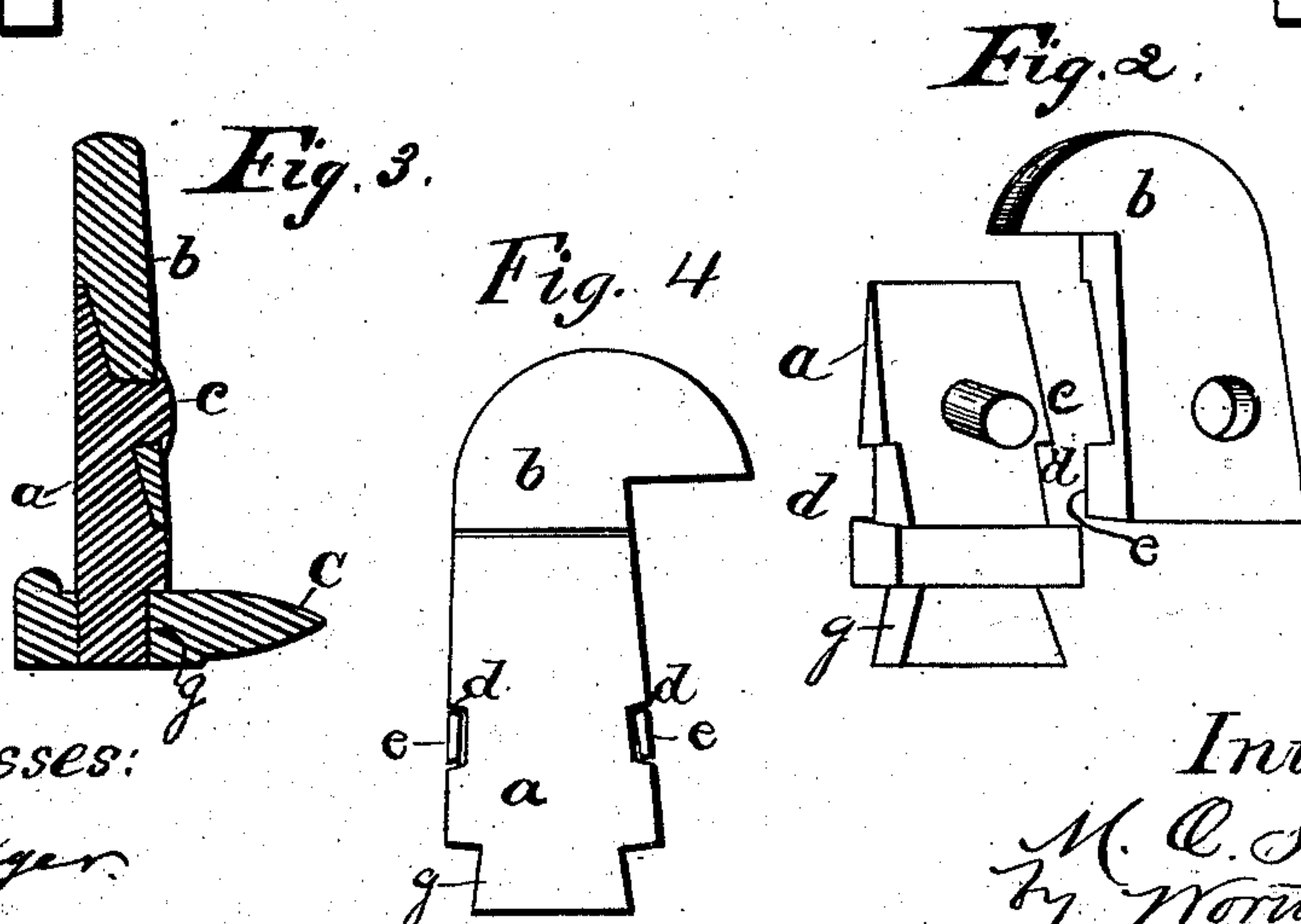
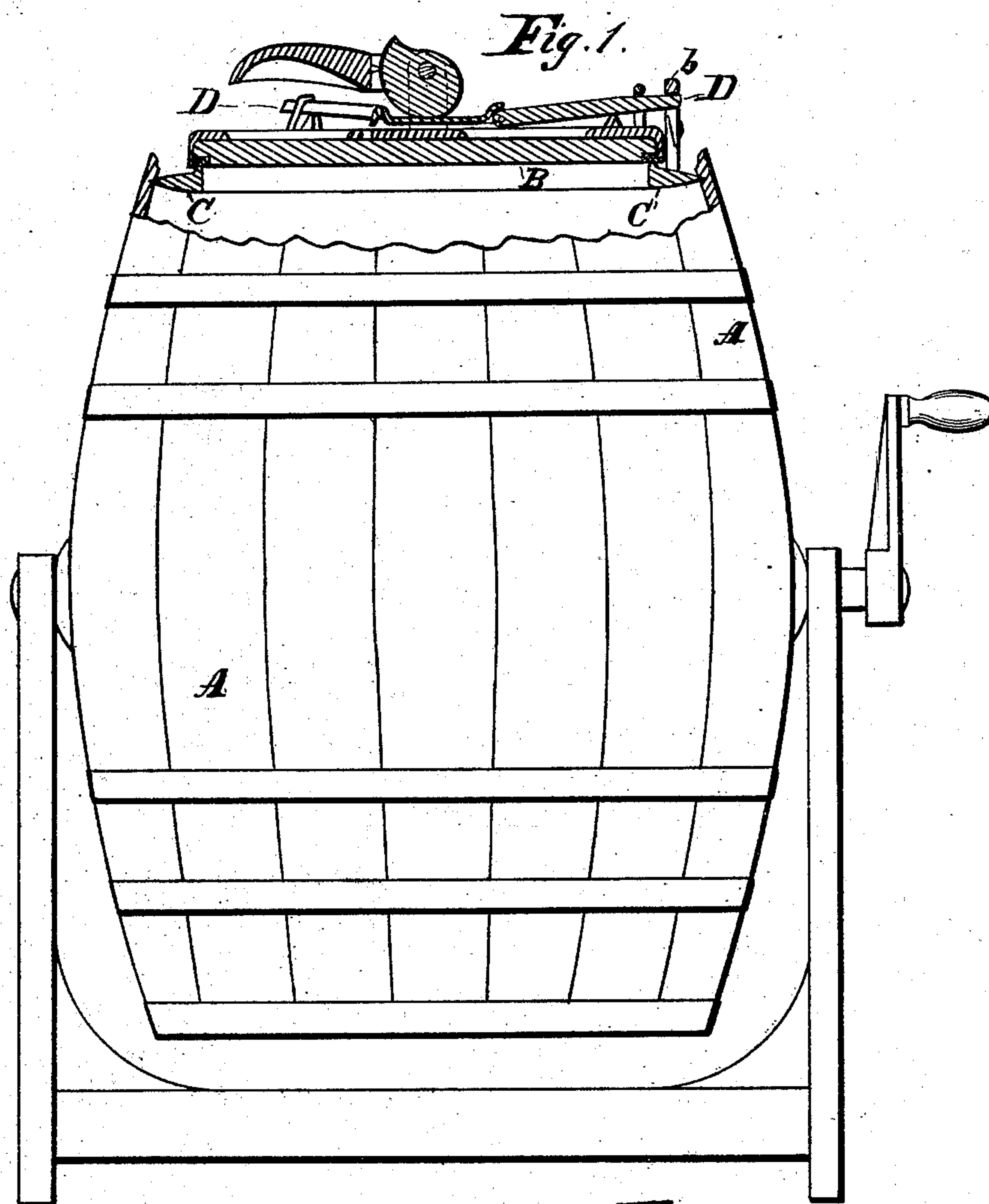


