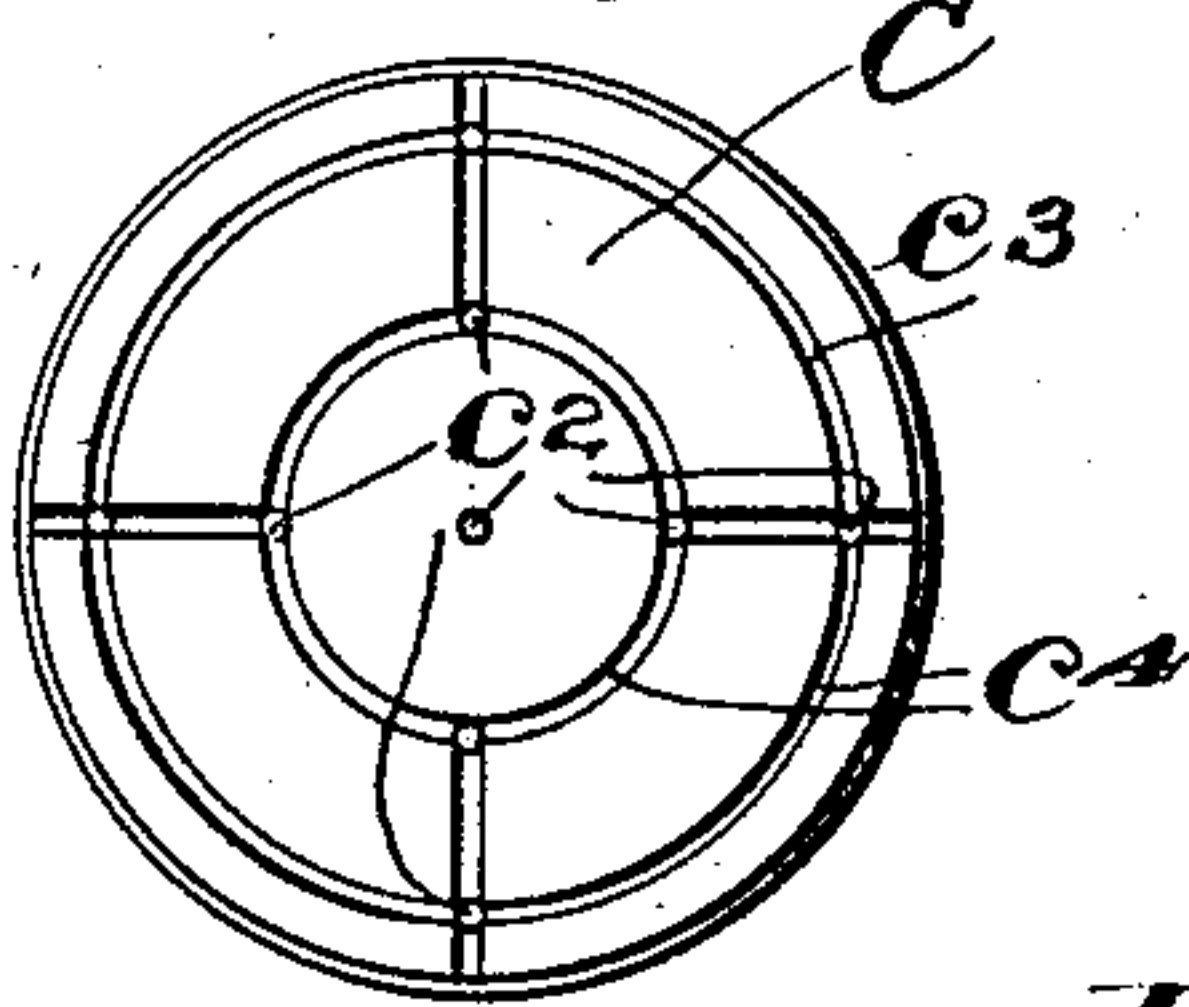


Fig 5

