(No Model.)

E. A. SMITH.

CchurN.

No. 360,485. Patented Apr. 5, 1887.

Fig. 1.

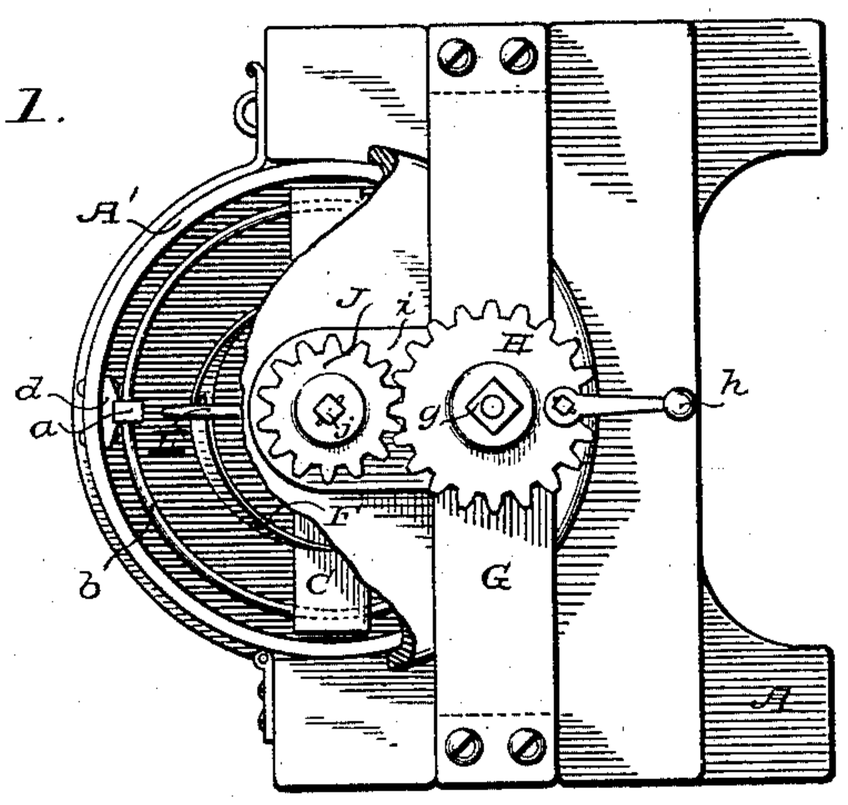


Fig. 2.

