

No. 736,694.

PATENTED AUG. 18, 1903.

J. CRANE, JR.
CLOSURE FOR MILK JARS.

APPLICATION FILED OCT. 9, 1902.

NO MODEL.

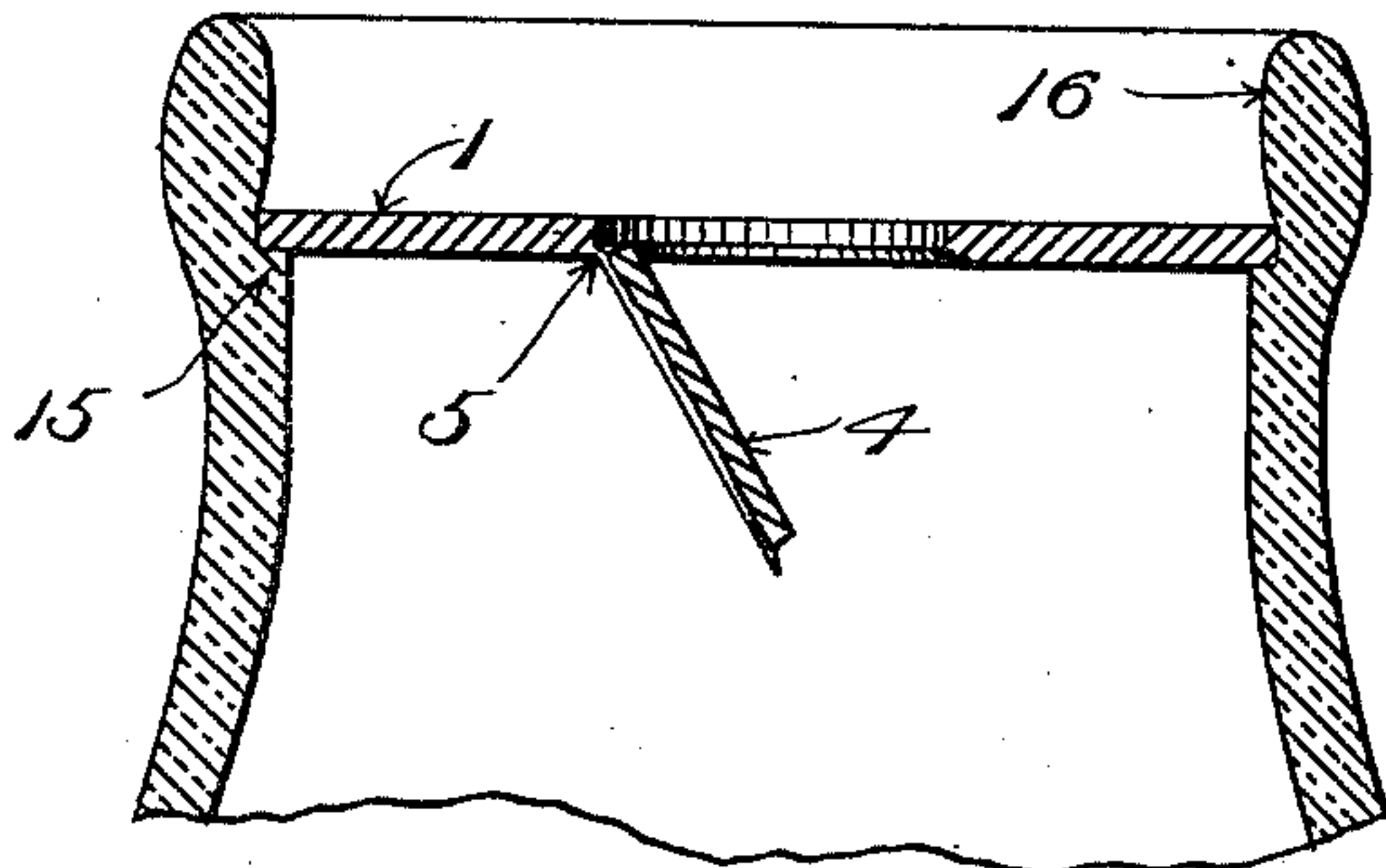


Fig. 3.

