No. 637,452. Patented Nov. 21, 1899.

E. R. FRANKLIN.

CHURN DASHER.

(Application filed June 30, 1899.)

(No Model.)

Fig. 1.

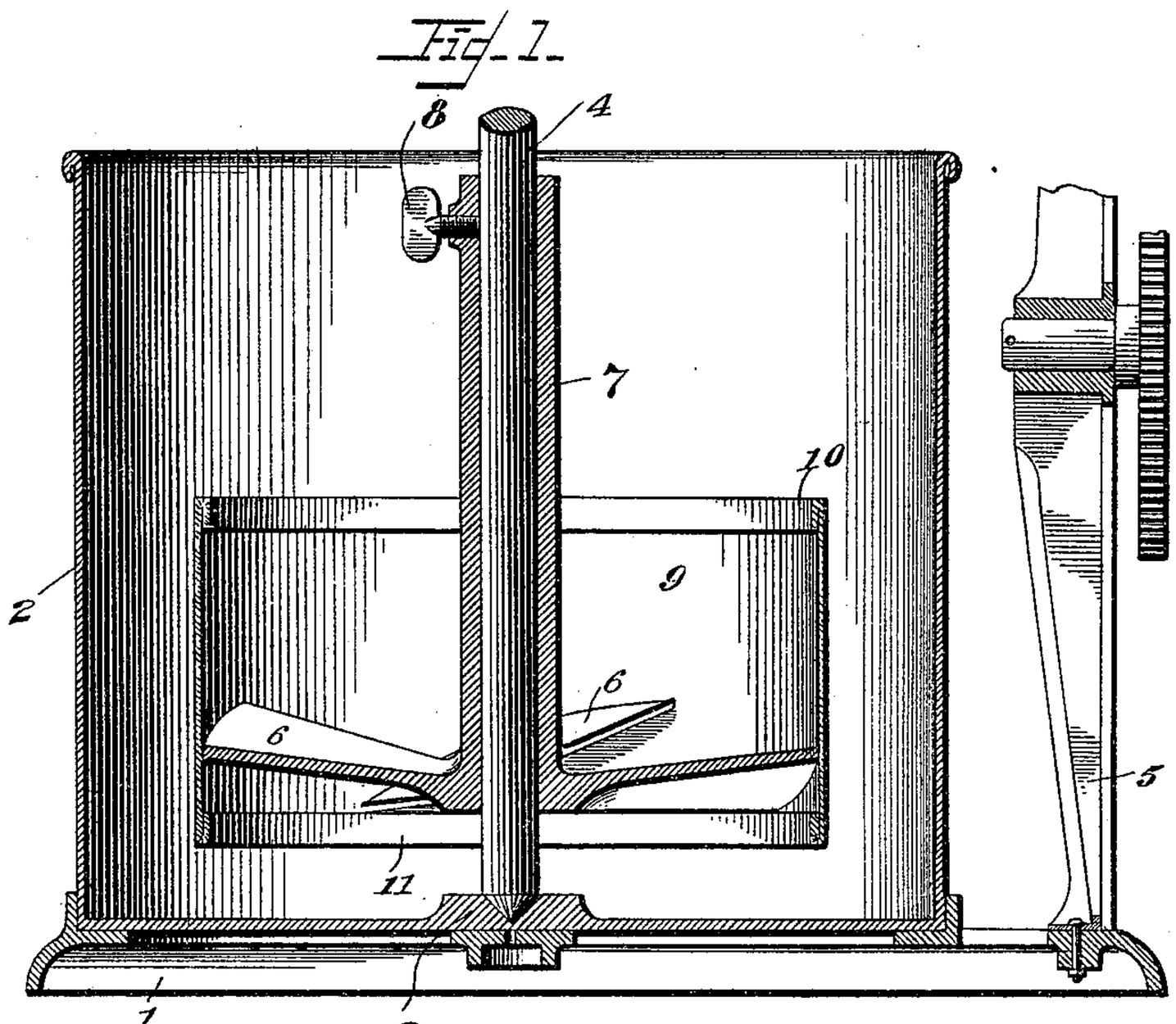
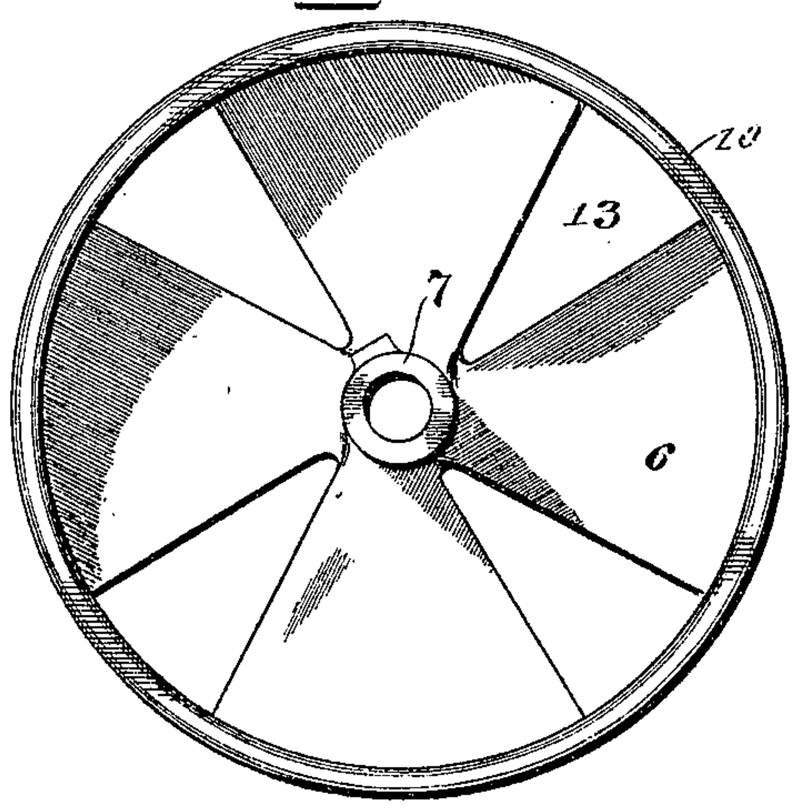


Fig. 2.



