J. & J. M. HENDERSON, & J. NOTSON.

Motor for Operating Churn.

No. 224,430. Patented Feb. 10, 1880.

Fig: 1.

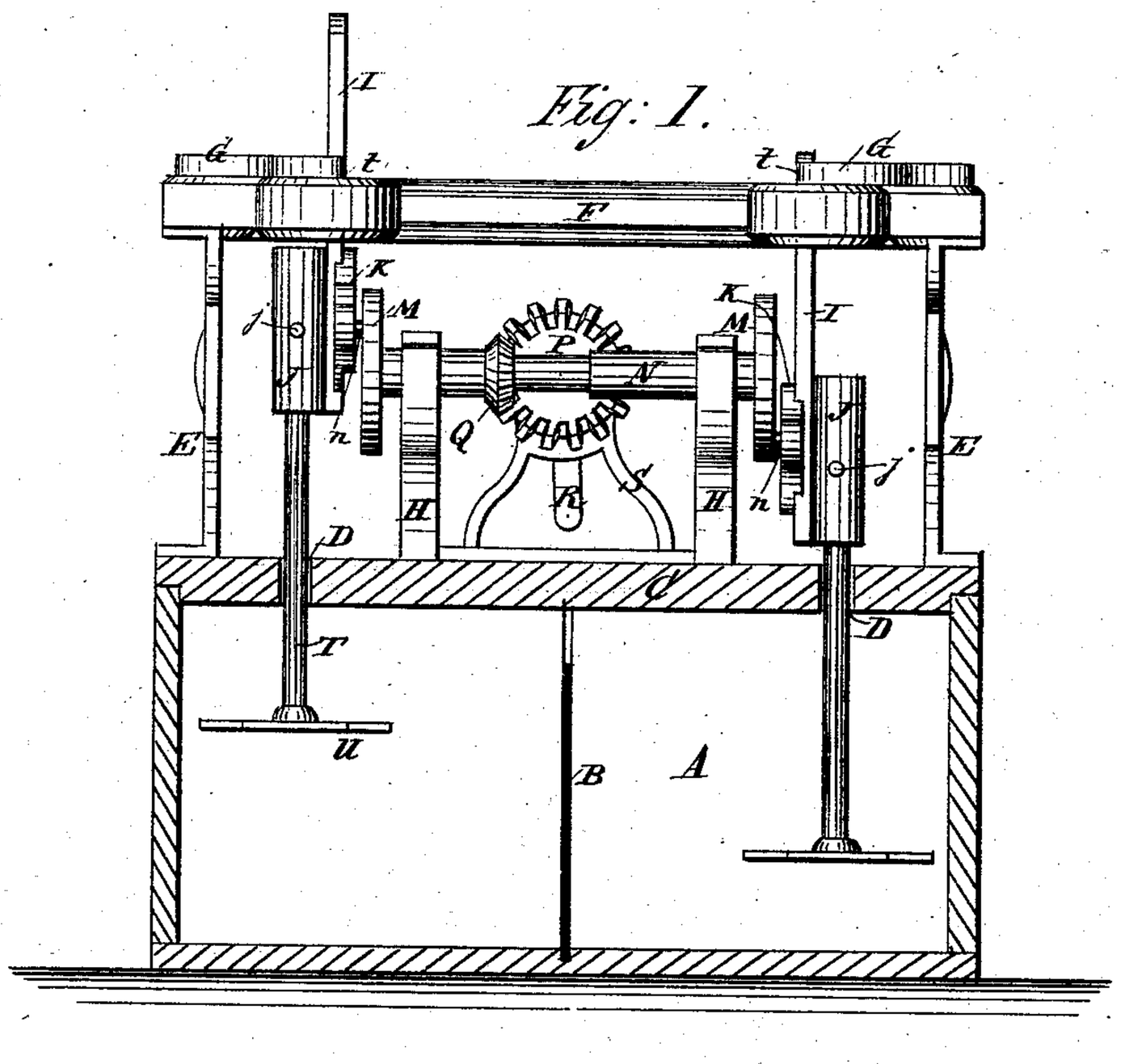


Fig: 2.

