

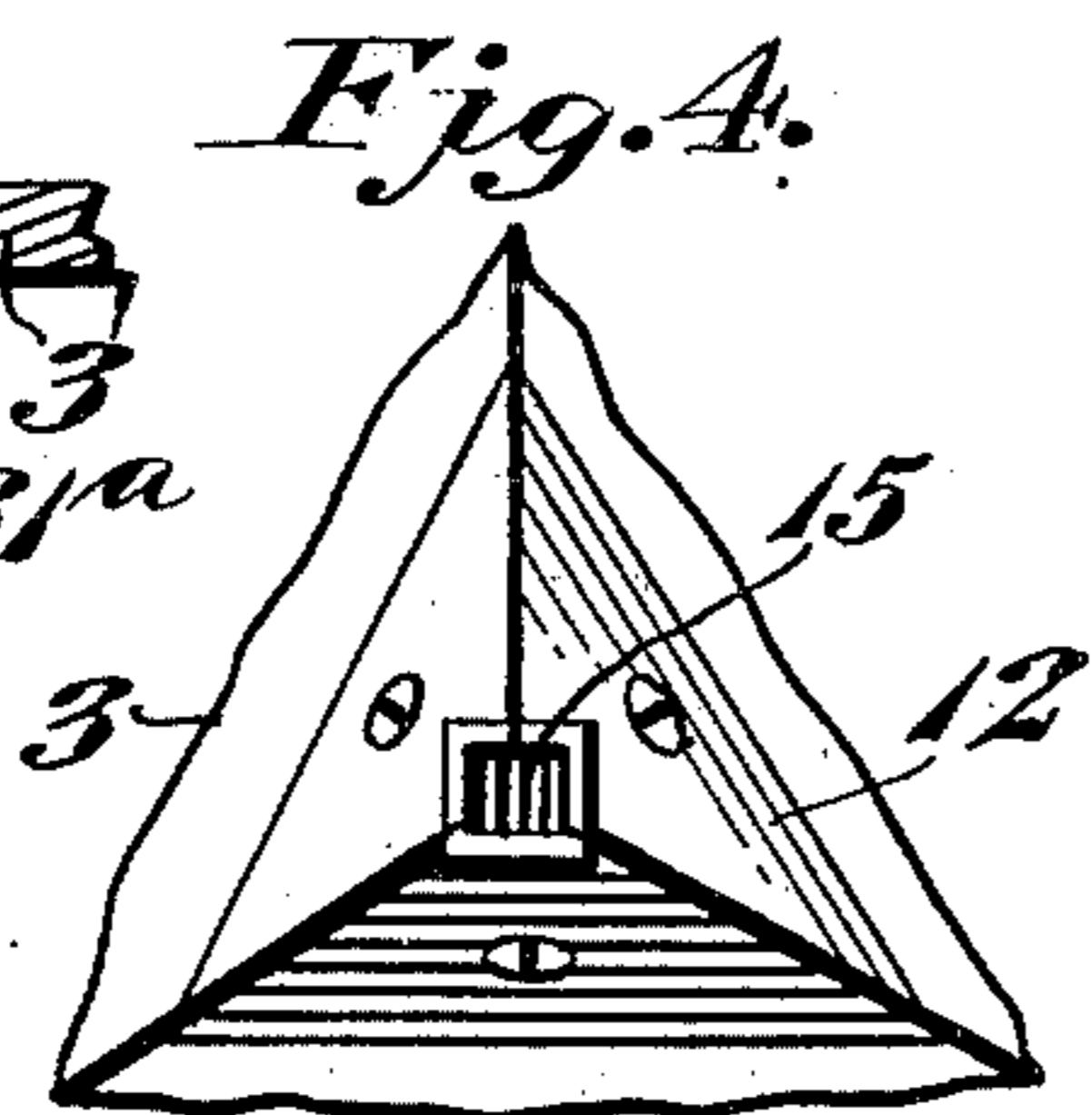
