(Model.)

H. BROWN & A. BUSHNELL.

CHURN.

No. 332,485. Patented Dec. 15, 1885.

Fig. 1.

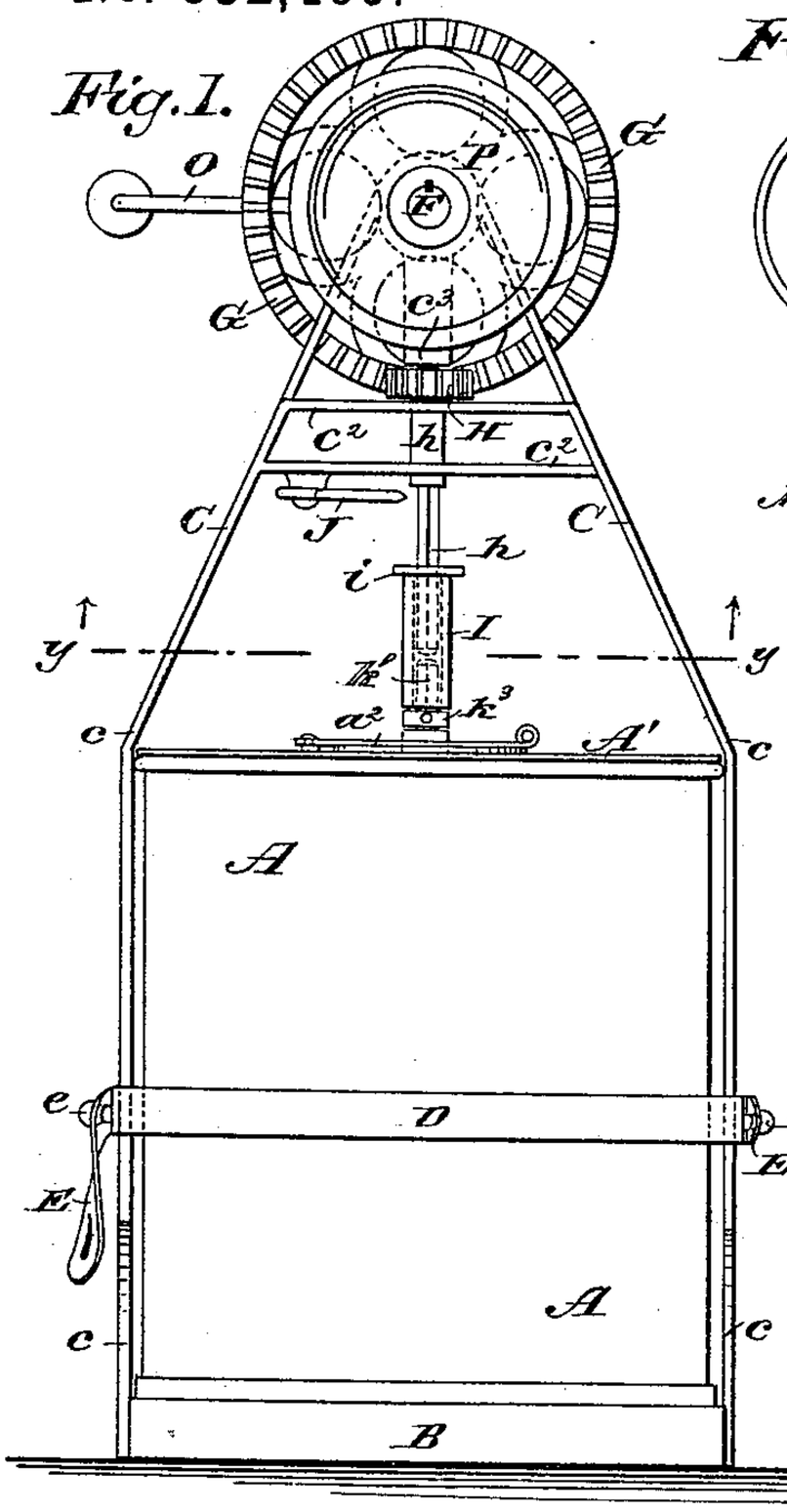


Fig. 4.

