

J. E. GIBBS.
Reciprocating Churn.

No. 209,249.

Patented Oct. 22, 1878.

Fig: 1.

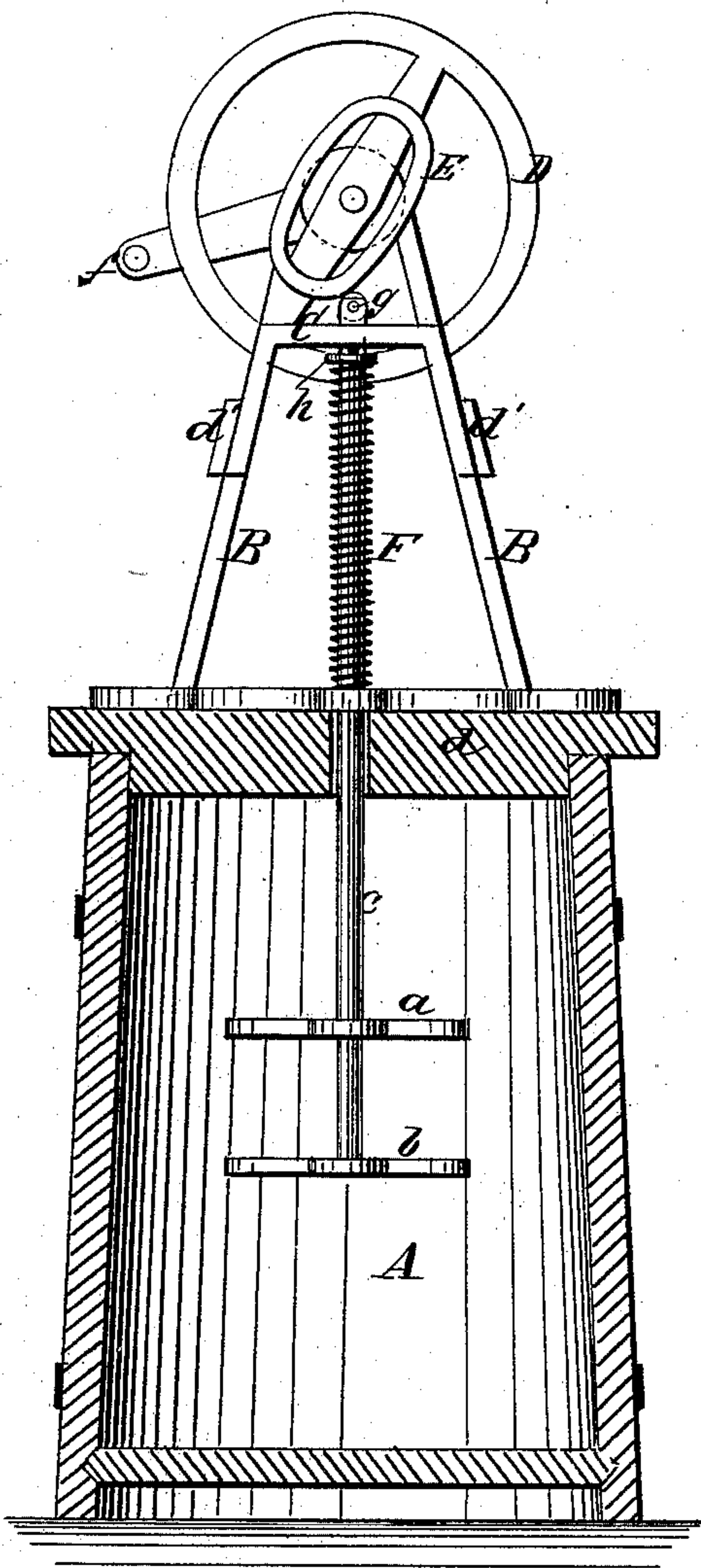
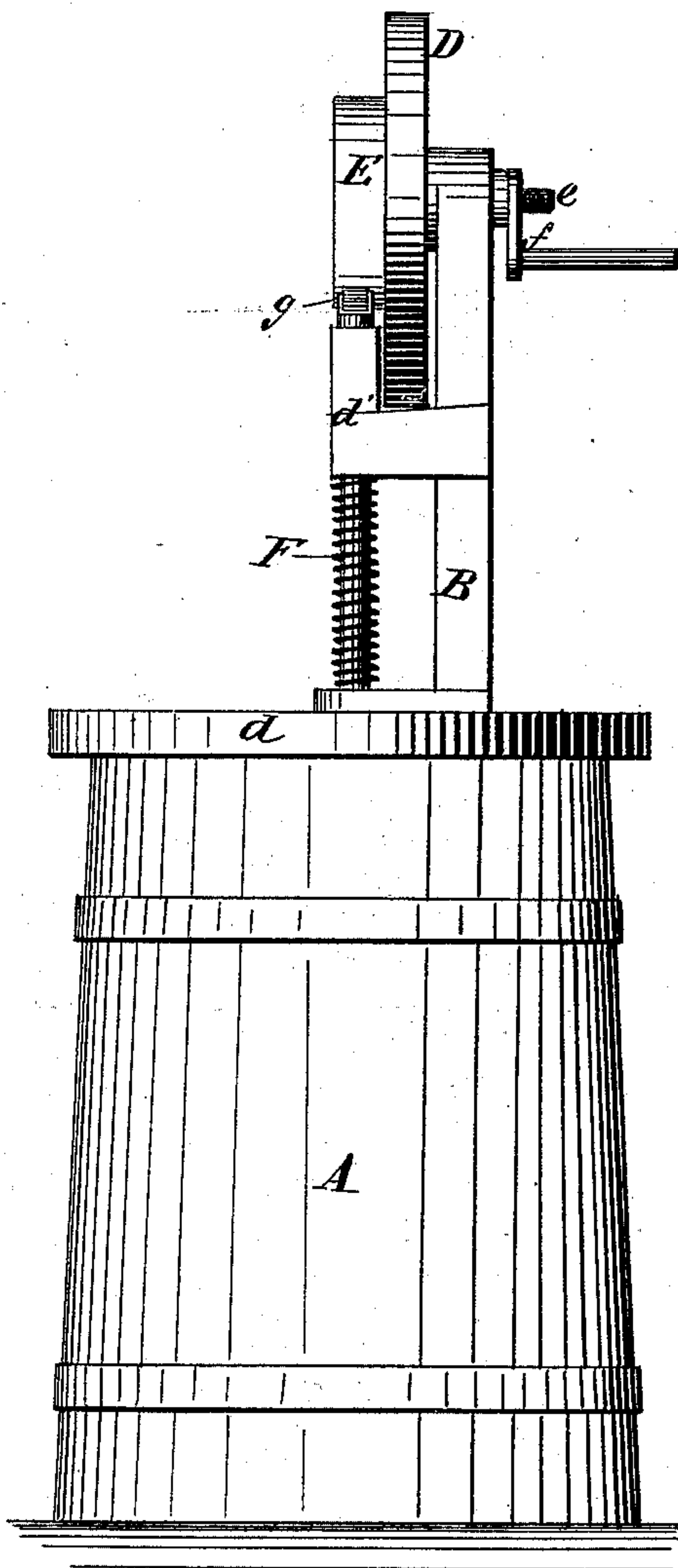


