J. G. TAYLOR.
Churn.

No. 198,906. Patented Jan. 1, 1878.

Fig.1.

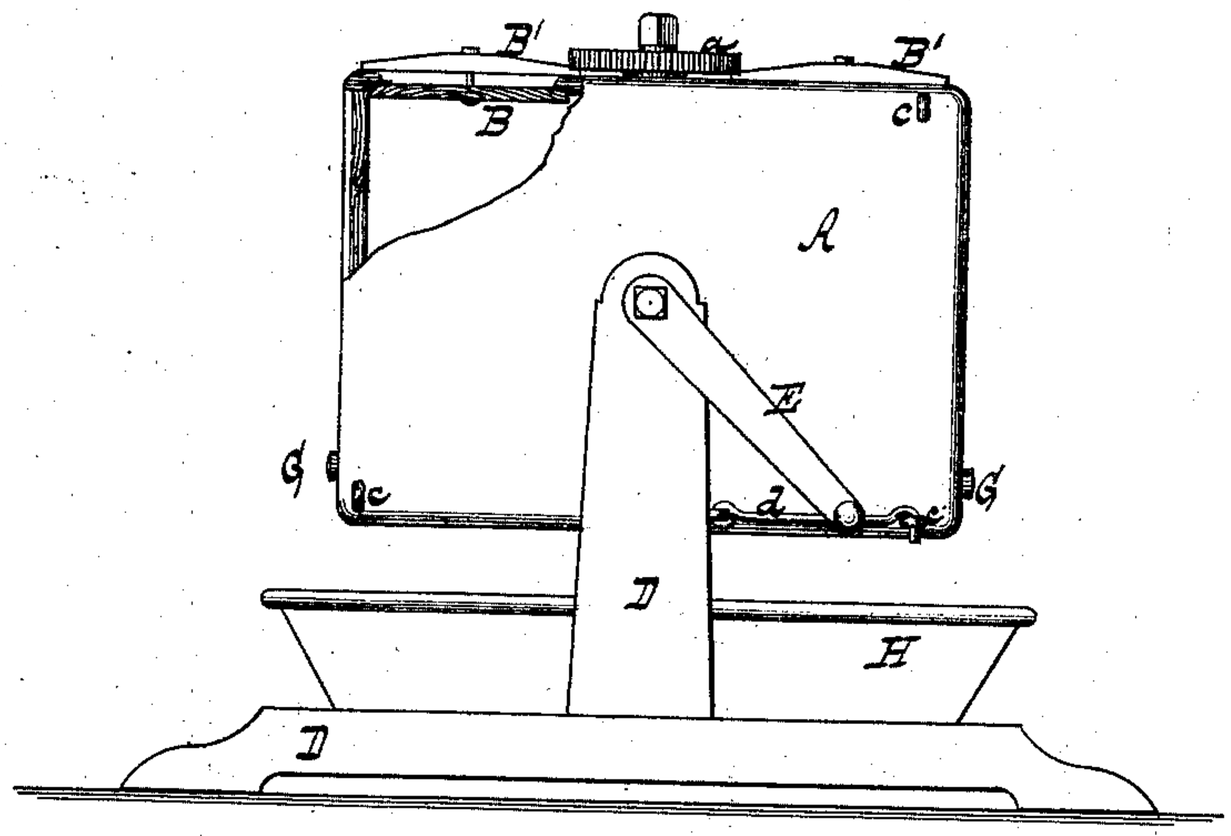


Fig.2.

