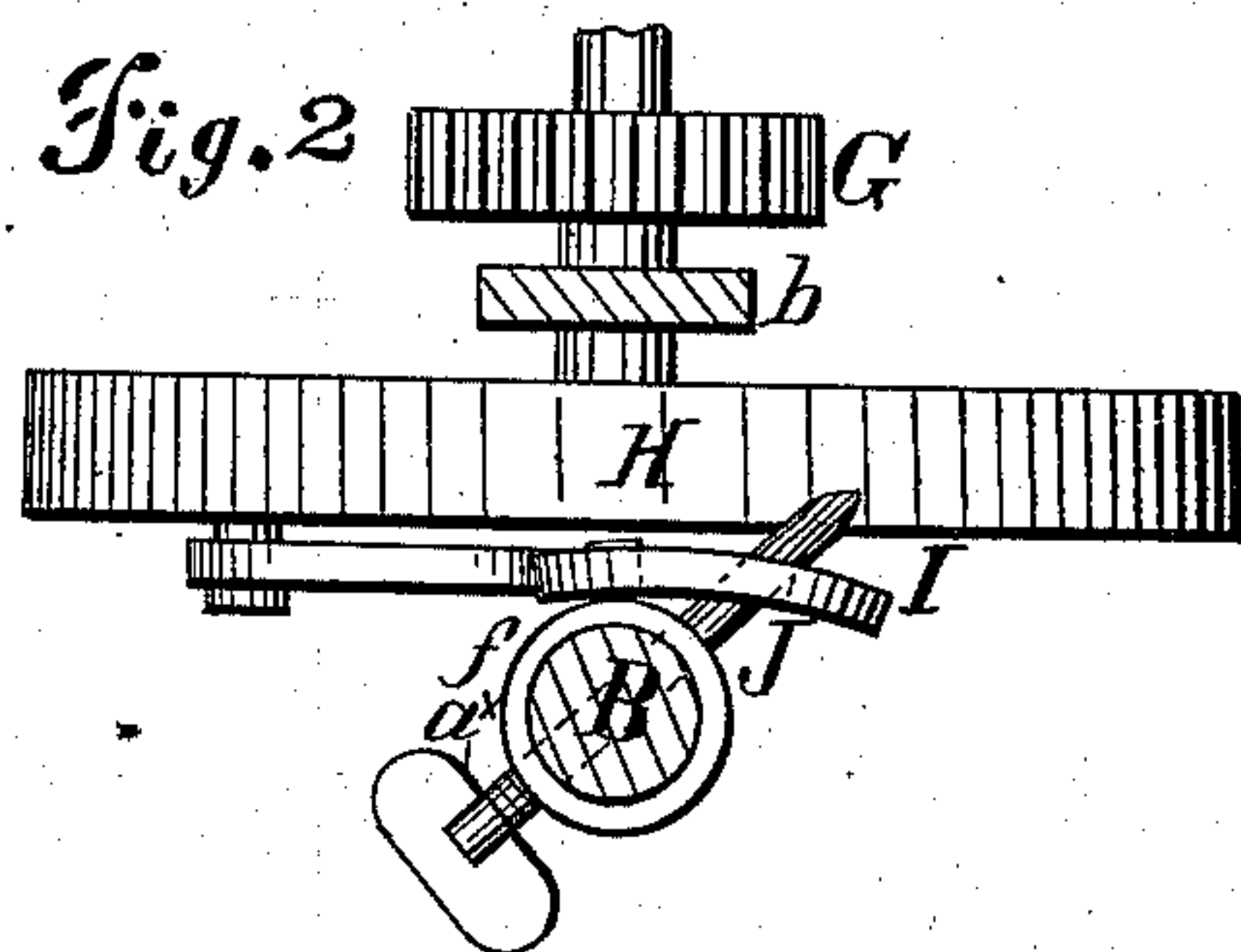
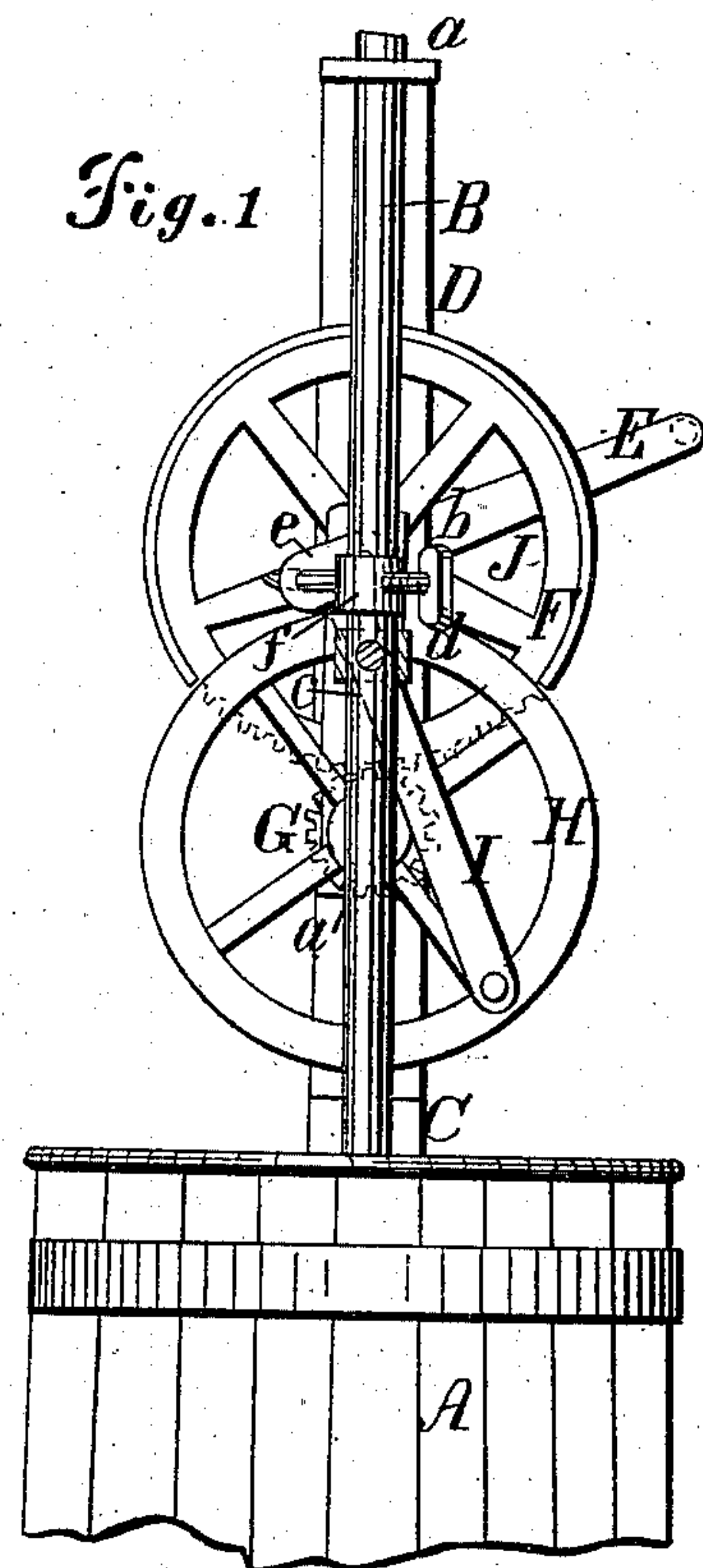