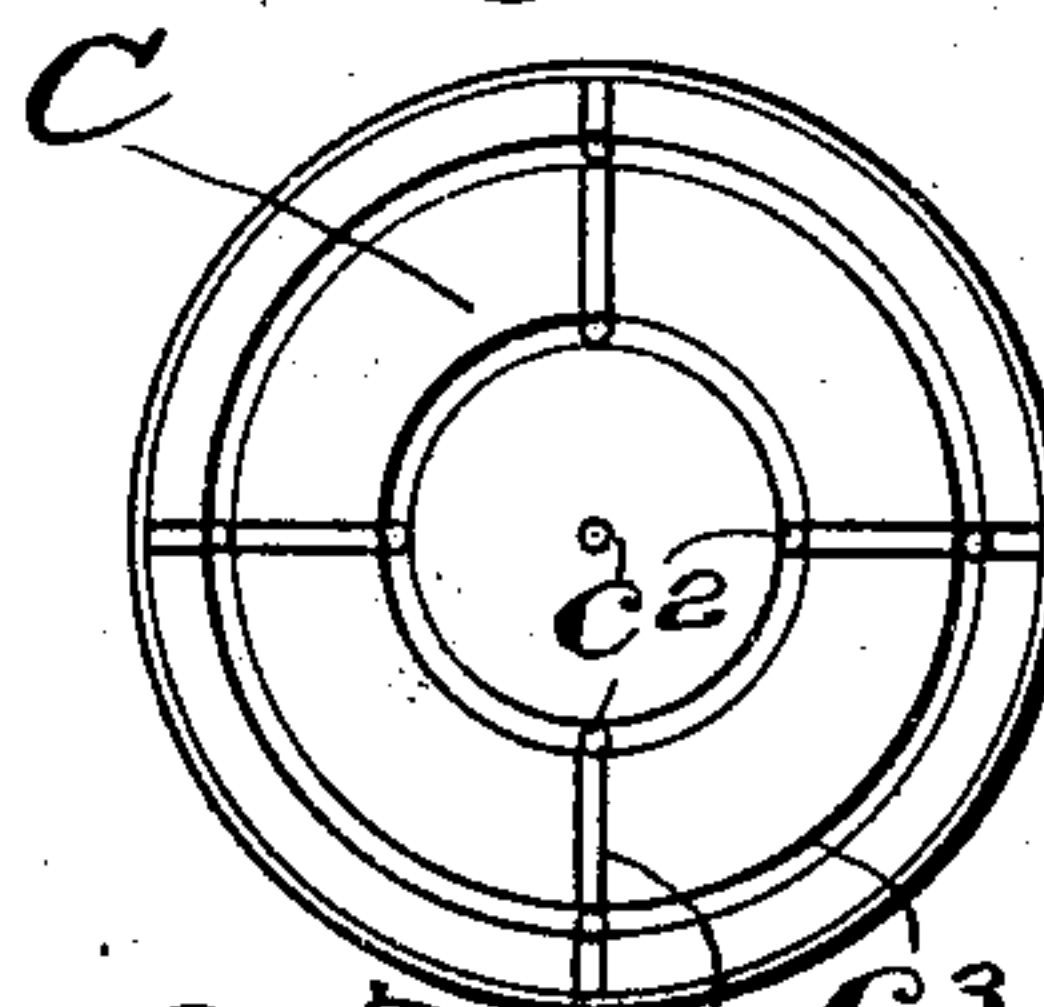
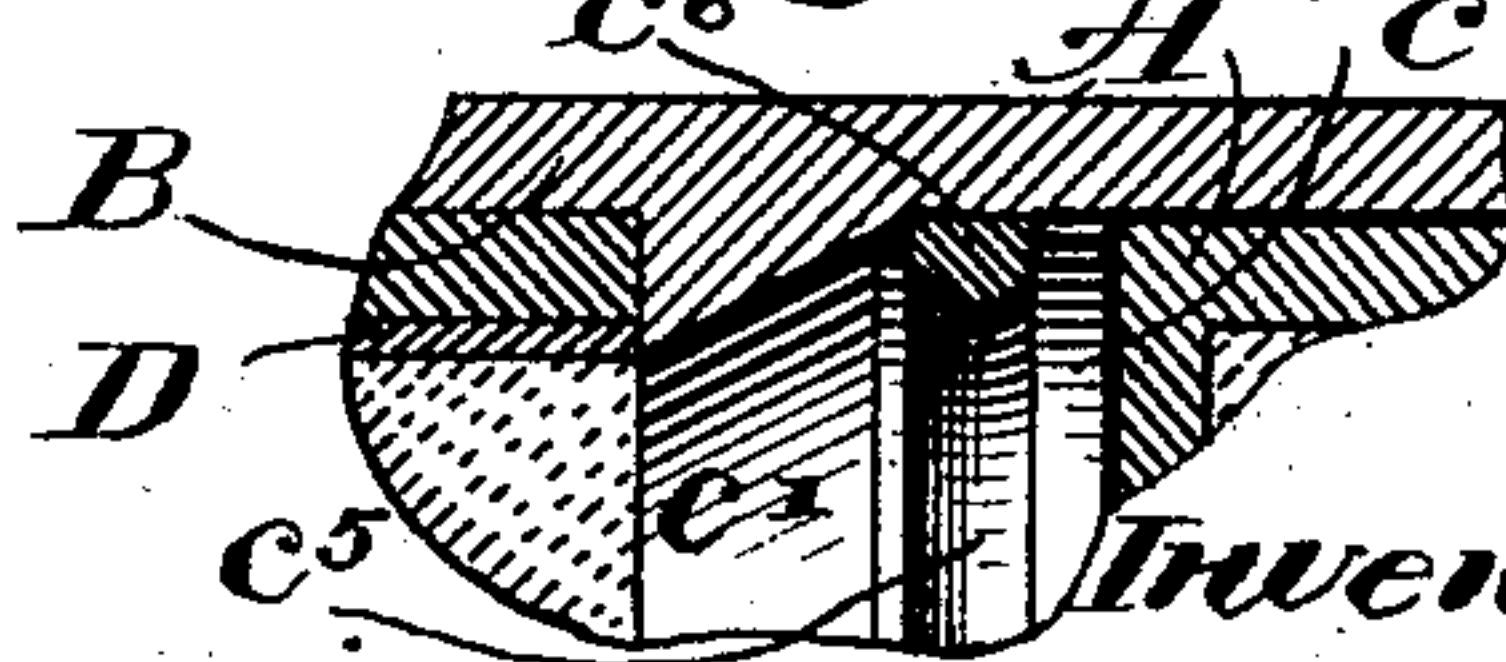


