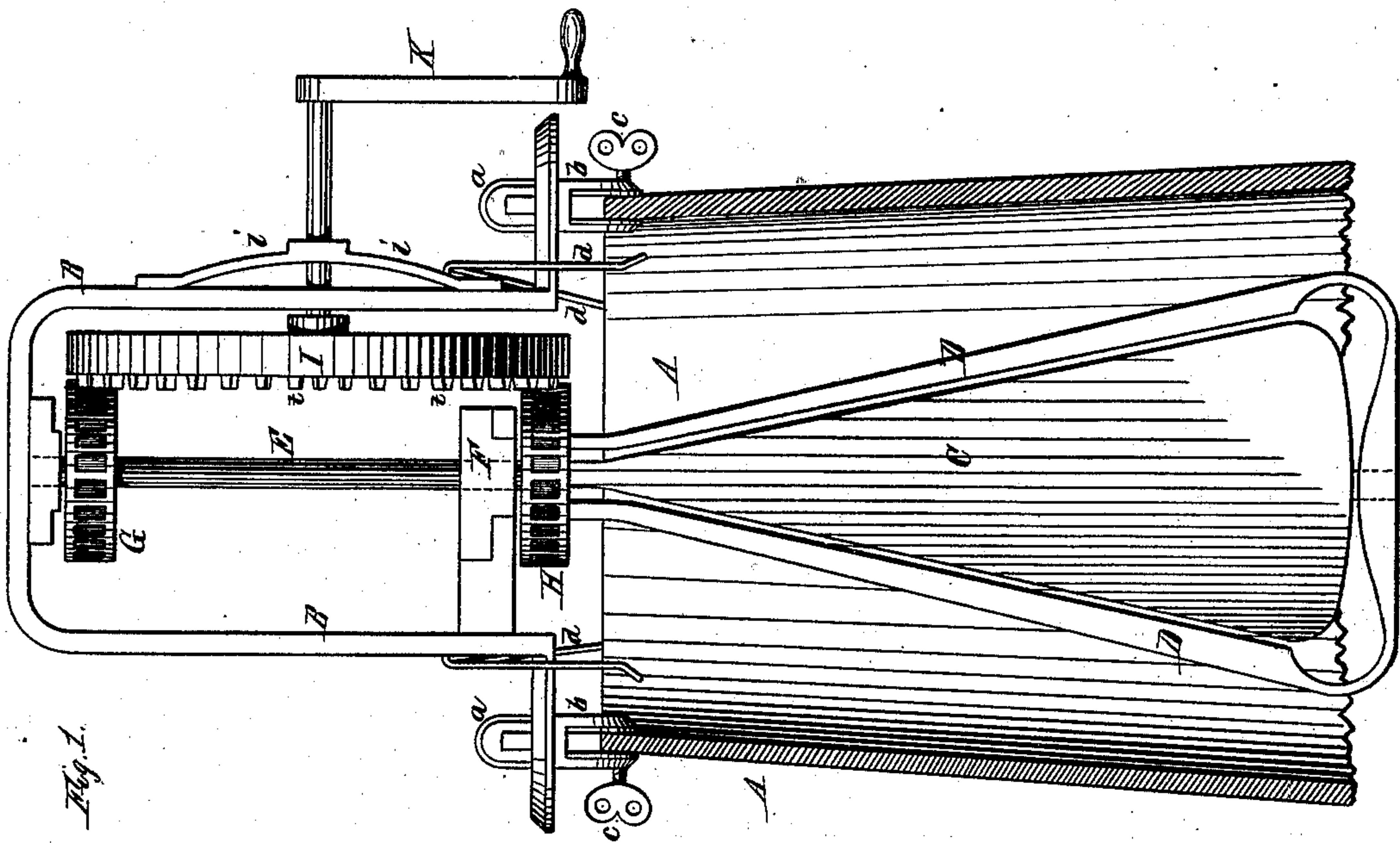
