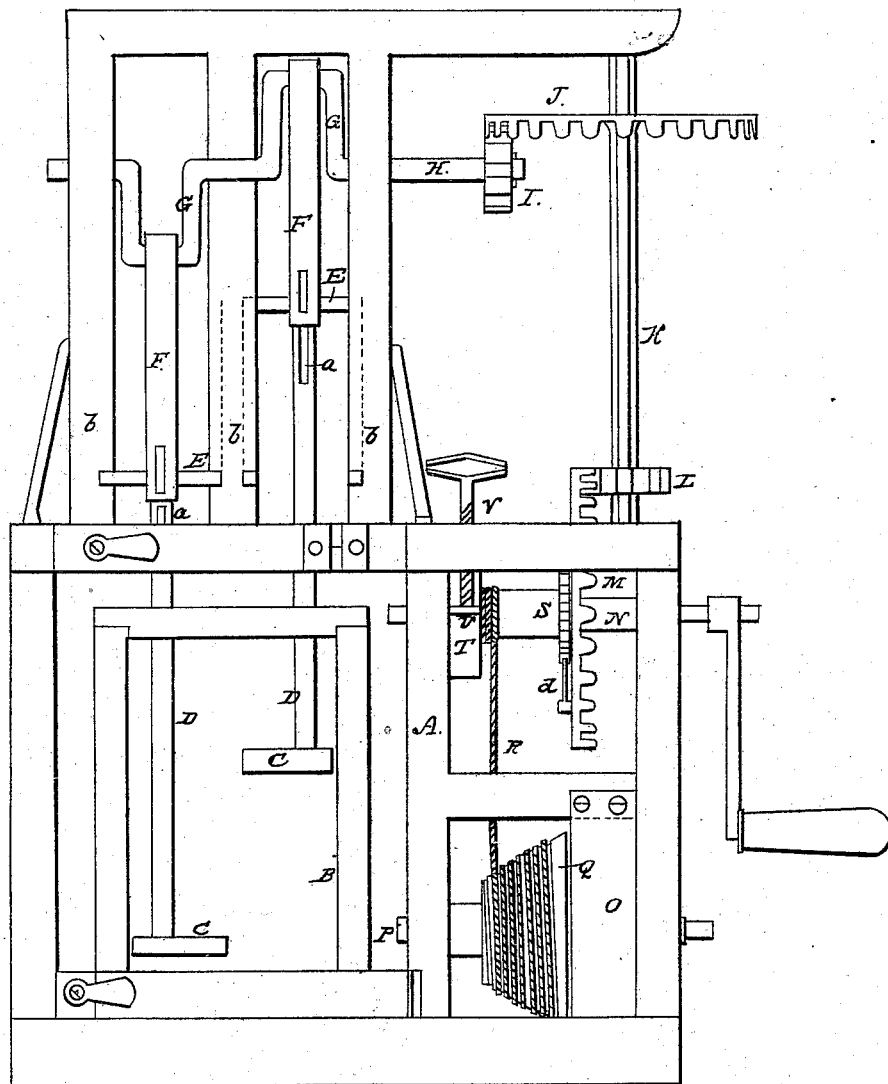


Mode of Operating Churns.

Patented June 6, 1865.



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UNITED STATES PATENT OFFICE.

JACOB REDDING, OF NEW CASTLE, INDIANA.

IMPROVEMENT IN THE MODE OF OPERATING CHURNS.

Specification forming part of Letters Patent No. 48,094, dated June 6, 1865.

To all whom it may concern:

Be it known that I, JACOB REDDING, of New Castle, in the county of Henry and State of Indiana, have invented a new and Improved Means for Operating Churns; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing, forming a part of this specification.

The drawing represents a sectional elevation of my invention.

This invention relates to a new and improved means for operating churns, whereby manual labor for that purpose is dispensed with, as hereinafter fully shown and described.

A represents a framing in which a quadrilateral or other proper shaped cream-box, B, is placed, and C C are two dashers which work in the box B and have their rods D D connected at their upper ends by links *a a* to cross-heads or horizontal rods E E, the ends of which work in grooves in the sides of up-rights *b* of the framing. These cross heads or rods E E are connected by pitmen F F to cranks G G, having a reverse position on a horizontal shaft, H, so that when said shaft H is rotated the dashers C C will rise and fall and work or move in opposite directions relatively with each other, as will be fully understood by referring to the drawing. On one end of the shaft H there is a bevel-pinion, I, into which a bevel-wheel, J, on a vertical shaft, K, gears, the latter having a bevel-pinion, L, upon it, which gears into a bevel-wheel, M, on a horizontal shaft, N, the wheel M being placed loosely on shaft N, but connected to it by a ratchet, *c*, and pawl *d*, so that said wheel will be turned when the shaft N is turned in one direction, but allowed to remain stationary when turned in the opposite direction.

O is a cylindrical box or case, secured in the framing A below shaft N, and having within it a coil or barrel spring, which is connected to a shaft, P, having a cone-pulley, Q, upon it, around which a cord, R, is wound, said cord also winding over a drum, S, on shaft N,

and serving as a means for transmitting the power of the spring to the shaft N and machinery connected therewith. The shaft N has a pulley, T, upon it, against which a bar or plate, U, may be pressed with greater or less pressure by means of a screw, V. This bar or plate U serves as a brake to regulate or control the power of the spring and the speed of the dashers, as may be required.

The operation is as follows: The coil or barrel spring is wound up by turning the shaft N through the medium of a crank or key, the cord R being wound upon the drum S, and the wheel M remaining stationary in consequence of not being connected with shaft N when the latter is turned for thus winding up the spring. The coil or barrel spring rotates shaft N through the medium of the cord R, the gradually-diminishing power of the spring being compensated for by the cone Q, which is in effect a fusee, the cord R winding on Q from its larger to its smaller or outer end. Motion is communicated from the shaft N to shaft K by means of the gearing L M, and motion communicated to shaft H from K by means of the gearing J I. By this arrangement it will be seen that the churn may be operated without any manual application of power, and thereby much labor will be saved. The spring of course must be of such a size and strength as to operate the churn a sufficient length of time to produce all the butter contained in the cream.

I am aware that helical springs and fusees have before been used for driving churns.

While disclaiming novelty in the separate devices of which my invention is made up, I claim and desire to secure by Letters Patent—

The general arrangement of the vertical dashers C D, pitman F, crank-shaft G H, gearing I J K L M, drum S, cord R, pulley Q, and spring-box O, all as herein described, and for the purposes set forth.

JACOB REDDING.

Witnesses:

THOMAS B. REDDING,
F. E. BARNARD.