S. S. CASE.

Churn.

No. 83,815. Patented Nov. 3. 1868.

Fig: 2.

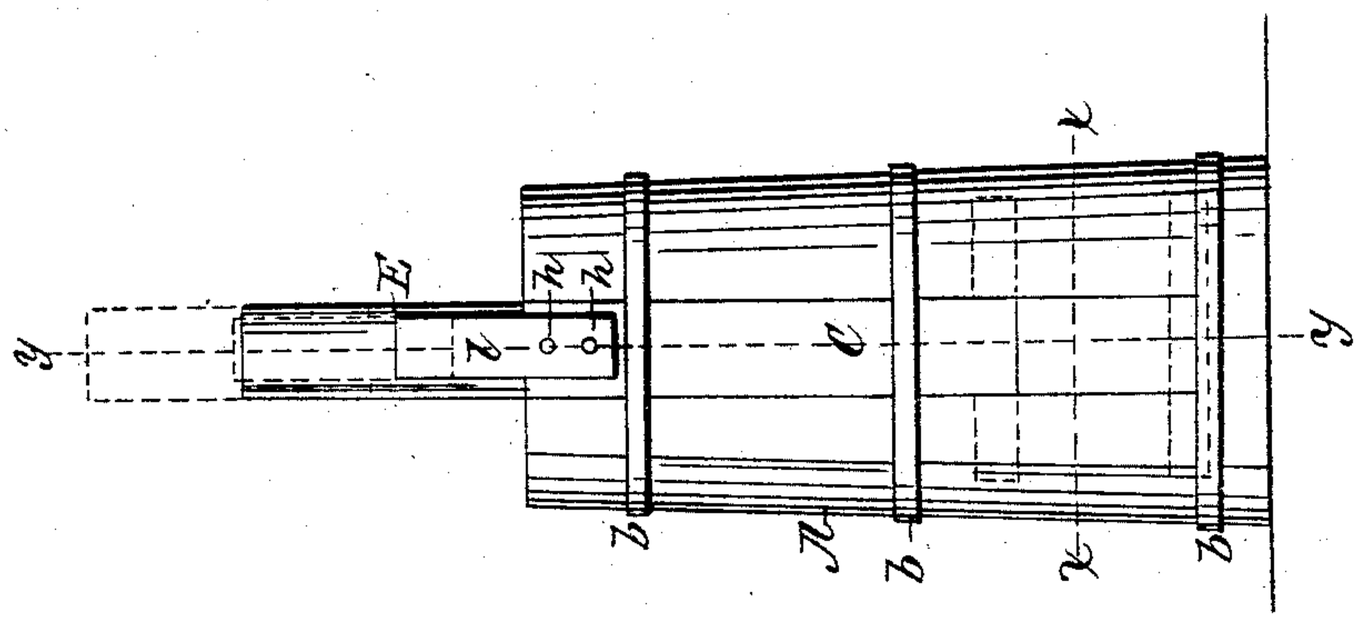


Fig: 3.

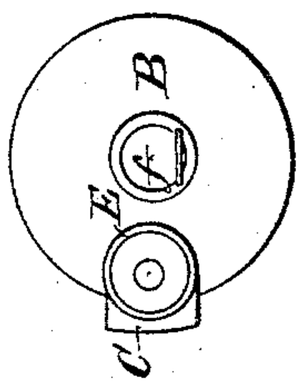


Fig: 4.