Witnesses

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UNITED STATES PATENT OFFICE.

EDWARD R. FRANKLIN, OF AUSTIN, TEXAS, ASSIGNOR TO THE CHICAGO NOVELTY MANUFACTURING COMPANY, OF SAME PLACE.

CHURN-DASHER.

SPECIFICATION forming part of Letters Patent No. 637,452, dated November 21, 1899.

Application filed June 30, 1899. Serial No. 722,419. (No model.)

To all whom it may concern:

Be it known that I, EDWARD R. FRANKLIN, a citizen of the United States, residing at Austin, in the county of Travis and State of Texas, have invented a new and useful Churn-Dasher, of which the following is a specification.

This invention relates to rotary churn-dashers of that class embodying radial blades and a peripheral band inclosing blades.

The object of the present invention is to provide certain new and useful improvements whereby the cream is caused to ascend exteriorly of the band of the dasher and to pass over the upper edge thereof and thence downward between the rotary blades to the bottom of the churn, whereby a thorough intermingling of the air with the cream is effected.

With this object in view the invention consists in the novel construction and arrangement of parts, as will be hereinafter more fully described, shown in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that changes in the form, size, proportion, and minor details of construction may be made without departing from the scope of the appended claims.

In the drawings, Figure 1 is a longitudinal sectional view of a churn-body having the improved dasher applied thereto. Fig. 2 is a top plan view of the dasher.

Corresponding parts in both the figures of the drawings are designated by like characters of reference.

Referring to the accompanying drawings, 1 designates a suitable base, upon which the body 2 is adapted to be supported. Journaled in a suitable bearing 3, provided centrally of the bottom of the churn, is an upright rotary dasher-shaft 4, which is adapted to be operated by means of any suitable driving mechanism carried by the upright standard 5, which is supported upon the base 1 and at one side of the churn-body.

The dasher-head comprises substantially triangularly-shaped radial blades 6 and an upwardly-extending tubular stem 7, which is adapted to receive the dasher-shaft 4, and is provided near its upper end with a binding-screw 8, adapted to adjustably support the dasher-head upon the dasher-shaft. Surrounding the radial blades 6 and connected to the circumferential edges thereof is a peripheral band 9, which extends both above and below the blades. This band is formed from thin sheet metal, such as tin, and the upper and lower edges thereof are bent inwardly, forming the upper and lower beads 10 and 11, respectively, so as to provide a smooth and unobstructed exterior to the band 9. By referring to Fig. 1 it will be seen that the radial blades are twisted or deflected vertically, and the lower edges of the blades rest upon the inner annular flange formed by the upper edge of the bead 11, and the ends of the blades are soldered or otherwise secured to the inner face of the band. It will be understood that between each adjacent blade there is an open space 13 of substantially triangular shape, as most clearly indicated in Fig. 2 of the drawings.

In the operation of the device the dasher-shaft 4 is operated so as to turn the dasher-head at a high rate of speed, and by reason of the twisted inclined disposition of the radial blades 6 the cream is forced out from beneath the dasher and caused to ascend exteriorly of the band 9, between the same and the adjacent inner walls of the churn-body. After the upward current of the cream has passed above the upper edge of the band 9 the suction caused by the radial blades 6 draws the cream inwardly over the upper edge of the band 9 and downward through the openings 13, formed between the blades. By reason of the fact that the lower edges of the blades are arranged in a plane above that of the lower edge of the band 9 the lower portion of the latter below the blades forms a chute, which confines the cream therein, directs the latter downward, and prevents a centrifugal discharge thereof. Therefore it will be understood that the downward current of the cream will be directed against the bottom of the churn-dasher before it begins to ascend exteriorly of the band 9. Thus it will be seen that the cream is caused to pass both downward and upward around the revolving peripheral band 9, so that the whole

volume of cream is being constantly agitated and the air effectively intermingled therewith, whereby the butter is caused to collect in a very short space of time.

It is preferable to fold or bend inward the upper and lower edges of the peripheral band 9 to provide the respective beads 10 and 11 for two purposes—viz., to form a support for the radial dasher-blades and to provide an unobstructed exterior for the band 9, so that the cream may not meet with any obstruction in its upward passage which might cause the same to splash out of the churn-body and upon the operator thereof.

Having thus described the invention, what I claim is—

1. In a churn, a dasher, comprising a plurality of deflected or twisted radial blades, and a band surrounding the blades and connected to the outer ends thereof, the plane of said blades being located intermediate of the upper and lower edges of the band, and the lower portion of the latter below the blades, forming a chute, which confines the cream therein, directs the latter downward, and prevents a centrifugal discharge thereof, and means for rotating the dasher, substantially in the manner shown and described.

2. In a churn, a dasher, comprising a plurality of deflected or twisted radial blades, and a band surrounding the blades, and having its upper and lower edges bent inward forming interior stiffening-beads, and providing a smooth and unobstructed exterior to the band, the outer ends of the radial blades resting upon the lower interior bead, thereby locating said blades intermediate of the upper and lower edges of the band, and the lower portion of the latter below the blades, forming a chute, which confines the cream therein, directs the latter downward, and prevents a centrifugal discharge thereof, and means for rotating the dasher substantially in the manner shown and described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

EDWARD R. FRANKLIN.

Witnesses:
W. P. TIPPIT,
A. W. DIR.