(No Model.)

F. B. FARGO.

CREAM TESTING CHURN.

No. 369,782. Patented Sept. 13, 1887.

Fig. 2.

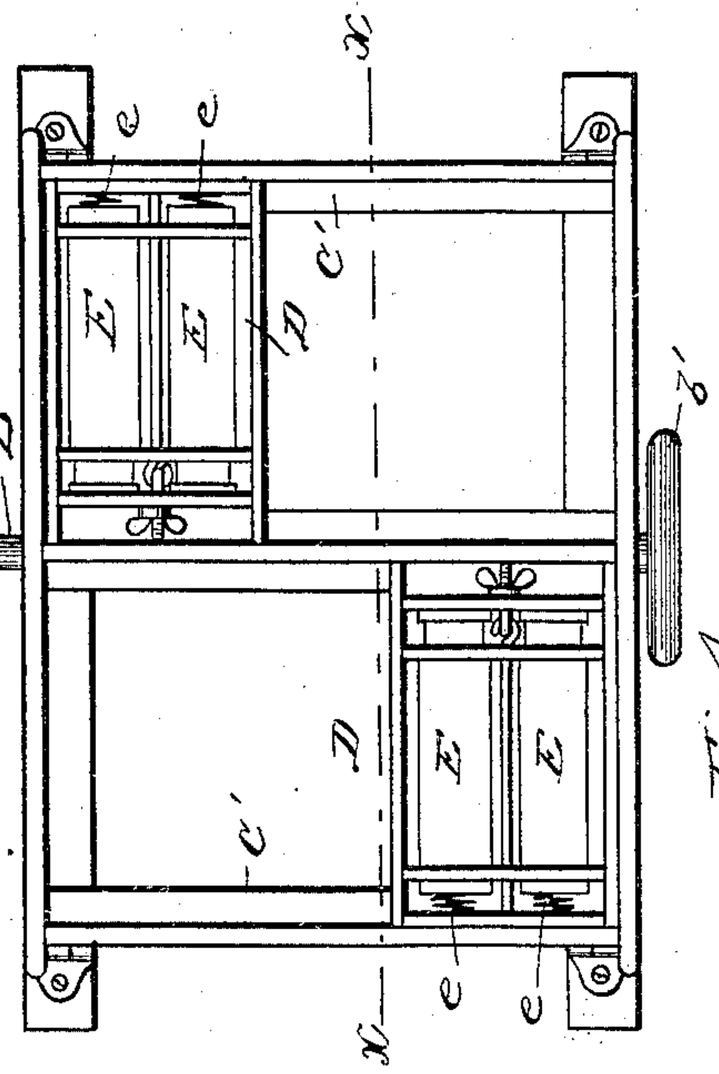


Fig. 4.

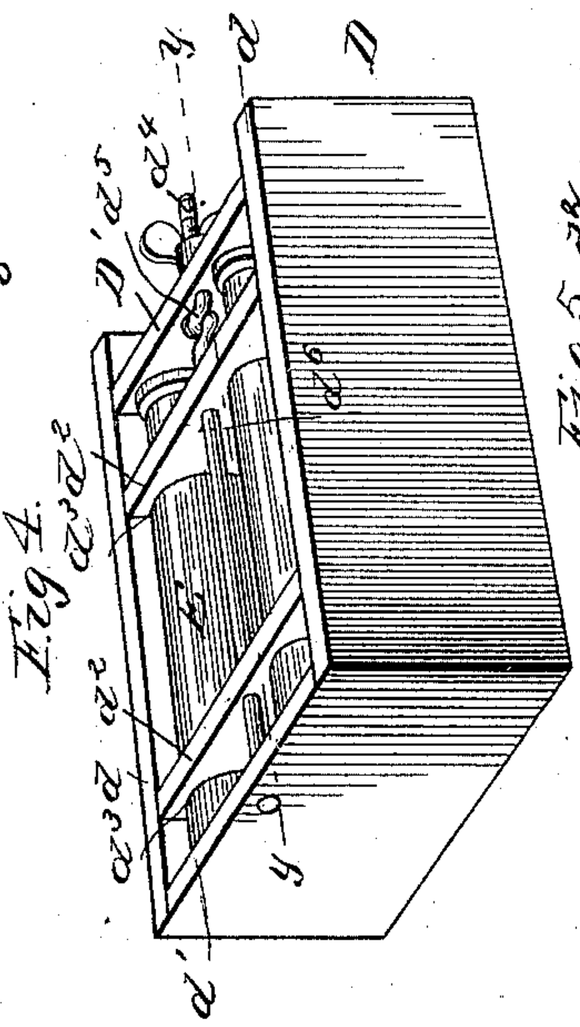


Fig. 5.