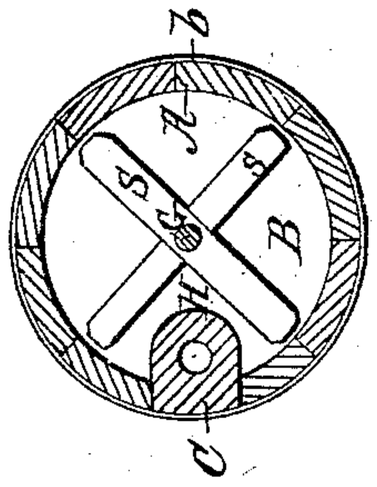
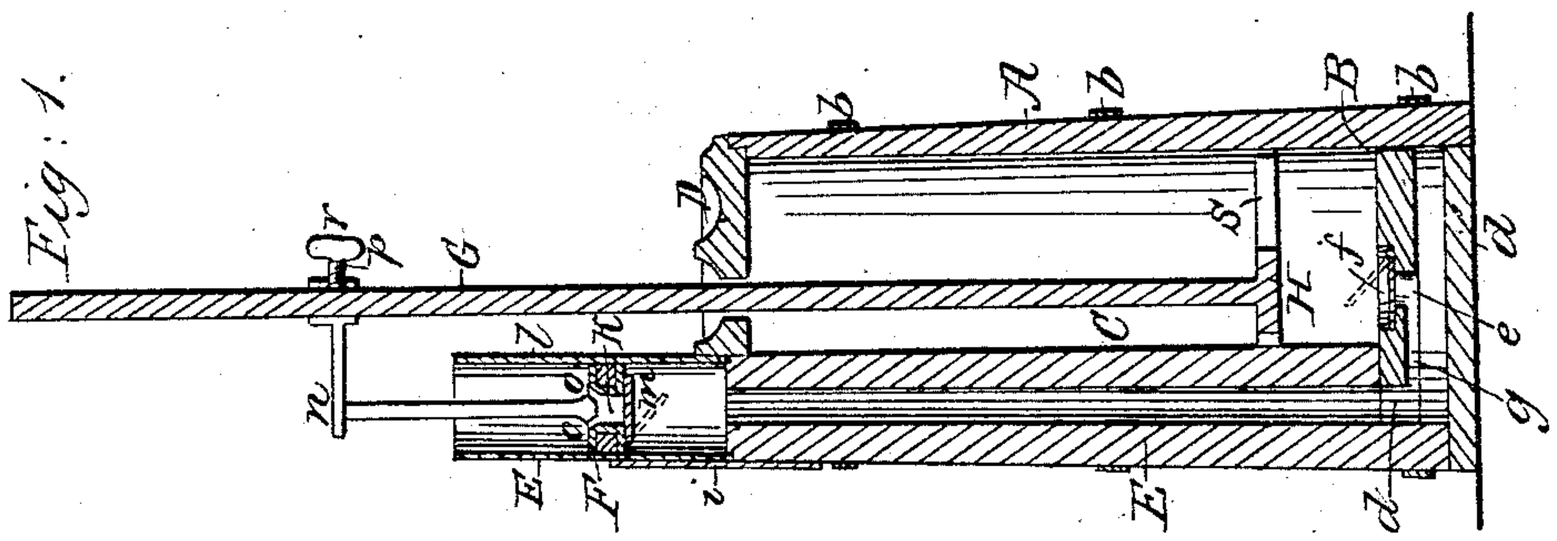


Fig: 1.



Witnesses;
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SCHUYLER S. CASE, OF MARION, NEW YORK.

Letters Patent No. 83,815, *dated November* 3, 1868.

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, SCHUYLER S. CASE, of Marion, county of Wayne, and State of New York, have invented a new and useful Improvement in Churns; and I do hereby declare the following to be a full and exact description of the same, sufficient to enable those skilled in the art to which my invention appertains, to fully understand the same, reference being had to the accompanying drawings, forming part of this specification, and in which—

Figure 1 is a longitudinal vertical section of my churn, taken in the line *y y*, fig. 2;

Figure 2, a side view of the same;

Figure 3, a top view of the false bottom, with the pump attached; and

Figure 4, a section through the line *x x*, fig. 2.

My invention belongs to that class of churns in which a piston, working in a barrel, communicating with the lower part of the churn, is employed to force air into said churn, and through the milk therein contained, for the purpose of facilitating and hastening the separation of the butter from milk.

To simplify the construction of such churns, and thus render them more effective and satisfactory in operation, is the object of this invention; and it consists, first, in the use of a false bottom, provided with a valve, fitted in the churn, a short distance above the real bottom, said false bottom being attached to the lower end of the pump-barrel, which is so arranged as to form part of the side of the churn; and, secondly, my invention consists in a peculiar mode of securing the rod of the air-forcing piston to the dasher-shaft, whereby the parts are rendered detachable and adjustable, as will hereinafter be more fully described.