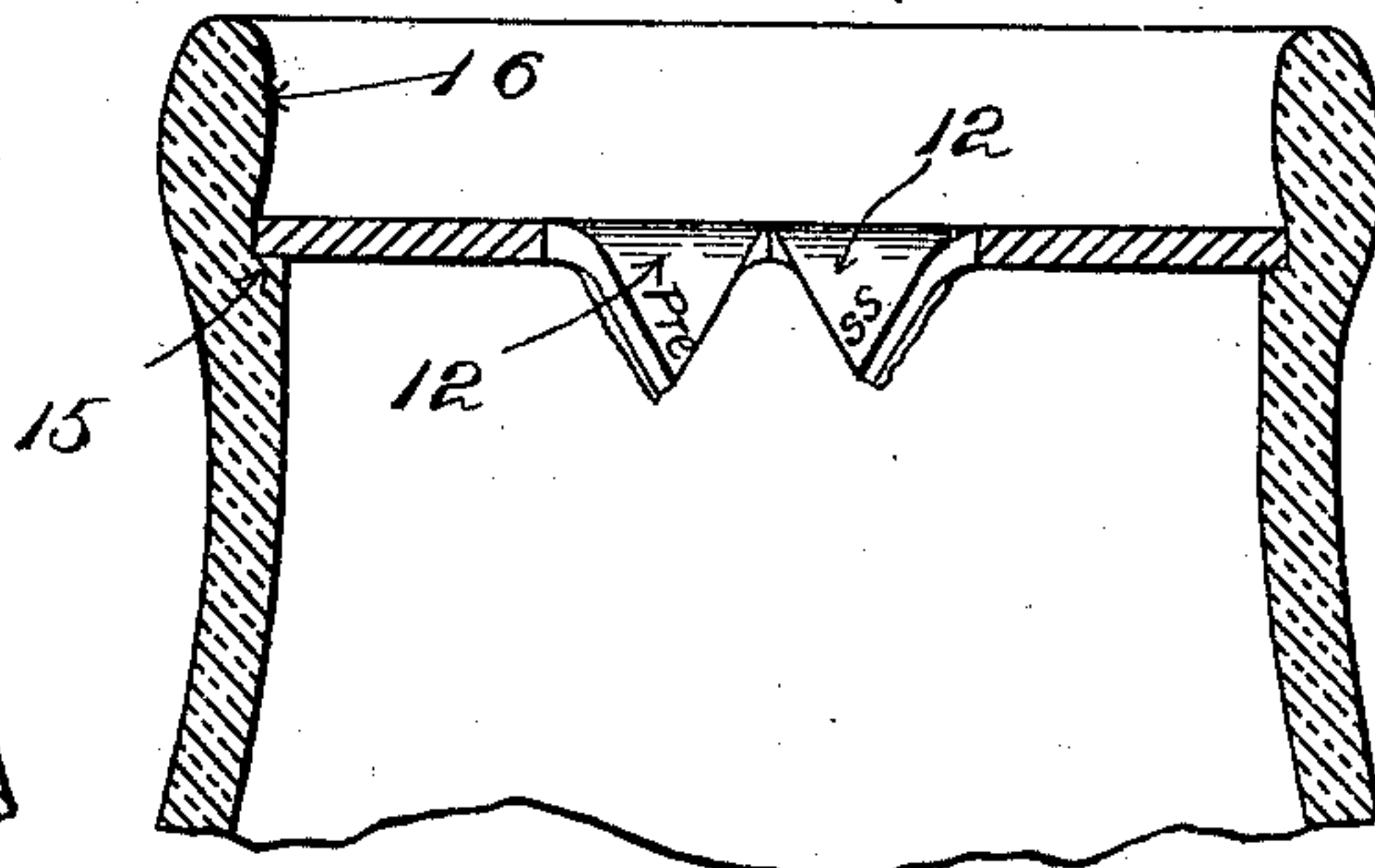


Fig. 6.