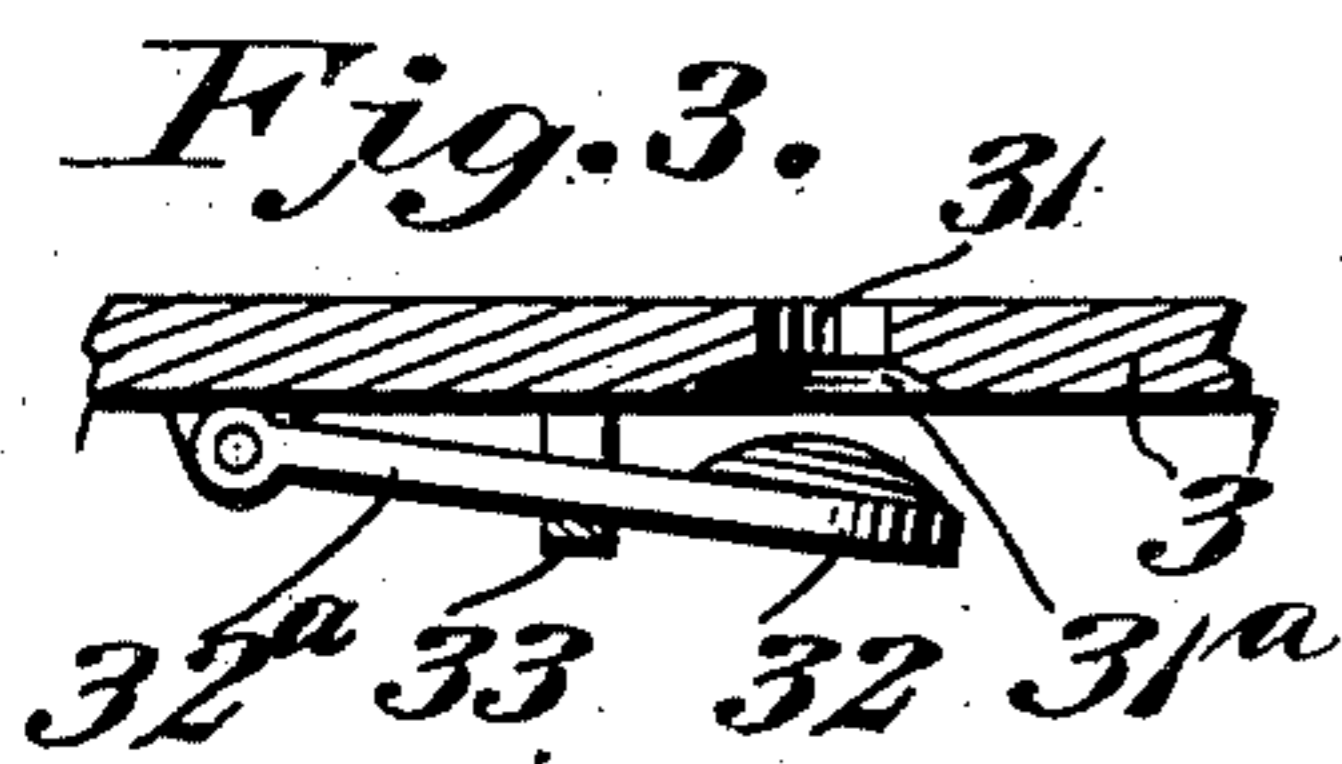
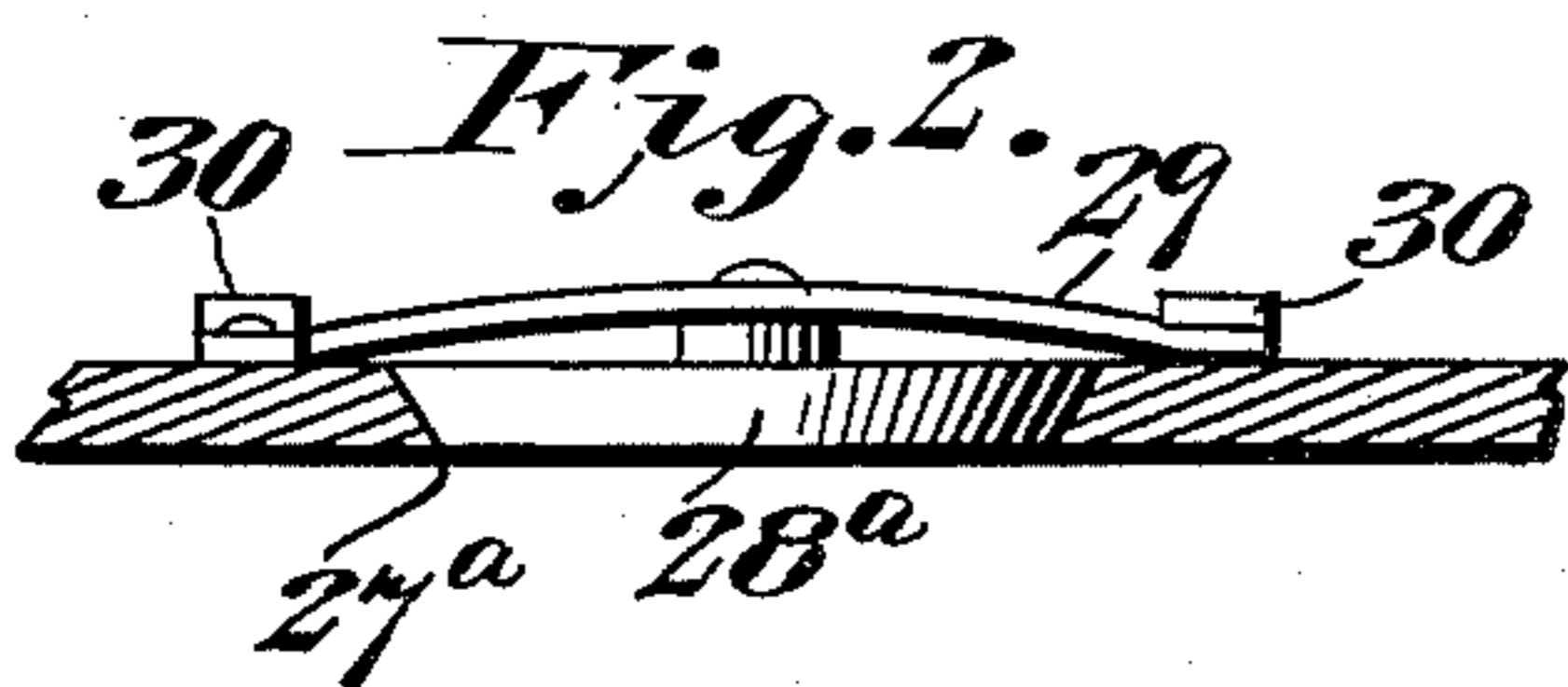