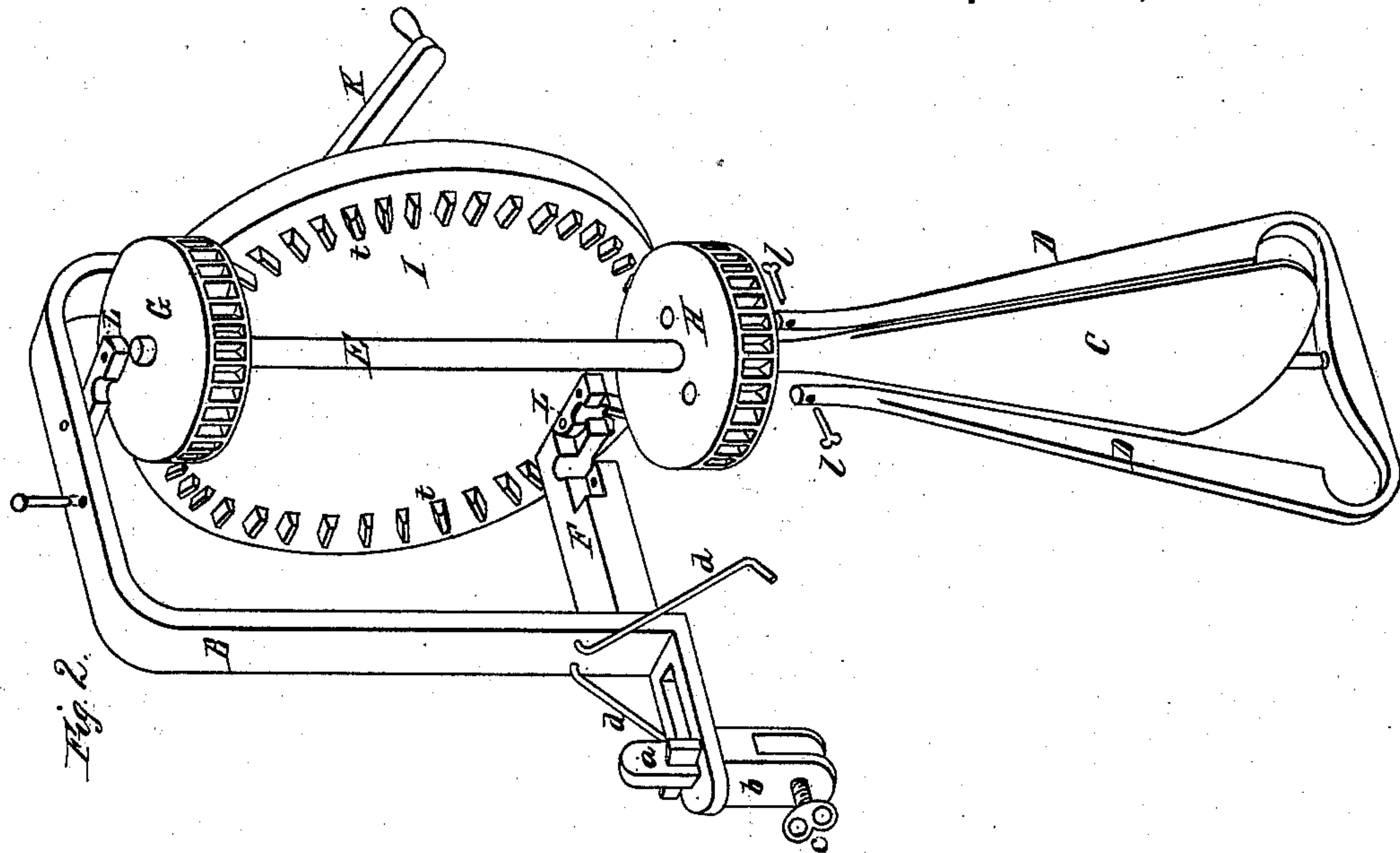