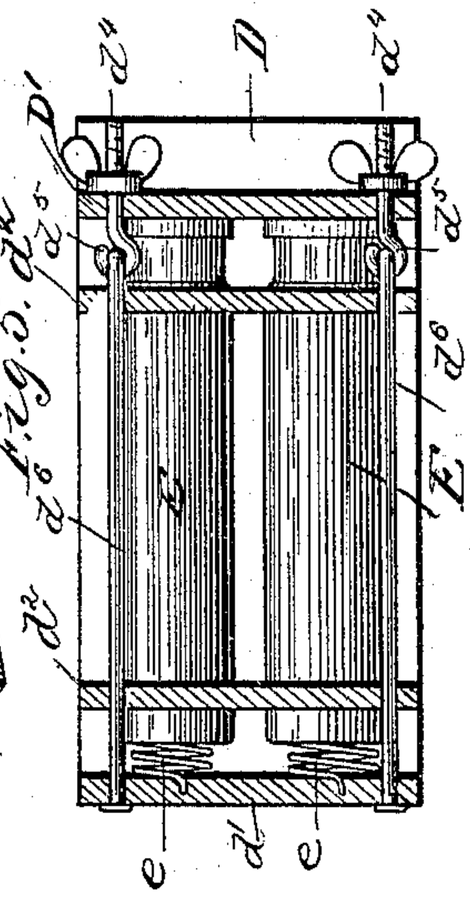


Fig. 1.

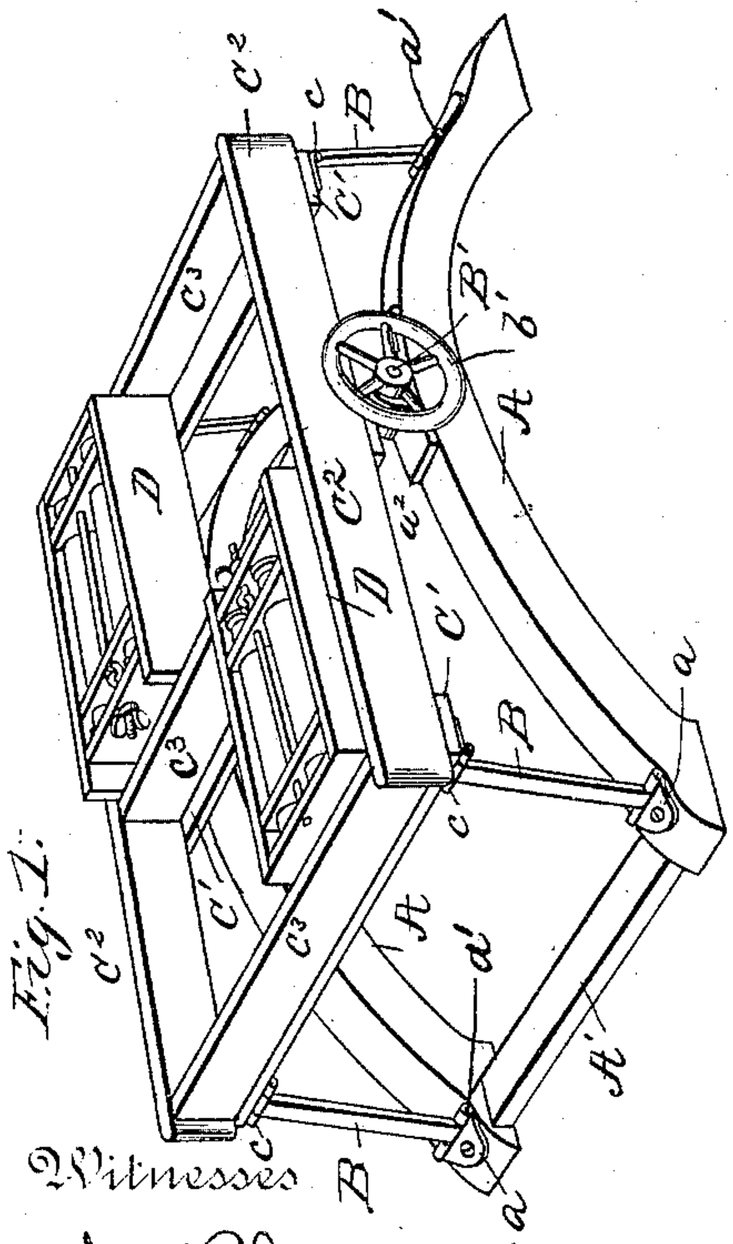
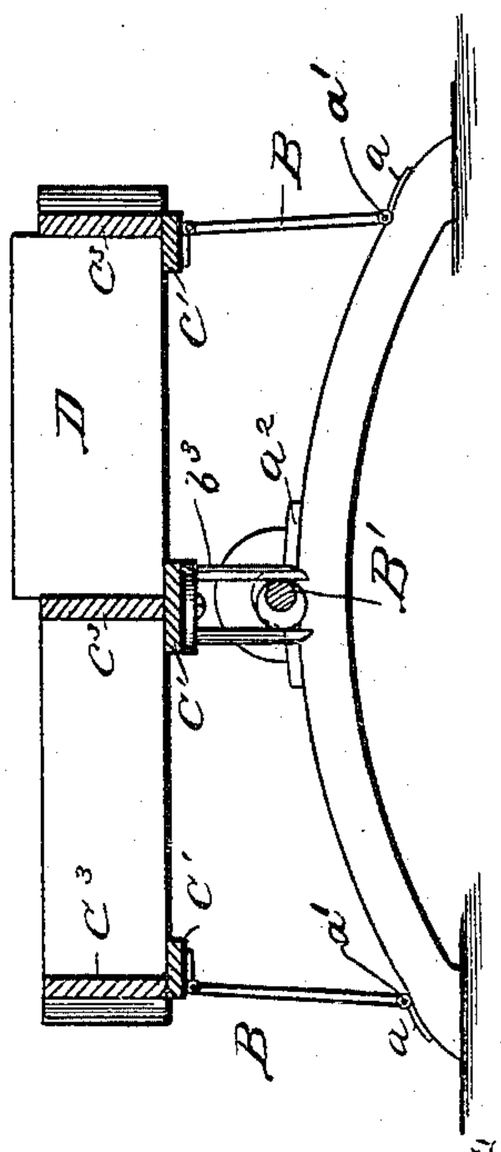


