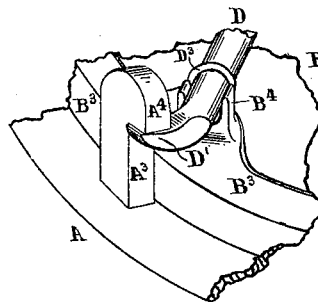
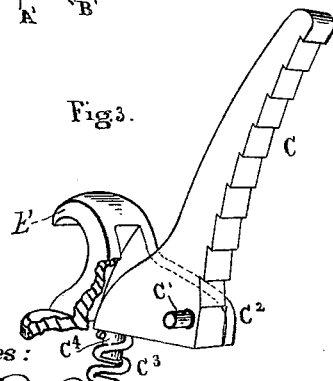
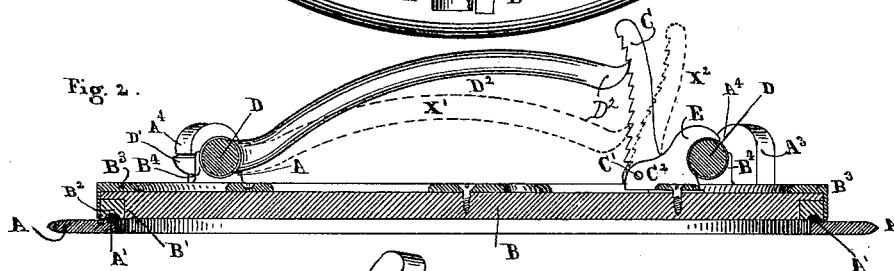
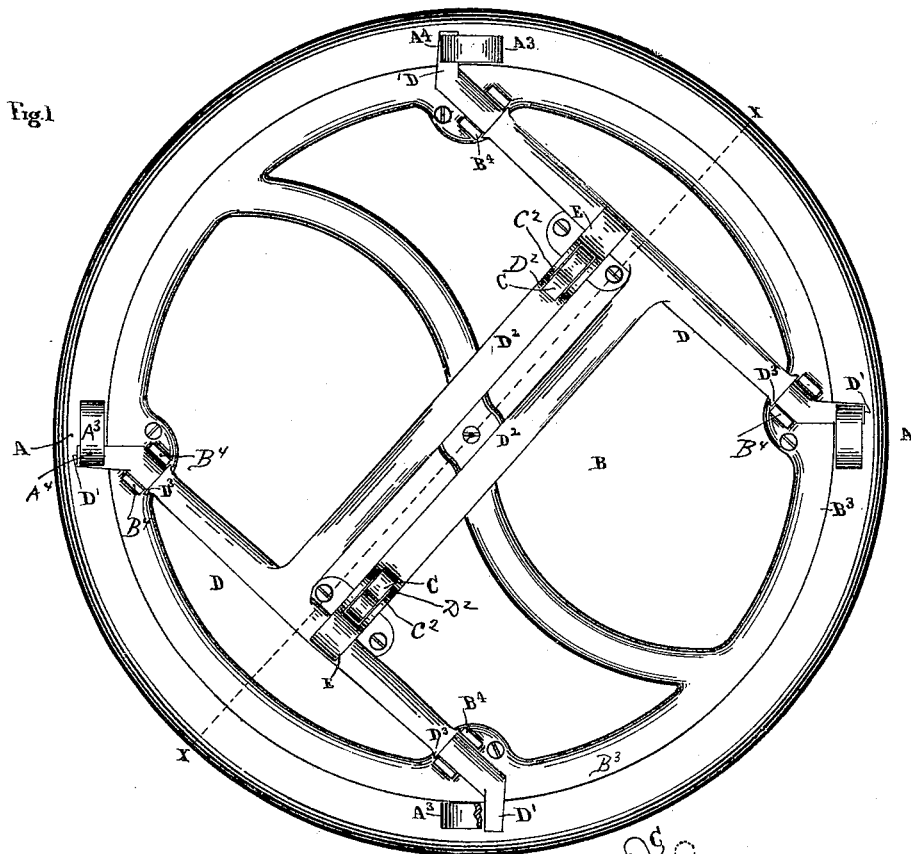


(No Model.)

E. P. BRYDEN.  
CLOSURE FOR CHURNS.

No. 386,106.

Patented July 17, 1888.



Witnesses:  
C. T. Downing.  
W. H. Myers.

Inventor:  
Elisha P. Bryden.  
per  
L. L. Morrison,  
Att'y.

