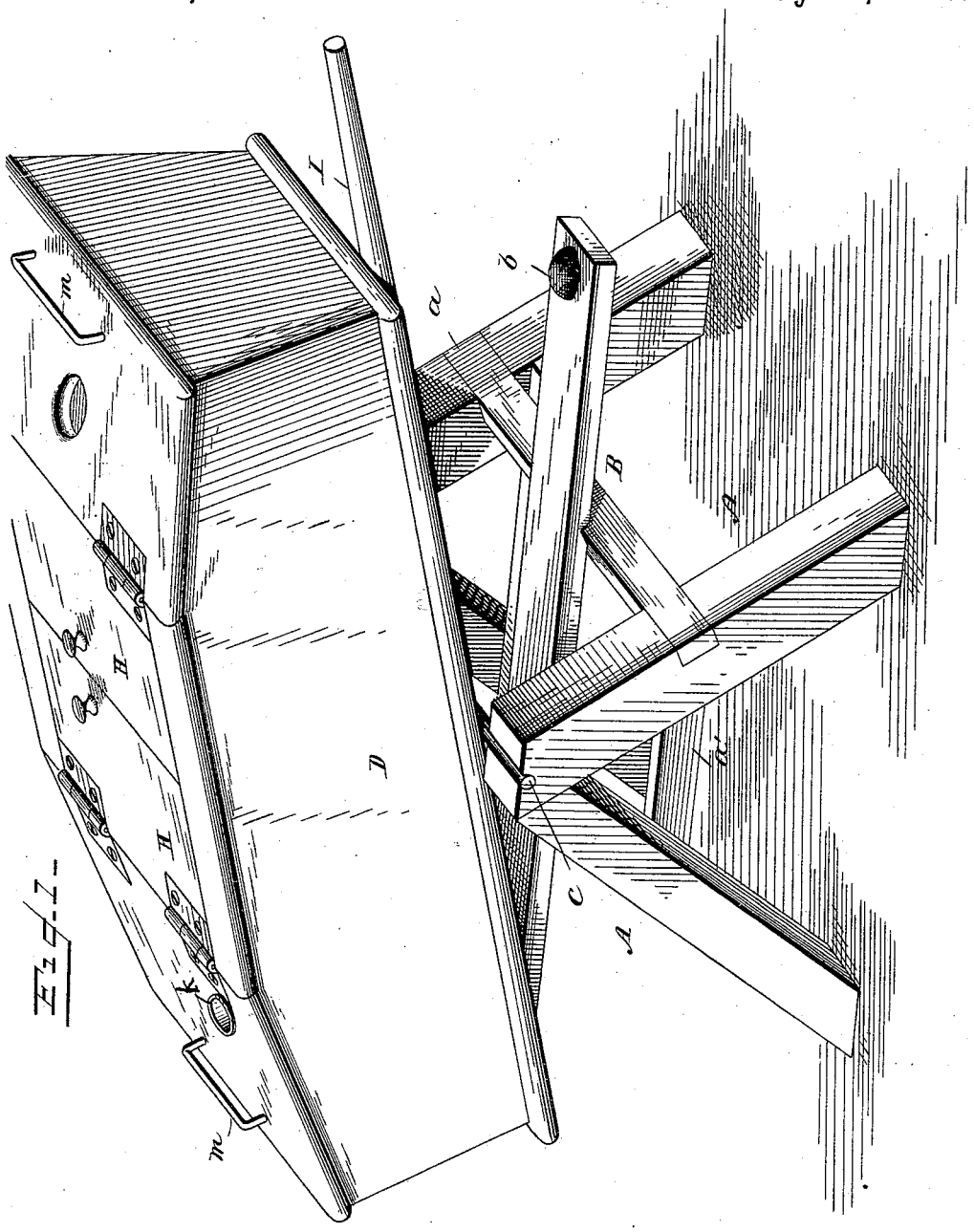
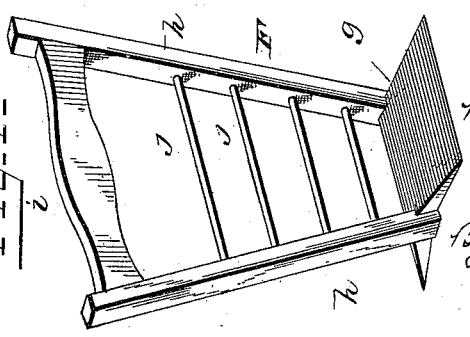
(No Model.) 2 Sheets—Sheet 1.

R. L. WRIGHT.

CHURN.

No. 342,770. Patented May 25, 1886.





WITNESSES

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(No Model.) 2 Sheets—Sheet 2.

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Fig. 2.