(No Model.)

M. O. STODDARD.  
Churn Cover Attachment.

No. 240,862.

Patented May 3, 1881.



Witnesses:  
A. O. Thayer.  
A. M. Pierce.

Inventor,  
M. O. Stoddard  
by North Osgood  
att.



# UNITED STATES PATENT OFFICE.

MARVIN O. STODDARD, OF POULTNEY, VERMONT.

## CHURN-COVER ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 240,862, dated May 3, 1881.

Application filed November 26, 1880. (No model.)

*To all whom it may concern:*

Be it known that I, MARVIN O. STODDARD, of Poultney, in the county of Rutland and State of Vermont, have invented certain new and useful Improvements in Churn-Cover Attachments, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention has particular relation to that class of churns wherein the churn body or barrel is made to revolve upon a suitable axis, its end being closed by a removable cover resting upon a metallic open ring-head, which is confined by the barrel-staves in a practically permanent position, and which carries the hooks or catch-ears for engagement of the locking-levers upon the churn-cover.

From the nature of the invention, as herein after explained, it will be apparent that its principal features may likewise be employed in connection with similar open rings intended to support covers other than those exclusively used upon churns.

Heretofore in these barrel-churns, and in similarly-covered barrels, it has been common to employ a cover which carries the locking contrivance, the levers or projections or locking-arms of which engage with ears or hooks formed upon the open metallic ring-head, and it has been common to cast these ears or hooks in one piece with the ring. This method of manufacture requires (as will be readily understood) the employment of sand cores to form the hooks or the openings in the catch-ears. These cores are made of sand and flour moistened with water, which mixture is molded into the proper shape in a suitable mold, and then baked in an oven. In these there is more or less shrinkage, according to the quantity of water in the mixture, and the unequal variations in the cores render it practically impossible to secure uniformity in height of the locking-surfaces of the hooks or ears against which the locking-levers must abut, so that when applied the locking-levers do not have a uniform bearing, and consequently there results great difficulty in securing a tight joint between the cover and the open ring.

To avoid these difficulties, to secure a uniform bearing for the locking-levers, and to sim-

plify the manufacture of the ring-head and its attached hooks or ears, are among the principal objects of my invention; and to accomplish these objects the invention involves certain novel and useful combinations or arrangements of parts and peculiarities of construction, which will be hereinafter first fully described, and then pointed out in the claims.

