

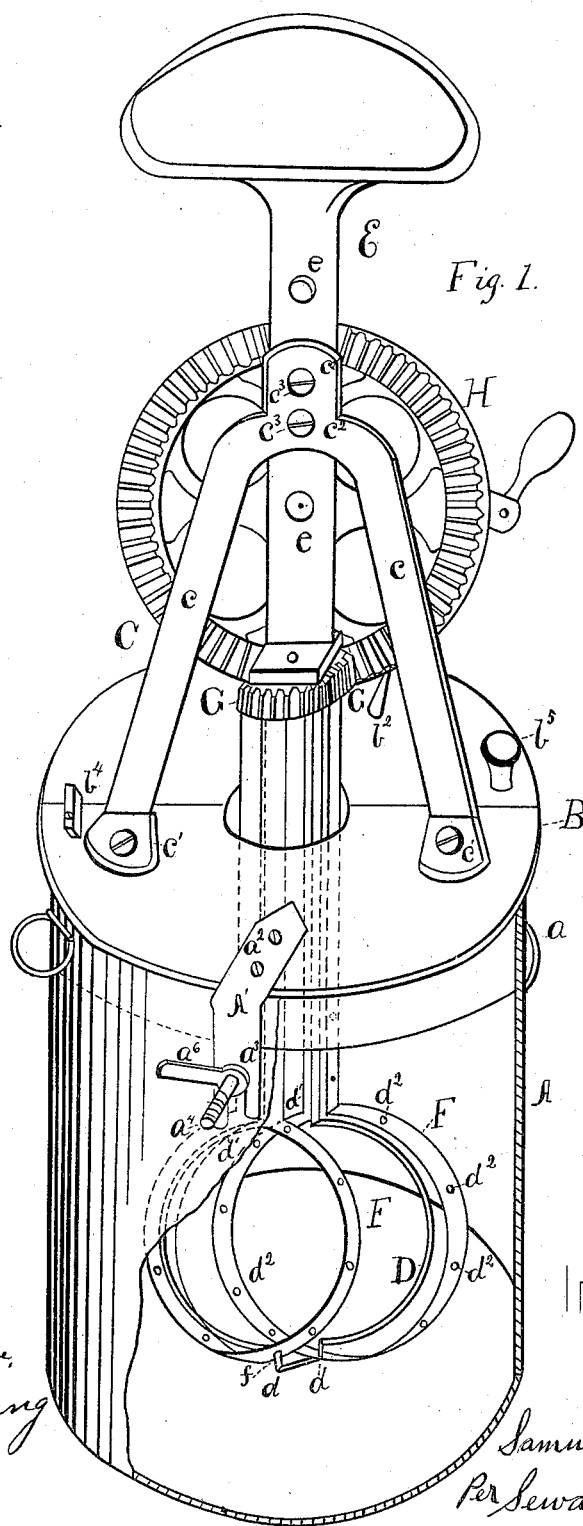
(No Model.)

2 Sheets—Sheet i.

S. J. SULLIVAN.
CHURN.

No. 306,441.

Patented Oct. 14, 1884.



Witnesses.

G. A. Haseltine,
Henry C. Young

Inventor.

Samuel J. Sullivan
Per Seward A. Harelline
Attorney

(No Model.)

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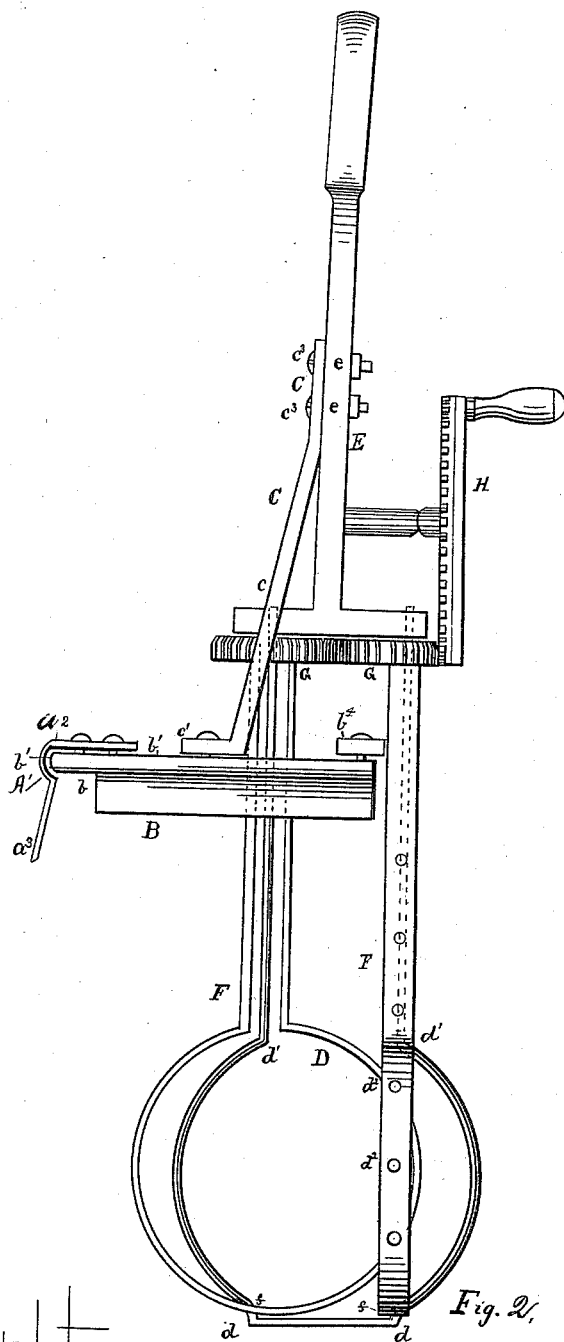


Fig. 2.