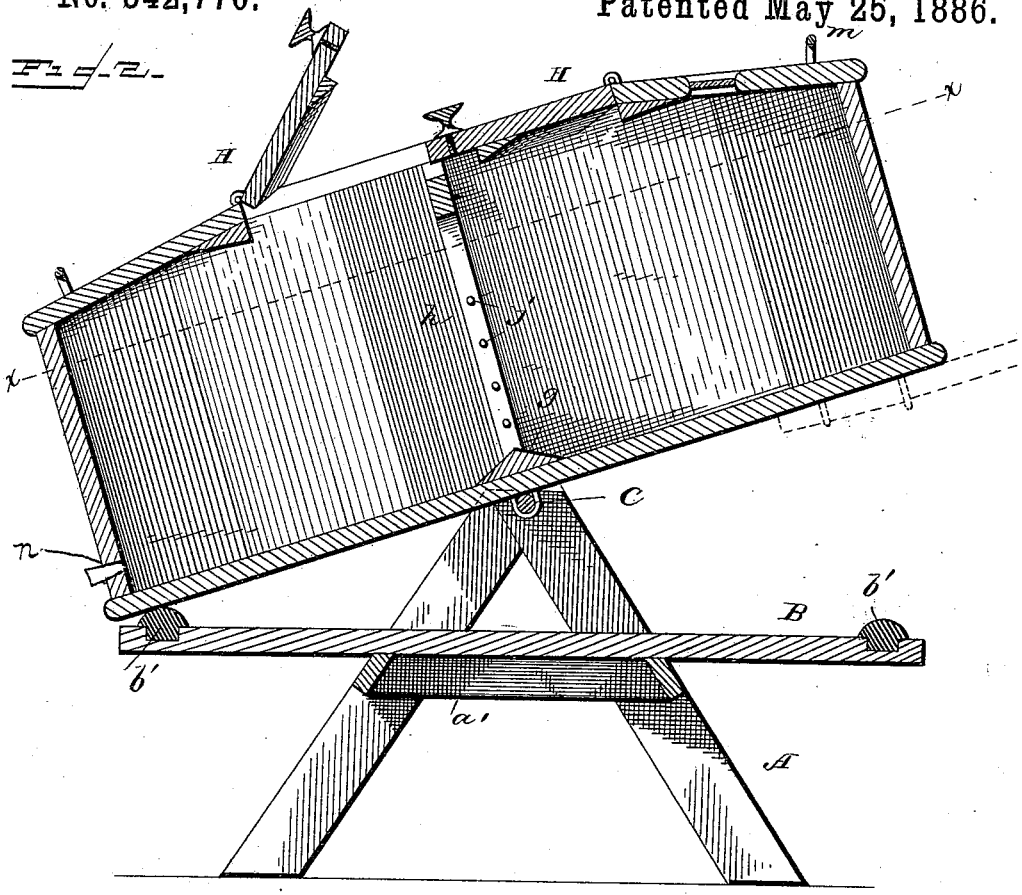


Fig. 3.

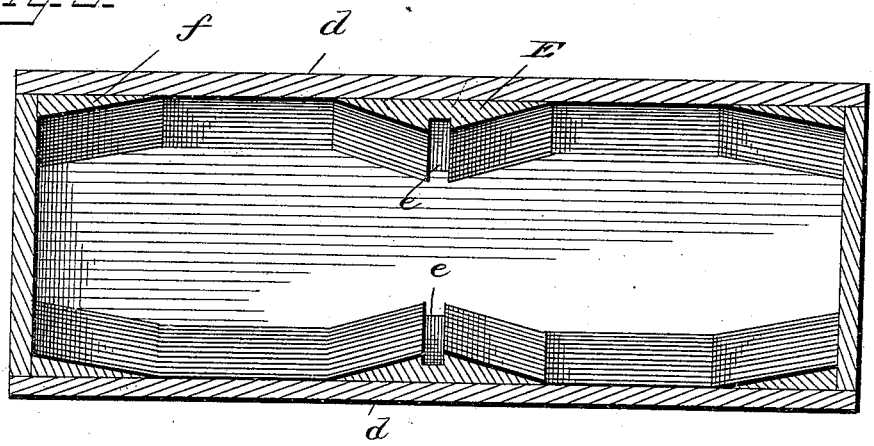
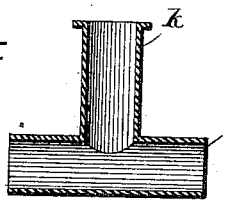


Fig. 5.



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UNITED STATES PATENT OFFICE.

RICHMOND L. WRIGHT, OF QUASQUETON, IOWA.

CHURN.

