(No Model.) 2 Sheets—Sheet 1.

W. F. EVANS & J. B. FIELDING.

CHURN MOTOR.

No. 294,120. Patented Feb. 26, 1884.

Fig. 1.

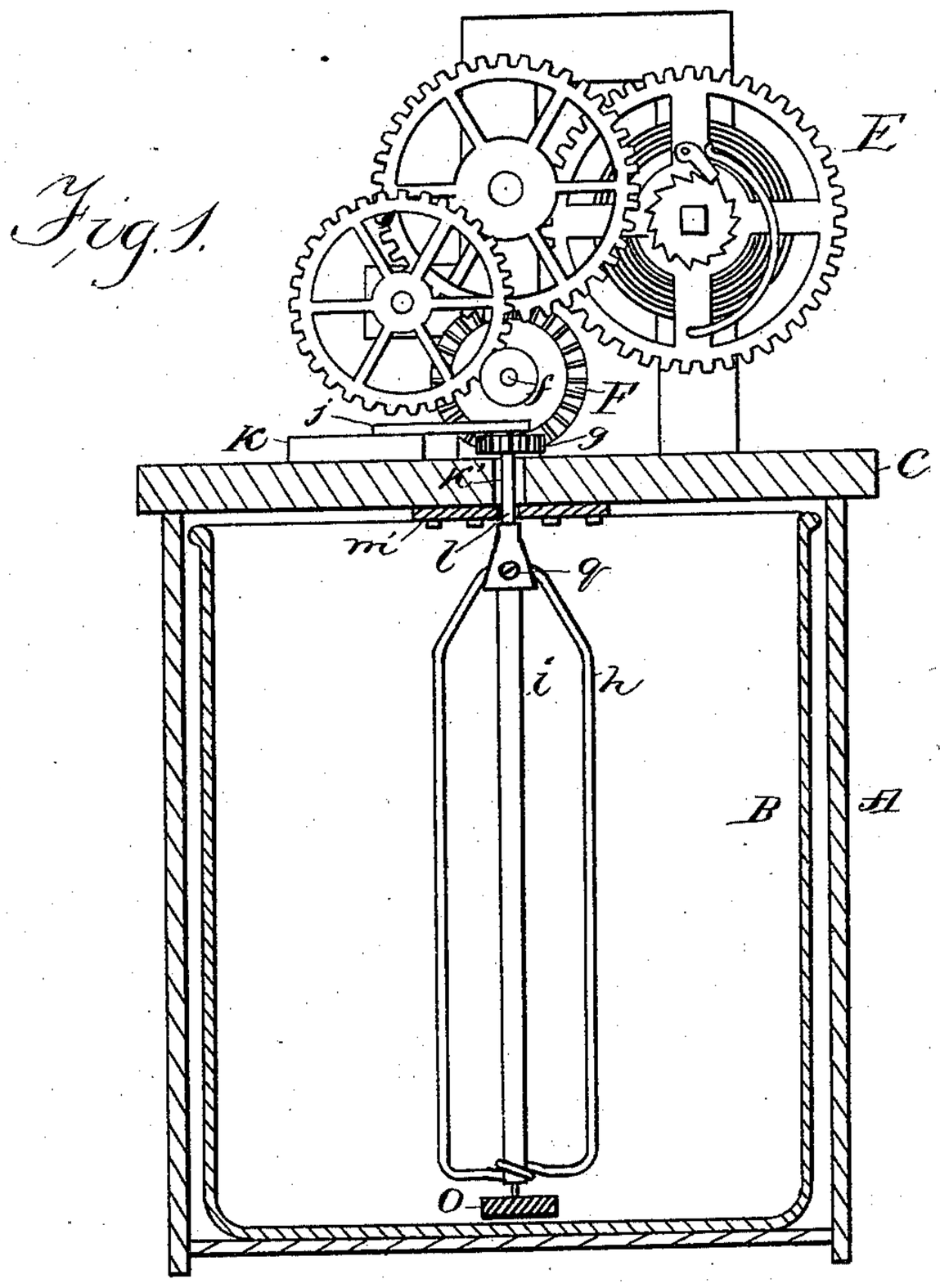
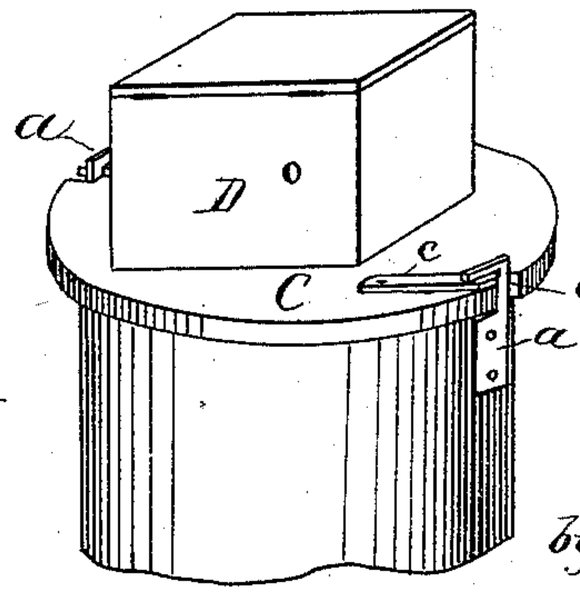


