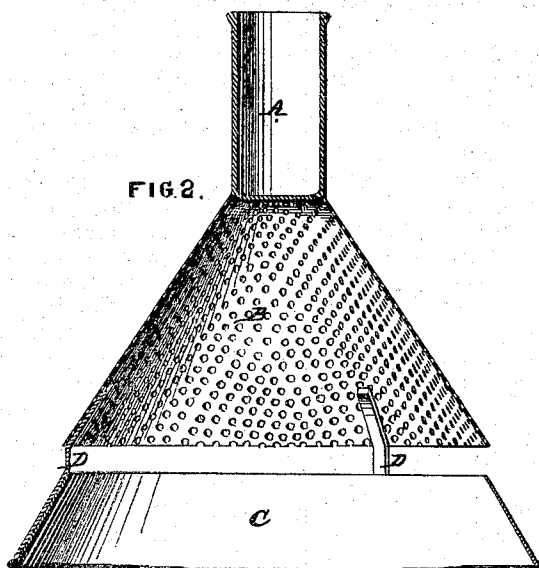
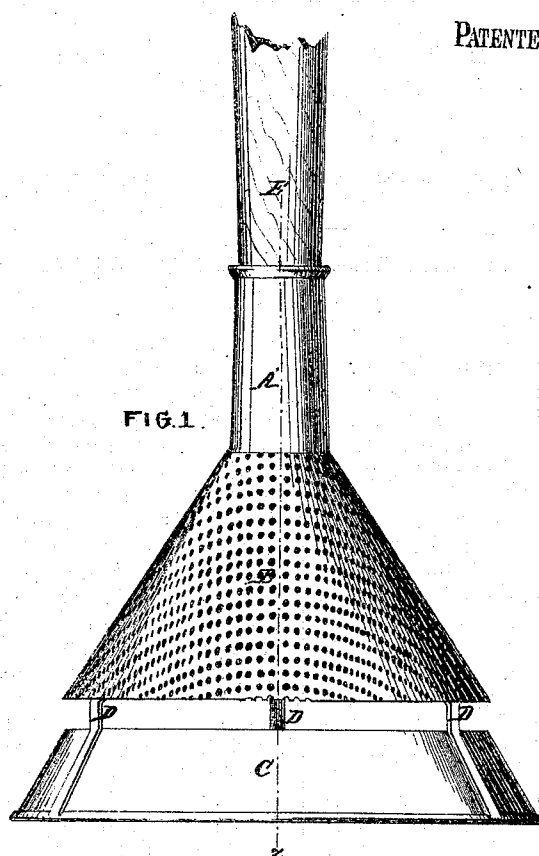


B.F. STOVER & J.W. WARNER.

CHURN - DASHER.

117479

PATENTED JUL 25 1871



WITNESSES.

D. L. Ewin
Walter Allen

INVENTORS

B. F. Stover
J. W. Warner
By [Signature]

UNITED STATES PATENT OFFICE.

BENJAMIN F. STOVER, OF LADOGA, AND ISAAC W. WARNER, OF CRAWFORDSVILLE, INDIANA.

IMPROVEMENT IN CHURN-DASHERS.

Specification forming part of Letters Patent No. 117,479, dated July 25, 1871.

To all whom it may concern:

Be it known that we, BENJAMIN F. STOVER, of Ladoga, in the county of Montgomery and State of Indiana, and ISAAC W. WARNER, of Crawfordsville, in the said county and State, have invented an Improved Churn-Dasher, of which the following is a specification:

Our invention relates to reciprocating dashers for upright churns; and consists in the production of a cheap, simple, and highly-efficient form of the same. The dasher is composed of a socket for the rod or handle and two hollow conic frustums supported concentrically one above the other, the upper adapted to break the butter-globules, and the lower to concentrate the currents of cream produced by the downward movements of the dasher and direct the same into and through the upper.

Figure 1 is a side elevation of our improved dasher. Fig. 2 is a vertical section of the same on the line z, Fig. 1.

Like letters of reference indicate corresponding parts in the two figures.

Our improved dasher may be made entirely of tin or other suitable sheet-metal, and the parts united by solder, as indicated, and is always of about the form and relative dimensions represented. It is composed of a socket, A, a perforated broad flaring ring or conic frustum, B, attached at its apex to the bottom of said socket, and a solid flaring rim or second conic frustum, C, with a top of less diameter than the base of the upper, below which it is supported by three or more stays, D. The socket A is to receive a straight wooden handle or rod, E, and may be a thimble, as shown, or a sleeve. The upper frustum B is perforated with minute holes, (say about one-eighth of an inch in diameter.) It is proposed to make the same of the perforated or reticulated sheet-tin in use for various purposes. The lower frustum C, if made of sheet-tin, as proposed, may have its lower edge doubled, as represented, or wired or beaded to stiffen and strengthen it. Its top, as before stated, is of

less diameter than the base of the upper, (say about one-eighth of an inch,) and it is supported below the latter, a space being left between, as represented, for the admission of air under the same. The angles of the sides of the two frustums are to some extent variable, and the two need not correspond in this particular. The stays D for connecting the frustums B C may be narrow strips of the metal of which the frustums are composed, suitably bent and attached to the interior of the upper and exterior of the lower, as represented. The dasher may be used in any upright churn, being made of proper diameter to work in the same.

As the dasher is forced down through the cream the flaring rim C draws the cream toward the center, and as nearly as possible the entire volume of it is thus made to pass, mingled with what air is confined in the cap or upper frustum B, through the minute perforations in said frustum, and its globules thus broken and the butter liberated. In the ascent of the dasher the partial vacuum formed under the cap B tends to draw the cream back through the perforations in said cap, and thus continue the operation until it passes the surface of the cream, when it is filled with air, which is carried down and mingled with the cream in its next descent, as before explained. In this manner the cream is perfectly aerated and the churning operation performed in shortest time. The butter is rapidly and most perfectly gathered beneath the dasher by a few proper movements of the same.

I claim as my invention—

The improved churn-dasher herein described, composed of the socket A, perforated conic frustum B, and imperforate flaring rim C, combined and arranged substantially as shown, for the purpose set forth.

BENJAMIN F. STOVER.
ISAAC W. WARNER.

Witnesses:

MELVILLE W. BRUNER,
JAMES A. PAXTON.