SPECIFICATION forming part of Letters Patent No. 342,770, dated May 25, 1886.

Application filed February 11, 1886. Serial No. 191,585. (No model.)

To all whom it may concern:

Be it known that I, RICHMOND L. WRIGHT, a citizen of the United States of America, residing at Quasqueton, in the county of Buchanan and State of Iowa, have invented certain new and useful Improvements in Churns; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

My invention has reference to churns; and it consists in the improved construction hereinafter described and set forth, whereby a cheap, durable, and effective churn is provided.

In the accompanying drawings, forming part of this specification, Figure 1 is a perspective view of a churn embodying my improvements. Fig. 2 is a longitudinal sectional view, the parts being in the position represented in Fig. 1. Fig. 3 is a sectional plan view of the body. Fig. 4 is a detail perspective view of the breaking device, which is located in the body; and Fig. 5 is a sectional detail view of the ventilating-tube.

The churn proper is mounted upon a support consisting of diverging legs A A, which are secured and braced relatively to each other by means of bars *a a'*. B designates a beam, which extends horizontally across the bars *a a*, and is secured thereto, and is provided adjacent to each end, upon its upper face, with springs *b' b'*. The upper face of the converging feet A A is recessed transversely, to present bearings for a rod, C, which is secured transversely on the under side of the churn-body D, and presents a central pivotal support for said body. As represented in Figs. 1, 2, and 3, it will be observed that the said body D is rectangular in form, but is interiorly arranged as shown most clearly in Fig. 3. By reference to said figure it will be noted that the sides *d d* of the body are inclined downwardly toward each other, and are each provided centrally on its inner side with a tapering inclined block, E, which is centrally grooved, as indicated by *e*. In addition to the block E, each side portion *d* is provided at each end with a tapering inclined block, *f*, which is reduced or tapers in the direction of the center of the churn-body.

F, Fig. 4, refers to a device designed to be located transversely in the center of the churn-body, so as to partially obstruct or resist the movement of the liquid from one end of the body to the other, resulting from the vibration of the churn-body, and serves to break up or separate the cream globules. The said breaking device F consists of a tapering base portion, *g*, in which are mounted two vertically-diverging bars, *h h*, which are connected at their upper ends by a transverse brace, *i*, and between said base and the brace by a series of transverse parallel rods, *j j*.

The breaking device F is located in position by being passed downward into the body until its base is within a short distance from the bottom of the same, at which time it is necessary to insert the bars *h h* into the grooves *e e*, to complete the downward movement of said device, and by the time the base *g* contacts with the bottom of the body the standard *h h* will be so located within the grooves *e e* as to firmly hold the device F against lateral movement. Access to the interior of the body may be had by means of two hinged door-sections, H H.

The top of the body is provided at one end with a glass panel, by which the liquid contents of the vessel may be inspected without opening the doors, and the said body is provided near the other end with a pipe or tube, *k*, which establishes communication with the atmosphere and the interior of the churn through a horizontal branch, *l*.

The body may be lifted from its pivotal bearing on the support by means of handles *m m*, located in the top of the body, near each end thereof.

In practice the milk is introduced into the body either after or before the same is placed upon the support. The said body is then vibrated upon its pivotal bearings through the agency of a handle, I. As each end of the churn-body descends, it contacts with the spring *b'* below, thereby preventing any injurious jar or strain upon the parts, and securing the benefit of the rebounding action of the

spring and bar to which the springs are attached.

As before explained, the device F acts to break up or separate the globules. The action of the inclined sides *d* and inclined faces of the blocks *e f f* is to retard or impede to some degree the movement of the milk against the side of the body, and thus increase the splashing in the body. The opening *n* is for drawing off the butter-milk after the churning is completed.

By providing the tubes *k k* with a horizontal section, *l*, a proper ventilation of the contents of the body is maintained, while the escape of the milk through the tubes *k k* is prevented.

It will be understood that as the butter particles rise in the cream they are subjected to a violent agitation in consequence of the counter-currents of cream created below by the blocks E *f*.

I claim—

1. The combination, in a churn, of a support, an elongated body having contracted sides and removably pivoted on said support to be oscillated on said pivots, said body being provided on its inner sides at its center and ends with vertical blocks E *f f*, forming alternate projections and recesses, substantially as set forth.

2. The combination, with a churn-support consisting of converging legs A A, recessed at their top, and a bar, B, having springs *b' b'*, of a churn-body provided with a rod to enter said bearings and having contracted sides, and vertical blocks E *f f*, and removable central breaking device, F, adapted to form a rigid obstruction to the liquid, substantially as set forth.

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

RICHMOND L. WRIGHT.

Witnesses:
HUGH HURSEY,
W. H. L. EDDY.