Fig. 2.



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(No Model.) 2 Sheets—Sheet 2.

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Fig. 3.

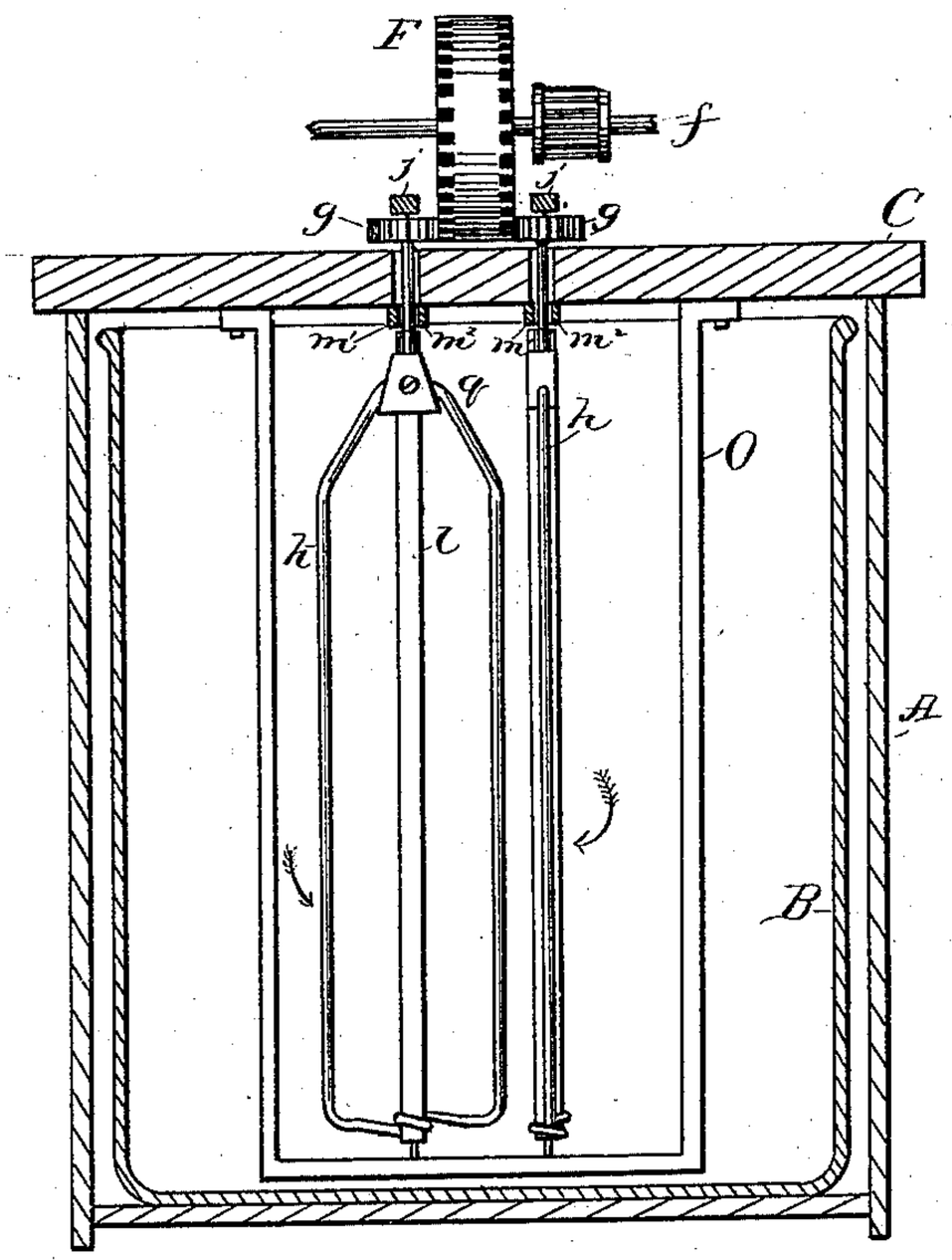


Fig. 6.

Fig. 4.

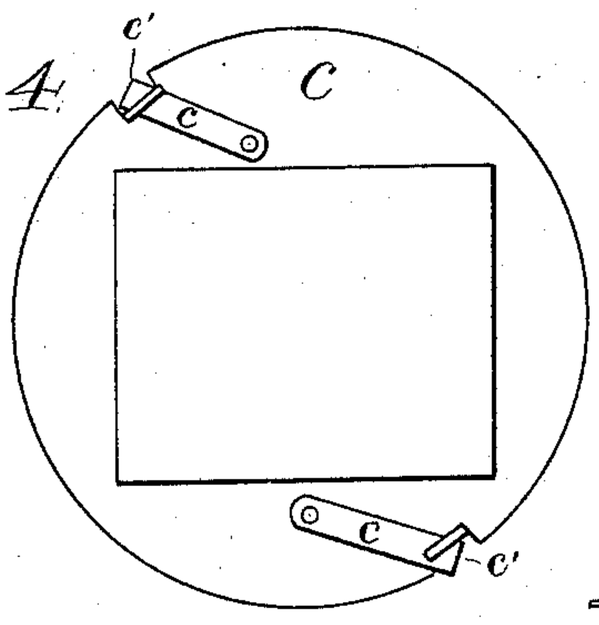


Fig. 5.

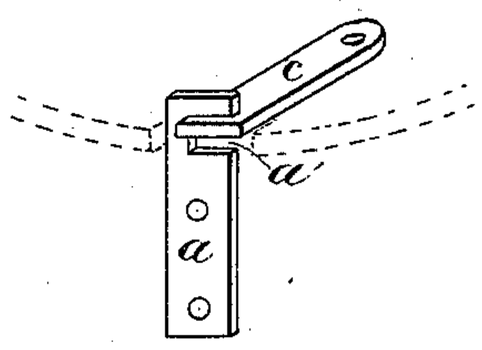
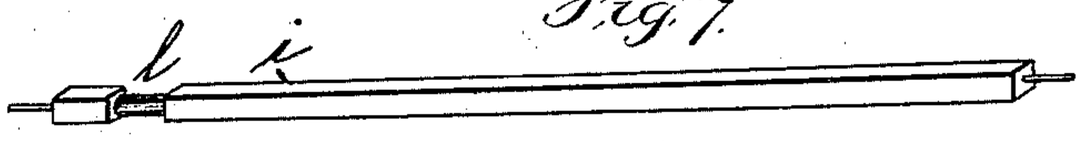


Fig. 7.



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UNITED STATES PATENT OFFICE.

WILLIAM FLETCHER EVANS AND JAMES BENNETTE FIELDING, OF PRESCOTT, ARKANSAS.

CHURN-MOTOR.

SPECIFICATION forming part of Letters Patent No. 294,120, dated February 26, 1884.

Application filed December 22, 1883. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM FLETCHER EVANS and JAMES BENNETTE FIELDING, citizens of the United States, residing at Prescott, in the county of Nevada and State of Arkansas, have invented certain new and useful Improvements in Churns; and we do 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 the letters and figures of reference marked thereon, which form a part of this specification.

Our invention relates to improvements in automatic churns; and it consists in the construction and novel arrangement of its parts.

