T. S. Nutter,

Churn.

No. 93,219. Patented Aug. 3. 1869.

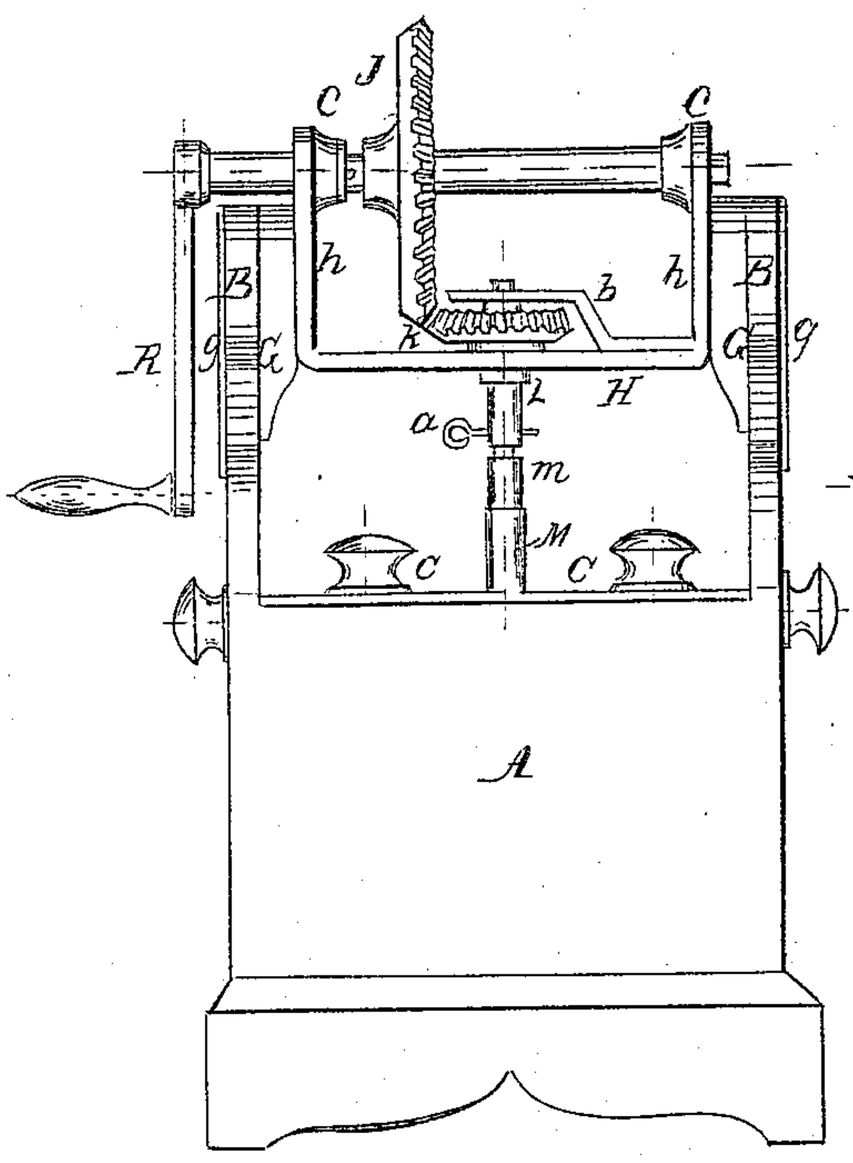

Fig. 1.

