H. W. HOWLAND.

Churn.

No. 69,213. Patented Sept. 24, 1867.

Fig. 1.

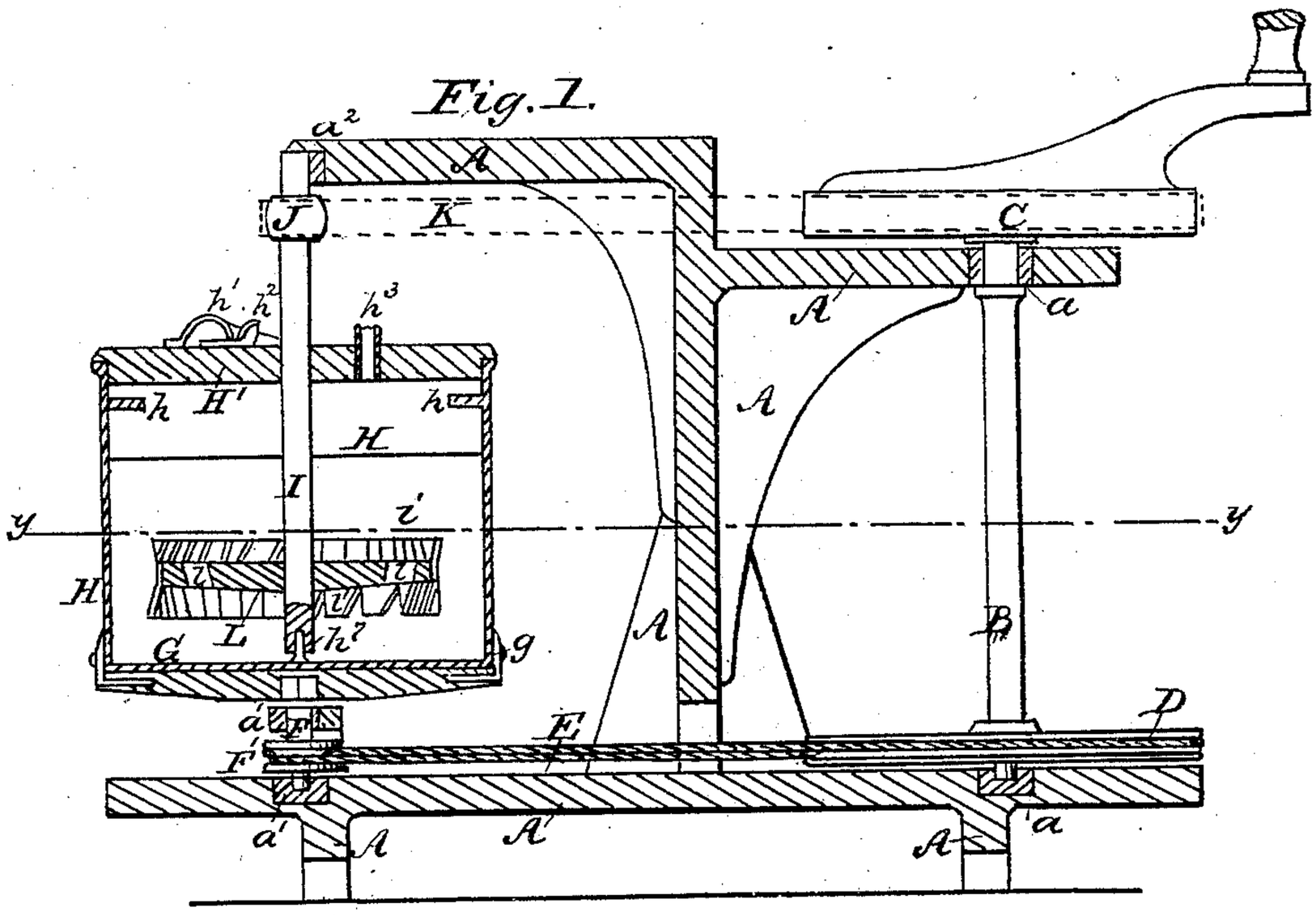


Fig. 2