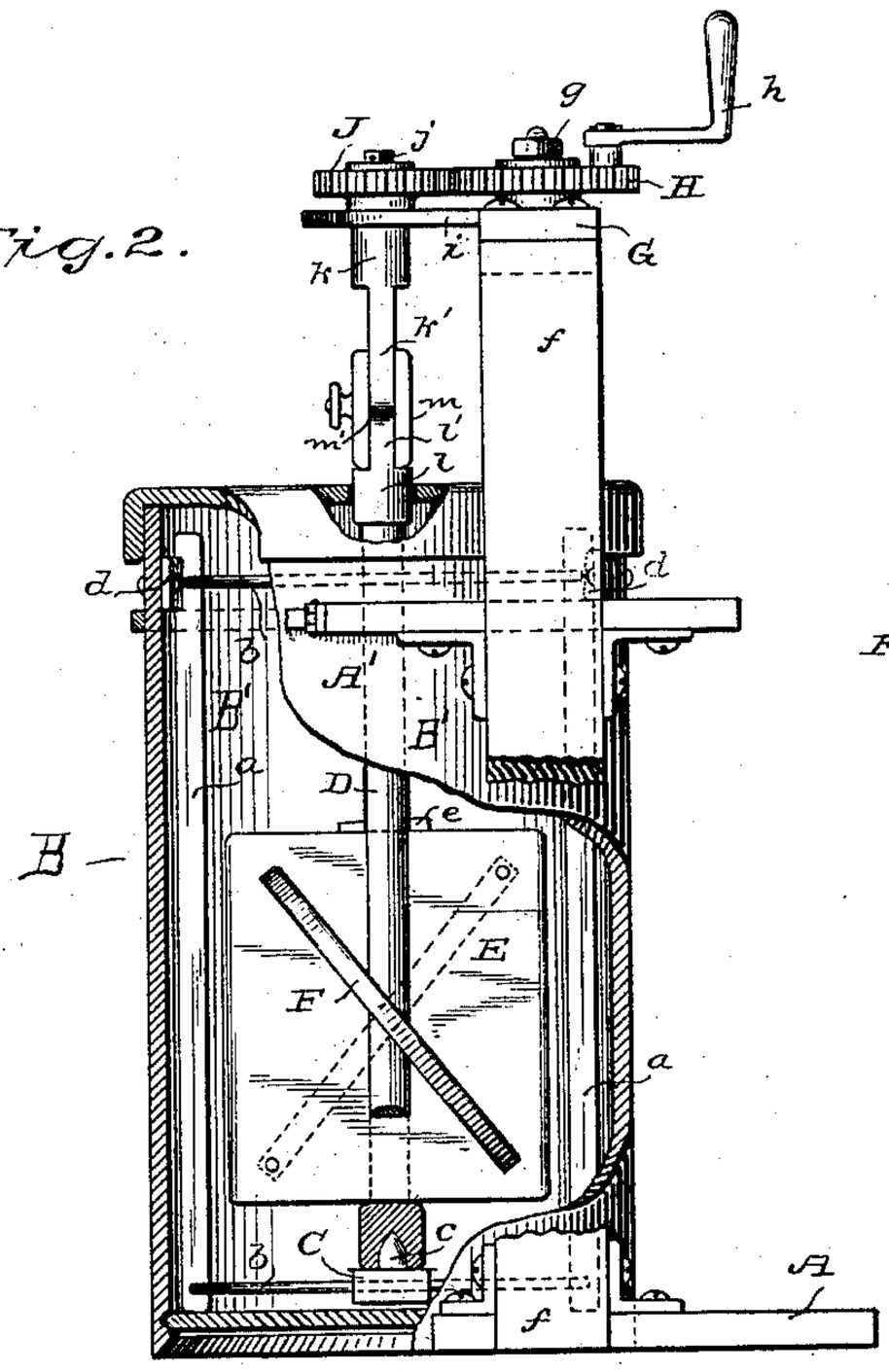
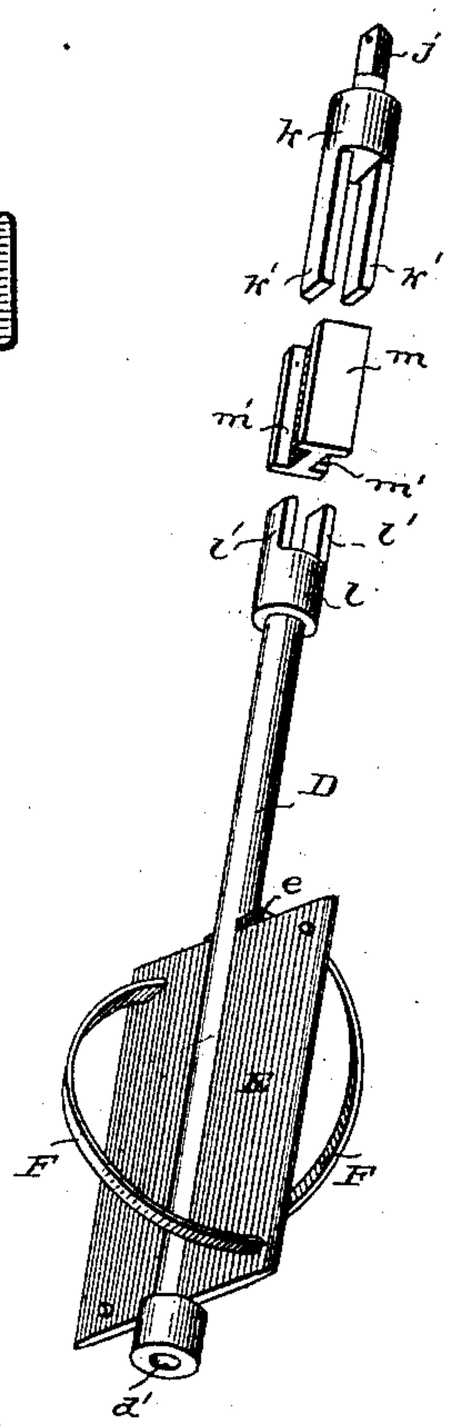


Fig. 3.



Witnesses
H. C. A. Lamb.
Geo. H. Campbell.

Inventor
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By his Attorney
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UNITED STATES PATENT OFFICE.

EMERSON ADKINS SMITH, OF NEWPORT, MISSOURI.