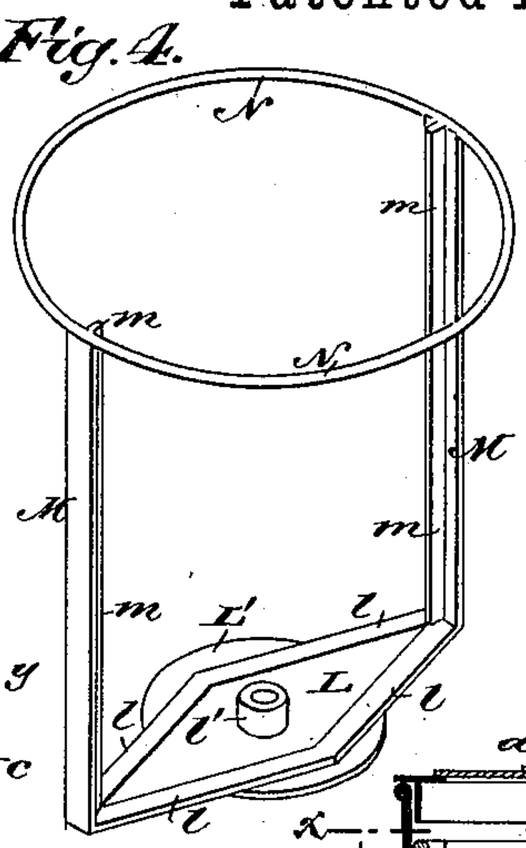


Fig. 2.

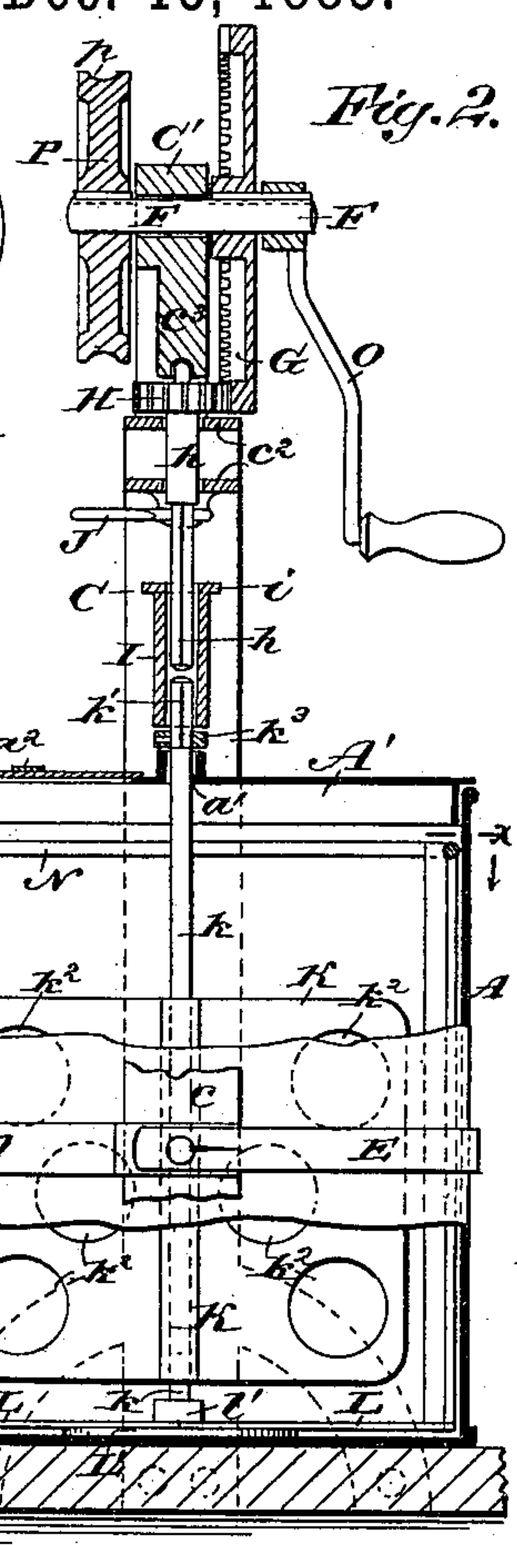


Fig. 3.

