

CHURN.

No. 172,713.

Patented Jan. 25, 1876.

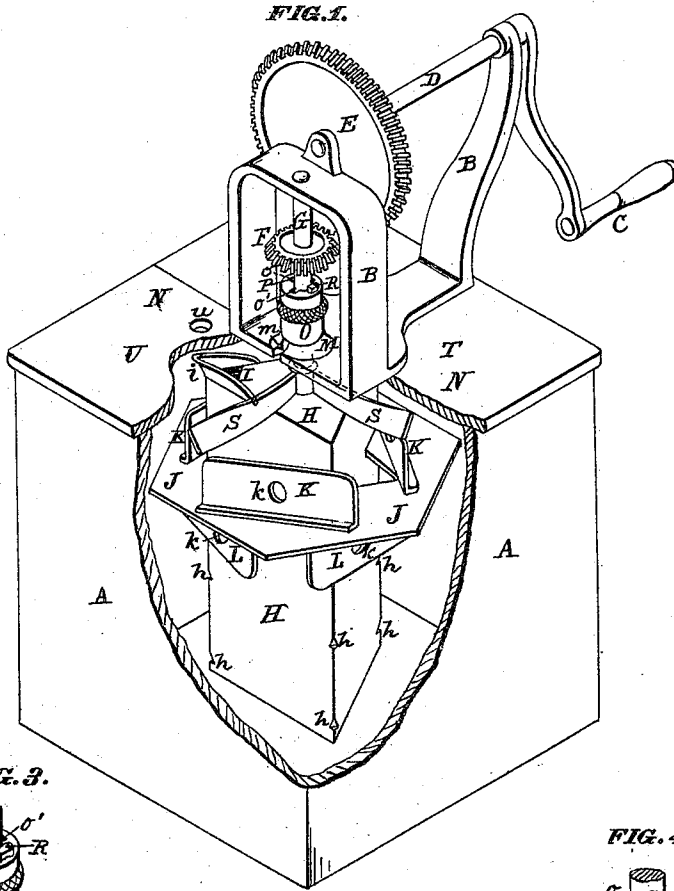


FIG. 3.

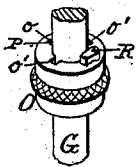


FIG. 4.

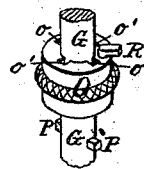
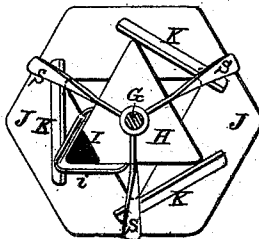


FIG. 2.



ATTEST:

Robt Burns.
Henry Tanner

INVENTOR:

Henry T. Davis
By Knight, Bro. &
Attys.

UNITED STATES PATENT OFFICE.

HENRY T. DAVIS, OF SHERMAN, TEXAS.

IMPROVEMENT IN CHURNS.

Specification forming part of Letters Patent No. **172,713**, dated January 25, 1876; application filed May 10, 1875.

To all whom it may concern:

Be it known that I, HENRY T. DAVIS, of Sherman, Grayson county, State of Texas, have invented a certain new and useful Improvement in Churns, of which the following is a specification:

My improvement relates to that class of churns in which the dasher-shaft is vertical and receives rotation by gearing at the top of the churn.

My improvement consists in a peculiar collar-bearing of the dasher-shaft at the lid, as hereinafter set forth.

In the drawings, Figure 1 is a perspective view of the churn, with part of the cream-vessel broken away to show the interior. Fig. 2 is a top view of the dasher. Fig. 3 is a detail perspective, showing the bearing-sleeve coupled. Fig. 4 is a detail perspective, showing the bearing-sleeve uncoupled.

A is the cream-vessel. This is shown as square in form; but it may be made round, if desired. B is the bracket or housing in which the gear-wheel shaft and dasher-shaft have bearing. C is the hand-crank; and D is the hand-crank shaft, carrying a bevel cog-wheel, E, that engages with a pinion, F, near the upper end of the dasher-shaft G. The upper end of the dasher-shaft has journal-bearing in the housing B, and the dasher-shaft has a lower bearing at the lid, upon which last bearing it is supported vertically.

The dasher consists of a triangular vessel, H, whose only opening is at I, at one of the upper corners, and this opening is furnished with a flaring flange, *i*, that forms a funnel for inflowing water and a spout for the outflowing water. The corners of the dasher-vessel H have a number of notches, *h*, for the support of the outer and adjustable part of the dasher. This adjustable part of the dasher has a horizontal rib or flange, J, whose inner edge has notches to receive the corners of the triangular vessel H, so that the two parts turn together.

Upon the ring J are upwardly and downwardly extending wings K and L. These wings extend tangentially from the corners of the vessel H, and the lower edges of the lower wings L engage in the notches *h* to sustain the part J K L at the proper position upon the part H, the part J K L being adjustable ver-

tically thereon. The wings K L may be perforated, as shown at *k*.

The lower bearing of the dasher-shaft consists of a nipple, M, open at one side, *m*, and firmly attached to the lid N of the churn. The side opening is to allow the introduction of the dasher-shaft in a sidewise direction. The shaft is held in the bearing M when in operation by a sleeve, O, which forms part of the bearing, turning on the outside of the nipple M.

The sleeve O admits of sliding on the shaft G, so as to disengage the sleeve from the nipple. The sleeve or collar O is fixed to the shaft, when in operation, by a cross-bar passing diametrically, and whose ends form projections P upon the shaft. These lugs, when the bearing-sleeve O is fixed to the shaft, rest in notches *o* of the sleeve O, and are held in the notches by a button, R, turning in the top of the sleeve O, and which, when turned inward, as shown in Fig. 3, laps over one of the lugs P. *o' o'* are interior grooves extending vertically in the upper part of the sleeve, as shown, to allow the passage of the lugs P as the sleeve is raised up from the nipple M. S are curved wings extending outwardly from the top of the dasher, and acting to cause a circulation of air in the churn.

The lid N consists of two parts, T and U, to the former of which the housing B is secured. In the lid is an air-hole, *w*, through which air is drawn in and ejected by the inclined wings S.

The operation is as follows: The cream or milk, as the case may be, is put into the vessel A, and is cooled or heated, if necessary, to bring it to the proper temperature by the introduction of water into the vessel H. If the cream-vessel A is angular in form, as shown, the dasher may have continued rotation in one direction; but if the cream-vessel A is round the dasher should have reciprocating rotation because a continued rotation in one direction in a circular vessel would cause the cream to circulate with the dasher, and no adequate agitation would take place in it.

On the removal of the dasher the lid and dasher may be lifted from the churn together. To disconnect the dasher from the lid, turn the button R outward, as shown in Fig. 1, and raise the shaft in the sleeve O, so as to raise the lugs P from the notches *o*; then

turn the bearing-sleeve O until the lugs P are in line with the grooves o', when the sleeve may be raised clear from the nipple M and the shaft removed sidewise from its bearing in the said nipple. Its upper end may then be drawn from its bearing-socket in the housing B.

I claim herein as new and of my invention—

The combination of shaft G, with lug or lugs P, sleeve O, with notches and grooves o and o', and the bearing-nipple M, all substantially as set forth.

HENRY T. DAVIS.

Witnesses:

SAML. KNIGHT,
ROBERT BURNS.