In the drawings, Figure 1 is a sectional elevation of a churn of the general class to which my improvements are specially applicable, showing the metallic ring-head with the hooks or ears applied in accordance with my invention. Fig. 2 is a perspective view, showing the general form of the two parts of the catch-ears or hooks, the two parts being separated from each other and unconnected with the ring-head. Fig. 3 is an elongated sectional view of a portion of the ring-head with the two parts of the catch-ear or hook applied thereon in accordance with the principles of my invention; and Fig. 4 is an elevation or face view of the improved catch-ear, the same being detached from the ring-head.

Like letters of reference, wherever they occur, indicate corresponding parts in all the figures.

A is the churn or revolving barrel, mounted upon a stand in the usual way.

B is the detachable cover, held in place upon the open metallic ring-head C by means of the locking-levers D, made to engage with the catch-ears or hooks b, attached to the ring-head. The peculiar means of operating the locking-levers are no essential part of the present invention, since they may be operated in a variety of ways, so long as they are made to engage with the hooks or ears.

I have shown in the drawings an arrangement of levers and operating devices constructed in accordance with my patent of May 18, 1880, No. 227,856, simply to illustrate one means in connection with which my improvements may be advantageously adopted, but without any intention of limiting my invention to use with that particular arrangement.

In accordance with my invention the catch-ears or hooks are made of two separate parts, a and b, preferably of malleable iron. The part a is dovetailed at y at its base, so that when the ring C is cast upon it the two will



be firmly united. A variety of ways might be suggested for uniting *a* with C; but two methods are sufficient for the present description. The part *a* may be connected with the pattern for the ring-head in such manner that the pattern may be easily detached. Being attached, the molding-sand is carefully rammed around all, the flask inverted, and the pattern for the ring-head withdrawn, leaving the parts *a* of the hooks or ears in their proper positions. The molding is then accomplished in the usual way adopted in similar instances; or "prints" may be attached to the pattern for ring-head C, which print will, upon being withdrawn from the mold, leave cavities suitable for the reception of the parts *a*. Into these cavities the parts *a* are inserted and the ring C molded upon them, as will be readily understood; but whatever may be the details of casting C upon *a*, it is apparent that when so cast the parts *a* will form immovable base-pieces, to which the hooks *b* may be attached, and these hooks being previously formed, they may be mounted upon their bases without perceptible or practical variation in their heights above the ring-head. The parts *a* have each a solid stud, *c*, calculated to pass through a corresponding opening in *b*, and they are also recessed on each side, as at *d*, to receive the projecting side pieces, *e*, upon the part *b*. The ring-head comes from the mold with the bases of the hooks all in proper position, and all that remains to be done is to attach the upper parts. This is accomplished by simply uniting them, as indicated at Fig. 3, and riveting or battering down the head of the stud *c*, as plainly shown. The stud and the side projections hold the two parts firmly in position against lateral as well as vertical disarrangement, and the locking-surfaces on the series of hooks are of uniform height, so that the bearings of the locking-levers are in correct position.

I prefer to use but three hooks on each ring-head, although any desirable number may be employed.

Instead of the open hook, as shown in the drawings, the part *b* might carry an eye or closed ring for the reception of the locking-levers in case they are made adjustable in the direction of their length, as in several forms of locking devices, and as is well understood.

The construction indicated is simple, cheap, and effective, and it enables me to produce a ring-head in which the hooks or ears are uniformly disposed, thus avoiding the fitting nec-

essary to secure a close locking of the cover, as in the case of the hooks or ears, which are cast, as heretofore, in one piece with the rings. This fitting is a matter of considerable trouble and expense to the manufacturer, and it is accomplished only with respect to the particular cover intended to be used; and frequently, if the cover be fitted in one position, in another position it may be entirely out of adjustment, and therefore incapable of use. With the ears or hooks accurately adjusted in the first instance, they are in condition to receive and hold the locking-levers, however the cover may be turned, and they are, moreover, in condition to hold one cover as well as another. Of course, the same results might be accomplished by making the hooks or ears in three or more parts; but the two parts, as shown, are amply sufficient for the purposes intended.

Having now fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A metallic ring-head having stationary catch-ears or hooks projecting therefrom, said catch-ears or hooks being composed of separate parts and adapted to receive a cover-fastening attached to a removable cover, substantially as set forth.

2. In combination with the open ring-head, the base-pieces of the hooks or catch-ears secured therein, substantially as set forth, and the hooks or ears mounted and secured upon the base-pieces, substantially as and for the purposes explained.

3. The combination, with the hook having the perforation and projecting side pieces, of the base-piece, recessed as explained, and carrying the projecting stud, by which the two parts are riveted, substantially as shown and described.

4. The combination of base-piece *a*, having recesses, projecting stud, and dovetail, the open ring-head C cast thereon, and the hook or ear piece *b*, having projecting side pieces and perforation receiving the stud, the several parts being united and arranged substantially as and for the purposes set forth.

In testimony that I claim the foregoing I have hereunto set my hand in the presence of two witnesses.

MARVIN O. STODDARD.

Witnesses:

M. CLARKE,  
E. CLARKE.