No. 687,182. Patented Nov. 19, 1901.

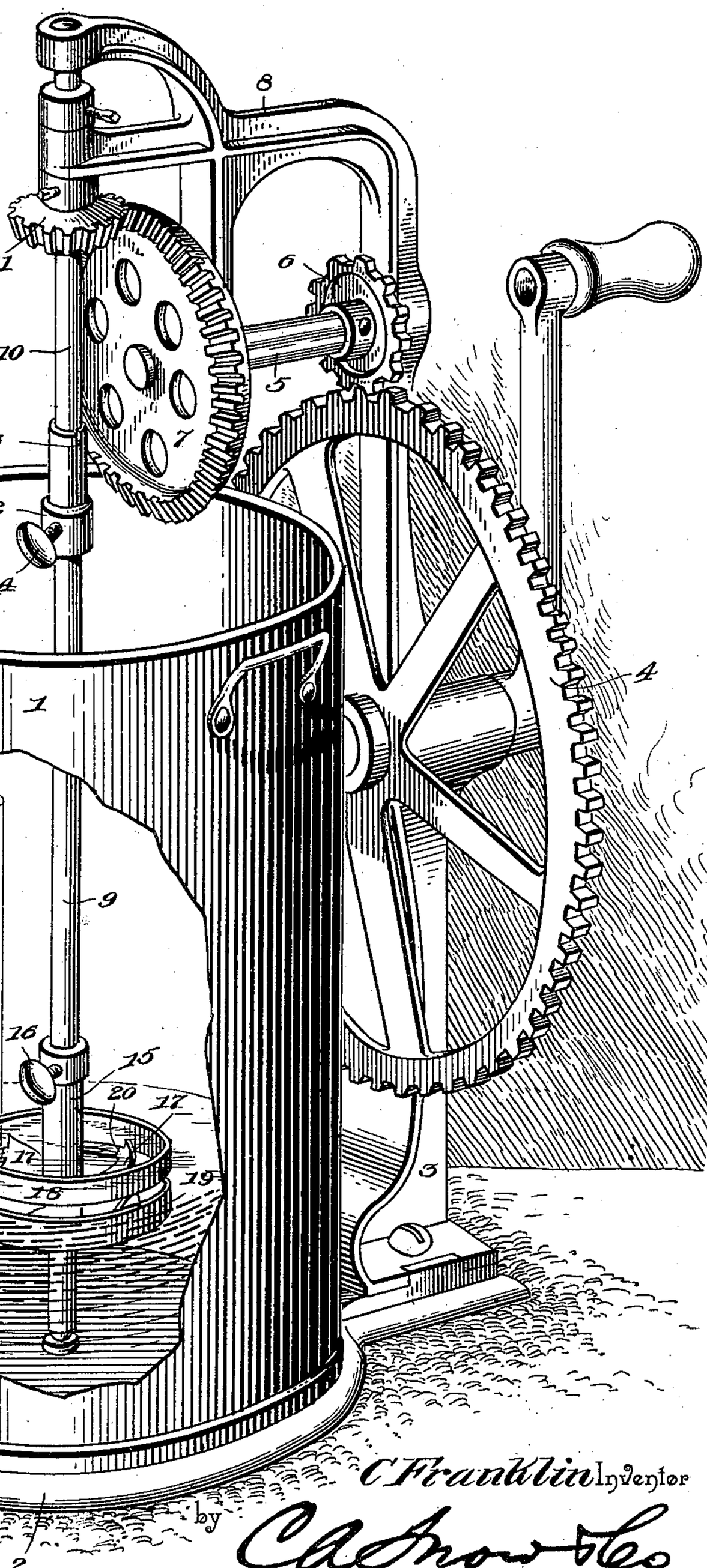
C. FRANKLIN.

CHURN.

(Application filed May 31, 1901.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.



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(No Model.) 2 Sheets—Sheet 2.

Fig. 2.