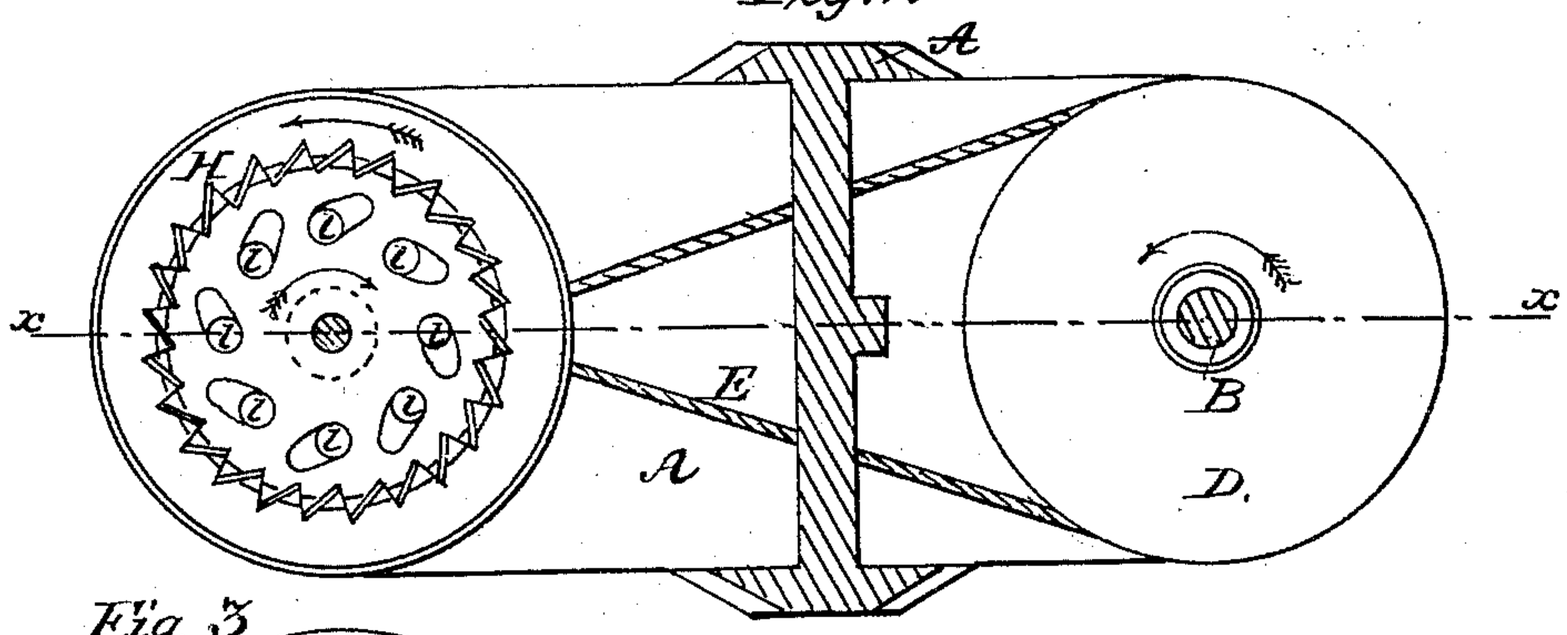


Fig. 3

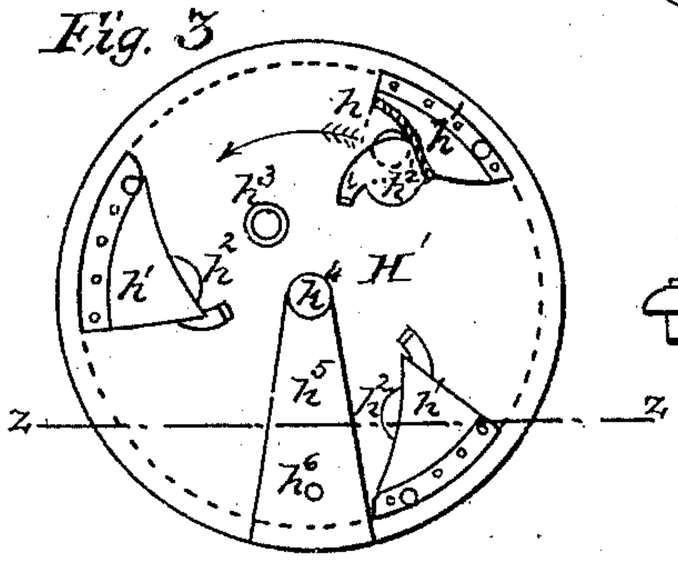
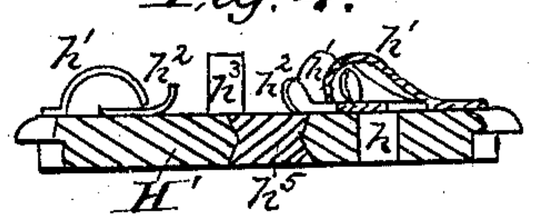


Fig. 4.