Fig 7



Witnesses:
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UNITED STATES PATENT OFFICE.

JULIUS R. MEYERS, OF CHICAGO, ILLINOIS.

CHEESE MOLD OR HOOP.

SPECIFICATION forming part of Letters Patent No. 765,981, dated July 26, 1904.

Application filed March 27, 1903. Serial No. 149,802. (No model.)

To all whom it may concern:

Be it known that I, JULIUS R. MEYERS, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Cheese Molds or Hoops; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to an improved cheese mold or hoop more especially adapted for the pressing of a cheese which is without the usual cloth covering or bandage, but which is provided with a tubular open-ended casing or covering of somewhat stiff or rigid material—such as paper, strawboard, or the like—according to the process set forth in a separate application for Letters Patent, Serial No. 149,803, filed simultaneously herewith.

The invention consists in the matters hereinafter described, and pointed out in the appended claims.

In the accompanying drawings, illustrating my invention, Figure 1 shows in plan view a cheese-press of the kind known as a "gang-press" containing a plurality of molds or hoops constructed in accordance with my invention. Fig. 2 is a view in central longitudinal section of a single mold or hoop together with the ends of adjacent molds in the positions they occupy when in the press, said parts being shown in Fig. 2 in the positions they occupy at the termination of the pressing operation. Fig. 3 is a like detail section illustrating an intermediate step in the pressing of the cheese. Figs. 4 and 5 are opposite face views of the follower illustrated in Figs. 2 and 3. Fig. 6 is a view, partially in elevation and partially in section, of one end of a cheese made by the use of the mold illustrated when the same is completed and ready for the market. Fig. 7 is an enlarged detail longitudinal section of the parts of two molds adjacent to the margin of the follower when the parts are in the position shown in Fig. 2.

As shown in said drawings, A indicates the

body of the mold or hoop, which is of tubular form and of uniform internal diameter from end to end. In the drawings the body A is shown as made of sheet metal and of uniform thickness throughout; but uniformity in the thickness of the walls of the mold is not required. One end of the tubular mold *a* is closed by an end wall A', which is perforated, and as herein shown is made integral with or permanently attached to the side wall of the mold, as heretofore usual in such devices. At its opposite open end or that in which the material is inserted the mold is provided with a separate tubular ring B, adapted to fit over the end portion of the body A and having between its ends an internal shoulder *b*, which when the ring is in place on the mold-body fits or bears against the end margin of said body. Said shoulder *b* is in a mold adapted for use in a gang-press according to the usual practice made of uniform internal size throughout the principal part of its length, and the internal shoulder *b* thereof is in that case formed by or upon the inner margin of an inwardly-extending rib *b'* on said ring B. Within the outer part of the ring B is located a follower C, which is movable endwise therein and through the medium of which pressure is applied to the material within the mold.