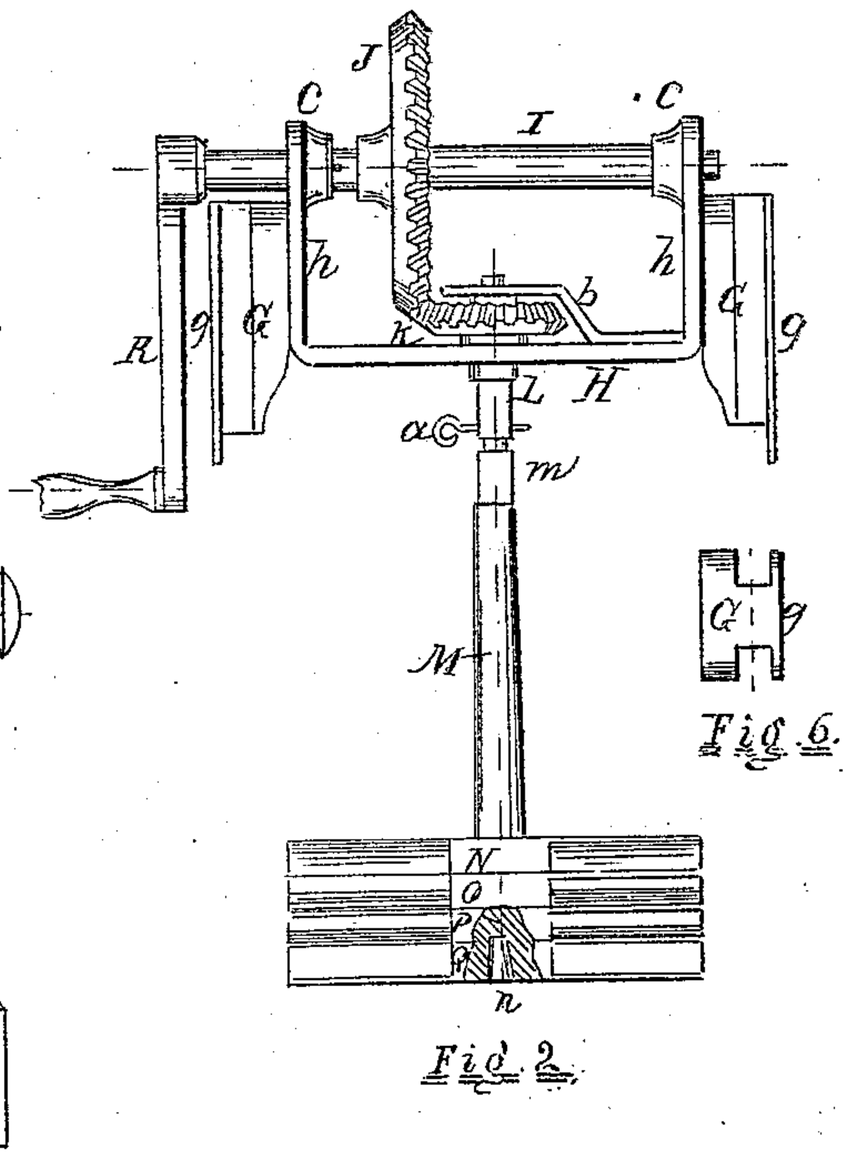

Fig. 2.

Fig. 6.

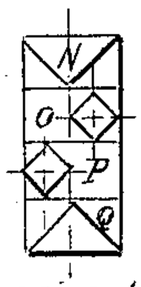

Fig 5

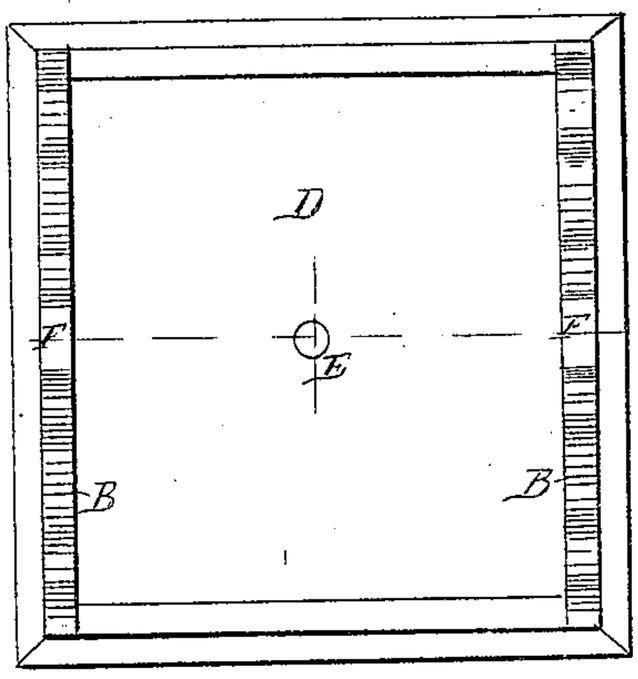

Fig. 3.

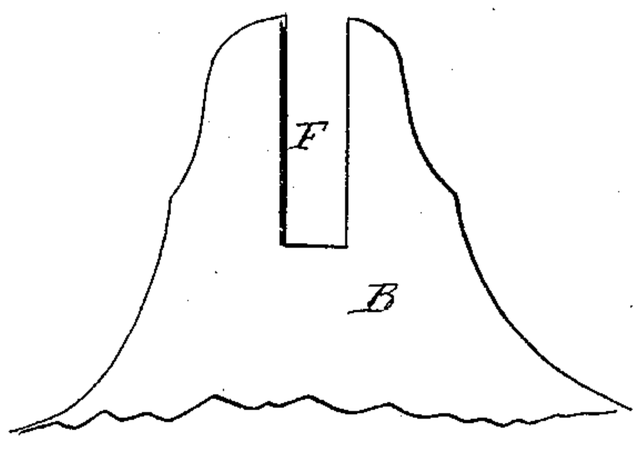

Fig. 4.

Witnesses.
Ruth K. Abbott.
A. G. Brandrack.

Thomas S. Nutter Inventor
by Jo Abbott Attorney

United States Patent Office.

THOMAS S. NUTTER, OF HARRISBURG, OHIO.

Letters Patent No. 93,219, *dated August* 3, 1869.

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, THOMAS S. NUTTER, of Harrisburg, in the county of Franklin, and State of Ohio, have invented new and useful Improvements in Churns; and I do hereby declare that the following is a full, clear, and exact description of my invention, reference being had to the accompanying drawings, forming a part of this specification, and to the letters of reference marked thereon, of which drawings—

Figure 1 is an elevation of my improved churn.