Fig: 2.



WITNESSES:

Achilles Schrehl.
C. Sedgwick

INVENTOR:

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ATTORNEYS.

UNITED STATES PATENT OFFICE.

JAMES E. GIBBS, OF SCOTTSBOROUGH, ALABAMA.

IMPROVEMENT IN RECIPROCATING CHURNS.

Specification forming part of Letters Patent No. **209,249**, dated October 22, 1878; application filed August 27, 1878.

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 a new and useful Improvement in Churns, of which the following is a specification:

The invention will first be described in connection with the drawing, and then pointed out in the claim.

In the accompanying drawings, forming part of this specification, Figure 1 is a vertical section of a churn provided with my improvements, and Fig. 2 is an elevation of the same.

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

Referring to the drawings, A represents an ordinary barrel-churn provided with two dashers, *a b*, attached to a staff, *c*, and a top, *d*. A triangular frame of metal, B, is attached to and rises above the top of the churn, having at the apex of the triangle a journal-bearing. On one side of the triangular frame, to two arms, *d' d'*, projecting therefrom, a guide, C, is fixed, having a hole through which the dasher-staff *c* is passed. A short shaft, *e*, is passed through the bearing, and on one end thereof is fixed a crank, *f*, and on the opposite end a balance-wheel, D. On the same center, cast to the spokes of the balance-wheel, is an elliptical cam, E. The dasher-staff has at its upper end a friction-wheel, *g*, which bears against the face of the cam E. A spiral spring, F, is placed upon the dasher-staff, the lower end bearing against the top of the churn and the upper end against a collar, *h*, fixed to the staff just below the guide.

Having thus described my invention, I will proceed to describe its operation.

When the crank is turned the faces of the cam in the direction of its major axis drive the dashes downward into the churn twice during every revolution of the crank, while the spiral spring, pressing against the collar on the staff, being retracted by the downward pressure as soon as the faces of the cam in the direction of the minor axis come in contact with the friction-roller on the staff, act on the staff, throw the dasher upward, and thus a reciprocating motion is obtained of much greater rapidity than can be obtained in the ordinary construction of churn, as every revolution of the crank-shaft produces two reciprocations of the dasher. At the same time there is no undue friction, as the friction-wheel relieves the pressure of the cam on the staff; neither is there any appreciable lost motion, as the spring keeps the staff constantly in contact with the face of the cam.

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

The balance-wheel D, provided with elliptical cam E at one side, in combination with a dasher-staff, having a friction-wheel, *g*, at the upper end, and a circumjacent retracting-spring, as and for the purpose specified.

JAMES EDWIN GIBBS.

Witnesses:

W. H. PAYNE,
W. G. STUART.