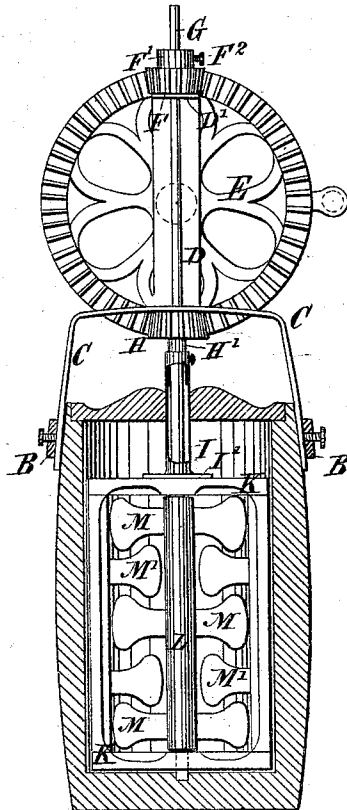


H. J. WATTLES & A. D. CABLE.

Rotary-Churns.

No. 150,734.

Patented May 12, 1874.



Witnesses

John C. Ford.
Jno. D. Patten.

Inventor

Sam J. Wattles and
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atty.

UNITED STATES PATENT OFFICE.

HIRAM J. WATTLES, OF ROCKFORD, ILLINOIS, AND AUSTIN D. CABLE, OF MONTREAL, CANADA.

IMPROVEMENT IN ROTARY CHURNS.

Specification forming part of Letters Patent No. **150,734**, dated May 12, 1874; application filed May 5, 1873.

To all whom it may concern:

Be it known that we, HIRAM JOHN WATTLES, of the city of Rockford, in the county of Winnebago and State of Illinois, and AUSTIN DEMMONS CABLE, of the city of Montreal, in the district of Montreal and Province of Quebec, Canada, have invented certain new and useful Improvements in Churns; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawing, in which similar letters of reference indicate like parts, and which show a sectional elevation of the churn.

This invention has for its object so to make the operating parts of a churn that they may be readily adjusted for use in churns of different sizes; and it consists in the combination of a gear-wheel, made capable of adjustment, with a certain shaft and collars, as will be fully described hereinafter.

A is the churn-tub, of any usual size and proportion, having lid A'. To the sides of the tub are secured, at opposite points, sockets B, which receive the ends of a frame-work, C, placed transversely across the top of the tub, set-screws C' securing it in place. To C is secured a vertical piece, D, turned over at the top, as shown at D', and on a pin projecting at right angles from D revolves freely the wheel E, toothed on its face, and provided with a crank-handle or any other suitable means of rotating it. F is a gear-wheel, carried by D', intermeshing with, and rotated by, the wheel E, and having a collar, F¹, made in one with it, (or in any way firmly fastened to it,) a set-screw, F², or any other convenient means, securing this collar, at any required relative height, to the shaft or rod G, and imparting motion to it. H is another gear-wheel, similar to F, and rotated in the same way, but

in the opposite direction, by the wheel E. The collar H', rigidly secured to the gear-wheel H, slides freely up and down in the collar I, which, at its lower end, is flanged, as shown at I', and secured to a frame-work, K, a set-screw, or any other usual device, serving to secure H' in I at any required height; or, if desired, the cases may be reversed, and the collar H' be of sufficient diameter to receive I. The rod G passes freely through D', the frame-work C, the gear-wheel H, collar H', collar I, and frame-work K, and has its lower end stepped in the bottom of the tube A in any suitable manner, after the ordinary fashion of vertical shafts of millstones, &c. Within the frame-work K is secured, on G, a cylinder, L, from which project rows of paddles M, preferably of some such configuration as that shown, paddles M' of like shape being secured to the frame-work K. It will be readily seen that the distance between the gear-wheel H and the top of the frame-work K may be easily adjusted to suit the depth of the churn-tub into which this apparatus is introduced, the frame-work C, with the wheel E, the gears F and H, and all the other parts dependent on it, being raised or lowered on the rod G to the desired height, and secured there by the set-screw F², and in the sockets B by the set-screws C'.

What we claim as our invention is as follows:

The combination of the gear-wheel F, having adjustable collar F², with the gear-wheel H, shaft G, and collars H' I, constructed and arranged as and for the purpose set forth.

Toronto, 17th day of April, A. D. 1873.

HIRAM JOHN WATTLES.
AUSTIN DEMMONS CABLE.

Witnesses:

J. W. WATTLES,
JOSEPH E. McDOUGALL.