

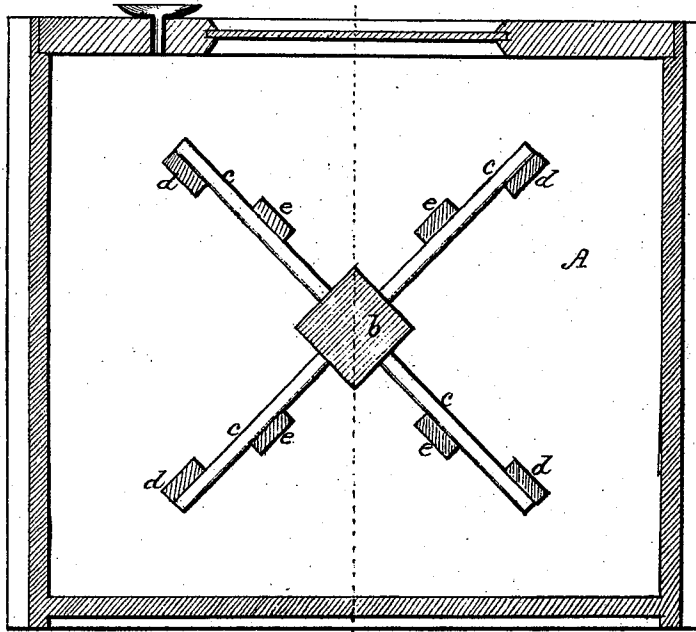
*J. Moyer,*

*Churn.*

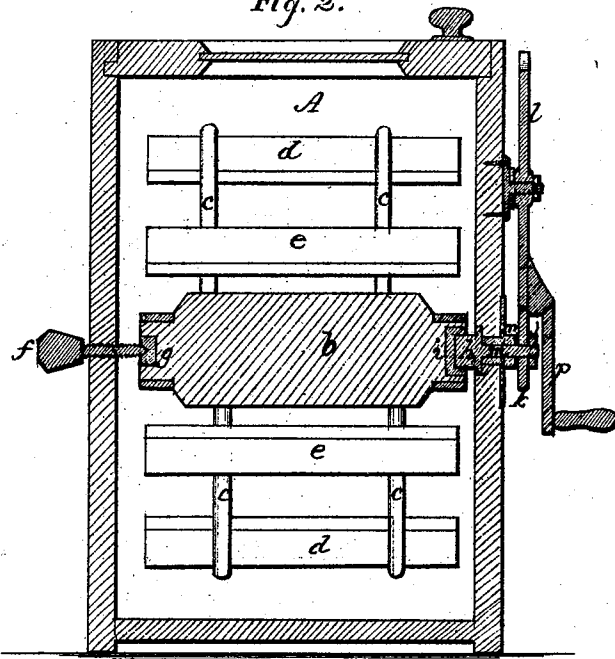
*No. 107,284.*

*Fig. 1.*

*Patented Sep. 13. 1870.*



*Fig. 2.*



*Witnesses,*  
*W. Morris Smith*  
*Edw. E. Smith*

*Inventor,*  
*John Moyer*  
*By his Attorney*  
*J. C. Robbins*

# UNITED STATES PATENT OFFICE.

JOHN MOYERS, OF HILLSBOROUGH, OHIO.

## IMPROVEMENT IN CHURNS.

Specification forming part of Letters Patent No. **107,284**, dated September 13, 1870.

*To all whom it may concern:*

Be it known that I, JOHN MOYERS, of Hillsborough, in the county of Highland and State of Ohio, have invented certain new and useful Improvements in Rotary Churns; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawing, which forms a part of this specification—

Figure 1 being a vertical section in a direction that transversely cuts the dasher-shaft *b* of my improved churn near the center of the same, and Fig. 2 a vertical section in the direction of the dotted line in Fig. 1.

The box *A* of my improved churn may be either round or angular, and may be constructed in any manner that may be deemed expedient.

My first improvement consists in pivoting the dasher-shaft *b* within the churn-box in such a manner that it can be readily detached from its pivots and withdrawn from the box, for the purpose of enabling the butter to be more easily removed from both the dasher and its box, and also enabling the said dasher and churn-box to be more easily and thoroughly cleansed after the operation of churning.

The said dasher-shaft is pivoted in the following manner, viz: An angular metallic socket, *i*, in one end of the dasher-shaft receives the angular head *h* of a short operating-shaft, *m*, which works in a suitable box secured in one side of the churn-box, while a suitably-shaped and tempered metallic box, *g*, which is let into the opposite end of said dasher-shaft, receives the hardened point of a pivot-screw, *f*, which passes through a screw-aperture in the opposite side of the churn-box, as shown in Fig. 2. Between the last-mentioned end of the dasher-shaft and the side of the churn-box there must be sufficient space to enable the dasher to be removed from the churn-box, when the point of the pivot-screw *f* is withdrawn within the side of the churn-box by a reverse movement of said pivot-screw.

The short operating-shaft *m* passes outwardly through the side of the churn-box a sufficient distance to receive, first, the washer *n*, then the toothed wheel *k*, and then the nut *j*, which is screwed onto the end of the said shaft.

The flange that radiates from the inner portion of the operating-shaft *m* can be drawn so closely against the inner side of the churn-box, by turning the screw-nut *j*, as to prevent the escape of the cream through the aperture which receives the said shaft. Any suitable packing may be employed between the flange of the operating-shaft *m* and the side of the churn-box.

Motion may be imparted to the operating-shaft *m* and to the churn-dasher by means of the toothed wheel *l* and the crank *p*, or by any other suitable means.

My second improvement in rotary churns consists in my improved manner of arranging the dasher-blades *d e* upon the arms *c c* of the churn-dasher—viz, securing the outer blade, *d*, upon one face of a pair of arms, *c c*, and securing the inner blade, *e*, to the opposite face of the same, and then alternating the positions of said blades on the succeeding dasher-arms. For instance, if upon one set of radiating dasher-arms *c c* the outer blade, *d*, is secured to the front side of the same, the inner blade, *e*, will be secured to the rear side of said arms, and on the next succeeding set of dasher-arms the outer blade, *d*, will be secured to the rear side of the same, and the inner blade, *e*, will be secured to the front side of the said arms, and so on with the other dasher blades and arms. This arrangement of the dasher-blades enables the said blades to strike the surface of the cream singly and in rapid succession, thereby diminishing the shock upon the driving-gearing, and producing a much more efficient agitating action upon the cream than would be produced if the blades upon each pair of dasher-arms were secured to the same face of said arms, as is usually the case.

I claim as my invention—

The alternating arrangement of the dasher-blades on the front and rear faces of the respective dasher-arms, substantially as and for the purpose hereinbefore set forth.

In testimony that the foregoing is a full and exact description of my improvements in churns I hereunto subscribe my name.

JOHN MOYERS.

Witnesses:

WASH. DOGGETT,  
SAML. LYLE.