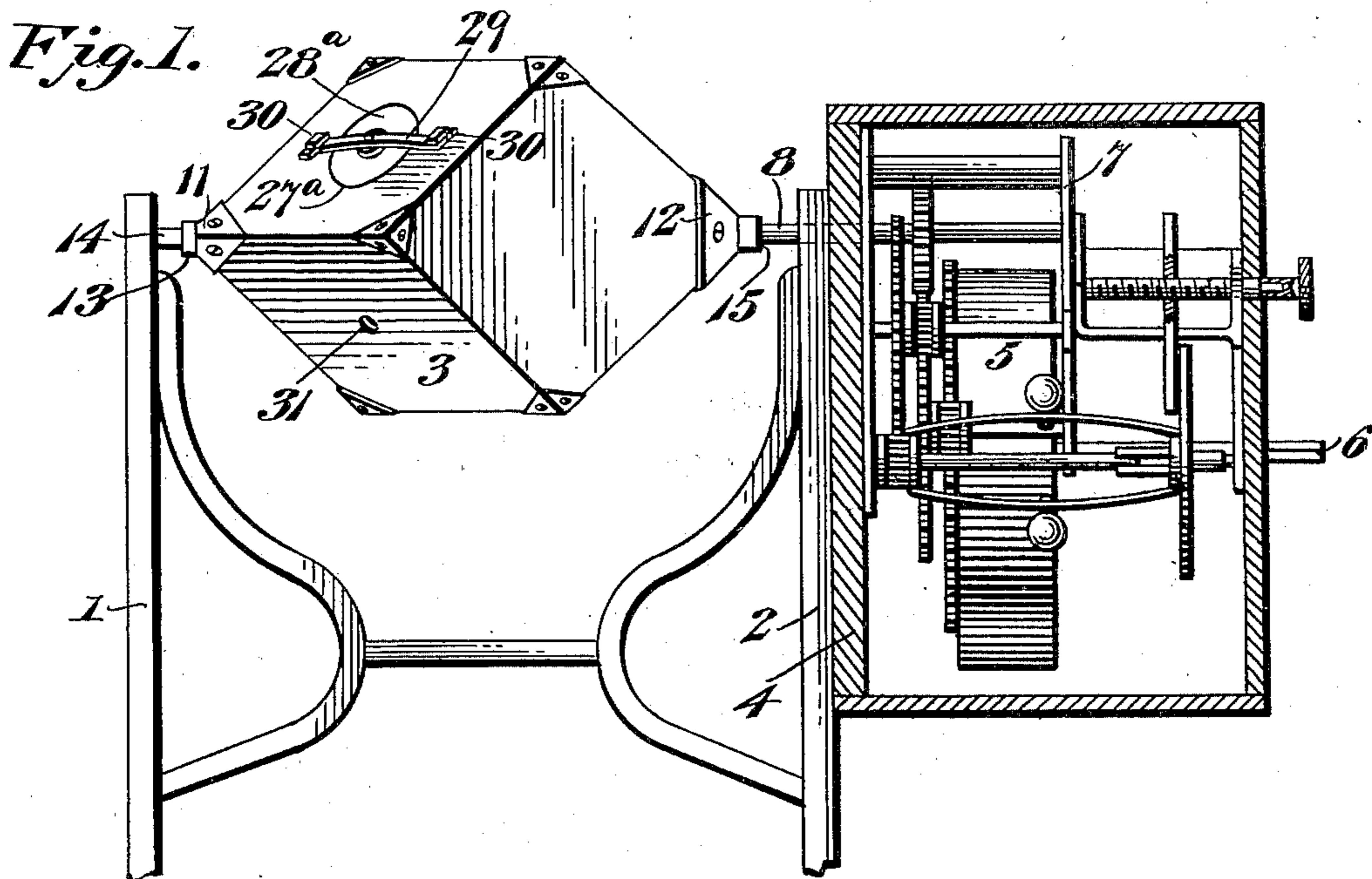
No. 662,616.