A. B. SIMPSON.  
Churn.

No. 203,083.

Patented April 30, 1878.



Attest:  
Chas. W. Searle,  
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# UNITED STATES PATENT OFFICE.

ABRAHAM B. SIMPSON, OF CARTER'S STATION, TENNESSEE.

## IMPROVEMENT IN CHURNS.

Specification forming part of Letters Patent No. **203,083**, dated April 30, 1878; application filed April 4, 1878.

*To all whom it may concern:*

Be it known that I, ABRAHAM B. SIMPSON, of Carter's Station, county of Greene, and State of Tennessee, have invented certain new and useful Improvements in Churns, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Figure 1 is a sectional elevation, showing the several parts of my improved churn as they appear when assembled for use, the body of the churn being broken away, so as to represent that portion of the apparatus which operates within it. Fig. 2 is a perspective view, showing the manner of removing the compound dasher for purposes of cleaning, &c.

Like letters in both the figures indicate corresponding parts.

The object of my invention is to produce a simple and efficient churn which shall have a compound dasher supported through the medium of the teeth upon the operating crown-wheel, have its several parts so united as to be capable of being readily dismantled for cleaning, packing, &c., and having a peculiar shape given the dasher, to facilitate the churning as well as the gathering of the butter. To accomplish this, the invention consists in certain peculiarities of construction and arrangements or combinations of parts, as will be hereinafter first fully described, and then pointed out in the claims.

A is the body of the churn, which may be of any desirable form or size, and upon this is mounted the bow B, intended to sustain the operating mechanism. The bow B has a horizontal projection at each end, forming a sort of foot, and this foot is slotted to receive the projection *a*, which sustains the sliding block *b*, and serves to clamp it in such position as to bear against the wall of the churn. The screw or key *c*, passing through the vertical portion of block *b*, serves to unite this block with the churn, so that the bow will be prevented from moving while the dasher is being operated, and the arrangement is such as to adapt the bow to be applied to churns of varying sizes, as will be readily understood. To further brace the bow, four hooks, as *d d d d*, are applied thereto, and should be held by

suitable sockets prepared for them in the wall of the churn.

The dasher, as will be observed, is composed of two parts—an inner blade, C, tapering from bottom to top, and an outer bow, D, tapering similarly, and made to revolve in a direction opposite to that of the blade C.

The central shaft E is sustained from horizontal displacement by two bearings, one in the top of the bow B, and one in the arm F, projecting outward from the vertical portion of one side of the bow; but neither of these bearings sustain the shaft from longitudinal displacement. The shaft is moved by the pinion G, rigidly attached thereto, and the bow D is moved by the pinion H, loosely mounted upon said shaft.

The dasher proper, consisting of the blade, the dasher-bow, the shaft, and the two pinions, is sustained by the teeth *t* of the crown-wheel, which are made quite long, and enter the sockets cut for them in the pinions. The shaft is stepped in the bow D, and thus the two revolving parts are made to retain their proper relative positions.

The crown-wheel I is provided with a hand-crank, K, and is firmly attached to bow B by braces *i i*, or other suitable means.

When the crown-wheel is turned it is apparent that the upper and lower pinions must move in opposite directions, and consequently the dasher-blade and its encircling bow must move in a similar manner.

In order to remove the dasher and its connections from the bow B for the purpose of cleaning them, it is only necessary to detach the collars L L, as shown in Fig. 2, which detachment releases the shaft, allowing it to be readily withdrawn.

By dispensing with any bearings for the shaft other than that formed by the teeth *t t*, the construction is made so simple as to obviate any necessity of oiling the bearings, and particularly is the construction rendered such as to simplify and facilitate the removal and replacement of the dasher, doing away with all bearings, which have to be carefully adjusted and nicely fitted in order to work well.

The bow D may be detached from the lower pinion, to which it is secured, by simply removing the pins or screws *l l*.



The tapering form given the dasher is found to be very serviceable, first, in breaking up the heavier and richer particles of cream, which naturally gravitate toward the bottom of the churn; and, secondly, by reason of its narrow top, facilitating the gathering of the particles of butter. This form, moreover, insures the thorough churning of the cream, keeping up a sort of upward and downward circulation of the particles thereof, and when the butter is ready to be gathered, by turning the wheel slowly the operation may be very satisfactorily accomplished.

The device shown is simple, comparatively inexpensive, not liable to get out of order, and withal admirably answers the several purposes and objects of the invention.

Having thus fully described my invention, I will state that I am aware that the compound revolving dasher is not new, and I do not therefore desire it understood that I lay any broad claim thereto; but

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

1. In combination with the bow which supports the operating mechanism of a churn-

dasher, the sliding blocks at the feet thereof, provided with set-screws and attaching-screws, as and for the purposes explained.

2. In combination with a churn-dasher having two parts which revolve in opposite directions, the upper and lower pinions, sustained from vertical displacement by the teeth of the crown-wheel, and from horizontal displacement by the removable collars, the whole being arranged substantially as and for the purposes set forth.

3. The herein-described churn-dasher, composed of two parts, which revolve in opposite directions, the inner part being in the form of a blade tapered from bottom to top, and stepped in the outer part, which is made parallel with the inner blade, the whole being arranged to operate substantially as shown and described.

In testimony that I claim the foregoing I have hereunto set my hand in the presence of two witnesses.

A. B. SIMPSON.

Witnesses:

AMOS ISAIH HARRISON,  
VALENTINE S. MALANEY.