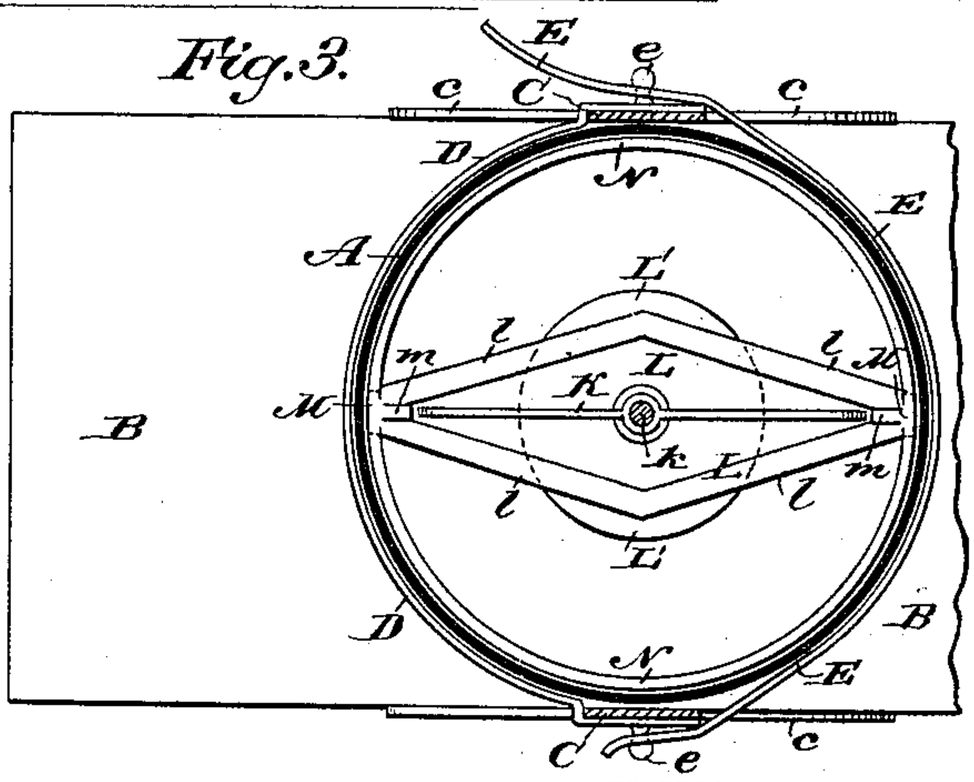
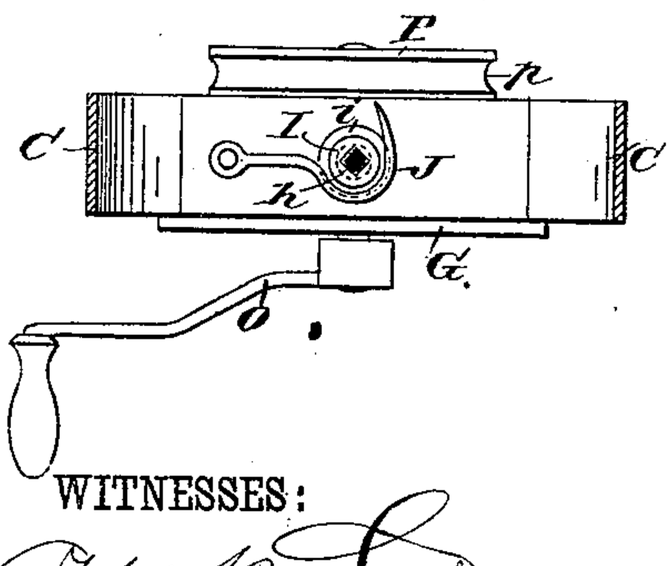


Fig. 5.



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HENRY BROWN AND ANDREW BUSHNELL, OF LAMAR, MISSOURI.

CHURN.

SPECIFICATION forming part of Letters Patent No. 332,485, dated December 15, 1885.

Application filed May 11, 1885. Serial No. 165,075. (Model.)

To all whom it may concern:

Be it known that we, HENRY BROWN and ANDREW BUSHNELL, of Lamar, in the county of Barton and State of Missouri, have invented a new and Improved Churn, of which the following is a full, clear, and exact description.

Our invention relates to churns, and has for its object to promote rapid formation of the butter and to facilitate the gathering of the butter, and also to provide for the easy cleaning of the parts of the churn.

The invention consists in the construction and arrangement of parts, as will be hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a front elevation of our improved churn. Fig. 2 is mainly a vertical elevation taken at right angles to Fig. 1, and with the churn-body and its fastenings shown partly in side elevation. Fig. 3 is a plan view in horizontal section on the line *x x*, Fig. 2. Fig. 4 is a perspective view of the interior-ribbed frame removed from the churn-body, and Fig. 5 is an inverted plan view taken on the line *y y*, Fig. 1.