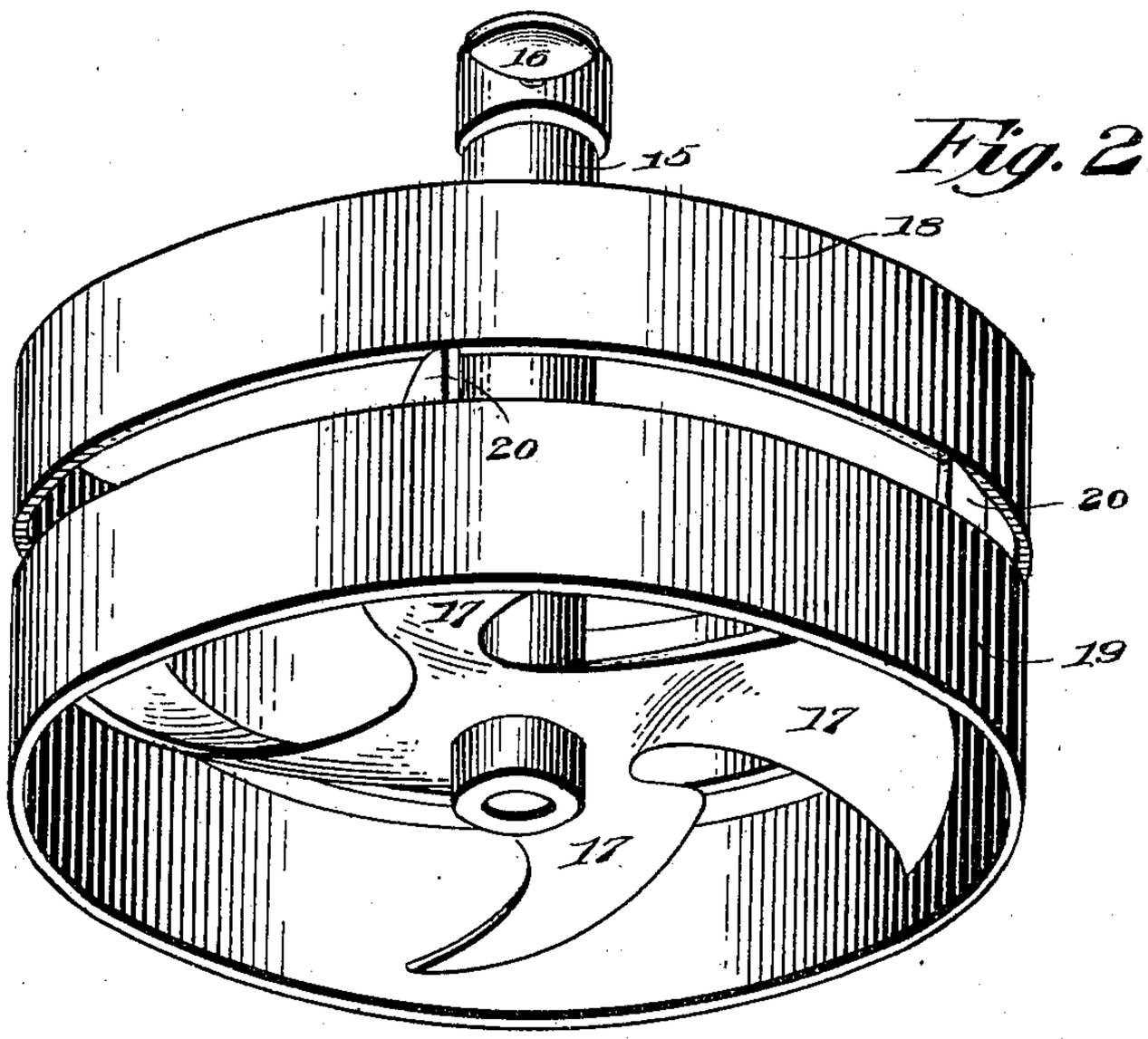
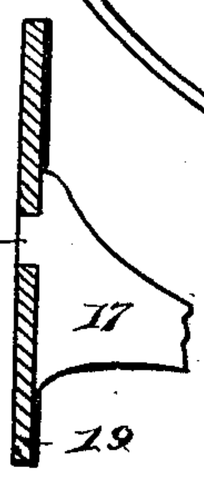


Fig. 3.

Fig. 4.



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UNITED STATES PATENT OFFICE.

CLAUDE FRANKLIN, OF NORTH CHICAGO, ILLINOIS, ASSIGNOR TO THE CROWN EXTRACTOR CO., OF CHICAGO, ILLINOIS, A COPARTNERSHIP COMPOSED OF E. A. FRANKLIN AND E. R. FRANKLIN, OF NORTH CHICAGO, ILLINOIS.

CHURN.

SPECIFICATION forming part of Letters Patent No. 687,182, dated November 19, 1901.

Application filed May 31, 1901. Serial No. 62,622. (No model.)

To all whom it may concern:

Be it known that I, CLAUDE FRANKLIN, a citizen of the United States, residing at North Chicago, in the county of Lake and State of Illinois, have invented a new and useful Churn, of which the following is a specification.

