

J. McDERMAID.

LOCKING ATTACHMENT FOR CHURN HEADS.

No. 459,145.

Patented Sept. 8, 1891.

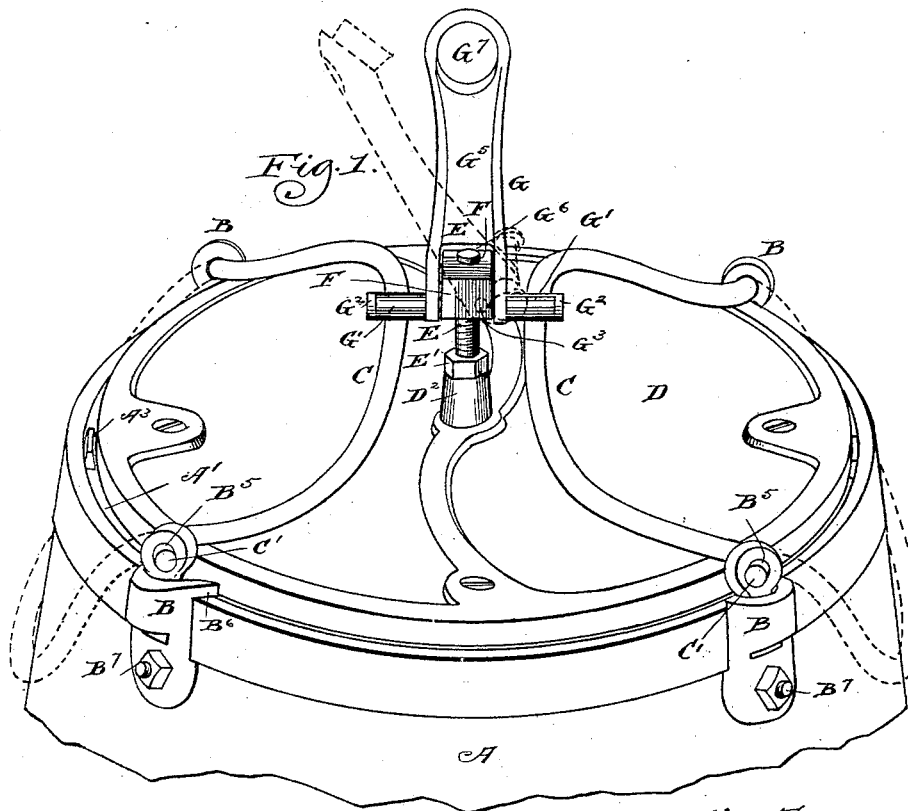


Fig. 6.

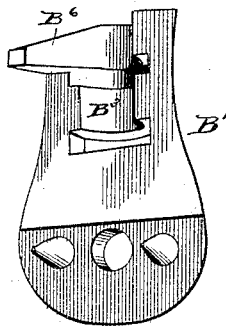


Fig. 7.

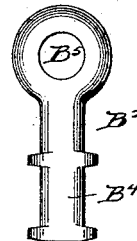
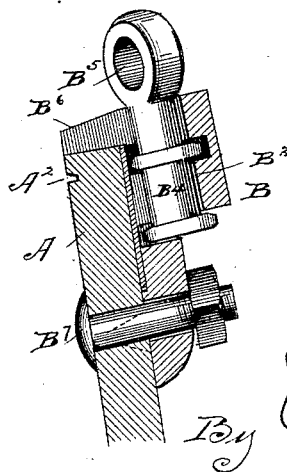


Fig. 5.



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Fig. 2.