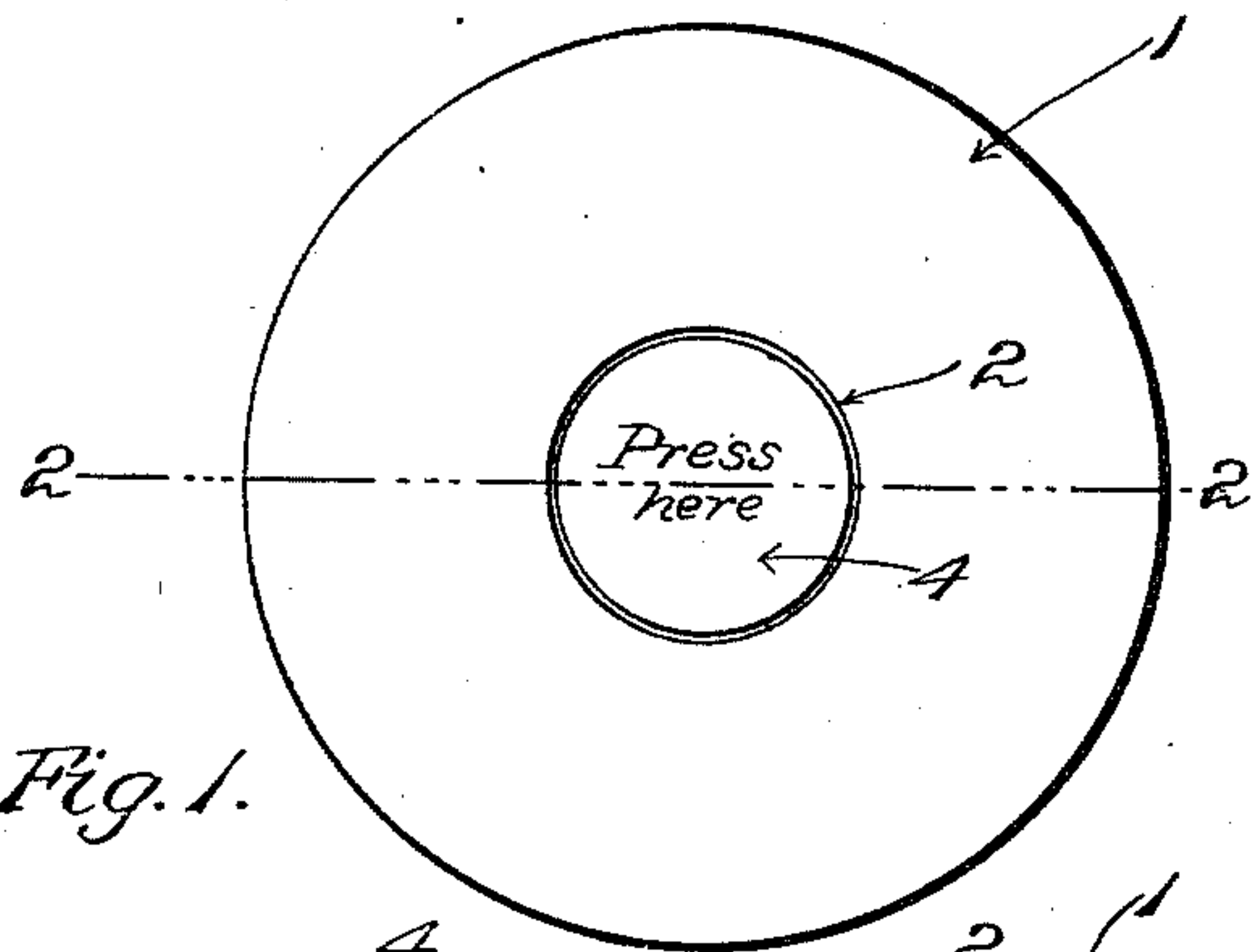


Fig. 1.

