J. E. GIBBS.

Churn-Dasher.

No. 221,048. Patented Oct. 28, 1879.

Fig. 1.

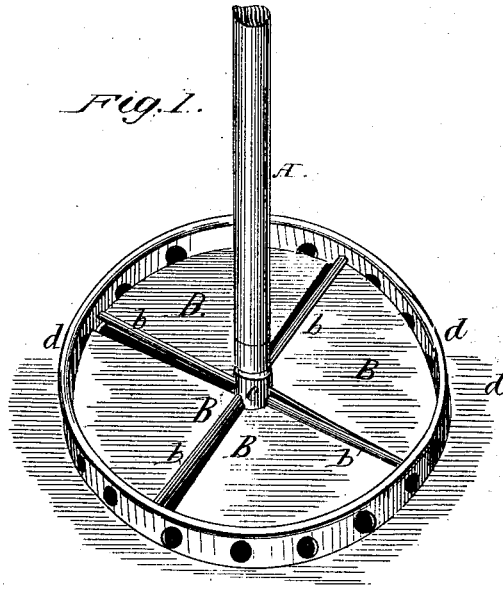


Fig. 2.

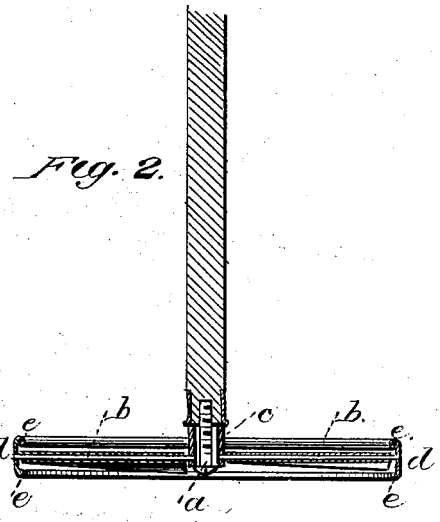


Fig. 3.

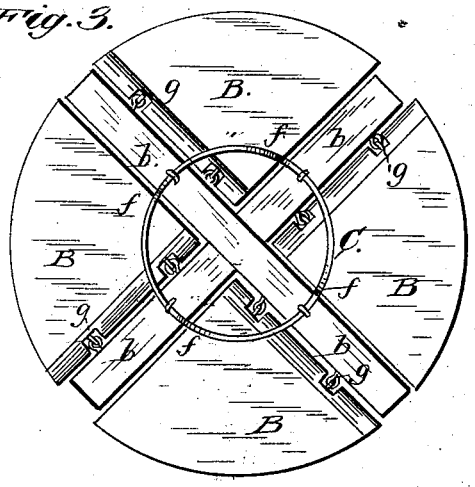
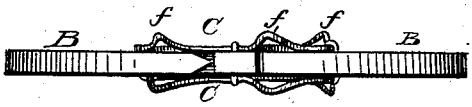


Fig. 4.



Witnesses

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UNITED STATES PATENT OFFICE.

JAMES E. GIBBS, OF SCOTTSBOROUGH, ALABAMA.

IMPROVEMENT IN CHURN-DASHERS.

Specification forming part of Letters Patent No. **221,048**, dated October 28, 1879; application filed July 21, 1879.

To all whom it may concern:

Be it known that I, JAMES E. GIBBS, of Scottsborough, in the county of Jackson and State of Alabama, have invented certain new and useful Improvements in Churn-Dashers; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a perspective view. Fig. 2 is a longitudinal vertical section. Fig. 3 is a plan or top view representing a somewhat modified construction of the dasher, and Fig. 4 is a side view of the same.

Similar letters of reference indicate corresponding parts in all the figures.

This invention has relation to reciprocating churn-dashers used in vertical or upright churns; and consists in the combination, with the dasher-staff, of a rotary circular dasher pivoted thereon and provided with sectoral blades or paddles hinged along one of their straight edges and having a limited upward and downward movement independent of each other, and so arranged that in operating the dasher it will have a continuous rotary motion in one direction, substantially as and for the purpose hereinafter more fully set forth.

In the drawings, A is the dasher-staff, which is provided with a sleeve or thimble at its lower end, and with a screw or bolt, *a*, which forms a pivot for the circular dasher. This consists of four arms, *b b b b*, extending at right angles to each other, from a central sleeve, *c*, through which the headed screw or bolt *a* is inserted, as shown more clearly in Fig. 2 of the drawings.

The ends of the arms *b* are inserted into a circular perforated rim, *d*, having a bead or inwardly-turned flange, *e e*, at its upper and lower edges, which limit the upward and downward movement, respectively, of the dasher blades or paddles B B B B, each of which is in the shape of a quadrant or the fourth part of a circle, and hinged at one side or edge upon the arms *b*.

If the dasher with its blades is made of wood, the modified construction represented in Figs. 3 and 4 of the drawings is preferable, owing to the nature of this material. In that case I dispense with the annular flanged rim *d*, substituting in its place a stout wire ring, C, bent so as to form shoulders *f f*, which limit the play of the hinged paddles B, there being one of these shouldered wires on each side of the dasher, secured in the arms *b* by staples *g*.

The wooden paddles are beveled upon that side to which they are hinged upon the arms, to allow of their easy up-and-down motion between the wire rings C C.

From the foregoing description, taken in connection with the drawings, the operation of my improved churn-dasher will be readily understood.

As the dasher is reciprocated vertically in the cream, the hinged blades or paddles will swing upon their arms, so as to present oblique surfaces, like the blades of a propeller-wheel, and thus rotate the dasher, which is pivoted upon the end of the staff.

As the motion of the staff is reversed, the position of the hinged blades will also be reversed, and it follows that the dasher will continue its rotation in the same direction as before, instead of reversing, as would be the case with an ordinary propeller-wheel with fixed blades. This makes it much easier to operate, and as the dasher comes in contact with the cream at all points, it aerates it better, causing a vacuum in the center of the churn when the dasher is raised above the surface of the cream, which catches the air and forces it down into the body of the cream and out through the perforated flange *d*, the dasher being made of such size as to fit tolerably closely in the churn.

As the dasher, in operating it, makes one continuous revolution, at the rate of from five hundred to seven hundred revolutions per minute, in a direction opposite to that of the

cream, the dasher and the cream will be brought into thorough and effective contact with each other, thus causing the butter to be made rapidly and with comparatively little effort.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

A churn-dasher, consisting of the staff A, pivoted sleeve *c*, having radiating arms *b b b b*, hinged blades or paddles B B B B, and perforated rim *d*, having flanges *e e*, substantially as and for the purpose set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

JAMES EDWIN GIBBS.

Witnesses:

RUFUS P. PAYNE,

D. KING CALDWELL.