

No. 619,811.

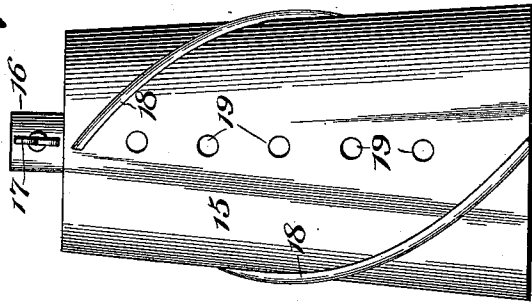
Patented Feb. 21, 1899.

W. E. VERNON, Dec'd.  
L. A. VERNON, Administratrix.  
CHURN.

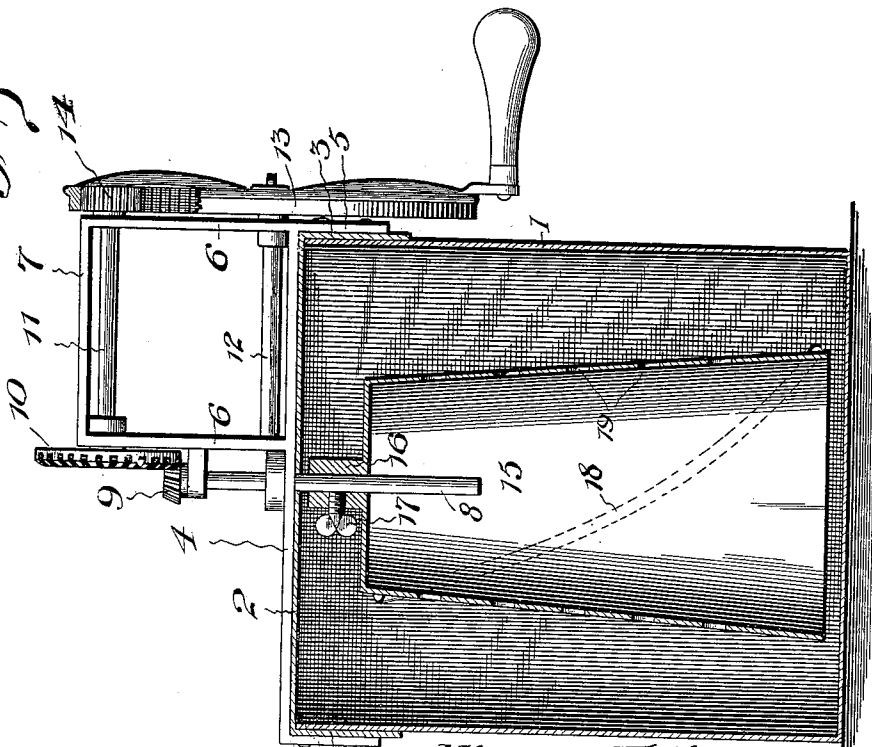
(No Model.)

(Application filed Feb. 11, 1898.)

*Fig. 2.*



*Fig. 1.*



Witnesses

*A. Roy Appleman*

*[Signature]*

By *his* Attorneys,

*William E. Vernon*, Inventor.

*Chas Snow & Co.*

# UNITED STATES PATENT OFFICE.

WILLIAM ELIAS VERNON, OF OSKALOOSA, IOWA; LYDIA A. VERNON, ADMINISTRATRIX OF SAID WILLIAM E. VERNON, DECEASED, ASSIGNOR TO C. D. COWGILL, OF SAME PLACE.

## CHURN.

SPECIFICATION forming part of Letters Patent No. 619,811, dated February 21, 1899.

Application filed February 11, 1898. Serial No. 669,968. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM ELIAS VERNON, a citizen of the United States, residing at Oskaloosa, in the county of Mahaska and State of Iowa, have invented a new and useful Churn, of which the following is a specification.

