

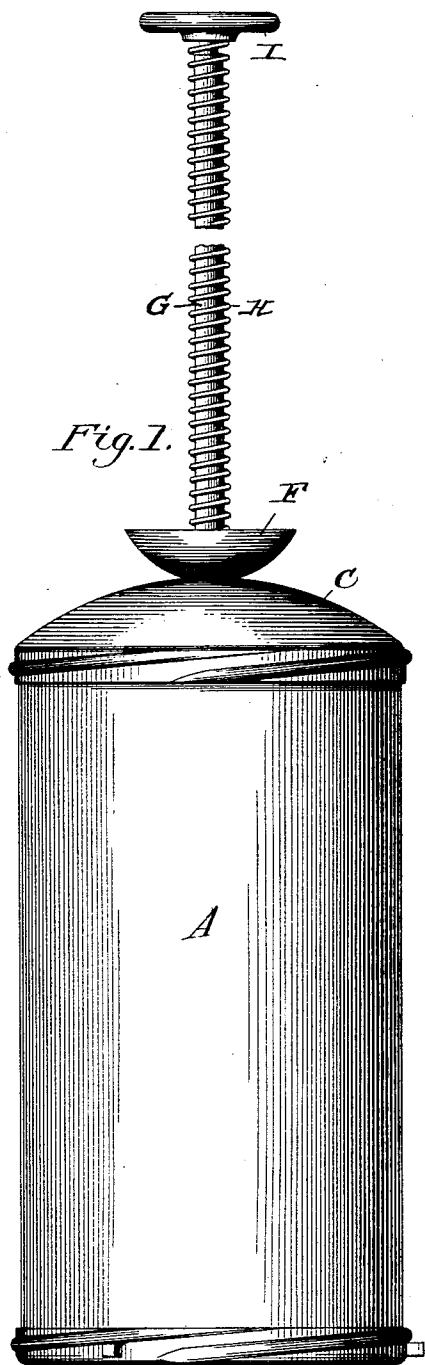
(No Model.)

2 Sheets—Sheet 1.

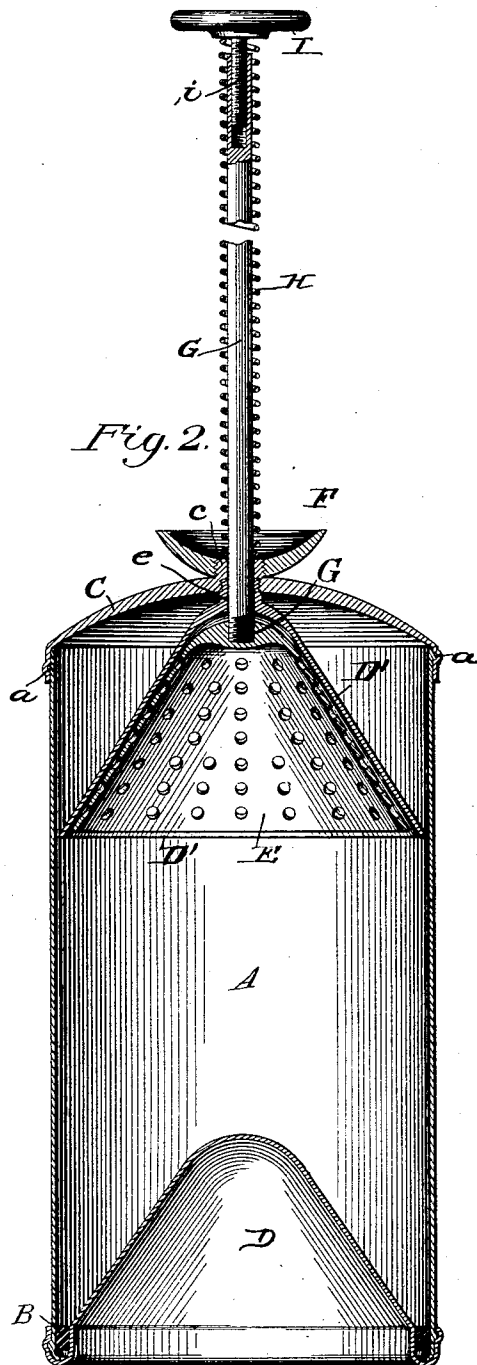
J. WIDDER.
CHURN.

No. 586,470.

Patented July 13, 1897.



Witnesses.
M. A. Schuster
L. A. Haller



Inventor.
Jakob Widder

(No Model.)

2 Sheets—Sheet 2.

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Fig. 3.

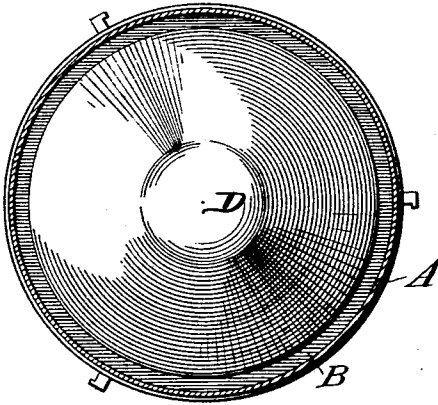


Fig. 4.

