(No Model.) 2 Sheets—Sheet 1.

F. A. FRANK.

CHURN.

No. 345,376. Patented July 13, 1886.

FIG. I.

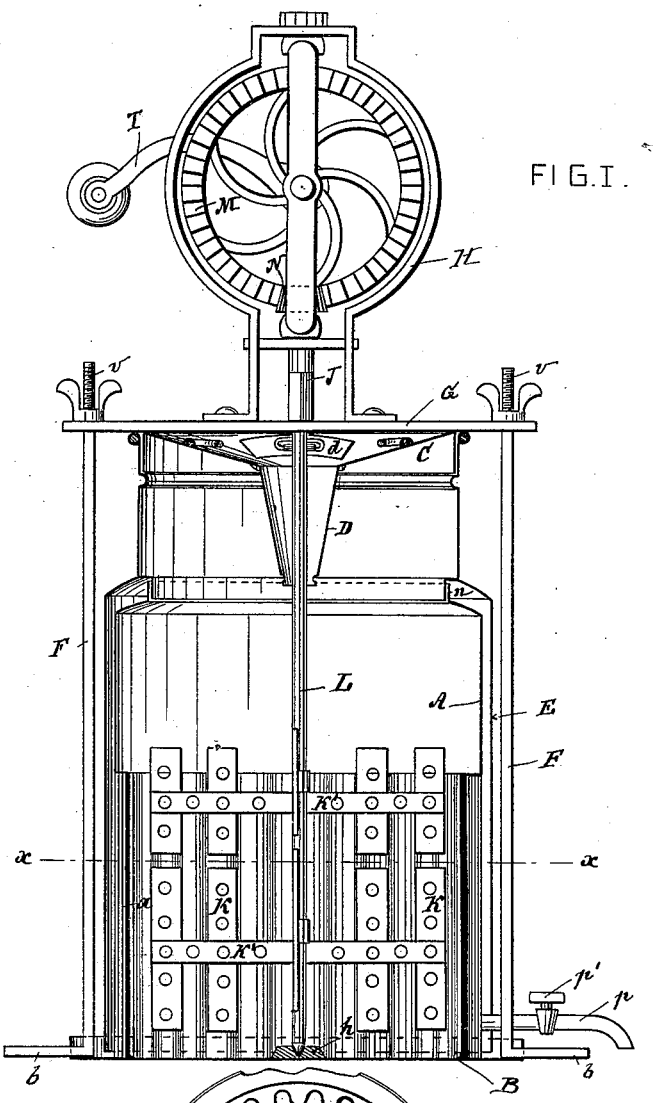
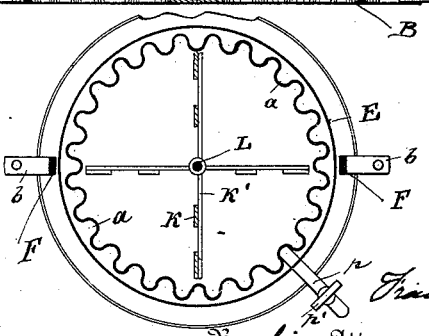


FIG. II.



Witnesses
Wm. A. Love
L. Kohn

Inventor
Francis A. Frank
By his Attorneys
Roeder & Briesen

(No Model.) 2 Sheets—Sheet 2.

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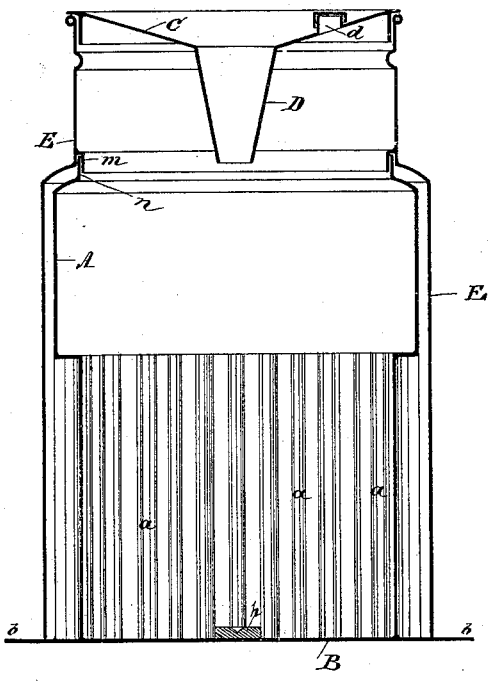
Fig. III.



