

E. P. WILLIAMS.

Churn.

No. 78,249.

Patented May 26, 1868.

Fig. 1.

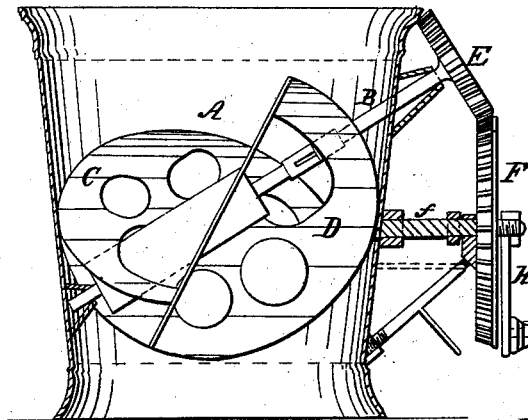


Fig. 2.

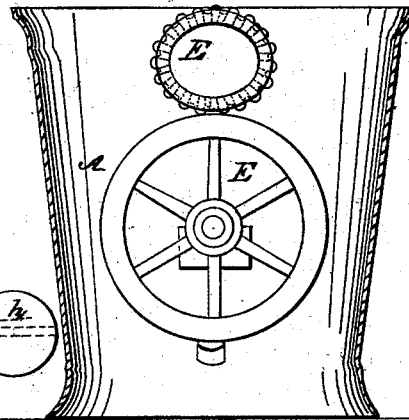


Fig. 3.

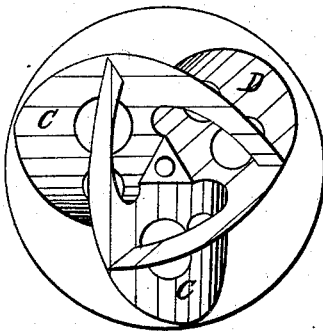
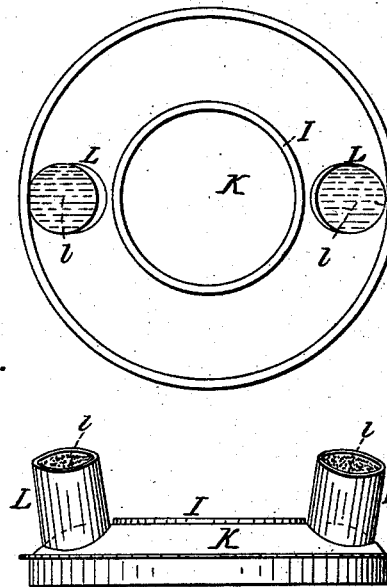


Fig. 4.



Witnesses:
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United States Patent Office.

E. P. WILLIAMS, OF YORKVILLE, SOUTH CAROLINA, ASSIGNOR TO HIMSELF,
W. L. HOPSON, AND A. R. HOMESLEY.

Letters Patent No. 78,249, dated May 26, 1868.

IMPROVEMENT IN VENTILATING PORTABLE 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, E. P. WILLIAMS, of Yorkville, in the district of York, and State of South Carolina, have invented certain new and useful Improvements in Ventilating and Portable Churns; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, and the letters of reference marked thereon, making part of this specification, in which—

Figure 1 is a sectional view.

Figure 2 is an end view, showing the corrugated wheels, whereby action is communicated to the interior paddles of the churn.

Figure 3 is a top view, showing the angular arrangement of the paddles.

Figure 4 is a top view of the churn with the escape-pipe, with its perforated mouth, showing the method whereby its impurities pass off.

The nature of my invention consists in the insertion, in the body of the churn, by means of suitable bearings, one above and the other below, so as to furnish the suitable angular bearings for the dasher-rod. To this dasher-rod, I attach a series of blades or beaters. These blades or beaters are constructed of metal or other suitable material, semicircular in form, and provided with such openings or aperture as to insure the better agitation of the body of milk or cream. One of these dashers or beaters performs the action of a cutter, and the other two are so arranged as to perform the office of a beater. The whole device can be made of metal, which can readily be cleansed after it has been used.

By using a metal churn the butter made has not that sour taste which it often has when made in a wooden churn, the acidity being produced by the foetid air or other impurities which are invariably found in a wooden churn. The only way in which a wooden churn can be cleansed is by a thorough rinsing and exposing the same for a certain number of hours to the action of the sun. This must be done in the empty vessel, and it is well known that the joints of the wood will give, and no matter how strong the hoop-bearing may be, the same is not tight when again required for use. This defect I entirely avoid, by simply constructing my churn entirely of metal, whereby, as soon as the churning process is finished, by simply rinsing the same, the churn is rendered perfectly pure and again ready for use.

To enable others skilled in the art to make and use my invention, I will now proceed to describe its construction and operation.

A is the body of the churn or tub, which may be made of any suitable metal, as tin, galvanized iron, &c. B is the beater or dasher-rod, working in suitable openings in the opposite sides of the body of the churn. To this beater or dasher-rod I attach three angular plates, C, C, and D, by means of a suitable bearing, two being arranged or working at positive right angles to each other, and the other at an acute angle. The periphery of these plates may be either plain or serrated. The plates C C perform the office of beaters. D, acting as a cutter, its agitation, as it passes through the mass of milk, divides the same and bursts the globules. Thus, in a moment or two I can accomplish with my churn that which with the ordinary churn some time is required. To the outer end of the shaft B, I attach a pinion-wheel, E, which meshes and gears with a driving-wheel, F, working on the driving-shaft *f*, which works in suitable bearings attached to the side of the churn. To the driving-wheel F, I firmly bolt the crank-handle H, which is provided with a suitable handle, *h*.

The operation of this device is simply this: By revolving the crank-handle H, motion is given to the driving-wheel F, which in turn transmits its force to the pinion-wheel E, which, being firmly attached to the end of the dasher or beater-rod B, revolves, in a most positive manner, the dasher or beater-plates or blades C, C, and D.

I also provide the churn with a suitable top or opening, I, the same being struck up and provided with suitable flanges, so as to hold a plate of glass, K, through which, without opening the vessel, the operation of churning may be watched, and the degree of the consistency of the cream known without lifting the top or lid of the vessel.

I also provide the top, I, with two projecting pipes, L, their mouths being covered with two sieves or perforated plates, l, to allow the escape of the heated air during the operation of churning.

My churn is rendered perfectly portable, and is constructed in the ordinary form of the slop-pail or bucket commonly used in a chamber.

It will be observed that any amount of speed can readily be required by my arrangement of driving and pinion or dasher-wheel, the ratio of their diameters controlling the matter.

Having thus fully described my invention, what I claim therein as new, and desire to secure by Letters Patent of the United States, is—

The beater-arm B, blades C, C, and D, in combination with the driving-wheel F and dasher or pinion-wheel E, when the whole is constructed and arranged so as to operate substantially as described, and for the purpose specified.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses.

E. P. WILLIAMS.

Witnesses:

B. P. BOYD,

J. B. WILLIAMS.