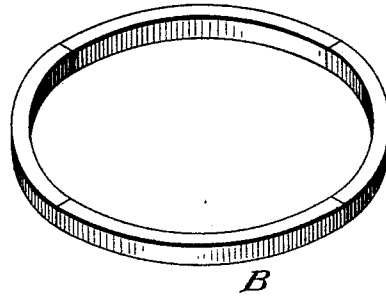
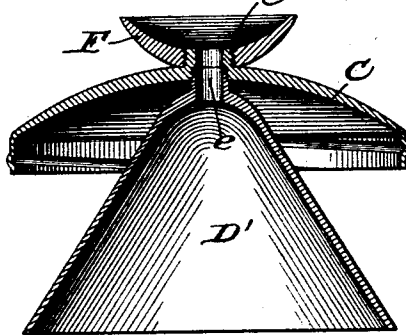


Fig. 5.



Fig. 6.



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UNITED STATES PATENT OFFICE.

JAKOB WIDDER, OF NEW YORK, N. Y.

CHURN.

SPECIFICATION forming part of Letters Patent No. 586,470, dated July 13, 1897.

Application filed March 1, 1897. Serial No. 625,611. (No model.)

To all whom it may concern:

Be it known that I, JAKOB WIDDER, of New York, in the county of New York and State of New York, have invented a new and useful Improvement in Reciprocating Churns, of which the following is a specification.

My reciprocating churn belongs in that particular class in which a hollow conical dasher is employed.

The chief feature of novelty is the provision of a fixed hollow cone within the top of the cylindrical casing or body of the churn and the arrangement of a hollow conical perforated dasher to reciprocate between such cone and another which is fixed at the bottom of the said casing, both of which conform in shape and size to the dasher, so that the latter may strike upon and lie in close contact with them alternately at each stroke, whereby a rapid separation of the oily globules or butter from the other constituents of the cream is effected.

In the accompanying drawings, two sheets, Figure 1 is a side view of my improved churn. Fig. 2 is a vertical central section of the churn. Fig. 3 is a horizontal section. Fig. 4 is a perspective view of the annular cushion or elastic buffer for the dasher. Fig. 5 is a perspective view of a wrench employed for removing the ends of the churn-body. Fig. 6 is a vertical central section of the churn-cover and its fixed attachments.

The cylindrical body or casing A of the churn is provided at each end with short and coarse screw-threads to provide for attachment of the convex cover C and conical base D. In screwing the latter two on or off I employ the wrench K, Fig. 5, whose claw engages one of the hooked lugs on the cover and base that are suitably constructed and arranged to ride on the interrupted screw-threads.

An annular elastic cushion B is arranged at the base of cone D to serve as a buffer for the dasher E. The latter is a hollow cone having numerous perforations and is attached by a screw-joint to the lower end of a rod or staff G, by which it is reciprocated. Said dasher E is adapted to fit closely upon the fixed bottom cone D and within the oppositely-arranged upper cone D', which is a

pendent attachment of the cover C. Both the fixed cones D D' are imperforate.

A cup F is attached to the upper side of the cover C, and the dasher-rod G works through them, as shown. At its upper end said rod G has a disk or "button" I, which serves as a handle and is detachably secured to it by a screw i.

A helical spring H is coiled about the rod G and abuts the cup F and handle I at its respective ends, so that the dasher E is normally held up within the upper cone D' and in close contact therewith, as shown in Fig. 2.

The cup F is screwed on a threaded boss c of the cover C, and the upper cone D' is provided with a similar threaded boss e, that screws into said boss c of the cover. Thus the parts D' and F are detachably but firmly connected with the cover C, so that all are attached to or removed from the body A together.

In practical operation a due quantity of cool cream having been placed in the churn the dasher E is reciprocated rapidly, which operation is effected by pressing downward upon the disk or handle I and then releasing it from pressure and allowing the spring H to lift and return the dasher to the normal position. (Indicated in Fig. 2.) The descent of the dasher is arrested by its contact with the buffer B and cone D and its ascent by the upper cone D'. The cream is thus violently agitated and passes through the perforations of the dasher in separated streams or currents. The coaction of the upper cone D' with the dasher is of special effect in this operation, since the cream is violently compressed between them and forced through the perforations of the dasher as so many streams or currents into the body of cream, thus agitating the same anew. Even if the churn is not full of cream the operation is substantially the same, since the dasher lifts a considerable portion of the cream, and it is forced through the perforations of the dasher when the latter strikes into the cone D'. The result in either case is that the cream is quickly churned, the butter being obtained ordinarily in about four minutes.

When the churning is finished, the cover C is removed and the churn turned over so that

the buttermilk may run through the strainer. The butter is then washed two or three times in cool water, preferably about 60° Fahrenheit, and is then ready for use.

- 5 For the best result it is recommended to set milk in stone or earthenware jars and to keep the same at 64° Fahrenheit for three days, then remove and churn the cream.

What I claim is—

- 10 In a churn of the class specified, the combination of a hollow conical perforated dasher,

and the rod and spring for reciprocating it, with a churn-body having a hollow cone at the top and a corresponding hollow cone at the bottom, both such cones being fixed and 15 conforming to the dasher, whereby it is adapted to fit closely within the one and upon the other, as shown and described.

JAKOB WIDDER.

Witnesses:

MAX SCHERSTEIN,
GUS A. MILLER.