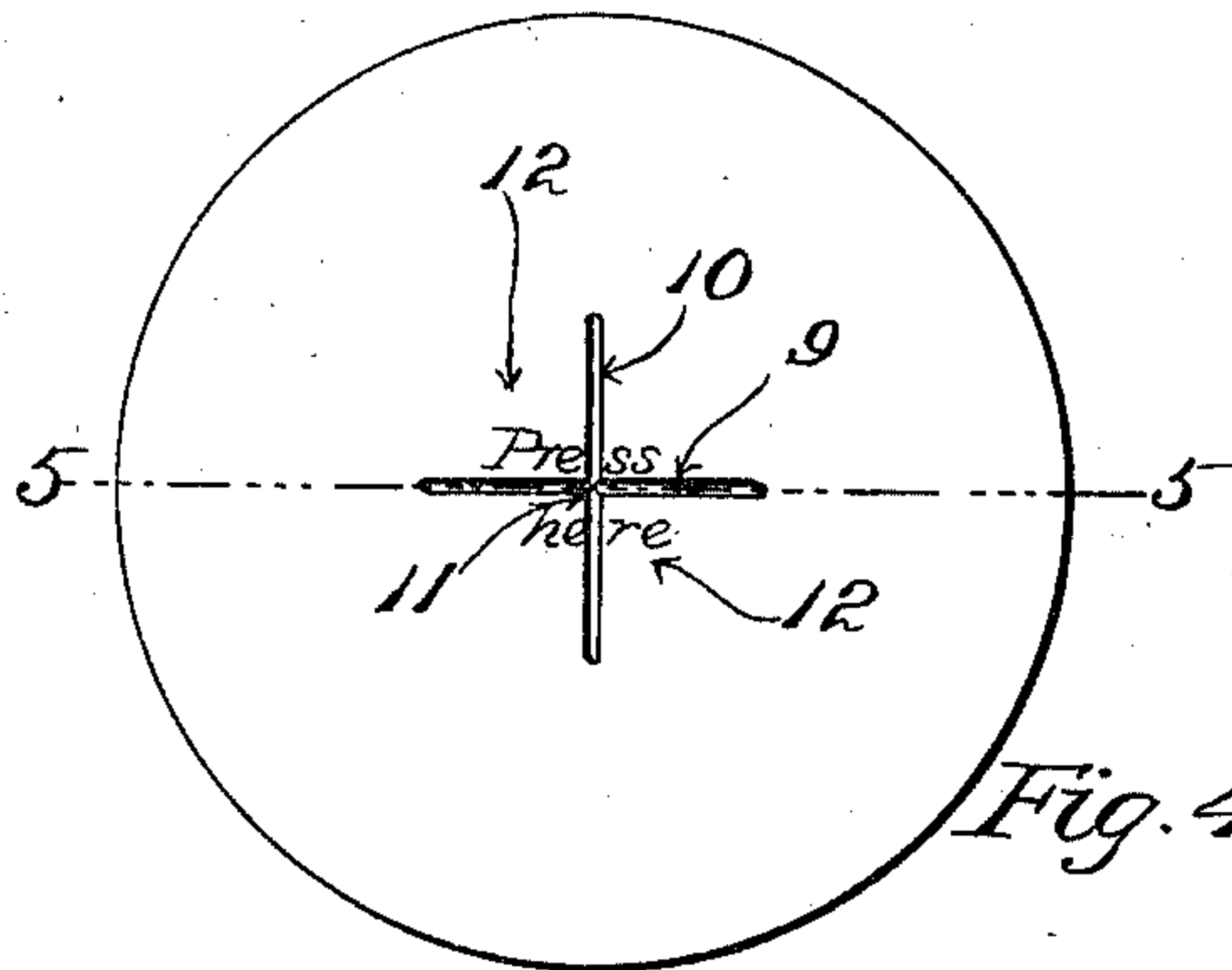


Fig. 4.

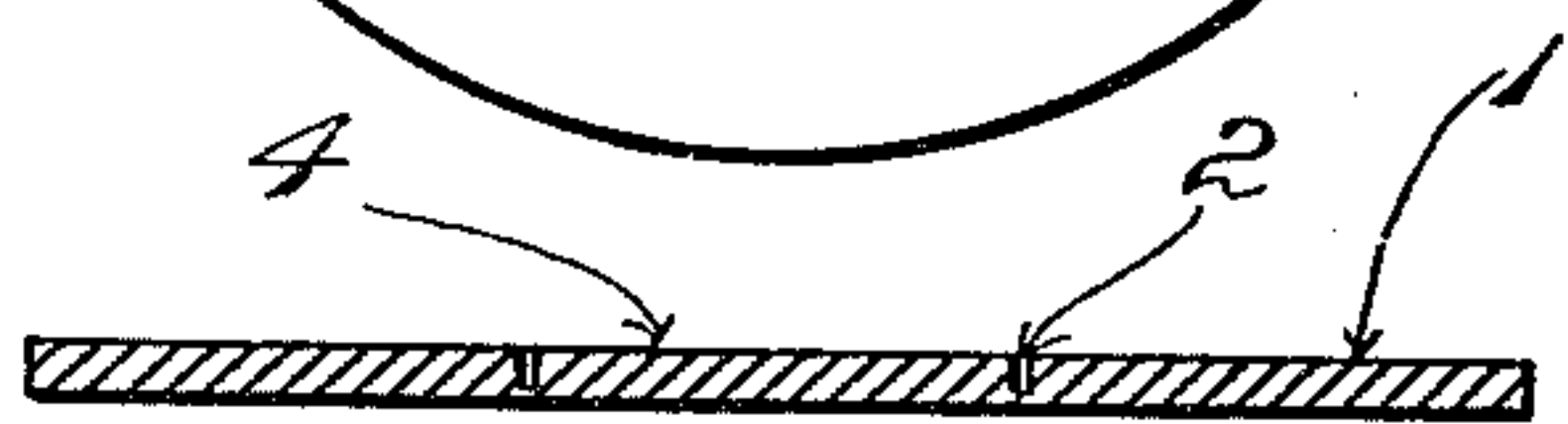


Fig. 2.



Fig. 5.