Fig. 3.



Witnesses

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CREAM-TESTING CHURN.

SPECIFICATION forming part of Letters Patent No. 369,782, dated September 13, 1887.

Application filed April 9, 1887. Serial No. 234,276. (No model.)

To all whom it may concern:

Be it known that I, FRANK B. FARGO, a citizen of the United States, residing at Lake Mills, in the county of Jefferson and State of Wisconsin, have invented new and useful Improvements in Cream-Testing Churns, of which the following is a specification.

My invention relates to cream-testing churns; and it consists in the construction and combination of the parts thereof, which will be more fully hereinafter described, and pointed out in the claims.

One object of my invention is to facilitate the formation, collection, and ready transportation of the cream in bottles arranged in removable cases, without necessitating the removal or displacement of the said bottles from the case until the butter is formed and separation takes place.

A further object of my invention is to provide a cream-testing churn wherein the parts are rendered convenient by the adjustability and removability of the several parts, which are accessible at all points, and wherein the construction and operation of the parts are simple and effective, strong and durable, easily handled and readily understood, positive in their ultimate result, and cheaply manufactured. I attain these objects by the construction of churn illustrated in the accompanying drawings, wherein like letters of reference indicate similar parts in the several views, and in which—

Figure 1 is a perspective view of my improved cream-testing churn, showing the removable driver's cases containing the bottles arranged in position therein. Fig. 2 is a top plan view of the same. Fig. 3 is a longitudinal vertical section on the line *x x* of Fig. 2. Fig. 4 is a detail perspective view of one of the cases removed from the frame-work of the churn and as it is transported in the driver's cart. Fig. 5 is a longitudinal vertical section on the line *y y* of Fig. 4.

A indicates the side bars of the base-rest of the machine, which are of suitable configuration to accommodate the support and securement of the several parts of the churn entire. The two ends of the side bars, A A, are braced and united by the transverse end bars, A′ A′, suitably secured thereto. At the end of each of the side bars A, on the top portion thereof, knuckle-plates *a a* are secured, and in the space between the knuckles thereof the lower ends of bars B B are inserted and held in pivotal connection therewith by pintles *a′*, passing through the knuckles and the apertures formed in the lower inserted ends of the bars B. These bars B project upward, and are similarly connected to knuckle-plates *c c*, secured to the under side of the outer ends of cross-bars C′ of a body, C. This frame C is rectangular in shape, and is given an oscillating motion through the hinged bars B.

The central parts of the side bars, A, of the base-frame are curved upward and have their highest portion at the central part of the machine. To the central top portion of the said bars A journal-boxes a^2 are secured, wherein a transverse shaft, B′, has bearing, having a balance-wheel, *b′*, on its one side and an operating-pulley, b^2, on the opposite side. To the central cross-bar, C′, on the under side thereof, a bifurcated casting, b^3, is secured, which is engaged by an eccentric mounted on the shaft B′, and by which the body C entire is given an oscillating motion.