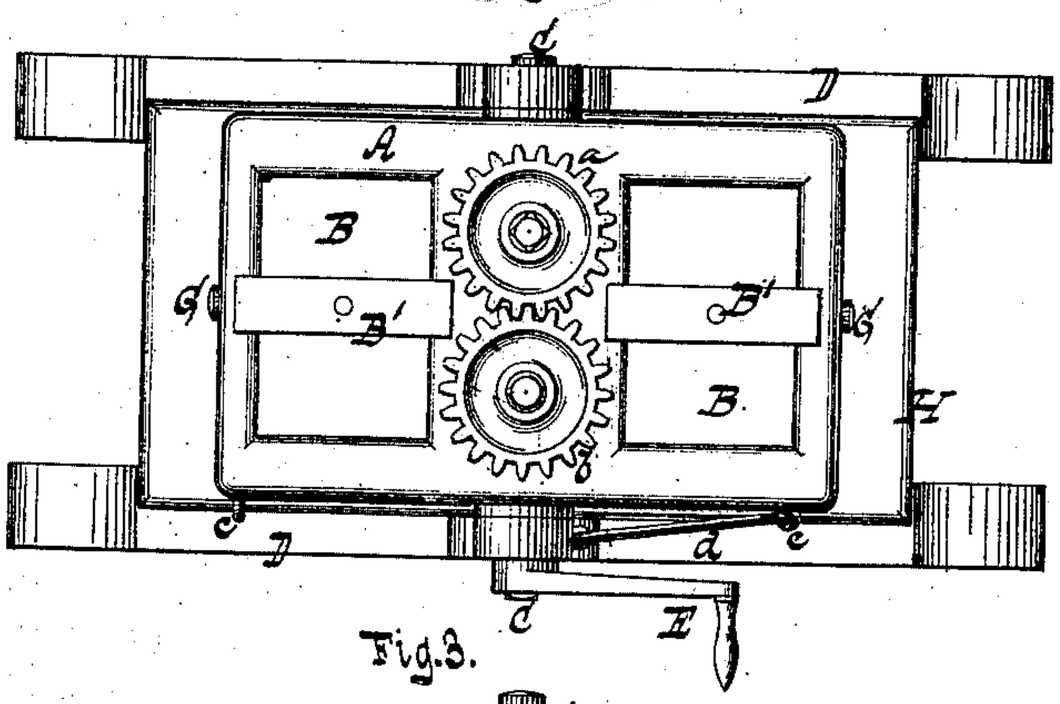
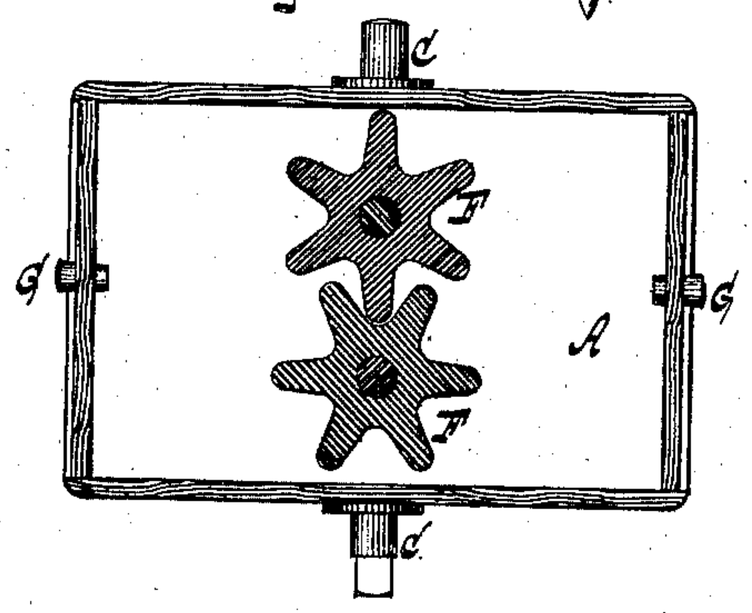


Fig.3.



Witnesses.
Otto Hufeland
Hugo Bruggemann

Inventor:
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by
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UNITED STATES PATENT OFFICE.

JAMES G. TAYLOR, OF BRASHER FALLS, NEW YORK.

IMPROVEMENT IN CHURNS.

Specification forming part of Letters Patent No. **198,906,** dated January 1, 1878; application filed September 29, 1877.

To all whom it may concern:

Be it known that I, JAMES G. TAYLOR, of Brasher Falls, in the county of St. Lawrence and State of New York, have invented a new and Improved Churn, Butter Worker, and Cooler, which invention is fully set forth in the following specification, reference being had to the accompanying drawing, in which—

Figure 1 represents a side elevation of my apparatus, partly in section. Fig. 2 is a plan or top view thereof. Fig. 3 is a cross-section of the tub detached.

Similar letters indicate corresponding parts.

My invention relates to an apparatus which is adapted to be used for churning, for "working" the butter after it is churned, and also for cooling the same in such a way that the butter requires no handling until it is packed for transportation.

