

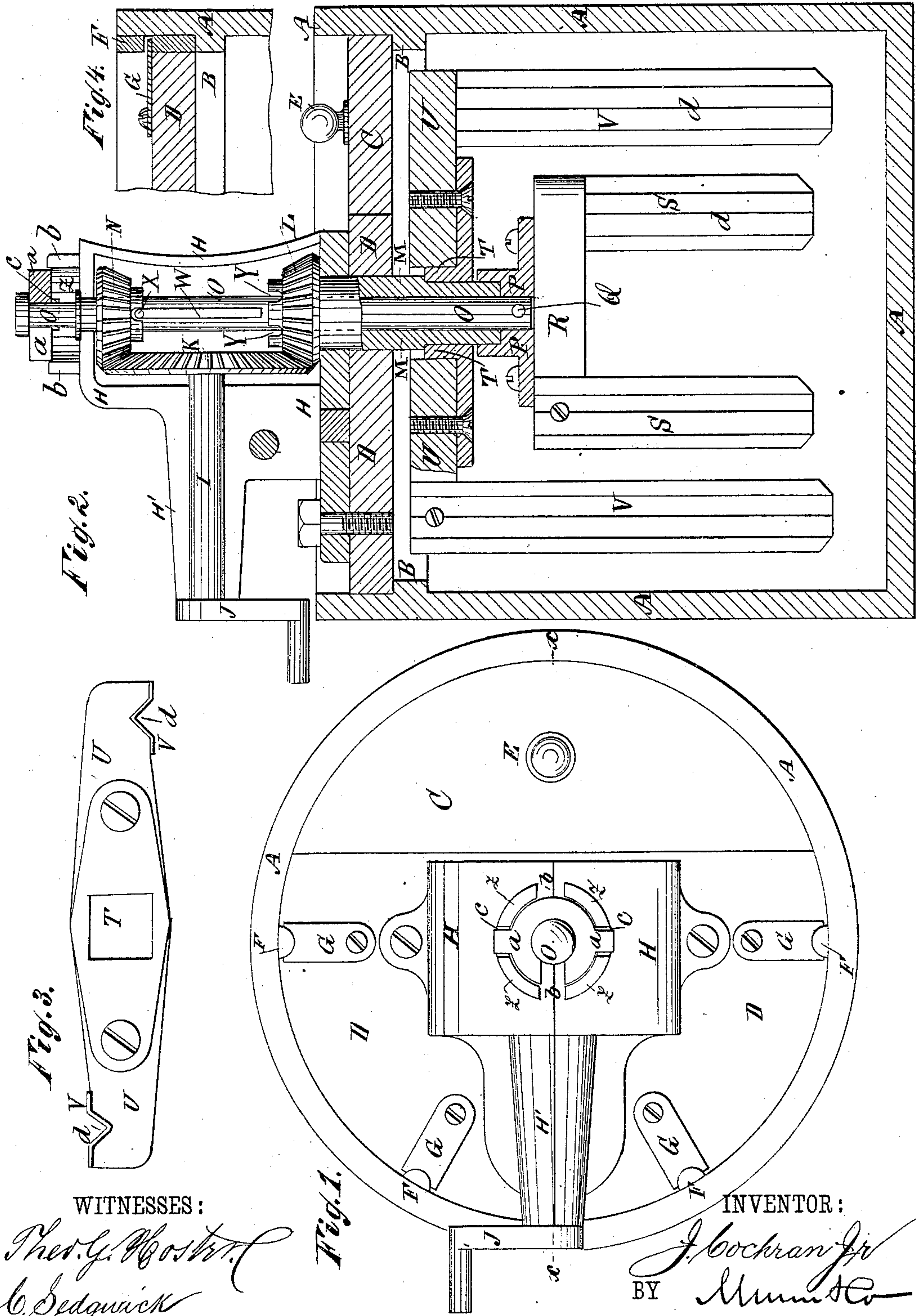
(No Model.)

J. COCHRAN, Jr.

CHURN.

No. 256,975.

Patented Apr. 25, 1882.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

JOHN COCHRAN, JR., OF MILLWOOD, MISSOURI.

## CHURN.

SPECIFICATION forming part of Letters Patent No. 256,975, dated April 25, 1882.

Application filed September 8, 1881. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN COCHRAN, Jr., of Millwood, in the county of Lincoln and State of Missouri, have invented a new and Improved Churn, of which the following is a full, clear, and exact description.

In the accompanying drawings, Figure 1 is a plan view of my improvement. Fig. 2 is a sectional side elevation of the same, taken through the line *xx*, Fig. 1. Fig. 3 is a bottom view of the outer dasher. Fig. 4 is a sectional elevation of a part of the churn-body and cover, showing the cover-fastening.

Similar letters of reference indicate corresponding parts.

The object of this invention is to facilitate the operation of churning and promote convenience in manipulating the churning apparatus.

The invention consists in a novel construction and arrangement of parts, as hereinafter described.