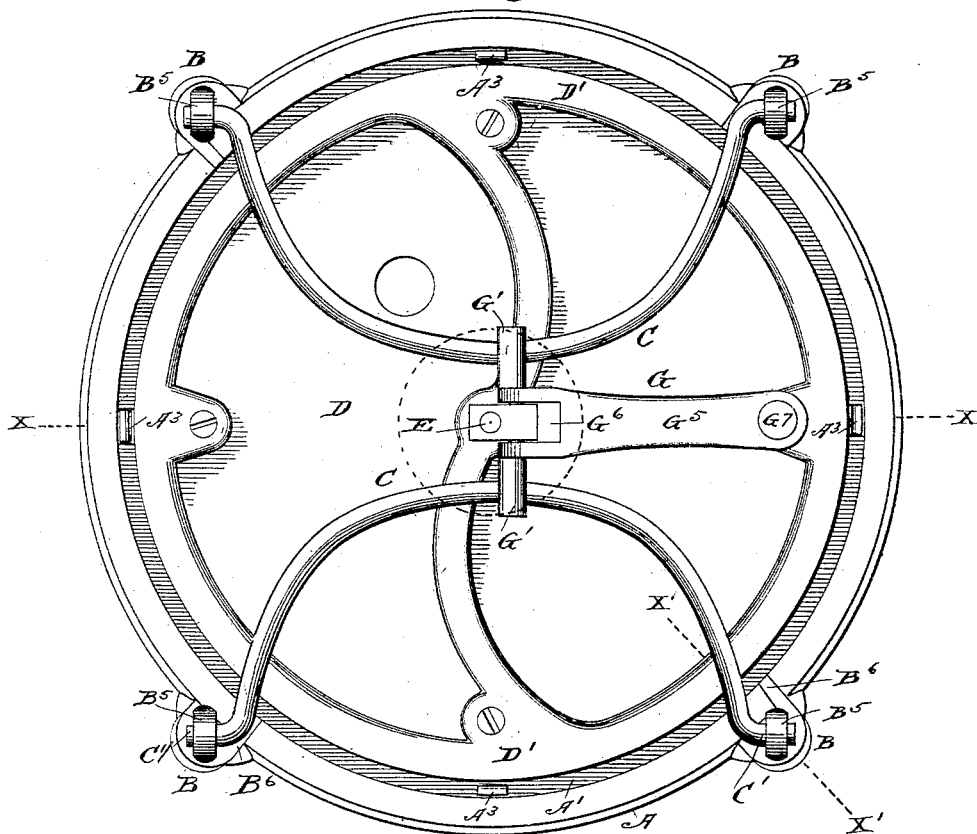
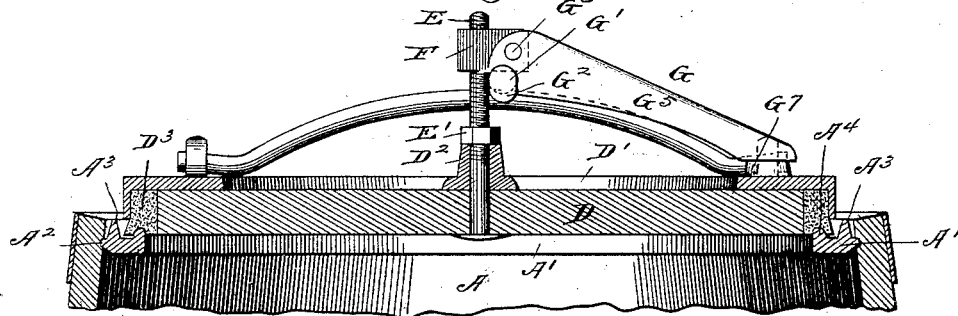
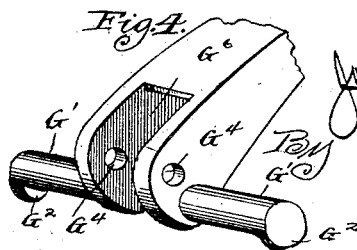


Fig. 3.



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Fig. 4.



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UNITED STATES PATENT OFFICE.

JOHN McDERMAID, OF ROCKFORD, ILLINOIS.

LOCKING ATTACHMENT FOR CHURN-HEADS.

SPECIFICATION forming part of Letters Patent No. 459,145, dated September 8, 1891.

Application filed December 23, 1890. Serial No. 375,635. (No model.)

To all whom it may concern:

Be it known that I, JOHN McDERMAID, a citizen of the United States, residing at Rockford, in the county of Winnebago and State of Illinois, have invented certain new and useful Improvements in Churns, of which the following is a specification.

This invention relates to improved ears for connecting cover-fastening bails with churns.

This invention also relates to improved lever-cams for locking such bails for the purpose of securing the covers of churns thereto when in use.

This invention consists of certain new and useful features of construction 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 top isometric view of the upper portion of a churn provided with my improvements. Fig. 2 is a top plan view of the same. Fig. 3 is a view of the parts shown in the foregoing views, partially in vertical section, at the dotted line X X in Fig. 2, partially in elevation. Fig. 4 is an isometric view in detail of a portion of the lever-cam shown in the preceding views. Fig. 5 is a vertical section, at the dotted line X' X' in Fig. 2, of the body portion of one of my improved ears and a fragment of the churn whereto it is secured, parts being shown in section. Fig. 6 is an isometric view of the ears, looking at the side thereof that is in contact with the churn when it is secured thereto. Fig. 7 is a view of the shank-eye of an ear detached from its socket connection therewith.

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

A is a churn.

A' is a ring-head seated in a croze A² therein and provided with cover guide-lugs A³ and an annular bead A⁴, projecting from the upper side thereof.