In the accompanying drawings, Figure 1 is a sectional side elevation of the machine with the covering D removed and brace O cut away. Fig. 2 is a perspective view of the top of the churn stand and cover. Fig. 3 is a sectional end elevation of the machine. Figs. 4, 5, 6, and 7 are detailed views of parts of the machine.

Similar letters refer to similar parts throughout the several views.

A represents the churn-holder. It is a simple cylindrical cask or square holder, as may be preferred.

B is a glass churn fitting snugly into the case A. This glass vessel may be dispensed with and the holder A used as a churn.

C is a lid or covering for the holder A. This lid C is secured to the holder A by means of two grasps, *a*, secured on the outside of the holder A and extending above the lid C. These grasps have mouths or slots *a'*, Fig. 5, for receiving the latches *c*, which are pivoted on the upper face of the lid C in such a manner as to fit into the mouths or slots *a'* and hold the lid down tight on the top of the holder A. The lid C has slots *c'* cut in its edge exactly fitting over the grasps *a*. By withdrawing the latches *c* from mouths *a'* the whole top of the churn, including the driving-power and agitators *h h* and brace O, may be taken away in a moment of time and the churn emptied and cleaned, and in the same length of time they may be replaced and put to work. The covering D is to protect the gearing or driving-power E, and may be secured in place in any substantial manner. The driving-power E is any ordinary set of gearing-wheels and spring used for such power. To such gearing we attach a double-cog wheel, F, a wheel of our own invention and specially adapted to the purpose for which it is used in this invention. It is a wheel having cogs extending straight out from either face at its periphery, and adapted to run two pinions at the same time. It is rigidly secured on the last shaft, *f*, of the driving machinery E. On either side of this double-gear wheel is a pinion-gear wheel, *g*, which rotates the dashers or agitators *h h*. These pinions are rigidly secured on the upper ends of shafts *i*. The shafts *i* are journaled at their upper ends in rods *j*, which are secured to block K. This block K is a little thicker than the pinions *g* are long, to allow them to revolve freely between the upper side of lid C and the lower edge of rods *j*.

In the lid C are two holes, *k'*, near its center, for shafts *i* to pass through, which they do, and extend down and are journaled at point *l* in plates M. These plates M are made in two halves, *m' m²*, and when put together form one plate, having journal-bearing *n*. (See Fig. 6.) Below point *l* the shaft *i* is square to the point where it is again journaled in brace O. These shafts *i* bear agitators *h h*, which are rigidly secured thereto by screws *q*. The brace O is secured to the under side of lid C by screws. When we wish to remove the agitators *h h*, we remove the brace O and the screws *q*, and the agitators slip off of the lower ends of shafts *i*. If we also wish to remove pinions *g*, we remove half *m²* of plate M, and the shafts will drop from rods *j*. Thus it will be seen that the whole machinery can be taken to pieces with but little trouble for cleaning or repairs.

The operation of our churn must be apparent. When the driving-power is wound up and allowed to go, it puts double-gear wheel F in motion, which in turn puts gear-pinions *g* in motion, and consequently shafts *i* and agitators *h*. These agitators run in different directions, one to the right and the other to the left, and the agitation of the milk between their wings as they pass each other and the brace O is very great and soon brings the butter to the surface.

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

1. In combination with the driving-power E, the double-gear wheel F, rigidly secured on shaft *f*, with pinions *g*, rigidly secured on the upper ends of shafts *i*, shafts *i*, dashers or agitators *h*, and brace O, substantially as shown and described, and for the purposes set forth.

2. The combination, with the lid C, of block K, rod *j*, plates $m' m^2$, and brace O, all adapted as bearings for shaft *i*, substantially as shown and described.

3. The combination of grasps *a* with slots *c'* in lid C, fitting over grasps *a*, and latches *c*, pivoted on the upper face of said cover, and fitting into mouths *a'*, all adapted to hold said cover in place and down on the top of churn-holder A, substantially as shown and described.

In testimony whereof we affix our signatures in presence of two witnesses.

WILLIAM FLETCHER EVANS.
JAMES BENNETTE FIELDING.

Witnesses:
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J. MERKLE.