

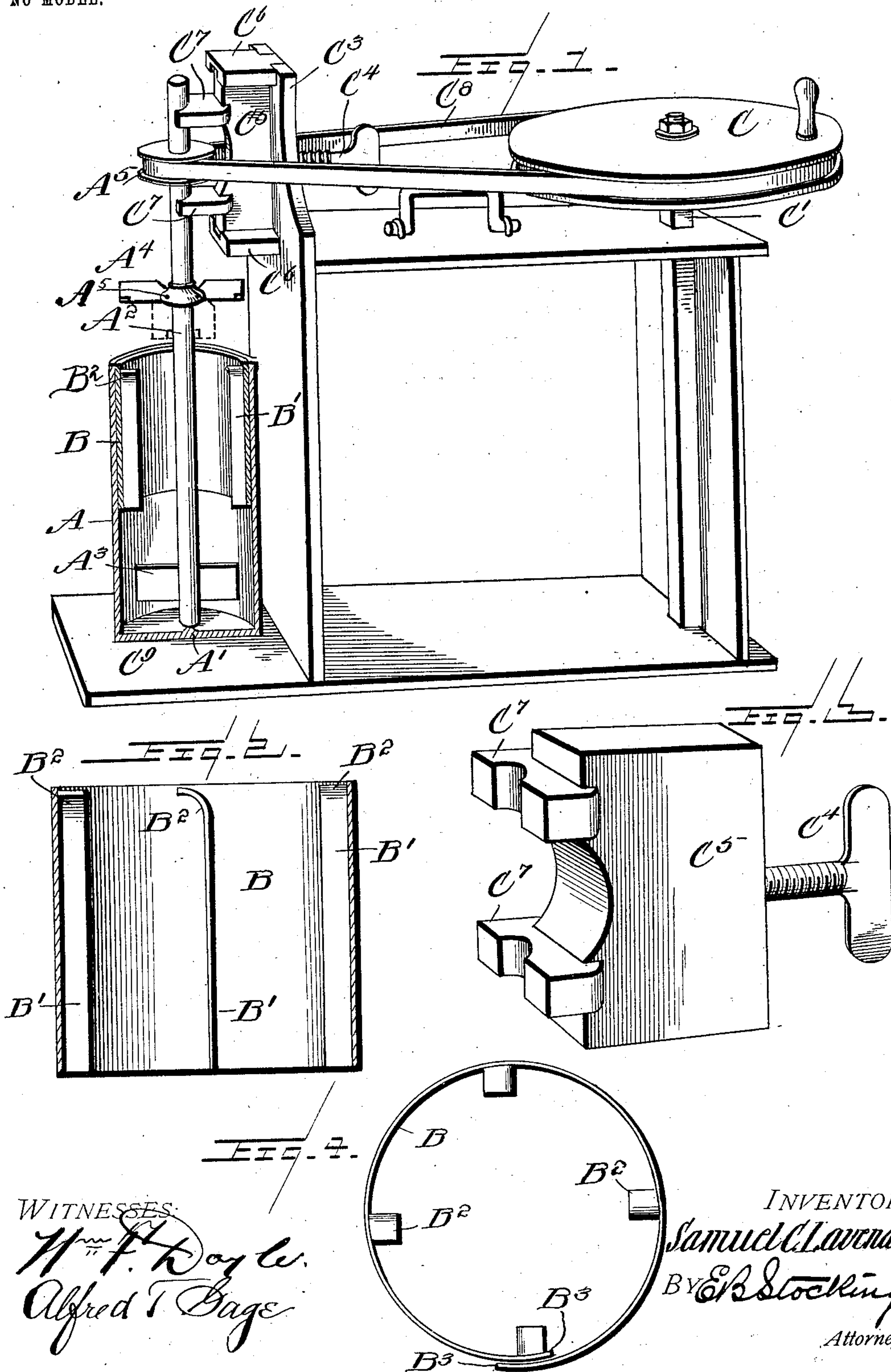
No. 763,769.

PATENTED JUNE 28, 1904.

S. C. LAVENDER.
CHURN.

APPLICATION FILED JULY 31, 1903.

NO MODEL.



UNITED STATES PATENT OFFICE.

SAMUEL C. LAVENDER, OF BLOSSOM, TEXAS, ASSIGNOR OF ONE-HALF
TO STEVEN A. CHENNAULT AND THOMAS H. CHENNAULT, OF BLOSSOM,
TEXAS.

CHURN.

SPECIFICATION forming part of Letters Patent No. 763,769, dated June 28, 1904.

Application filed July 31, 1903. Serial No. 167,770. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL C. LAVENDER, a citizen of the United States, residing at Blossom, in the county of Lamar, State of Texas, have invented certain new and useful Improvements in Churns, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to a churn, and particularly to a construction involving the use of a vertically-disposed rotatable dasher.

The invention has for an object to improve the details of construction of the churn, whereby the dasher-shaft is provided with fan-blades above the top of the churn, and within the body of the churn an adjustable breaker is supported.

A further object of the invention is to provide an improved construction of this breaker for preventing the overflow of the milk from the top of the churn and turn the rising column of milk at the sides of the churn back toward the center thereof.

Another object of the invention is to improve the construction of the driving mechanism, whereby the dasher-shaft may be held in proper position and the necessary tension applied to the driving-belt.