My invention relates to churns, and has for its object to provide a simple, compact, and efficient construction and arrangement of parts adapted for facilitating the separation of butter with the minimum exertion and expenditure of time on the part of the operator, and, furthermore, to provide such a construction as to facilitate the cleansing of those parts exposed to contact with the contents of the receptacle.

Further objects and advantages of this invention will appear in the following description, and the novel features thereof will be particularly pointed out in the appended claim.

In the drawings, Figure 1 is a vertical central section of a churn constructed in accordance with my invention. Fig. 2 is a view of the dasher detached.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

1 designates a receptacle, of which the top is closed by a cover 2, having exterior pendant flanges 3, and supported by this cover is a bracket having a horizontal bearing-bar 4, terminally downturned, as at 5, and secured to the flanges of the cover at diametrically opposite points, and uprights 6, connected by a cross-bar 7. In suitable vertically-alined bearings on the bracket is mounted a dasher-staff 8, provided at its upper end with a bevel-pinion 9, with which meshes a bevel-gear 10, carried by a counter-shaft 11, said counter-shaft being mounted in horizontally-alined bearings in said uprights. Also mounted in horizontally-alined bearings in the uprights, below the plane of the counter-shaft, is a spindle 12 of an internal master-gear 13, meshing with a pinion 14 on the contiguous extremity of the counter-shaft. It will be seen that this construction provides spaced bear-

ings for each of the shafts, including the spindle of the master-gear, and hence insures the proper coöperation of the gears, while the entire operating mechanism is carried by the cover of the churn-receptacle and is removable therewith.

Removably and adjustably mounted upon the dasher-shaft is a dasher 15 of truncated-conical construction, with its upper end closed and its lower enlarged end open and in communication with the interior of the receptacle. This dasher is provided at its upper end with a hub or socket 16, which is fitted upon the dasher-shaft and is adapted to be secured at the desired adjustment by means of a thumb-screw 17.

The dasher is provided with alternately-disposed exterior spiral ribs 18 and vertical series of openings 19, the series of openings in the dasher illustrated being arranged at diametrically opposite points, and the upper and lower extremities of the interposed spiral ribs being located, respectively, at the upper and lower ends of the said series of openings, each rib thus extending around one-half of the circumference of the dasher.

The rotation of the dasher being preferably in the direction indicated by the arrow in Fig. 2, it is obvious that the ribs will exert a downward pressure upon the exterior surrounding portions of the contents of the receptacle, and hence the discharge of liquid downwardly from the interior of the dasher will be prevented by the ribs from boiling over the sides of the receptacle, and at the same time will be thoroughly agitated. The liquid in the receptacle outside of the dasher will be inducted, together with atmospheric air, through the openings in the side wall of the dasher and will then be discharged downwardly, as above indicated. Thus in operation the contents of the receptacle are maintained in an agitated condition calculated to insure the rapid separation of the butter, and the efficiency of this operation is increased by employing a cross-sectionally rectangular receptacle, whereby as the liquid is discharged downwardly from the dasher it is caused to boil up at the angles of the receptacle.

Obviously the size of the receptacle and the materials employed in the construction of the apparatus may be varied to suit the requirements; but a simple and efficient receptacle may be constructed of sheet metal, as indicated in the drawings, the dasher being of similar material. Furthermore, it will be seen that by employing a dasher having an enlarged open lower end, accessible when the dasher mechanism is removed from the receptacle, the operation of cleansing the parts is facilitated.

Having described my invention, what I claim is—  
15 A rotary cross-sectionally round churn-

dasher closed at its upper and open at its lower end and enlarged downwardly or toward said open end, the side wall of the dasher being provided with alternately-disposed exterior spiral ribs and vertical series of openings, the extremities of said ribs being located at the opposite ends of alternate series of openings, substantially as specified. 20

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses. 25

WILLIAM ELIAS VERNON.

Witnesses:

C. D. COWGILL,  
JNO. C. FERRALL.