My invention consists in a closed tub, which is provided with one or more doors, and hung on gudgeons in a suitable frame, so that it is susceptible of receiving a revolving motion, while through the tub extend two corrugated rollers, which mesh with each other, and are geared together exterior of the tub, so that when the tub is supplied with milk or cream, and a revolving motion is imparted thereto, the milk or cream can be agitated and butter formed. If the tub is then stopped, the buttermilk can be drawn off, and sufficient water placed in the tub for washing the butter; and after this water has been discharged, salt can be mixed with the butter, and worked into the same by imparting a revolving motion to the corrugated rollers, and causing the butter to pass between the rollers. This operation serves also to press out the buttermilk and brine.

If the season or the temperature of the atmosphere is such that it is desirable or necessary to cool the butter, a piece of ice can be placed in the tub for that purpose, the tub being brought to such a position that the butter is allowed to drain during the time it is thus cooled, the butter being thereby brought to a condition for packing.

In the drawing, the letter A designates the tub of my apparatus, the same being closed, and being, in the present example, made of rectangular form, while in one of the sides thereof are two doors, B B. C C are gudgeons, on which the tub A is hung, these gudgeons being secured to two opposite sides of the tub, and having their bearings in standards forming part of a frame, D. One of these gudgeons C C is arranged to receive a crank, E, by means of which a revolving motion can be given to the tub A; but this motion can also be produced by other means. F F are two corrugated rollers extending through the tub A, the same being arranged to mesh with each other, and being geared together through cog-wheels *a b* exterior of the tub. Said corrugated rollers F F are arranged in the central part of the tub A, and, in the example shown, extend at right angles to the axis on which the tub revolves.

On one side of the tub A are arranged staples *c*, and to the standard adjacent to such side of the tub is attached a hook, *d*, so that this hook can be made to catch in either of said staples, and by this means the tub can be held in a stationary position.

In filling the tub A, I tip the same so as to bring the side having the doors B B uppermost, the hook *d* serving to hold it in this position, and after the desired quantity of milk or cream has been poured into the tub the door or doors through which the same has been introduced are closed. A revolving motion is then given to the tub A, so as to agitate its contents, the fluted rollers F F serving to break the cream, and after the butter is formed the tub is brought to a stand-still, and the buttermilk is drawn off. The doors B B are then again removed, water is poured into the tub for washing the butter, the doors being replaced and the tub being given a few turns for the purpose. After the butter has been washed to the desired extent the water is discharged from the tub, and a quantity of salt mixed with the butter. The tub is then given a half-revolution, so as to bring the butter in the upper part of the tub, and a revolving motion is given to the corrugated rollers F F, the butter being caused to pass between them, whereby the buttermilk and brine is effectually pressed out of the butter, while at the same time the salt is thoroughly worked into the same. This operation—namely, that of passing the butter between the rollers F F—is repeated as often as may be deemed neces-

sary for the purpose of bringing the butter to the desired state. After the butter has been salted and worked to the desired degree, and the season or the temperature of the atmosphere is such that the butter needs to be cooled before it is packed, I turn the tub A to such a position that the butter occupies the upper part thereof, and then place in the lower part of the tub a piece of ice, which has the effect of cooling down the butter and keeping it in a cool state. During the time the butter is being cooled by the action of the ice, as last stated, it becomes drained of all the brine and milk that may have remained therein after its passage through the rollers.

The buttermilk and brine is discharged from the tub A through plugs or faucets G G, arranged in the sides thereof; or it may be discharged by removing the doors; and it may be here remarked that during the time the salt is worked into the butter said plugs G G are left out, so as to let all the milk and brine that is pressed out of the butter during such operation discharge from the tub.

The buttermilk and brine is caught in a tray, H, which is placed beneath the tub A, and which is supported by the frame D, this tray being arranged a sufficient distance below the tub so as not to interfere with its motion, and being, moreover, removable, so that it can be emptied of its contents with facility.

The doors B B are preferably arranged to close from the inside of the tub A, and they are each fastened by a pivoted brace, B′, as clearly shown.

In some cases a friction clutch or pulley, thrown in and out of gear by a hand-lever, is arranged on one of the gudgeons of the tub A, so that I am enabled to operate the tub by steam or horse power, and at the same time start or stop the same with facility.

What I claim as new, and desire to secure by Letters Patent, is—

The combination of the revolving tub A, corrugated rollers F F, which extend through said tub, meshing with each other, and are geared together exteriorly thereof, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 25th day of September, 1877.

JAMES G. TAYLOR. [L. S.]

Witnesses:
W. H. WELLS,
H. M. HULBURD.