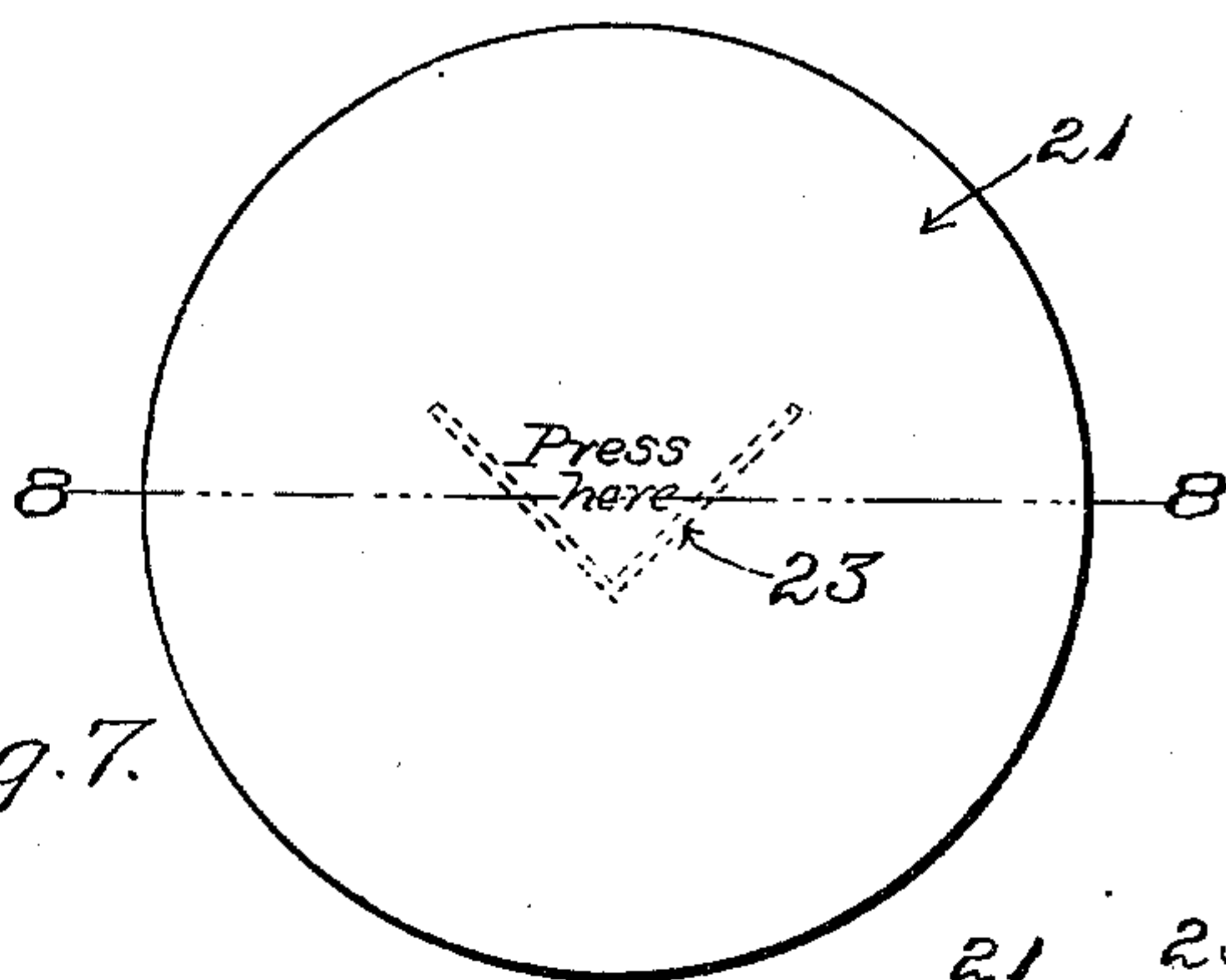


Fig. 7.