In order to convey a full understanding of my invention, so as to enable others to make use of the same, I will now proceed to describe its construction and operation in detail, referring to the drawings, in which similar letters indicate corresponding parts in the several figures.

A represents the tub or body of the churn, made, in this instance, of staves, and provided with the ordinary bottom, *a*.

C is a hollow stock of wood, fitted into the side of the churn, so as to form a portion of the same.

When the tub is constructed as represented, this stock C takes the place of a stave.

b b b represent hoops, placed around the churn, to bind the staves together.

D represents the cover of the churn.

The stock C is partly cut away at its lower end, for the attachment of the false bottom, B, which is secured to said stock by means of nails, screws, or in any other suitable manner.

The space between the real and false bottoms *a* B, respectively, constitutes an air-chamber, which communicates with the bore *e* of stock C, by means of an opening, *d*, made through the false bottom, B, at the edge of the latter.

An opening, *e*, is also made through the centre of the false bottom.

An annular depression, surrounding the opening, *e*, is made in the upper face of the false bottom, and forms a seat for a hinged valve, *f*, opening upward.

A groove, *g*, in the under side of the false bottom, connects the openings *d e*.

On the upper end of stock C, a cylindrical barrel, E, of metal, is fitted, and secured in place by means of screws *h h*, which pass through the tongue *i*, attached to said barrel, into the stock C.

F is a plunger, fitted in barrel E, and packed so as to move air-tight therein.

K is a cavity, formed centrally in the under side of the plunger F, and communicating with the upper face of said plunger by means of air-holes *o o*.

m represents a valve, opening downward, hinged to the under side of plunger F, so as to cover the mouth of the cavity K.

The plunger F is provided with a rod, *l*, formed at its upper end with a right-angular extension, *n*.

An open tubular socket, *p*, is made at the extremity of the extension *n*.

Through this socket, the stem G of dasher H passes, and is held therein by the clamping-screw *r*, which works through the side of said socket *p*.

In this instance, the dasher H is made simply of two pieces *s s*, crossed at right angles, forming four equal arms, the stem G being fixed in the centre.

When it is desired to separate the parts of the churn, for cleansing the same, the cover D may be first loosened and then removed, together with the dasher G H and plunger F, or, if preferred, the plunger can be first detached, then the cover and dasher, either separately or together.

The stock C, barrel E, and false bottom B, are taken out together by withdrawing the same upward, as shown in red, fig. 2, the hoops *b* having been first loosened.

The operation is as follows: Milk having been poured into the churn, the latter is tightly closed, by means of the cover D, and a vertical reciprocating motion given to the dasher H and plunger F, simultaneously, by means of the stem G. As the plunger F ascends, air from above rushes into the cavity K of the plunger, through the air-holes *o*, and, opening the valve *m*, passes to the under side of the plunger. As the plunger commences its downward movement, the valve *m* is closed, and, as the plunger continues to descend, the air contained below it being compressed, the valve *f* in the false bottom B opens, permitting the air to pass into and through the milk in the churn.

By my invention, I am enabled to furnish, at small expense, a simple and effective churn, by the use of which the separation of the butter from milk is greatly facilitated.

On account of the simple and peculiar construction of my churn, it is not liable to become inoperative, and at the same time it can be easily, quickly, and effectu-

ally cleansed, because of the facility with which the parts may be detached one from another.

Having thus described my invention, I wish here to state that I do not claim broadly forcing air into a churn by means of a plunger, connected to be operated simultaneously with and by means of the dasher-stem, as I am aware that this is not new; but

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

1. The false bottom B, constructed substantially as described, and provided with a valve, *f*, when used in connection with a plunger, F, also provided with a valve, *m*, all constructed and arranged to operate substantially as herein set forth and shown.

2. The removable stock C, to which the barrel E and false bottom, B, are attached, when constructed and arranged as herain shown and described, so as to form part of the sides of the churn A, as set forth, for the purpose specified.

To the above specification of my improved churn, I have signed my name, this 9th day of September 1868.

Witnesses: SCHUYLER S. CASE.

ALEXR. A. C. KLAUCKE,

JACOB F. HENRY.