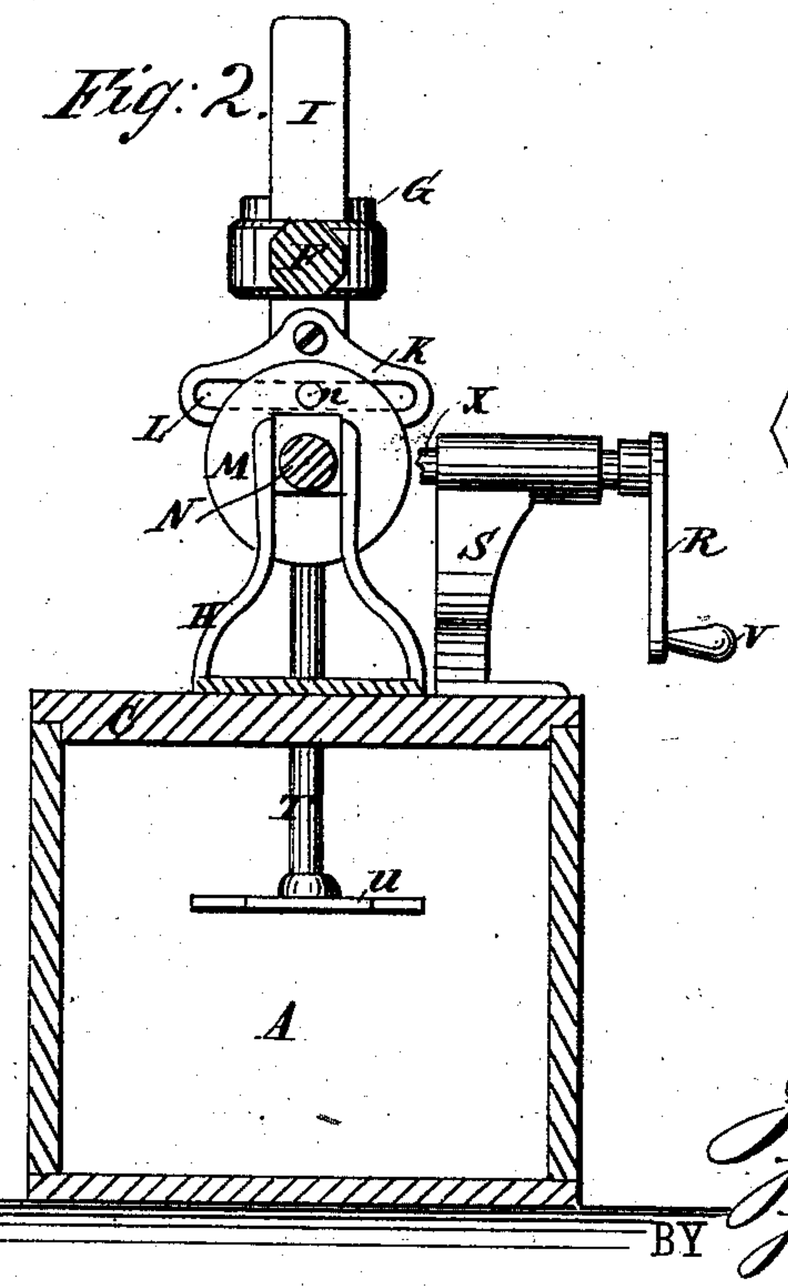


Fig: 3.

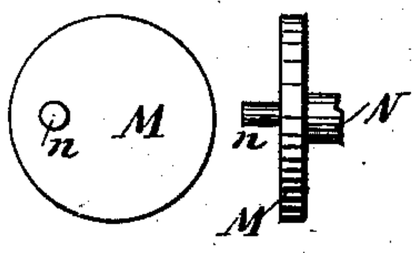


Fig: 4.

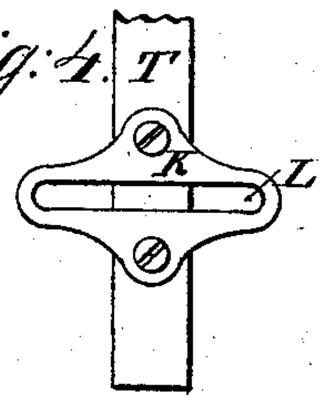
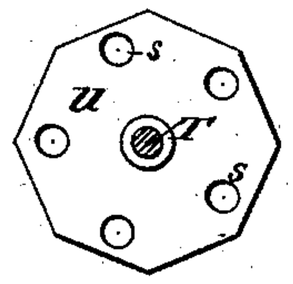


Fig: 5.