B is an ear consisting, essentially, of a body portion B' and a separable shank-eye B², adapted to be securely connected therewith by being mounted in or upon the same. I prefer to construct the ear B in the following manner: The body portion B' thereof is provided with a recess or socket B³, adapted to admit and engage with the counterpart shank

portion B⁴ of the shank-eye B², as shown in Fig. 5. I also prefer to have the shank-eyes B² swiveled to the parts B', as shown in the last-mentioned figure, in order to secure the most satisfactory results; but if the eyes B² therein are of sufficient diameter they will operate successfully, even though their connection with the parts B' be rigid. I also further prefer to provide the upper ends of the parts B' with stay-lugs B⁶, which prevent the same from working loose laterally.

B⁷ are bolts for securing the ears B to the churn A.

The ears heretofore used for connecting bails C with churns have been cast in a single piece and have afterward had holes corresponding to the eyes B⁵ of the ears B drilled in the upper ends thereof to receive the ends C' of the bails. The eyes B⁵ of my improved ears are cast therein, the expense of drilling four bail holes or eyes in the ears of each churn made being thereby saved. Moreover, if any of the holes should not happen to be drilled at just about the right angle with its ear, in the old style of ears, or the ends C' of the bails should chance to be bent at too slight or too great an angle, the ears would bind the bails so that they would not swing freely therein. When my improved ears are used, it does not matter whether the ends C' of the bails are all bent at the same angle or not. In fact, the ends C' may all be bent at different angles and yet the bails C will swing freely in the ears B⁵, the swivel-joints between the parts B' B² permitting the latter to nicely adjust themselves to accommodate the ends C' of the bails C in any position that they may be made to assume, and, as has already been stated, freedom of motion may be less satisfactorily obtained for the bails C by making the eyes B⁵ so large as to permit them to swing therein without being bound thereby, and substituting fixed for swiveled connection between the parts B' B²; but the construction already designated as preferred will obviously be found to be superior to the equivalent form suggested.

D is a churn-cover provided with the usual skeleton casing B', the latter having a vertical tubular stud D² centrally mounted thereon and annular packing of cork D³ to engage with the ring-head A' of the churn.

E is a fulcrum-supporting bolt passed through the cover D and the tubular stud D², and is secured in position therein by means of the set-nut E'.

5 F is a fulcrum having a threaded passage extending vertically therethrough to adapt it to engage with the threaded portion of the bolt E to form a vertical and adjustable swivel-joint therewith for the former to re-
10 volve upon.

G is a lever-cam consisting of the cam G', provided with the downwardly-projecting lugs G² to prevent the same from being disengaged from the bails C while securing the cover on
15 the churn by being revolved, as indicated by the dotted circle in Fig. 2, pivoted to the swiveled fulcrum F by means of the horizontal pivot G³ and openings G⁴ in the cam G', and the lever G⁵ integral therewith for
20 operating the same. The cam G' is divided by a vertical cleft G⁶ therein, which admits the fulcrum F, whereto it is pivoted, and embraces the set-nut E', thereby preventing said
25 nut from working loose and also serving as a wrench to remove and replace the same when desired.

G⁷ is a cork stop inserted into a suitable socket in the lever G⁵ to prevent the latter from marring the cover.

30 To take up the slack between the bails and cam or the wear of any of the parts composing the fastening mechanism, elevate the lever to a vertical position and revolve it and the fulcrum whereto it is swiveled upon the
35 bolt E, as indicated by the dotted circle in Fig. 2, until the slack or wear is taken up.

To release the churn-cover, lift the free end of the lever-cam to the position shown and revolve it to the position indicated in Fig. 1.
40 Then swing the bails outward.

The cover guide-lugs A³ will be found to be

highly useful for guiding the cover onto the churn in such a manner that only the middle portion of the lower surface of the ring of cork D³ can come in contact with the annular
45 bead A⁴ of the ring-head A', as a liquid-tight joint between the cover and churn is thereby positively assured—a condition attained with difficulty when the ring of cork is placed upon the bead of the ring-head in such a manner
50 as not to be concentric therewith.

I claim—

1. A churn-ear consisting of a body having an open-sided longitudinal slot peripherally grooved on the closed side, and an eyebolt
55 constructed to enter said slot and having a peripheral flange which engages the groove, whereby the eyebolt is rotatably held in the body, substantially as and for the purpose
60 set forth.

2. In combination, the churn, the ring-head seated in a croze therein, the ears secured thereto, the bails pivoted to the ears, the cover adapted to fit the ring-head, and the lever-cam provided with downwardly-projecting
65 lugs G² and pivoted to the swiveled fulcrum F, substantially as and for the purpose specified.

3. In combination, the churn, the ring-head seated in a croze therein and having cover
70 guide-lugs A³ projecting from the upper side thereof, the ears secured thereto, the bails pivoted to the ears, the cover adapted to fit the ring-head, the fulcrum swiveled to a bearing on the cover, and the lever-cam provided
75 with the downwardly-projecting lug G², substantially as and for the purpose specified.

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Witnesses:

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