Other and further objects and advantages of the invention will be hereinafter set forth and the novel features of the same set forth in the appended claims.

In the drawings, Figure 1 is a perspective with the churn in vertical section. Fig. 2 is a vertical section of the breaker upon an enlarged scale. Fig. 3 is a detail perspective of the adjusting-block and bearing for the upper end of the dasher, and Fig. 4 is a plan of the breaker.

Like letters of reference refer to like parts in the several figures of the drawings.

The churn A may be of any desired construction or configuration and is provided at its lower portion with a bearing A', adapted to receive the lower end of the dasher-shaft A², which is provided at that portion with suitable dasher-blades A³, while above the upper open end of the churn weighted fan-blades A⁴ are secured to this shaft by pivots A⁵ to

rise by centrifugal force as shaft is rotated. Adjustably secured within the body of the churn is the breaker B, having upon its inner surface any desired number of vertically-disposed ribs or strips B', which at their upper ends are curved laterally, as shown at B², so as to prevent the rising of milk from the churn above the upper end thereof. This breaker is preferably formed of spring material and held within the body of the churn by expansive tension, as the free ends B³ of the breaker permit the separation thereof and the desired or necessary tension.

The dasher may be operated by any desired mechanism; but the preferred form thereof is shown in Fig. 1, where the driving-wheel C is mounted upon the bearing C', held in the supporting standard or casing. This casing is provided at one end with a vertically-extended portion C³, having a suitable bearing for the adjusting-screw C⁴, which bears against the sliding block C⁵. This block is mounted in ways C⁶, carried by the portion C³, and has extended at an angle therefrom bearing-blocks C⁷, which contact with the shaft of the dasher at opposite sides of the driving-pulley A⁵ thereon. The power is conveyed to this pulley by means of the belt C⁸, extending from the driving-wheel C and passing at opposite sides of the portion C³. If desired, the casing C² may be provided with an extended base C⁹, upon which the churn is adapted to rest in proper alinement with the bearing-blocks for the shaft thereof.

In the operation of the churn the dasher upon the shaft thereof is provided with a rotary movement, and the contents travel upward upon the side walls of the churn until the ribs of the breaker are reached, when the rotary movement is retarded and the contents directed toward the center of the churn, from which they are again raised by the dasher. In order to prevent any overflow of the contents of the churn at the top thereof, the curved portions of the ribs are provided, which also tend to deflect the contents both downward and inward in the churning motion, thus obviating the necessity for a cover to the churn. The fan-blades above the top of the churn are also

very desirable, as they prevent the approach of dust or insects at the mouth of the churn, and the downward draft therefrom, in connection with the breaker, present a construction which may be open, so that the contents will be properly aerated during the churning operation and may be observed at any time. This breaker is adjustable to any desired position above the dasher consistent with the amount of material operated upon and for different uses of the churn. The sliding block carrying the bearing-blocks permits the adjustment of the tension of the driving-belt and also holds the shaft of the dasher in the proper vertical position, so as to secure the most effective churning action. The formation of the breaker of spring material permits its being held at any height within the churn by friction and the ready adjustment thereof for different amounts of material or different speeds of operation. After the milk is churned the breaker is raised to the top of the churn above the normal milk-level and power applied at a slow rate, so that the milk is forced by the dasher from the center upward inside the surface of the churn, and thus held by the motion of the dasher while the butter is gathered around the dasher at the lower portion of the churn. By increasing the speed of the dasher some of the milk will be forced into contact with the breaker and thence downward to wash and pack the collected butter. This improvement also permits the churn to be used as a self-washer, and after the milk is removed a quantity of hot water may be placed within the churn and it operated at a high speed while the breaker is drawn up and down within the body. Thus all of the parts will be washed thoroughly without the necessity of an independent scalding thereof. It will be seen that the fan-blades lie in the dotted

position in Fig. 1 until the dasher is rotated, when they are raised by the centrifugal force upon their weighted outer ends into the operative position. (Shown by full lines.) 45

It will be obvious that changes may be made in the details of construction and configuration without departing from the spirit of the invention as defined by the appended claims.

Having described my invention and set forth its merits, what I claim, and desire to secure by Letters Patent, is— 50

1. In a churn, a shaft provided with a dasher, means for rotating said shaft, and pivotally-mounted fan-blades disposed upon said shaft directly above the upper end of said churn to be automatically thrown into operative position in the rotation of the shaft. 55

2. In a churn, a dasher-shaft provided with a driving-pulley at its upper end, a driving-wheel rotatably mounted in a supporting-frame, a belt extending from said wheel to said pulley, a sliding block disposed within the opposite sides of the belt parallel to the shaft and provided upon its outer face with bearing-blocks to engage said shaft at opposite sides of the pulley thereon, a vertical standard adjacent to said shaft and provided with lateral ways for said sliding block, and an adjusting-screw mounted in said standard to bear centrally upon the back of said block. 60 65 70

3. In a churn, a driving-shaft with a dasher, means for rotating said shaft, and fan-blades weighted at their free ends and pivotally mounted upon said shaft adjacent to the open end of the churn. 75

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

SAMUEL C. LAVENDER.

Witnesses:

F. G. JOHNSON,
A. N. LAMBERT.