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UNITED STATES PATENT OFFICE.

JOHN HENDERSON, JEREMIAH M. HENDERSON, AND JUSTIN NOTSON, OF LEON, IOWA.

MOTOR FOR OPERATING CHURNS.

SPECIFICATION forming part of Letters Patent No. 224,430, dated February 10, 1880.

Application filed June 19, 1879.

To all whom it may concern:

Be it known that we, JOHN HENDERSON, JEREMIAH M. HENDERSON, and JUSTIN NOTSON, of Leon, in the county of Decatur and State of Iowa, have invented a new and Improved Motor for Operating Churns, of which the following is a specification.

The object of our invention is to provide a churn by means of which large and small quantities of butter can be produced, as may be desired, and which is easily operated and is simple in its parts.

The invention consists of the arrangement of two dashers, which are operated by means of two disks provided with pins that take in the slotted shafts of the dashers, these disks being fastened to the end of a horizontal shaft, which is rotated by means of a crank and bevel-gearing.

In the drawings, Figure 1 is a vertical longitudinal section. Fig. 2 is a vertical cross-section. Figs. 3 and 4 are detail views of the slotted shaft and the pin-wheel. Fig. 5 is a plan view of the dasher.

Similar letters of reference indicate corresponding parts.

A is the cream-box, which may be of any suitable form. It may be divided into two parts by means of the removable partition B.

C is the lid of the cream-box, and supports the machinery by which the churn is operated, and has two openings, D D, through which the vertical shafts T of the dashers pass.

E E are standards which support the cross-piece F. This cross-piece is slotted at *t t*, and is provided with the guide-pieces G G, which guide the bars I I. To these bars are fastened the slotted pieces K K and the cylindrical receptacles J J.

The shafts of the dashers T T fit into J J, and are secured by the pins *j j*. The standards H H support the horizontal shaft N, to ends of which the disks M M, provided with the projecting pins *n n*, are fastened.

The shaft is provided with a bevel cog-wheel, Q, the teeth of which take in the teeth of the bevel cog-wheel P, which is double the size of Q, and is secured to the end of the shaft X, which is at right angles to N, and is supported by the standard S. It is provided with a crank, R, and handle V.

The dash U is provided with holes *s*.

The operation is as follows: If the shaft X is rotated by means of the crank R and handle V the motion will be imparted to the cog-wheel P, and by this to the cog-wheel Q and the shaft N. As the wheel P is about double the size of Q, the shaft N will revolve about twice as fast as X. The disks M, which revolve with the shaft N, have pins *n*, which fit into the slots L of the slotted bars K, and thus transform the rotary motion into a reciprocating motion, and thus raise and depress the dasher as is required. The dasher-shaft is guided by the openings D D in the cover C and by the bars I I and guide-pieces G G. The pins on the disks M M are so arranged that one dasher is raised at the same time that the other is lowered.

The partition B is used when a small quantity of milk is to be churned. The milk is thus confined to one part of the cream-box; or the partition may also be used when different grades of milk are to be churned at the same time.

If only one dasher is to be used the other may easily be removed by drawing out the pin *j*, taking the shaft T out of the receptacle J, and the bar I out of the guide-hole *t* in the cross-piece F.

By using our churn a very large quantity of milk can be churned with the greatest ease and with great rapidity; or the churn may be adapted to churn only a very small quantity of milk, and thus one churn will answer for all quantities, and avoid the necessity of having several churns of different capacities.

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

1. The combination, with two dashers, of the rods T, passing through cover, the guide-

bars I, the receptacles J, and slotted pieces K, attached to said bars, the shaft N, having end disks, M, with pins *n* and cog-wheel Q, the shaft X, having cog-wheel P, the crank R, and the handle V, as and for the purpose described.

2. The combination of the cross-bar F, supported by standards E, the shaft M, supported by standards H, bars I, and guide-piece G, as and for the purpose specified.

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Witnesses:
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