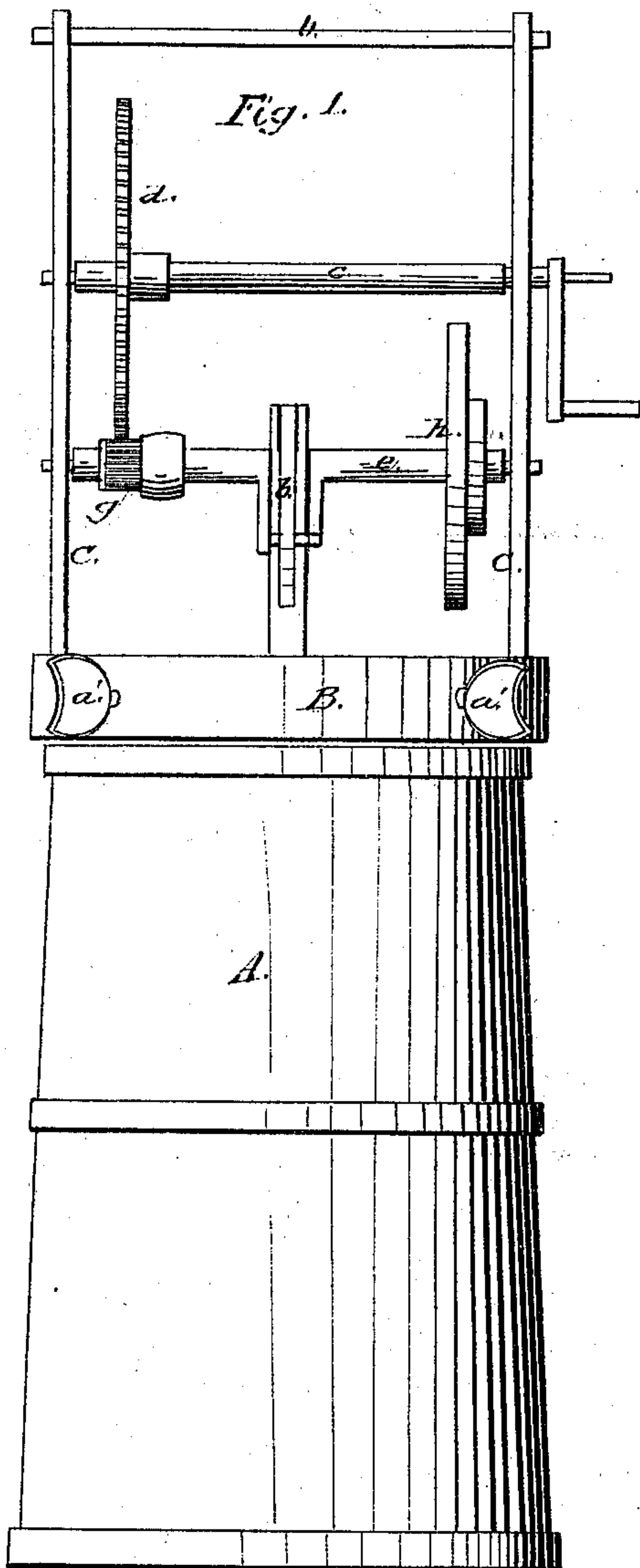
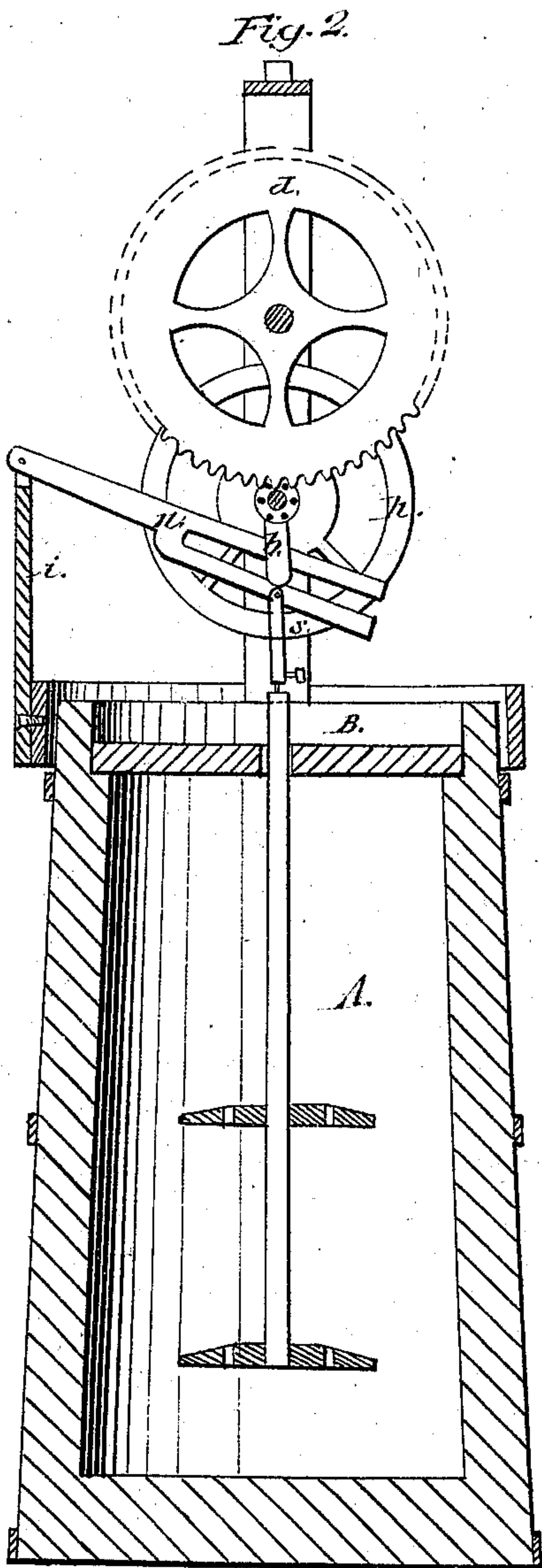


