

H. D. MILLER.

CHURN.

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1,046,832.

Patented Dec. 10, 1912.

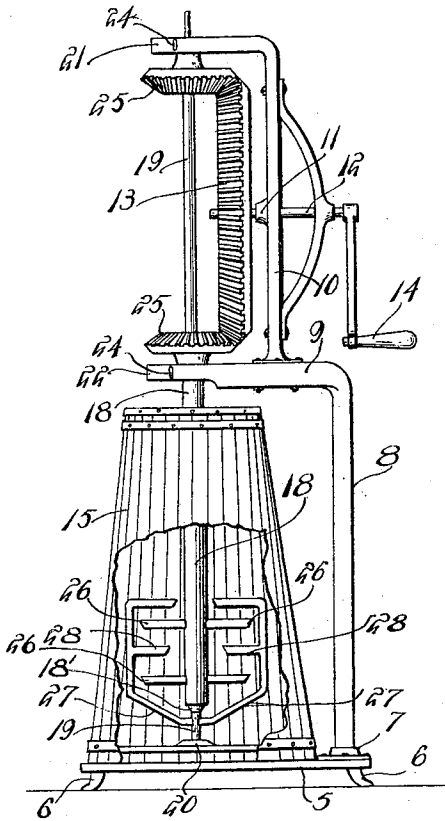


Fig. 1.

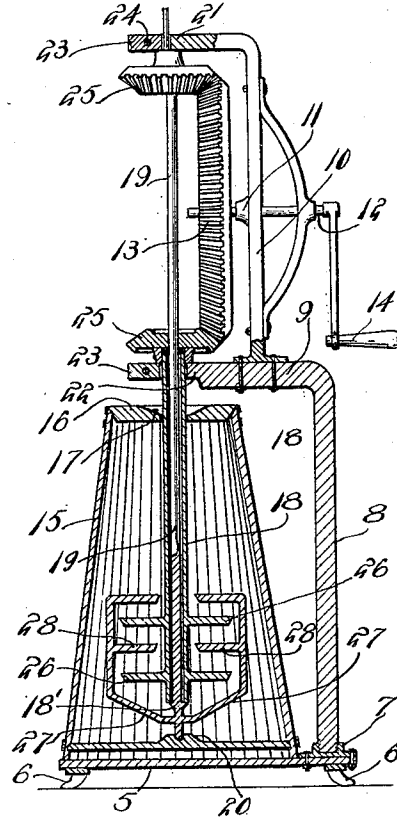


Fig. 2.

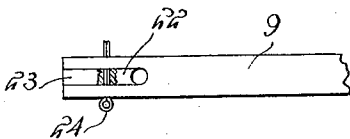


Fig. 3.

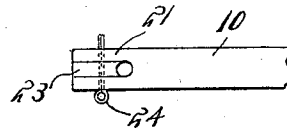


Fig. 4.

Witnesses
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UNITED STATES PATENT OFFICE.

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CHURN.

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To all whom it may concern:

Be it known that I, HERMAN D. MILLER, a citizen of the United States, residing at Harrietsville, in the county of Noble, State of Ohio, have invented certain new and useful Improvements in Churns; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The invention relates to a churn and more particularly to the class of rotary dasher churns.

The primary object of the invention is the provision of a churn in which cream contained within the churn body will be subjected to a severe agitation by means of oppositely rotatable dasher blades whereby the cream will be quickly converted into butter.

Another object of the invention is the provision of a churn in which the dasher shafts are supported relative to the churn body so that the said dasher shafts may be readily and quickly detached from their support so that it may be removed from the churn body for the cleaning of the latter and also the dasher blades on the shafts.

A further object of the invention is the provision of a churn in which the dasher blades, are disposed within the churn body so that upon opposite rotation of the dasher shafts the said blades will rotate in different directions thereby setting up opposed currents in the liquid contained within the churn body for thoroughly churning said liquid in the formation of butter.

With these and other objects in view the invention consists in the construction, combination and arrangement of parts as will be hereinafter more fully described, illustrated in the accompanying drawings disclosing the preferred form of embodiment of the invention and pointed out in the claim hereunto appended.