Witnesses.

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Inventor

Samuel J. Sullivan
By Seward A. Haseltine.
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UNITED STATES PATENT OFFICE.

SAMUEL J. SULLIVAN, OF LAMAR, MISSOURI.

CHURN.

SPECIFICATION forming part of Letters Patent No. 306,441, dated October 14, 1884.

Application filed October 29, 1883. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL J. SULLIVAN, a citizen of the United States, residing at Lamar, in the county of Barton and State of Missouri, have invented certain new and useful Improvements in Churns, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to improvements in churns, the object of which is to provide an easy, convenient, and rapid means of churning and obtaining butter from cream, and also to provide a churn that is easily cleaned, and one simple in its construction and operation, and adapted to be used in earthen or other vessels. I attain these objects by means of the device illustrated in the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a view in elevation showing the entire device, a part of the vessel being removed. Fig. 2 is a view showing the parallel dashers and adjustable support.

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

A is a vessel made of wood, tin, stone, earthen or other suitable material and of any convenient size and shape, preferably made of wood, cylindrical in shape, and with suitable ears or handles, *a a*, for moving the churn.

B is a thick cover, preferably made of wood with a groove or rabbet, *b*, to fit closely in the top of the vessel A, the flange *b'* being projected over the edges. The cover is made with a hole in the center, and it is divided in two parts to facilitate its removal and the better to clean the dashers passing through it.

*b*² is a hook or latch, to hold the cover firmly to its place. The latch or latches may be upon either one or both sides.

In using an earthen vessel, I put a strap or band, *b*², around the top, to which the hooks are attached. On wood or metal vessels I use an attachment, *A'*, consisting of a piece, *a*², firmly attached to the cover and extending over the flange, thence down, forming a fork, *a*³, which passes on each side of a bolt, *a*⁴, the said bolt being firmly attached to or through the vessel, and having a nut, *a*⁶, with a thumb-

piece for tightening the same, and thus firmly holding the supporting part of the cover to its position.

*b*⁴ is a button to swing across the place where the cover divides.

*b*⁵ is a knob used in raising one part of the cover.

C is a support having two spreading braces, *c c*, both attached to one and the same part of the cover by foot-pieces *c' c'*, and an upper portion made with holes *c*² *c*², in which are placed thumb-screws or set-screws *c*³ *c*³, to firmly hold and adjust the dashers.

The dashers F F are constructed and operated somewhat similar to the common egg-beater, which I change and modify for use in connection with the novel devices above explained, for the objects hereinafter more fully set forth.

The dashers are constructed and placed in the vessel as follows: A strong metallic rod, D, is bent each side of and near the middle, so as to form two right angles, *d d*, for bearings for the dashers. The ends are then turned upward and inward until they form nearly a complete circle, and at points *d' d'*, opposite to the points *d d*, the ends are bent vertically and parallel until they reach up through the cover and terminate in a handle, E. The dashers are made of thin perforated metal, and bent in similar form as the rod D, and have their upper ends attached in pinions G G. Holes *f* are made in the middle of the lower part of each dasher, through which one end of the supporting-rod D passes until the bearings of the dashers are formed at *d d*. The pinions G G have bearings on the upper part of the rod D, and are operated by a gear-wheel, H. The gear-wheel has bearings on an arm of the handle E, and operates directly upon one of the pinion-wheels which operates upon the other. Thus geared, the dashers turn in opposite directions, and the circular part of each dasher being constructed so as nearly to fill the diameter of the vessel in which it is to be used, and to intersect each others tracks without interference, I make the parallel parts of each dasher close together, so that the air is sucked down between them by the rapid rotary mo-

tion of the circular part and thus the entire cream is aerated. This process of distributing air through the cream is assisted by the perforations *d*², by which I have obtained butter in two minutes, and herein is one of the great advantages of my invention. In the handle E, I make holes *eee* for attaching it to the support C, the rod D being attached to the handle. When the handle is raised, one-half of the cover and everything in the vessel may be removed, thus leaving it easy to wash the vessel, not having holes or cleats in the bottom to make it difficult to clean as heretofore in rotary dash-churns, and herein is another advantage of my invention. The circular part of my dashers I place beneath the cream by means of the thumb-screws on the support C, which enter the holes *e e*, thus permitting the attached dashers to be raised or lowered, as desired. This permits the parallel parts of the dashers to enter the surface and thus prevent all splashing and throwing of the cream while churning, and herein is another great advantage of the parallel and adjustable construction of my invention.

Having thus described the use, construction, and operation of my invention, I am aware that it is not new to provide a churn with rotary dashers, or to have such dashers perforated, or to have the lower parts made round- ing and propelled by gear-wheels. I do not, therefore, claim such construction broadly; but

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

The combination of a vessel, A, severable cover B, slotted attachment A', support C, secured to one side of the said cover, adjustable handle E, rod D, drive-wheel H, pinions G G, and perforated rotary dashers F F, having circular bottoms and rods placed parallel and close together the better to agitate and force air into the cream, substantially as shown and described, for the purpose set forth.

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

SAMUEL J. SULLIVAN.

Witnesses:

JOSEPH S. McBRIDE,
J. P. FROW.