Figure 2 is an elevation of gearing and dasher, detached from churn-box.

Figure 3 is a plan of churn-box.

Figure 4 is an elevation of the upper part of the standard side of churn-box.

Figure 5 is an end view of dasher.

The nature of my invention consists in certain improvements in that class of churns operated by an upright rotary dasher; said improvements consisting, first, in the novel construction of the dasher, whereby the violent agitation of the cream is effected, and the operation of churning much facilitated; and secondly, in the novel construction and combination of the several parts of the churn-mechanism and box, whereby greater facilities are afforded for the construction and adjustment of the several parts of the machine, and the whole churn is made of a very firm and solid character.

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

The body A of my churn is of the general form shown, having a foot-base and knobs, for convenience in lifting, when desired.

The sides B B are extended above the balance of the body, and are provided with a slot, F, as shown in fig. 4, in which fit the gearing-frame slides G G, as shown in fig. 1.

A bearing-spindle, E, for the dasher is secured in the bottom of the churn-body A, and the covers C C are arranged as shown, to cover over the cream while being churned.

The principal part, H, of the gearing-frame is conveniently made of cast-iron, but may be made of any other suitable material, and has the arms *h h* at its ends, at the tops of which are the boxes *c c*, in which the main shaft I is placed.

This shaft is extended out beyond the side B of the churn, either on one side, as shown in drawing, or on both sides, if desired, and has the crank R at its end, as shown, or a crank may be used at each end, where a large amount of power is required.

The large bevel-gear wheel J is secured on the shaft I, and meshes into the bevel-pinion K on the dasher-shaft L, which is arranged in a box in the frame-piece H, and has its upper end pivoted in the arm *b*, on the piece H, as shown in figs. 1 and 2.

The gearing-frame slides G are made of wood, and are of the general form shown in figs. 2 and 6, being provided with an end plate, *g*, which stands on the outside of the slotted arms B B when the frame is on the churn, as shown in fig. 1.

The thickness of the main part of the slide G is made to conform to the distance between the arms *h* of the gearing-frame and the slotted arms B of the churn-box A, while the width and thickness of the narrow part of said slide are made to conform to the width and breadth of the slot F in the arm B, from which it is readily seen that the frame *h* H *h*, with its accompanying shafts I L, and bevel-gears J K, can be used for various sizes of churn-boxes, by simply changing the size of the wooden slides G G.

The dasher-shaft M is provided with a metallic top, *m*, the end of which fits into a hole in the shaft L, where it is secured by a pin, *a*.

This dasher-shaft M has a hole, *n*, formed in its lower end, which sets over the bearing-spindle E, which thus forms a bottom bearing for the dasher.

The dasher N O P Q is formed of the upper and lower slats, N Q, which have their ends formed into the triangular sections shown, and the central slats, O P, which have their ends formed into the diamond-shaped sections shown, and which are so arranged as to bring these arms into the positions with respect to each other shown in fig. 5, the upper and lower edges of any two contiguous slats N O or O P being so arranged as to be in nearly the same horizontal plane.

The number of arms O P to be used may be varied to suit the depth of cream in the churn, the upper and lower slats, N Q, of the form shown, being used in all cases.

These slats are secured on the dasher-shaft M, by passing said shaft through holes in the slat, and then securing the slats by wooden pins, driven through them and the dasher-shaft.

From the foregoing description, it will be readily seen that by turning the crank R, a rapid rotary movement will be imparted to the dasher N O Q, which will force the cream up and down the advancing inclined faces of said arms, and through the spaces between said arms, which will produce a violent lateral and vertical motion of the particles of said cream, and thus insure a rapid churning of the butter.

On the completion of the churning, the pin *a* can be taken out, when the gearing and frame J K H can be readily lifted from the arms B B.

The covers C C can then be taken off, and the dasher M N Q lifted out, when the churn-box will be in convenient shape for removing the butter.

Having thus fully described my invention,

What I claim therein as new, and desire to secure by Letters Patent, is—

1. The dasher M N Q, herein described, composed

of the shaft M, upper and lower slats N Q, with arms of triangular cross-section, and two or more central slats O P, with arms of diamond cross-section, when said slats are so arranged as to bring the upper and lower edges of the arms of any two contiguous slats into the same horizontal plane, the several parts being constructed and combined substantially as and for the purpose herein specified.

2. The combination of the churn-box A, with extended sides B B, provided with slots F F, the slides G G, gearing-frame *h* H *h*, driving-shaft I, with crank R, bevel-gears J K, dasher-shaft L M, with pinned connection *a*, and bearing-spindle E and dasher N O P Q, the several parts being constructed and arranged with respect to each other substantially as is herein specified.

As evidence that I claim the foregoing, I have hereunto set my hand, this 17th day of April, 1869.

THOS. S. NUTTER.

Witnesses:

J. HELMICK,

E. MASON.