WITNESSES:

Robt. N. Roy.

T. Turner

INVENTOR

Francis A. Frank

BY Roesler & Briesen

ATTORNEY

UNITED STATES PATENT OFFICE.

FRANCIS A. FRANK, OF NEW YORK, N. Y.

CHURN.

SPECIFICATION forming part of Letters Patent No. 345,376, dated July 13, 1886.

Application filed February 17, 1886. Serial No. 192,185. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS A. FRANK, of the city of New York, county and State of New York, have invented a new and Improved Churn, of which the following specification is a full, clear, and exact description.

This invention relates to a churn of novel construction; and it consists of the various elements of improvement fully described in the specification.

In the accompanying drawings, Figure I is a vertical section of my improved churn. Fig. II is a horizontal section at line *x x*, Fig. I, on a reduced scale. Fig. III is a section similar to Fig. I with the dasher and driving mechanism removed.

A is a receptacle attached to a bottom plate, B, and provided with lugs *b b* to attach the same, by means of bolts or clamps, to a table, if desired. The lower part of this receptacle A is, for about two-thirds of its height upward, provided with ribs *a*, and the top is made with an upwardly-projecting rim, *n*, to receive the cover.

Around the receptacle A a second receptacle, E, is placed, in the upper end of which a cover, C, is fitted, provided with a downwardly-extending funnel, D, and an opening, *d*, in one side, closed by a cover. The downwardly-extending funnel D is designed for the reception of the operating-shaft, and its tapering form is to prevent the scattering of the milk during the operation. The opening *d* is for the purpose of introducing either milk or water into the receptacle during the churning operation without necessitating the removal of the entire cover C. This cover C is of such a size that it will likewise fit over the top rim, *n*, on the receptacle A whenever it is desired to operate the machine without this outer casing, E.

To the bottom plate, B, two uprights, F F, are attached to support a cross-bar, G, secured to the uprights by screws *v v*. The cross-bar G supports the frame H, which carries the bevel gear-wheel M, meshing into a corresponding pinion, N, attached to an upright spindle, J, supported in said frame H. The lower end of this spindle is made with a tapering square opening, into which the square end of the shaft L is made to fit. The wheel M is operated by a handle, T, or by a pulley placed upon its axle, if the machine is operated by power. By this arrangement of attaching the frame H with the necessary gearing to the cross-bar G the whole can easily be removed by unfastening the nuts of the screws *v v*.

L is an upright shaft supported at its lower end in a suitable bearing, *h*, in the receptacle A, and provided with a square end at its top, fitting into the square tapering cavity in the lower end of the spindle J. The shaft L is provided with perforated vertical wings K, and the arms K′, which attach these wings to the horizontal shaft are likewise perforated.

Near the bottom of the receptacle A a pipe, *p*, is arranged provided with a stop-cock, *p′*.

The receptacle A is filled about two-thirds full with fresh milk, after which the shaft L is rotated by means of the gearing, when the milk will in a short time be converted into butter. The remaining milk is then let off through pipe *p*, after which water is introduced into the receptacle through the opening *d* in the cover C, to wash the butter and clean it of all remaining particles of milk. When finished the nuts of the screws *v v* are loosened, when the whole gearing can easily be removed and the shaft L taken readily out of the machine to remove the butter from the receptacle A.

I do not claim to have invented a churn provided with removable driving mechanism, as such a construction is shown, for example, in Patent No. 295,862, granted to W. H. Dyer, March 25, 1884; nor do I claim to have invented a churn having perforated dasher-blades, as such a churn is shown, for example, in Patent No. 60,035, granted to L. Mooney, November 27, 1866; but

I do claim—

The combination of the following elements: receptacles A E, uprights F, cross-bar G, frame H, gear-wheels M N, spindle J, shaft L, having arms K K′, and cover C, having funnel D and opening *d*, substantially as specified.

FRANCIS A. FRANK.

Witnesses:

HENRY E. ROEDER,

L. KOHN.