CHURN.

SPECIFICATION forming part of Letters Patent No. 360,485, dated April 5, 1887.

Application filed December 9, 1886. Serial No. 221,113. (No model.)

To all whom it may concern:

Be it known that I, EMERSON ADKINS SMITH, a citizen of the United States, residing at Newport, in the county of Barton and State of Missouri, have invented certain new and useful Improvements in Churns; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and letters of reference marked thereon, which form a part of this specification.

The same letters refer to like parts throughout the several views.

In the drawings, Figure 1 is a top plan with parts broken away. Fig. 2 is a side elevation with parts broken away and partly in section. Fig. 3 represents in perspective the dasher, its stem, and coupling, the parts being detached, but shown in their relative positions.

The invention relates to churns; and it consists in the peculiar combination and the novel construction, arrangement, and adaptation of parts, all as more fully hereinafter described, shown in the accompanying drawings, and then specifically pointed out in the claim.

Referring to the drawings by letter, A represents a suitable stand, designed to support the churn-body B, and provided with any suitable means for securing the churn in place, and yet allow of its ready removal when desired. In the present instance I have shown the substantially semicircular band A′, hinged at one end to the stand or frame A, and its other end engaging a staple or other securing device upon the opposite side of the frame, as clearly shown in Fig. 1.

Within the body B of the churn I place what I term a "frame," B′, consisting in the present instance of the bars *a*, connected at the top and bottom by the rings *b*. A cross-piece, C, is secured to the bottom ring *b*, and at its center is provided upon its upper face with a projection, *c*, on which is stepped the dasher-stem, as hereinafter described. Suitable guides, *d*, are secured to the inner side of the churn-body, near its top, to hold the frame in place.

D is the dasher-stem, having at its lower end a socket, *d′*, to engage the projection *c* on the cross-piece C in such a manner as to allow of the free rotation of the stem, and yet prevent longitudinal displacement of the same. The stem, near its lower end, is provided with a transverse slot, through which is placed the dasher-board E, secured in position by the key *e*. F F are beaters secured to said dasher-board, and extending from diagonally-opposite corners thereof to form a sort of spiral, as clearly shown in Fig. 3.

In the cross-bar G, secured in the uprights *f*, supported upon the frame A, is journaled the shaft *g*, which carried the pinion H, provided with a suitable crank and handle, *h*, by which it is rotated. Journaled in the lug *i*, projecting from the cross-bar G, is the stub-shaft *j*, carrying the pinion J, meshing with the pinion H, secured upon the shaft *g*, with suitable connections between the shaft *j* and the dasher-stem; but in order to provide for the ready removal of the churn-body without interfering with the operating mechanism, or to allow of the removal of the dasher and its stem, I have designed the following connection:

The shaft *j* is formed with or has attached to it a head, *k*, from which project the arms *k′*. The upper end of the dasher-stem has a similar head, *l*, provided with the arms *l′*, which are substantially one-half the length of the arms *k′*.

m is a connecting or coupling block, provided upon its opposite sides with recesses *m′*, within which the arms *k′* and *l′* are made to fit snugly. When the churn-body is in position, the dasher in place, and the dasher-stem connected with the operating mechanism in the manner described, the turning of the crank *h* will rotate the dasher, owing to its peculiar construction and arrangement in the frame within the churn-body, and will readily convert the cream into butter. The cream, being thrown against the bars *a* of the frame B′, is thoroughly agitated.

When it is desired to remove the churn-body, the band A′ is removed and the coupling *m* is pushed upward upon the arms *k′*, thereby releasing the head *l* of the dasher-rod and breaking the connection, as will be readily understood.

I am aware of the Patent No. 332,485, and

make no claim to the construction shown therein as forming part of my invention.

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

The combination, with the shaft *j*, head *k* thereon, and parallel rectangular arms *k'*, projecting from said head, of the dasher-stem provided with head *l*, parallel rectangular arms *l'*, projecting from said head and substantially one-half the length of the arms *k'*, and the coupling *m*, provided upon opposite sides of a central web with rectangular recess *m'*, of the same length as the arms *k'*, and constructed to receive either the arms *k'* or *l'*, to make or break the connection between the shaft and dasher-stem and to rigidly connect the same when engaging the arms *l'*, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

EMERSON ADKINS SMITH.

Witnesses:
WILLIAM H. FELL,
W. T. JOHNSON.