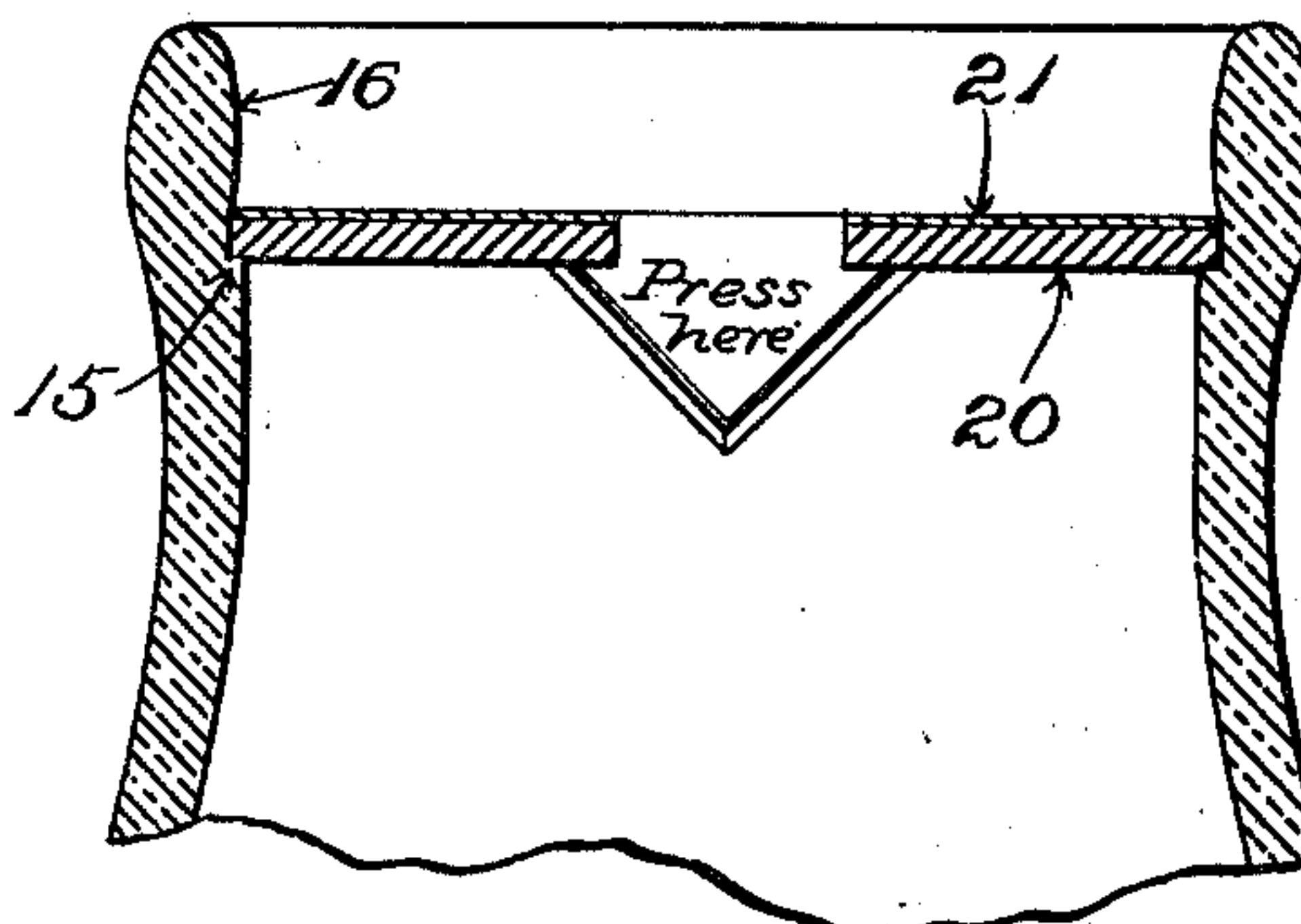


Fig. 9.

Witnesses:

Oscar F. Hill
Aline Farr

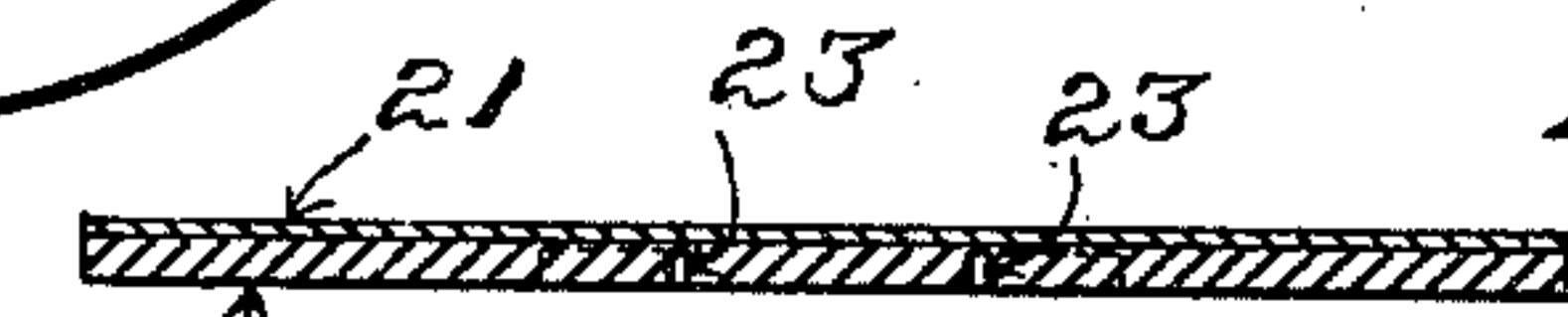


Fig. 8.

Inventor.