A represents the churn-body, which is made cylindrical in form and with a shoulder, B, upon its inner surface, near its upper end, to receive and support the cover. The cover is made in two unequal parts, C D, which rest upon the shoulder B. The smaller part, C, is loose, and is provided with a knob or other handle, E, so that it can be conveniently removed to allow the contents of the churn to be inspected.

In the curved edge of the larger part, D, of the cover are formed three recesses, more or less, to receive ribs F, attached to the inner surface of the churn-body A and extending upward from the shoulder B. The ribs F have cross-grooves formed in them above the upper surface of the part D of the cover to receive the buttons G to lock the said part of the cover in place. The buttons G are pivoted to the top of the part D of the cover in such positions that they can be turned into and out of the grooves of the ribs F to lock and release the said part of the cover.

To the part D of the cover is secured by screws or other suitable means the base-plate of a casing, H, which incloses and supports the driving-gearing, and which is made in two parts secured to each other by bolts. The casing H is made with an outwardly-projecting arm, H', in which revolves a short horizontal shaft, I.

To the outer end of the shaft I is attached the crank J, by means of which the churning apparatus is operated. To the inner end of the shaft I is attached a large beveled-gear wheel, K, the teeth of the lower part of which mesh into the teeth of a small beveled-gear wheel, L, attached to or formed upon the upper end of the hollow shaft M. The shaft M passes down through and revolves in a bearing in the part D of the churn-cover in such a position as to be in the central line of the churn-body. The teeth of the upper part of the gear-wheel K mesh into the teeth of a small bevel-gear wheel, N, which revolves loosely upon the shaft O, and is swiveled to the top of the casing H. The shaft O passes down through the interior of the hollow shaft M, and its lower end fits into a hole in the bottom of the socket P, where it is secured in place by a pin or key, Q, passed through the said socket and shaft. The base-plate of the socket P is secured to the upper side of a short cross-bar, R, to the forward side of each end of which is attached the upper end of an arm or paddle, S, the cross-bar R and the arms S forming the inner dasher. The lower end of the hollow shaft M is round and works in the socket P. The lower part of the hollow shaft M, just above the socket P, is squared to fit into the square socket T, which is fitted into a hole in the cross-bar U, and its base-plate is secured to the lower side of the said cross-bar.

To the forward side of each end of the cross-bar U is attached an arm or paddle, V, the cross-bar U and the arms V forming the outer dasher. With this construction the base-plate of the socket T of the outer dasher rests upon the upper end of the socket P of the inner dasher, so that both dashers are kept in place by a single key, Q, and can thus be readily and quickly detached when required.

Upon the shaft O, between the gear-wheels L N, are formed or to it are attached one or more tongues, W, of a length a little less than the distance between the gear-wheels L N. With this construction, when the shaft O is raised the tongues W engage with notches or recesses X in the lower end of the hub of the gear-wheel N, so that the said gear-wheel N will carry the said shaft O with it in its revolution, and the two dashers U V and R S will be rotated in



opposite directions by the revolution of the gear-wheel K. When the shaft O is lowered the lower ends of the tongues W engage with notches or recesses Y in the upper end of the hub of the gear-wheel L, so that the said gear-wheel L will carry the said shaft O with it in its revolution, and the two dashers U V and R S will be rotated in the same direction by the revolution of the gear-wheel K. The shaft O projects above the top of the casing H and above the upper edge of the ring-flange Z, formed upon the said casing, so as to pass through the cross-head *a*. The upper end of the shaft O has a head formed upon or attached to it, which rests upon the cross-head *a* and swivels the said shaft to the said cross-head.

In the opposite parts of the ring-flange Z are formed two deep slots or recesses, *b*, to receive the arms of the cross-head *a* when the shaft O is to be lowered for the tongues W to engage with the gear-wheel L. In the opposite parts of the ring-flange Z, and midway between the deep recesses *b*, are formed shallow recesses *c* to receive the arms of the cross-head *a* when the shaft O is raised for the tongues W to engage with the gear-wheel N, so that the shaft O will be supported securely in either position.

In the rear side of each of the dasher-arms S S V V is formed a vertical groove or channel, *d*, as shown in Fig. 3, through which, as the dashers are carried forward, air will pass down into and be distributed through the milk, hastening the formation of the butter.

The forward sides of the dasher-arms S S V V are made V-shaped, so that they will pass easily through the milk.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a churn, the combination, with the gear-wheels L N, provided with the recesses X Y, and the shaft O, provided with the tongues W, of the ring-flange Z, provided with recesses *c*, and the cross-head *a*, provided with arms projecting from opposite sides, substantially as and for the purpose set forth.

2. In a churn, the combination, with the casing H, the shaft O, and the ring-flange Z, provided with recesses *b*, of the cross-head *a*, provided with arms projecting from its opposite sides, substantially as and for the purpose set forth.

JOHN COCHRAN, JR.

Witnesses:

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HENRY T. MUDD.