The letter A indicates the churn body, which rests on a base, B, between the side posts, *c c*, of a frame, C, and against a semicircular metal strap or plate, D, which is fastened to the posts *c c*, and a leather or other flexible strap, E, having end slits or button-holes, is fastened by these slits over the buttons or knobs *e e*, fixed one to each side post, *c*, so that the straps D E together form a band encircling the churn-body and holding it in place on the base B. The frame-posts *c c* are fixed at their lower broadened or braced ends to the edges of the base B, and from points directly over the cover A′ of the churn-body the side posts converge upward some little distance to a top bearing, C′, of the frame, in which bearing is journaled the horizontal shaft F, to which is fixed the crown gear-wheel G, which meshes with a pinion, H, on a short vertical shaft, *h*, which has its bearings in a couple of cross-bars, c^2 c^2, connected to the frame side posts, *c c*, and the upper end of the shaft *h* has a bearing in a recess of a projection, c^3, pendent from the upper bearing, C′. The lower part of shaft is squared or otherwise angularly formed to enter and fit a hole formed in a sleeve, I, which has an upper lip or flange, *i*, beneath which the hook J, pivoted to one of the cross-bars c^2, may be swung, so as to hold the sleeve upon the shaft *h* when the sleeve is raised from the squared or angularly-shaped end *k′* of the shaft *k* of the dasher K, to permit removal of the dasher, as presently explained.

We make the dasher of a plate of metal, or it may be wood, centrally fixed to the shaft *k*, so as to form opposite wing-blades, which are perforated, as at k^2, so as to more thoroughly agitate the cream in the churn-body when the dasher is revolved. Near its upper end, *k′*, the dasher-shaft has formed on or fixed to it the collar k^3, on which the sleeve I rests when the sleeve is lowered to engage the shaft, and the shaft passes through a hole, *a′*, in the churn-body cover A′, and at its lower end is journaled in a step-bearing or box, *l′*, which is a collar fixed to the bottom plate of a ribbed frame, (shown clearly in Fig. 4,) which frame serves both as a cream-agitator and butter-gatherer. We show the bottom or base plate, L, of this frame made diamond shape, and with bent-over edges-stiffening flanges *l l*, and with a round sheet-metal plate, L′, fixed to its under side. The flanges *l l* are formed by bending the edges of plate L up and over on the body of the plate to strengthen said edges. To the ends of the plate L are fixed the upright bars or posts M M, the tops of which are connected to a ring, N, which loosely fits the interior or side walls of the churn-body A. From the inner faces of the opposite posts M M project the flanges *m m*, which reach nearly to the opposite side edges of the dasher K as it revolves, and it is these flanges *m* which, by offering resistance to the sidewise or centrifugal currents of cream induced by the dasher, constitute the frame L M M an agitator to assist the dasher in breaking up the globules of the liquid and bringing the butter quickly. When the dasher has been worked long enough by the gearing above described, the sleeve I will be lifted from the end *k′* of the dasher-shaft, and will be held up by engaging the hook J with it. The strap E then will be unbuttoned, and the churn-body will be drawn from under the gearing and frame C, so that its cover may be removed, and when the cover is removed

the dasher K *k* will be lifted from the churn-body, and the frame L M N, on which the butter globules had gathered to some extent, may be used to gather and remove the butter from the churn-body, the ring N then serving as a handle to the frame. A large amount of butter would naturally settle on the plate L, and the plate could be turned to bring it under the floating butter, so that when the frame is raised the butter could be readily removed thereby.

A lid, a^2, pivoted to the cover A′ over an opening therein, may be swung to one side at any time to inspect the contents of the churn.

A crank, O, fixed to shaft F, may be turned by hand to operate the dasher, the wheel P, at the other end of the shaft, serving as a balance-wheel, and we make a peripheral groove, *p*, in the wheel P, so that a belt from an animal-power or other motor may be placed on it for operating the churn in this way when it may be desired to do so.

It is evident that the churn-body cover A′, the dasher K *k*, and the frame L M N may all be removed from the churn-body, so that all the parts may quickly and thoroughly be cleaned when the churning is finished.

The churn-body A, its cover A′, the dasher K *k*, and frame L M N will preferably be made of metal, galvanized for protection against corrosion; but wood or any other suitable material may be employed.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a churn, the agitating and butter-gathering frame herein described, the same consisting of the top ring, N, the ribbed side pieces, M M, depending from said ring, the plate L, connecting the lower ends of the bars, the plate L′ on the under side of the plate L, and the step-bearing *l′*, substantially as set forth.

2. The churn herein shown and described, the same consisting in the vessel A, top A′, vertical frame-posts *c c*, bent inward at their upper ends, bearing-block *c′*, connecting said upper ends, cross-pieces c^2 c^2, the journal F, carrying the crown-gear G, the shaft *h*, having bearings in the cross-pieces and extending to a point near the top A′, pinion H on said shaft, the flanged connecting-sleeve I *i* on the lower end of the shaft, the hook J, pivoted to the cross-piece c^2 to engage the flange *i* of the sleeve, and the dasher-shaft extending up through the top of the churn adjacent to the end of the shaft *h*, all combined and arranged substantially as set forth.

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