Joshua Crane, Jr.
by his atty
Levin Hall Rice

UNITED STATES PATENT OFFICE.

JOSHUA CRANE, JR., OF WESTWOOD, MASSACHUSETTS.

CLOSURE FOR MILK-JARS.

SPECIFICATION forming part of Letters Patent No. 736,694, dated August 18, 1903.

Application filed October 9, 1902. Serial No. 126,385. (No model.)

To all whom it may concern:

Be it known that I, JOSHUA CRANE, Jr., a citizen of the United States, residing at Westwood, in the county of Norfolk, State of Massachusetts, have invented a certain new and useful Improvement in Closures for Milk-Jars, of which the following is a specification, reference being had therein to the accompanying drawings.

10 The improvement has reference to closures for milk-jars, although the said invention is equally applicable to use in connection with receptacles designed for other purposes.

More especially, the invention relates to 15 that species of closures which are intended to be used once only, although capable of removal and replacement in the mouth of the receptacle or jar repeatedly during use—that is to say, closures of this type are designed to 20 be inserted in the receptacle or jar when it is filled at the dairy in the case of milk-jars and to be removed by the consumer after the jar has been delivered to him in the ordinary course of distribution and to be utilized temporarily as a closure by the said consumer, if 25 he so desires, during the time while he retains the jar and is using the contents thereof, but not designed to be returned with the empty jar. When the jar is returned to the dairy 30 and refilled, a new closure is employed to effect the sealing thereof. Closures of this type are in use at the present time, which consist simply of a pasteboard or other fibrous disk which is pressed into the mouth of the jar 35 until it becomes seated against an internal shoulder formed therein. From this position the closure can be dislodged only with considerable difficulty and by the application of considerable force. It is necessary to employ 40 a pointed instrument, and such instrument is not always at hand. Frequently the opening of the jar is effected by inserting the point of such instrument between the edge of the disk and the interior surface of the mouth 45 of the jar, and in some cases this process results in chipping off small fragments of the glass of which the jar is composed and allowing such fragments to fall into the milk.

It is the leading object of the present invention to remedy the objections noted above.

The invention will first be described with reference to the accompanying drawings,

which illustrate different forms in which the same has been embodied, and afterward the essential characteristics thereof will be particularly pointed out, and distinctly defined 55 in the claims at the close of the specification.

In the drawings, Figure 1 is a top or face view of a closure embodying the present invention. Fig. 2 is a transverse section of the 60 same on the plane that is indicated by the line 2 2 in Fig. 1. Fig. 3 is a vertical diametrical section of the mouth of a milk-jar containing a closure such as that represented in Figs. 1 and 2, the closure being represented 65 in the condition which it assumes when the first step is taken in the procedure hereinafter described for removing the closure from the mouth of the jar. Figs. 4, 5, and 6 respectively correspond to Figs. 1, 2, and 3 70 and show another form of the invention. Figs. 7, 8, and 9 respectively correspond to Figs. 1, 2, and 3 and show still another form of the invention.

In the form of the invention shown in Figs. 75 1, 2, and 3 the numeral 1 designates the peripheral portion of the pasteboard or similar disk which constitutes the improved closure. At a convenient point within the periphery of the disk a line of scoring (designated 2) is 80 produced. The said scoring may be conveniently formed in the same operation by which the disk itself is severed from the sheet of pasteboard or other material from which such disks are made. The depression or channel 85 constituting the aforesaid scoring will preferably be of a depth nearly equal to the thickness of the disk in order that the portion 4 of the substance of the disk which is inclosed by the scoring may be capable of being pressed 90 inward by the exercise of such comparatively slight force as that which can be exerted by the finger of the person desiring to remove the closure from the mouth of the jar. As 95 is evident, the proper mode of removing the closure from the jar will be to insert the finger through the aperture produced by displacing the substance 4 and apply outward pressure upon the remainder of the disk, thereby unseating the latter wholly from its 100 position in the mouth of the jar.

In the forms shown in Figs. 1 to 6 the scoring or channeling is produced on the upper or exposed surface of the disk, and it is there-

fore readily apparent precisely where the pressure should be applied in order most easily to displace that portion of the substance of the disk inclosed by the line of scoring. A further or alternate means of indicating the proper mode of use of the closure may be the imprinting of certain words of direction upon the said portion of the substance of the disk, as represented in Figs. 1, 4, and 7.

When the substance of the disk inclosed by the line of scoring is displaced by pressure applied by the finger, the material where it is scored or channeled does not give way in a sharply-defined line, but in a more or less ragged line. This is of advantage, inasmuch as after the closure has been removed if it is desired to replace it temporarily in order to protect the contents of the jar from access of air the portion 4 of the disk may be bent back into place, and the edges where the separation has occurred will more or less overlie each other and may be pressed together, so as to adhere to a considerable degree and wholly or substantially close the opening which has been made.