# UNITED STATES PATENT OFFICE.

ELISHA P. BRYDEN, OF ROCKFORD, ILLINOIS.

## CLOSURE FOR CHURNS.

SPECIFICATION forming part of Letters Patent No. 386,106, dated July 17, 1888.

Application filed May 1, 1888. Serial No. 272,522. (No model.)

*To all whom it may concern:*

Be it known that I, ELISHA P. BRYDEN, a citizen of the United States, residing at Rockford, in the county of Winnebago and State of Illinois, have invented a certain new and useful Improvement in Closures for Revolving Barrel-Churns, of which the following is a specification.

The object of this invention is to provide an improved means of securing covers to barrel-churns; and it consists of certain new and useful constructions and combinations of parts, hereinafter described, and pointed out in the claims.

Referring to the accompanying drawings, which form a part of this specification, Figure 1 is a plan view of my improved churn-cover. Fig. 2 is a view of a vertical section of the same through the dotted line X X of Fig. 1. Figs. 3 and 4 are isometric views in detail of portions of the churn-cover shown in Figs. 1 and 2.

Like letters of reference indicate corresponding parts throughout the several views.

A is a ring-head, having the periphery thereof beveled to adapt the same to enter the croze of a churn. (Not shown.)

A' is an annular flange projecting from the upper side of the ring-head A, which has a circular opening therein of the same diameter as the inside of the annular flange A'.

A<sup>3</sup> represents studs projecting from the upper side of the ring-head A, and provided with outwardly-projecting retaining-lugs A<sup>4</sup>.

The parts just described are immovable and preferably integral.

B is a disk-head and forms the basis of the cover of the churn.

B' is a semi-rectangular groove in the periphery of the disk-head B, containing cork or other suitable elastic packing, B<sup>2</sup>, which engages with the annular flange A' of the ring-head A.

B<sup>3</sup> is a metallic casing, that entirely incloses the periphery and upper peripheral angle of the disk-head B.

B<sup>4</sup> represents lower rock-shaft bearings, which project upward from the casing B<sup>3</sup>, and are preferably integral therewith.

C is a ratch, hinge-jointed upon the pintle C', between the lugs C<sup>2</sup>, and actuated by means of the spring C<sup>3</sup>, which is coiled about the spur C<sup>4</sup>, both spring and spur being contained in a recess (not shown) in the top of the disk-head B.

D represents rock-shafts provided with outwardly-projecting cams D', adapted to engage with the retaining-lugs A<sup>4</sup> of the studs A<sup>3</sup>, and the inwardly-projecting detents D<sup>2</sup>, arranged and adapted to engage endwise with the ratches C. The rock-shafts D are mounted in the bearings B<sup>4</sup>, and are prevented from moving whenever the rock-shafts are rocked by means of the shoulders D<sup>3</sup>. The rock-shafts D are retained in the bearings B<sup>4</sup> by means of the upper rock shaft bearings, E, which are secured to the disk-head B and furnish supports for the lugs C<sup>2</sup>, being integral with the same.

After the cover has been placed over the opening A<sup>2</sup> in the ring-head, turn the former until the cams D' pass under the lugs A<sup>4</sup>. Then press the detents D<sup>2</sup> downward along the ratches C, as indicated by the dotted lines X', until the packing B<sup>2</sup> of the cover forms a tight joint with the flange A' of the ring-head A. When it is desired to remove the cover, press back the ratches C, as indicated by the dotted lines X<sup>2</sup>, and raise the detents D<sup>2</sup>. Afterward disengage the cams D' from the lugs A<sup>4</sup> by turning the cover until the cams pass from under the same.

I claim—

1. In combination, the disk-head, the ratches, the rock-shafts provided with outwardly-projecting cams adapted to engage with retaining-lugs projecting from the end of a churn, and inwardly-projecting detents arranged and adapted to engage endwise with the ratches, and suitable bearings for attaching and supporting the same in operative position and relation.

2. In combination, the ring-head adapted to be peripherally seated in the croze of a churn and provided with upwardly-projecting studs, the latter being furnished with retaining-lugs, a disk-head with the ratches and upper rock-shaft bearing mounted thereon, the peripheral casing of the disk-head having lower rock-shaft bearings projecting upward therefrom, and the rock-shafts provided with outwardly-projecting cams adapted to engage with said retaining-lugs, and inwardly-projecting detents arranged and adapted to engage with said ratches, substantially as described, and for the purpose set forth.

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Witnesses:

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