The shoulder *b* referred to is made wider than the thickness of the end of the body A, so that when the ring B is placed on the body said shoulder projects a short distance inside of the inner face of said body and far enough to cover or project over the end margin of a tubular casing or covering D, which is inserted within the body of the mold before the material is placed therein and which forms a permanent covering for the cheese after the same is finished. The said follower C has a larger part *c*, which fits closely within the ring B, and a smaller part or extension *c'*, which is adapted to enter within the rib *B'*, so that the flat face of said smaller part may be forced inwardly until it is in line with the shoulder *b* and the end of the casing or covering B. Said follower is, however, reversible and may be placed in the ring with its larger

part *c* inwardly, and said follower will occupy this position in the preliminary part of the pressing operation, as will hereinafter appear.

When the mold is adapted for use in connection with other molds in a gang-press, the pressure is applied to each follower by the action of the closed end of the body of an adjacent mold, which latter by reason of the fact that the molds are made of the same size at both ends may be inserted in the outer part of the ring B, as shown in the drawings, and will thereby act as a plunger to press or force inwardly the follower C in the pressing operation.

When the parts are arranged to thus operate, the inner face *b'* of the rib B' will be tapered or inclined from the inner edge of the shoulder *b* outwardly to the inner surface of the ring B and the smaller part *c'* of the plunger will be correspondingly tapered or inclined and adapted to fit within the tapered surface *b'* of the rib B'. As a result of this construction when the follower is inserted in the ring with its smaller end innermost and is forced inwardly until its inner face is in line with the shoulder *b* the tapered part *c'* of the follower will fit closely within the rib B, and thus leave no room for the material being compressed, all of which will be forced into the casing or covering D, as seen in Fig. 2. The said follower will be provided with the usual drainage-openings *c²* and will have in both faces circumferential and radial grooves *c³* *c⁴*, Fig. 4, which communicate with the said openings *c²*.

The follower C embraces an improved feature of construction in a marginal packing, as follows: Said follower, which is made of wood, is provided in its edge or peripheral surface with a circumferential groove *c⁵*, in which is inserted a continuous packing-ring *c⁶*, of elastic material, such as rubber. Said ring is of cylindric form in cross-section and is made somewhat smaller in circumference than the periphery of the follower, so that it will be slightly stretched when placed in the groove. Said packing-ring is adapted to project slightly outside of the groove, so that it will press against the inner surface of the latter, and thereby maintain a tight joint between the follower and the ring when the follower is inserted with either of its faces inward.

The operation of the mold made as above described and illustrated is as follows: In preparing the mold for filling the ring B is removed, the tubular casing D then slipped into the body of the mold, and the ring B then placed on the open end of the body with its shoulder *b* in contact with the edge of the body and the edge of casing D. The quantity of curds required for completely filling the casing B is then inserted in the mold. The curds before compression will of course rise above the top of the body and partially fill the part of the ring B which extends above

the same. The follower C is then inserted with its large end innermost, and a preliminary compressing operation will then take place by placing a number of molds together in the usual manner. In such preliminary compressing operation the follower C will be forced inwardly as far as permitted by the rib B' or until the face of the follower reaches the inclined surface of the rib, as seen in Fig. 3. The purpose of doing the preliminary pressing with the follower in the position described is to insure that all of the material in the ring shall be forced inwardly as far as the rib B', it being obvious that if the follower at this time were placed with its smaller end innermost the material between the tapered smaller end of the follower and the wall of the ring would tend to become wedged therein and would interfere with the pressing operation. When the preliminary pressing has been completed, as above described, the molds are then separated, the followers reversed, and the final pressing operation takes place with the smaller parts of the followers directed toward the body of the mold. In such final pressing the said smaller parts of the followers enter within the rib B' and serve to further compress the material until the inner face of the follower is flush with the end of the tubular casing D, as seen in Fig. 2, when the pressing operation will be completed. The pressed cheese, with its covering, may then be removed and will be in readiness for curing or drying. When the cheese is in readiness for the market, I prefer to place over the end of the tubular casing D a flanged cap D', as seen in Fig. 6, said flanged cap being conveniently made of paper, strawboard, or the like and serving to cover and protect the end of the cheese which is left uncovered by the tubular casing.

