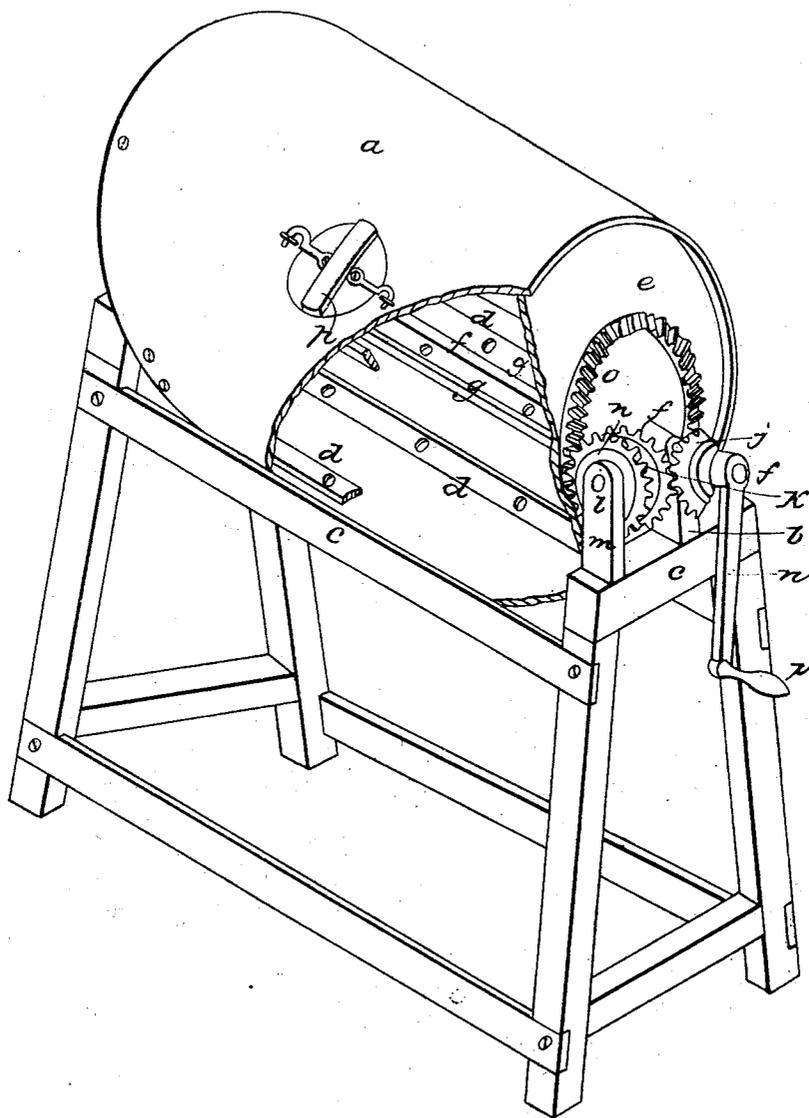


E. WARD.

Churn.

No. 27,175.

Patented Feb. 14, 1860.



Witnesses  
Smith & Hornan  
John H. Kemapp

Inventor.  
Edwin Ward

# UNITED STATES PATENT OFFICE.

EDWIN WARD, OF NEW YORK, N. Y.

## CHURN.

Specification of Letters Patent No. 27,175, dated February 14, 1860.

### *To all whom it may concern:*

Be it known that I, EDWIN WARD, of the city of New York, in the State of New York, have invented a new and Improved Churn; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings and to the letters and marks thereon.

The drawing forming part of this specification represents, in perspective, my invention. It shows a cylinder (*a*) supported horizontally by bearings (*b*), upon a frame (*c*), having interiorly slats or ribs (*d*), extending from the one head (*e*) to the other head of the cylinder. Through this cylinder passes a shaft (*f*) having proper attachments or bearings to each end or head of the cylinder and also having a number of dashers (*g*) which are rigidly affixed to the shaft. Exteriorly to one end of this shaft there is attached a crank arm (*h*), and handle (*i*). As will be seen by the drawing there is, also, attached to the end of the shaft a beveled pinion (*j*) which gears into a like pinion (*k*) upon a tubular shaft, which tubular shaft surrounds a short fixed shaft (*l*) extending from the bearing (*b*) to a standard (*m*). Upon this tubular shaft there is, also a second beveled pinion (*n*) which gears a circular toothed surface (*o*) upon the head of the cylinder and which toothed surface is the equivalent of a beveled wheel secured to the head of the cylinder.

A door or cover (*p*) to a suitable opening in the side of the cylinder allows the putting in of the cream and the taking out of the butter. One or more other suitable openings may be made by the side or edge of the opening of the door or through the door for the discharge of the buttermilk.

The slots or ribs attached to the interior of the cylinder, and the dashers attached to

the shaft may be entirely plain and without holes, or they may have holes as shown, or one or more of the slats and dashers may be corrugated or fluted. The drawing shows two of the slats of the cylinder terminating just beyond the broken section of the cylinder, but it is contemplated to have all the slats extend the entire length of the cylinder.

Now it will readily be seen that whenever rotation is given to the shaft that it and the dashers will traverse in one direction and that the cylinder and slats will traverse in a contrary direction, and that the velocity of the one in relation to that of the other will depend upon the number of teeth and comparative diameter of the pinions and the toothed surface on the head of the cylinder.

A churn constructed and operated upon the plan herein set forth may be of any size, large or small, as may be desirable, and may be made of wood or metal, or of any material from which churns have been or may be made; and the slats and dashers may have their edges terminating as near and close or as far off from each other as may be deemed to render them the most effective.

The experiments which have been made with this invention have demonstrated that in from three to five minutes after the putting in of the cream the butter will be made.

What I claim as my invention and desire to secure by Letters Patent is—

The churn made up a horizontal cylinder having ribs as described and an interior shaft armed with dashers, the cylinders being made to rotate in the one direction and the shaft and dashers in the opposite direction as herein set forth.

EDWIN WARD.

Witnesses:

DAN SEIXAS,  
WM. TERRINGTON.