E. P. RUSSELL.

Churn.

No. 83,664.

Patented Nov. 3, 1868.



Witnesses:

Wm A. Morgan
J. C. Cotton

Inventor,

E. P. Russell

per Murray & Co.
Attorneys

United States Patent Office.

E. P. RUSSELL, OF MANLIUS, NEW YORK.

Letters Patent No. 83,664, dated November 3, 1868.

IMPROVEMENT IN CHURNS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, E. P. RUSSELL, of Manlius, in the county of Onondaga, and State of New York, have invented a new and improved Churn; 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 drawings, forming a part of this specification.

This invention relates to a new and improved churn, of that class which have an up-and-down or a reciprocating dash.

The invention consists in a peculiar means employed for operating the dash, whereby the latter is turned a portion of a revolution at the termination of its upward and downward movement, and the cream operated upon in a more favorable manner for the rapid production of butter.

In the accompanying sheet of drawings—

Figure 1 is an elevation of my invention.

Figure 2 is a plan or top view of the principal parts of the same.

Similar letters of reference indicate corresponding parts.

A represents the cream-box or receptacle, which may be of the usual or any proper form, and B is the dash-rod, which passes loosely through the centre of the lid of the receptacle A, so that it may rise and fall freely, the same as in ordinary churns of this kind.

C represents an upright bar, which is fitted in sockets attached to the side of the receptacle A, said sockets being so arranged that the upright may be readily fitted in and withdrawn from the same.

This upright has a metal bar, D, attached to it, which is provided with horizontal arms, *a a'*, the upper arm, *a*, being the longest, and serving as a guide for the upper part of the dash-rod B, which passes loosely through it. The lower arm, *a'*, has an upright portion, *b*, which serves as a bearing for one end of the two shafts of the wheels constituting the gearing of the device, the main portion of the bar D serving as a bearing for the opposite ends. The upper wheel, E, is on the driving-shaft, which has a crank, F, on its outer end, and this wheel gears into a pinion, G, on

the other shaft underneath, the latter shaft also having a fly-wheel, H, upon it, to which, near its periphery, one end of a rod, I, is attached, said rod, near its opposite end, being connected, by a pivot, *c*, to a metallic band, *d*, placed loosely on the dash-rod, and the end of the rod I, above the pivot *c*, is expanded, and has an oblong slot, *e*, made in it, for a pin, J, to pass through, said pin passing through a metal band, *f*, on the dash-rod, and also passing through the dash-rod; or, the pin J may project from the band, and the latter secured to the dash-rod by a screw, *a'*, as shown clearly in fig. 2.

By this arrangement, when the driving-wheel E is turned, through the medium of the crank F, motion is communicated, through the wheel E and the pinion G, to the lower shaft; and the fly-wheel H and rod I communicate an up-and-down movement to the dash-rod, and also turn the same about a quarter of a revolution at the termination of its upward and downward stroke, owing to the pivoted attachment of rod I to the band *d*.

This turning of the dash-rod at the termination of each stroke, is an important feature of the invention, as it serves to prevent a current or continuous flow of the cream in the receptacle in one direction—a result which would be certain to occur under one movement of the dash.

By preventing this flow, current, or movement of the cream in one direction, the particles of cream are subjected to a greater agitation than they otherwise would be, and consequently butter will be produced in less time than it can be with the ordinary up-and-down dash.

Having thus described my invention,

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

The link I, pin J, adjustable sleeve *f*, and loose band *d*, all constructed and arranged as described, for the purpose specified.

E. P. RUSSELL.

Witnesses:

FRANK BLOCKLEY,
ALEX. F. ROBERTS.