This invention relates to churns, and has for its object to provide an improved device of this character and to facilitate the operation thereof.

It is furthermore designed to provide an improved form of rotary dasher, in which the blades thereof are rigidly braced and the parts are arranged to secure an increased agitation of the cream.

With these and other objects in view the present invention consists in the combination and arrangement of parts, as will be hereinafter more fully described, shown in the accompanying drawings, and particularly pointed out in the appended claim, it being understood that changes in the form, proportion, size, and minor details may be made within the scope of the claim without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings, Figure 1 is a perspective view of a churn constructed in accordance with the present invention, parts being broken away to show the dasher. Fig. 2 is an underneath perspective view of the present form of dasher. Fig. 3 is a top plan view thereof. Fig. 4 is a detail vertical sectional view taken through one side of the dasher.

Like characters of reference designate corresponding parts in all of the figures of the drawings.

In carrying out the present invention there is provided a churn-body 1, preferably in the form of a cylindrical can, which is supported upon a base 2, from which rises a standard 3 at one side of the can and projected above the same. A drive-gear 4 is mounted upon the intermediate portion of the standard between the same and the can, and upon the upper end of the standard there is mounted a transverse shaft 5, upon which is mounted a pinion 6, in mesh with the drive-gear. Upon the outer end of the shaft there is mounted a beveled gear 7. The outer end of the shaft is hung from the outer end portion of a transverse arm 8, projected from the standard. Located centrally within the churn-body is a rotary-shaft section 9, which is mounted in a step-bearing in the bottom of the churn and has its upper end terminated short of the beveled gear. An upper dasher-shaft section 10 is journaled in the outer end of the arm 8 and is provided with a beveled gear 11, in mesh with the gear 7. A coupling-sleeve 12 is slidably mounted upon the upper end of the lower dasher-shaft section and is provided in its upper edge with one or more notches or seats for the detachable reception of corresponding projections 13 upon the upper-shaft section, whereby the two sections may be detachably coupled. A suitable set-screw 14 is carried by the sleeve, so as to adjustably interlock the same with the shaft.

The rotary dasher comprises a tubular stem 15, which is open at opposite ends for the reception of the dasher-shaft and is provided with a set-screw 16 for connecting the stem to the shaft. Adjacent to the lower end of the stem there is provided a plurality of radial blades 17, which are bowed rearwardly with respect to the direction of rotation and are also twisted or tilted vertically and increased in width outwardly. The outer ends of the blades are connected and braced by a pair of bands or rings 18 and 19, located one above the other and embracing the outer ends of the blades, to which they are soldered or otherwise connected. The lower edge of each blade is located slightly above the lower edge of the lower band, and its upper outer edge projects above the lower band, so as to slightly overlap the lower edge of the upper band, to which it is connected. The upper portion of the outer edge of each blade is provided with a projection or shoulder 20, that fits snugly between the two bands, so as to form a rigid brace therefor. By the manner of disposing the dasher-blades within the bands and by the provision of the marginal slot an increased and violent agitation of the cream is effected, as there will be three distinct motions imparted to the cream—namely, a downward movement bodily through the bands, an outward discharge through the marginal slot,

and an upward and inward movement over the bands. By these various agitations separation of the butter from the cream will be rapidly effected without necessitating the output of a greater amount of labor than that involved with churns having dasher-blades of the ordinary construction. When the dasher is rotated to the right, the cream is drawn outwardly and downwardly, some of it being directed outwardly through the slot or space between the bands, while other portions are confined within the lower bands, and thereby directed downwardly to the bottom of the churn-body, thereby securing an improved agitation of the cream.

What is claimed is—

A rotary churn-dasher comprising a stem or hub, two brace-bands, and a plurality of dasher-blades, the operative faces of the latter being entirely housed within the said bands, each blade having a narrow approximately horizontal inner terminal and a wide outer terminal disposed at an angle to the path of rotation and partly spanning and secured to the said bands and provided with means for holding the same spaced apart to present a marginal slot, the intermediate portion of each blade being twisted and curved upward, whereby when the dasher is rotated, the cream is drawn downward and a portion thereof escapes through the marginal slot, the bulk of the cream being forced downward toward the bottom of the churn-body and thence outward and upward over the bands, substantially as and for the purpose specified.

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

CLAUDE FRANKLIN.

Witnesses:
M. STAMPER,
GEO. B. JONES.