Witnesses:

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HENRY W. HOWLAND, OF CALHOUN, ILLINOIS.

Letters Patent No. 69,213, *dated September* 24, 1867.

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, HENRY W. HOWLAND, of Calhoun, in the county of Richland, and State of Illinois, have invented a new and improved Revolving Churn; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, which are made part of this specification.

My invention consists, first, in a simple arrangement for imparting a continuous rotary motion in contrary directions to the dash-rod and cream-vessel without passing either shaft through the bottom of said vessel: second, in a novel construction of dasher; third, in an arrangement for forcing the air down into the body of the cream and allowing its escape therefrom, and in the provision of slides or valves to regulate the amount of air thus forced in. In the drawings—

Figure 1 is a longitudinal section on the plane indicated by the line *x x*, fig. 2.

Figure 2 is a horizontal section on the line *y y*, fig. 1.

Figure 3 is a plan view of the top of the cream-vessel.

Figure 4 is a transverse section of the same on the line *z z*, fig. 3.

A represents the frame, which may be of any suitable construction, to form bearings for the shafting, the preferred form being represented. B is an upright shaft journalled in bearings *a a*, and having, respectively, at its top and bottom, the crank-wheel C and pulley D, the latter of which is connected by the cord or band E to the pulley F′ on the upright shaft F. This shaft is journalled at *a′ a′*, and supports on its square upper end the disk G, on which the cream-vessel H rests, it being held on it and prevented from rotating separately therefrom by the pins or brackets *g*, three or more in number, which grasp its periphery and firmly hold it on its supporting disk. This vessel is provided with a cover, H′, having holes *h* through it, which are covered by flaring caps h^1, by which, as the vessel revolves, air is forced through the holes into the cream, and slides or valves h^2, by which the amount of air thus admitted is regulated. The cover is also provided with a pipe, h^3, for the discharge of the surplus air thus admitted. It has also a central opening, h^4, through which the dash-shaft passes, its entrance being permitted by a dove-tailed slit filled by the dove-tailed slide h^5. This slide is provided with a handle, h^6, to facilitate its removal, and is held in place by the sides of the vessel H when in use. I is the dash-shaft, which is supported on the pivot h^7 in the bottom of the vessel H, and by the bearing a^2 in the frame A. This shaft is provided with a pulley, J, which is connected by the belt K to the crank-pulley C, the motion imparted being in an opposite direction to that of the cream-vessel, the belt or band by which it is rotated being crossed so as to reverse the motion. L represents the dasher, which is provided with oblique perforations *l*, which, in rotating, have a tendency to throw the cream upward and outward against the rim *h*, and its periphery is provided with a metallic strip, *l′*, of sufficient width to form a flange above and below it, which flanges are nicked and bent, as represented, so as to form a number of oblique wings, the under ones acting to throw the cream toward the centre, and the upper toward the periphery of the vessel, and thus throroughly agitate it and break its globules.

Having thus described my invention, what I claim therein as new, and desire to secure by Letters Patent, is—

1. The holes *h*, flaring caps h^1, valves or slides h^2, and discharge pipe h^4, in combination with a rotating churn, substantially as and for the purpose set forth.

2. The dasher L, constructed with oblique perforations *l* and double-oblique serrated periphery *l′*, in combination with the revolving vessel H, substantially as and for the purpose specified.

3. The arrangement of the upright shafts B F I, crank-wheel C, pulleys D F′ J, belts or bands E K, and vessel H, substantially as described.

4. The dove-tailed slide h^5, in combination with the dove-tailed slitted lid H′ and vessel H, substantially as and for the purpose set forth.

To the above specification of my new and useful improvement in revolving churns I have signed my hand this 11th day of July, A. D. 1867.

HENRY W. HOWLAND.

Witnesses:

AARON HOWLAND,

CHARLES W. CULLEN.