It is not in all cases desirable to form the scoring or channeling on the upper surface of the disk nor to form it by partially penetrating the finished disk. Thus in Figs. 7, 8, and 9 the disk is shown as composed of two layers 20 21 attached together, and the channeling or scoring 23 is produced by cutting entirely through the layer 20 prior to its attachment to the layer 21. By this mode of producing the disk the thickness of the material remaining where the channeling or scoring 23 occurs is uniform, it being that of the layer 21, and the latter may be so proportioned as to afford sufficient protection to the contents of the jar, while breaking readily upon the application of the pressure of the finger to the space within the line of channeling or scoring. In Figs. 7 to 9 the layer 20, in which the lines of cutting are made which form the channeling or scoring 23, constitutes the lower layer of the finished disk and is preferably composed of relatively inexpensive material, such as pasteboard. The upper layer 21, on the other hand, is preferably composed of a better quality of stock, and as it forms the upper surface of the disk or closure it offers a more attractive appearance than does pasteboard. A further advantage is that a good quality of paper affords a better printing-surface than pasteboard, and this is an important factor to dairies which desire their names or other trade-mark to be imprinted upon the exposed surface of the closures which they use.

The precise contour of the line of scoring is not in all cases essential. In Figs. 7, 8, and 9 the scoring is shown of V shape. In Figs. 4, 5, and 6 two lines of scoring 9 10 are shown, these crossing each other at the point 11, which is approximately the point at which pressure should be applied by the finger to displace the segment-shaped portions 12 12,

inclosed by the lines of scoring. After the disk has been removed, these displaced portions 12 12 may be restored to substantially their original relative positions in like manner as the displaced portion 4 in the form shown in Figs. 1 to 3, and the same thing is true as to restoring the displaced material in the form shown in Figs. 7 to 9. In some cases the line of scoring may be a closed line, as in Figs. 1 to 3, where it is shown as having a circular form. It is found in practice that the pressure applied within the circular line of scoring breaks away the portion 4 only around a part of the circumference thereof, leaving an undetached or hinge portion 5, Fig. 3, opposite the side to which the finger is being applied to effect the extraction of the closure. In this form it is therefore unnecessary to place the jar in any particular position previous to effecting the extraction of the closure.

The mouth of the jar (shown in Figs. 3, 6, and 9) is provided internally with an annular shoulder 15, against which the closure seats itself when inserted in place. The precise contour of the interior surface of the jar externally of the shoulder 15 is not material to the present invention; but the form herein shown is provided with a slight annular contraction 16, past which the limited degree of flexibility possessed by the disk allows it to snap while it is being inserted in place.

What I claim is—

1. A closure for milk-jars and the like, composed of a fibrous disk having a line of scoring thereon whereby the substance of the disk inclosed by the scoring may be displaced by pressure of the finger in order to allow the latter to pass beneath the closure to effect the removal of the same, substantially as described.
2. A closure for milk-jars and the like, composed of a fibrous disk having a closed line of scoring thereon whereby the substance of the disk inclosed by the scoring may be displaced by pressure of the finger in order to allow the latter to pass beneath the closure to effect the removal of the same, substantially as described.
3. A closure for milk-jars and the like, composed of a disk made up of an upper layer of intact material and a lower layer of material cut through in certain portions and attached to the said upper layer, whereby the substance of the disk may be displaced by pressure of the finger in order to allow the latter to pass beneath the closure to effect the removal of the same, substantially as described.
4. A closure for milk-jars and the like, composed of a disk made up of a layer of intact material and a layer of material cut through in certain portions, attached to the said intact layer, whereby the substance of the disk may be displaced by pressure of the finger in order to allow the latter to pass beneath the closure to effect the removal of the same, substantially as described.
5. A closure for milk-jars and the like, com-

posed of a thin resilient disk having a line of scoring thereon whereby the substance of the disk inclosed by the scoring may be displaced by pressure of the finger in order to allow the latter to pass beneath the closure to effect the removal of the same, substantially as described.

5 6. A closure for milk-jars and the like, composed of a thin resilient disk having a closed
10 line of scoring thereon whereby the substance of the disk inclosed by the scoring may be

displaced by pressure of the finger in order to allow the latter to pass beneath the closure to effect the removal of the same, substantially as described.

In testimony whereof I affix my signature
in presence of two witnesses.

JOSHUA CRANE, JR.

Witnesses:

JENNIE B. MURRAY,
LEPINE HALL RICE.