*H. E. James.*

*Churn.*

*N<sup>o</sup> 90,002.*

*Patented May 11, 1869.*



*Witnesses:*  
*James P. Graves*  
*John Hegeman*

*Inventor:*  
*H. E. James*  
*Chipman, Hooper & Co.*  
*attys.*



# United States Patent Office.

H. E. JAMES, OF WEST ALEXANDRIA, PENNSYLVANIA.

*Letters Patent No. 90,002, dated May 11, 1869.*

## 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, H. E. JAMES, of West Alexandria, in the county of Washington, and State of Pennsylvania, have invented a new and valuable Improvement in Churns; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a plan view of my device.

Figure 2 is a longitudinal section of the same.

The object of my invention is to provide for family use a churn, operated with a vertical dasher, that shall be more efficient and useful than any similar device heretofore invented; and

It consists in a novel arrangement of the mechanism by which the dasher is operated.

Butter is held in cream and milk in small capsules, and the process called churning consists in breaking the caps of these capsules and gathering the butter so released into one mass.

To accomplish this result with expedition, regard must be paid to the temperature of the fluid, but the principal means necessary consist in sharp, rapid movements of a dasher, so as to keep the fluid in constant and thorough agitation.

My device enables the operator to accomplish this object, and it is so arranged that it may be applied to nearly all upright churns without difficulty.

The letter A of the drawings represents an ordinary upright churn, to which my device may be attached.

The letter B is a ring, designed for adjustment by set-screws *a'* around the top of the churn, in the manner shown.

The letters C are standards attached to the ring B and having cross-piece *b* set in dovetails upon their summits. This cross-piece is removable.

The letter *c* is a crank-shaft, and

*d* is a pinion adjusted thereon, in the manner represented.

The letter *e* is a shaft, having a crank, *f*, at its centre, a small pinion, *g*, working with the pinion *d*, and a fly-wheel, *h*, as represented.

The letter *i* is a short standard affixed to the ring B, and letter *n* is a slotted arm pivoted thereto, as shown.

The crank *f* is adjusted in the slot of arm *n*, and operates therein, while the lower side of said arm, below the slot, is pivoted to the upper end of the dasher-handle, as shown in fig. 2.

The letter *s* is the upper end of the dasher-handle, hinged or pivoted to the handle itself in such manner as to allow sufficient play therefor, without binding or wedging in the cover of the churn.

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

The combination and arrangement of the ring B, with its set-screws, standards C and *i*, shafts *c* and *e*, pinions *d*, and slotted arm, and pivoted dasher-handle *s*, when constructed and operating substantially as and for the purposes specified.

In testimony that I claim the above, I have hereto subscribed my name, in the presence of two witnesses.

H. E. JAMES.

Witnesses:

CHAS. DOUGHERTY,  
JOHN BLAYNEY.