The gang-press shown in Fig. 1 is of familiar form, the same having stationary heads E E', longitudinal tension members F F, a follower G, and a screw-shaft H, which engages the head E' and acts on the follower G, between which and the head E the several molds are placed in the act of pressing.

The mold-body A is shown as provided with handles *a a*, located between its ends, to facilitate the handling of the mold, as heretofore common in such devices.

It is to be understood that the making of the ring B of uniform size in the principal part of the length and providing the same with an internal rib to form the shoulder B is a feature necessary only when the mold is adapted for use with other molds in a gang-press and that a mold adapted for use in connection with a tubular casing or covering for the cheese may have a ring in which the shoulder is formed otherwise than by an inwardly-projecting rib, the principal feature of the mold, so far as the pressing of the cheese in such tubular casing is concerned,

being the separate ring having a shoulder with faces toward the body of the mold, and is of sufficient width to overlap both the edge of said body and that of the tubular casing inserted in the body.

The cutting from the finished cheese of pieces of uniform size or weight, as pounds or half-pounds, may be facilitated by providing on the outer surface of the casing D circumferential guide marks or lines, as indicated by *d* in Fig. 6.

One advantage of the apparatus above described is its cleanliness, for upon removing a pressed cheese and its casing D the mold A is at once ready to be used again without cleansing.

Heretofore it has been necessary to make the cheese hoops or molds somewhat tapering, first, in order that the end of one hoop would fit within the adjacent end of the next hoop in the gang-press, and, secondly, in order to facilitate the removal of the pressed cheese from the hoop. This latter operation has been attended with difficulty and inconvenience because the cheese-casing has usually been of cloth and the moisture in the cheese exudes through the cloth and forms a scale of saltpeter on the inside of the metal hoops or molds. All these disadvantages are entirely obviated by my apparatus, and I am enabled to make a mold or hoop of uniform internal diameter throughout its length. This also insures the accuracy of the guide lines or grooves indicating correct weights or quantities of the cheese.

I claim as my invention—

1. A cheese-mold embracing a tubular body which is open at one end and closed at the other by an end wall, said tubular body being of uniform internal size from end to end, and a separate ring which at one end is of the same interior size as the exterior of the open end of the body and is adapted to fit over said open end of the body, and at its other end is made of the same interior size as the exterior of the closed end of the body and is adapted to receive the closed end of a like body.

2. A cheese-mold embracing a tubular body closed at one end and a separate ring which is adapted to fit over the open end of the body and is provided between its ends with an interior shoulder adapted for contact with the

margin of the said open end of the body, the interior of the said ring in its part exterior to said shoulder being of the same size as the exterior of the closed end of the body.

3. A cheese-mold embracing a tubular body, and a separate ring which is adapted to fit over one end of the body and is provided with an internal shoulder of greater width than the thickness of the body.

4. A cheese-mold embracing a tubular body and a separate ring adapted to fit over the end of the body, and having an internal rib forming a shoulder which is wider than the thickness of the body.

5. A cheese-mold embracing a tubular body and a separate ring adapted to fit over one end of the body, said ring being provided between its ends with an internal rib having an abrupt shoulder at its inner margin and a tapered inner surface.

6. A cheese-mold embracing a tubular body which is closed at one end and a separate ring adapted to fit over the open end of the body, said ring being provided with an internal shoulder which faces toward the body and being made, in its part outside of the said shoulder, of suitable internal size to receive the closed end of the body of a like mold.

7. A cheese-mold embracing a tubular body, a separate ring adapted to fit over one end of the body, said ring having an inwardly-projecting rib between its ends, and a follower which fits within the said ring and is provided with an extension adapted to enter within the said rib.

8. A cheese-mold embracing a tubular body, a separate ring adapted to fit over one end of the body and provided between its ends with an internal rib having a tapered surface, and a follower which fits within the said ring and is provided with a tapered surface adapted to enter and fit within the tapered surface of the said rib.

In testimony that I claim the foregoing as my invention I affix my signature, in presence of two witnesses, this 23d day of March, A. D. 1903.

JULIUS R. MEYERS.

Witnesses:

TAYLOR E. BROWN,
GERTRUDE BRYCE.