In the drawings:—Figure 1 is a side elevation of a churn constructed in accordance with the invention the same being partly broken away. Fig. 2 is a vertical longitudinal sectional view thereof. Fig. 3 is a fragmentary top plan view of the upper arm of one of the brackets. Fig. 4 is a similar view of the lower bracket.

Similar reference characters indicate cor-

responding parts throughout the several views in the drawings.

Referring to the drawings by numerals 5 designates a platform which may be of any desirable shape and size and also constructed from any suitable material, the same being formed with depending legs 6 whereby the said platform 5 is held elevated from the ground or flooring. Mounted upon the upper face of the platform 5 near its marginal edge is a foot 7 in which is detachably mounted the lower end of an inverted substantially L-shaped standard or bracket 8, to the right angular arm 9 of which is secured a supplemental standard or bracket 10 which is formed with a central bearing 11 in which is journaled a stub shaft 12 having fixed at one end a beveled driving gear 13 while at its opposite end is fixed a turning crank or handle 14 whereby the said shaft 12 may be manually rotated.

Superimposed upon the platform 5 is a churn body 15 the same being of the usual well known construction having its mounted portion closed by a removable cover or top 16 provided with a suitable central opening surrounded by a dished portion 17 and through this opening is passed a dasher shaft 18 the lower end of which has its bearing upon a collar integral with and forming a shoulder 18' on a further dasher shaft 19 fitted within the shaft 18, the shaft 19 at its lower end has its bearing in a socket 20 formed in the bottom of the churn body 15, the shaft 19 being considerably longer than the hollow shaft 18 has its upper end journaled in a bifurcation or fork 21 formed in the free end of the bracket 10 while the hollow shaft 18 has its upper end journaled in a similar bifurcation or fork 22 formed in the free end of the arm 9 of the bracket 8, the bifurcations or forks being closed by filling blocks 23 detachably held therein by means of cotter pins 24 carried by the said arms and intersecting the bifurcations, and engaged with the filling blocks.

Fixed to the upper ends of the shafts 18 and 19 are beveled pinions 25 meshing with the driving gear 13 and on rotation of the said driving gear 13 the shafts 18 and 19 will rotate in opposite directions to each other. The shaft 18 is formed with opposite outwardly extending dasher blades 26 and the shaft 19 near its lower end is formed with

opposite outwardly and upwardly extending parallel arms 27 having inturned dasher blades 28 arranged upon the vertical portions thereof and the extremities of the par-
 5 allel arms 27 are bent inwardly to form the upper dasher blades, and these dasher blades rotate in planes above the planes of the dasher blades 26 upon the rotation of the dasher shafts in opposite directions to each
 10 other.

It will be clearly obvious that when it is desired to clean the churn body 15 or to remove the dashers therefrom it is only necessary to detach the cotter pins 24 from
 15 the brackets 8 and 10 and on removal of the securing blocks 23 from the bifurcations in the free ends of the brackets thus enabling the churn to be removed from the platform 5 whereby the dashers may be removed from
 20 the said churn to permit cleaning thereof, also the dashers or discharge of contents from the said body.

What is claimed is:

25 In a churn the combination with a churn body and removable top; of an inner shaft having one end mounted in the bottom of

the body and angularly directed arms projecting from the lower end of the shaft, said arms being bent upwardly about mid-
 30 way their length and terminating in inwardly directed dasher portions, dashers projecting from the upwardly directed portions of said arms, said shaft having a shoulder formed therewith adjacent the lower end
 35 of the arms, said shafts projecting through the removable cover, and an outer tubular shaft rotatably mounted upon the inner shaft and having its lower end resting upon
 40 the shoulder of the inner shaft, the upper end of said outer shaft projecting above the removable cover, said outer shaft having outwardly directed dashers between and be-
 45 neath the dasher portions of the arms carried by the inner shaft, and means for rotating the shafts in opposite directions.

In testimony whereof, I affix my signature, in presence of two witnesses.

HERMAN D. MILLER.

Witnesses:

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 A. A. STEPHENS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."