The body C is provided with side bars, C^2 C^2, transverse bars C^3 C^3, forming divisional compartments for the reception of the removable driver's trays or cases D, and with cross-bars C′ C′, arranged and secured on the under side of the body entire, and are adapted to form base-rests for the cases when in position in the body.

The body C may be constructed in such a manner as to provide any number of divisional compartments for the reception of the cases D; but, as illustrated, two such compartments are shown. These compartments of the body are adapted to receive a series of the cases D, which, when the butter has been formed, will be removed and replaced by others of like form.

The construction of a tray or case D is such that it will removably conform to the compartment wherein it is placed. The two sides *d d* thereof are united by an end piece, *d′*. At regular predetermined intervals a series of cross-strips, d^2, are arranged between the sides *d* of the case, which are provided with a series of apertures, d^3, for the reception of bottles or

jars E, containing cream which may have been gathered at different points. The bottoms of the bottles E rest against cushion spiral springs *e*, arranged in the end piece, *d'*, in a certain relative position to the apertures d^3 in the strips d^2. As shown in Fig. 5, two rows of the bottles E are arranged in the cross-strips d^2; but it is obvious that as many as may be desired may be arranged therein, the number inserted in one case depending upon the dimensions of the machine entire and of the cases D. The bottles E are held in a steady and stable position in the cases D by the removable section D', which is clamped against the heads of the bottles through the medium of clamping-nuts, of suitable construction, engaging with a short rod, d^4, passing through the removable end section, D', and by means of a hook, d^5, formed with the inner end thereof, engaging with a tie-rod, d^6, passing through the center of the strips d^2 and the end piece, *d'*, and thereby secures the bottles in place against the cushioning effect of the springs *e*, which preclude the possibility of breakage of the bottles by a sudden shock or jolting in transportation, or from any other cause.

By my improved form of construction of removable trays or cases the delay occasioned by the transfer of the bottles from the cases in the machine to the driver's cases is obviated, as in the use of my machine the trays or cases are taken from the driver after collection of the cream and deposited in the machine and the butter formed.

The butter having been formed by the oscillatory movement of the body C in the jars or bottles E, it is placed in warm water and melted and the butter-oil measured and the percentage of butter to the cream readily ascertained. Great care should be taken to prevent the loosening of the stoppers or corks of the bottles, so that no cream shall waste. By my construction I have endeavored to prevent the possibility of the loosening of the corks or caps of the jars.

It is evident that the machine constructed as herein described and shown must of necessity facilitate the operation desired, preclude the possibility of delay, and the utility is readily comprehensible and self-evident.

It is obvious that many minor changes in the construction and arrangement of the parts might be made and substituted for those shown and described without in the least departing from the nature and principle of my invention.

Having thus described my invention, I claim—

1. In a cream-testing churn, the combination, with the supporting-frame, of a body pivotally supported on said frame and provided with the independent compartments, removable cases D, each having the side strips, *d*, end strips, *d'*, and cross-strips d^2, springs *e*, removable end section and adjusting-bolts connecting the removable end section to the body of the case, a shaft journaled in the frame, eccentrics thereon, and bifurcated castings secured to and depending from the under side of the body to engage the eccentrics, substantially as set forth.

2. In a cream-testing churn, the combination, with a horizontal oscillating body, C, comprising the side bars, C^2, the bottom cross-bars, C', and the transverse cross-bars C^3, the latter dividing the frame or body into compartments, the base A, upon which the said body is mounted, the bars B, hinged to the corners of the oscillating body and to the base, and the removable cases D, fitted in the compartments, and each comprising the side strips, *d*, united by an end strip, *d'*, the cross-strips d^2, adjusting-bolts d^6, the screw hooks and nuts, and the removable end section, D', resting directly against the heads of the bottles or jars, substantially as described.

3. The combination, with the body C of the base, comprising the side bars A, having their highest point at the central part of the churn, and cross-bars A', connecting said side bars, of the strips B, hinged to the corners of the body C and the base-frame, the shaft B', having bearings in boxes secured to the top of the side bars A, at the center, and provided with an eccentric portion, and the bifurcated casting b^3, adapted to be engaged by said ecentric, substantially as described.

4. In a cream-testing churn, the combination, with the oscillating body C, having the compartments, as described, the removable cases D, to fit in the compartments, each comprising the side strips, *d*, the rigid end strip, *d'*, the perforated cross-strips d^2 between the side strips, *d*, and through the perforations of which cross-strips the bottles pass, the springs *e*, seated on the end strip, *d'*, and against the bottoms of the bottles, the removable end section, D', fitting between the side strips, *d*, and against the tops or corks of the bottles, and the adjusting-bolts d^6, passing through the case and having nuts which bind on the removable section D', to hold it in place, as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

FRANK B. FARGO.

Witnesses:
S. B. HOUSE,
E. J. FARGO.