Patented Nov. 27, 1900.

J. W. WILSON.
CHURN.

(Application filed Aug. 15, 1900.)

(No Model.)



Witnesses
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UNITED STATES PATENT OFFICE.

JOHN WILLIAM WILSON, OF POCAHONTAS, VIRGINIA.

CHURN.

SPECIFICATION forming part of Letters Patent No. 662,616, dated November 27, 1900.

Application filed August 15, 1900. Serial No. 26,978. (No model.)

To all whom it may concern:

Be it known that I, JOHN WILLIAM WILSON, a citizen of the United States, residing at Pocahontas, in the county of Tazewell and State of Virginia, have invented a new and useful Churn, of which the following is a specification.

This invention relates to rotary churns; and the object thereof is to provide a churn of this character preferably rotated by mechanical power and having novel means for allowing the free escape of gas generated during the operation of churning, said means, however, securely retaining the liquid contents within the churn-body.

In order that the invention may be readily understood, the preferred form thereof is fully described in the following specification and shown in the drawings which accompany and form a part of the same, and in which—

Figure 1 is a view in elevation of the improved churn, showing a form of operating mechanism therefor. Fig. 2 is a detail sectional view illustrating the manner of securing the churn-cover. Fig. 3 is a detail sectional view showing the construction of the vent and valve therefor. Fig. 4 is a detail end view of the socketed cap-plate, which forms a part of the connection between the churn-body and the motor.

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

Referring particularly to Fig. 1 of the accompanying drawings, 1 and 2 designate, respectively, opposite leg-standards, between which is mounted the improved churn-body 3, and secured to the outer side of one of the standards is a housing or casing 4, within which is contained a motor. While this motor forms no part of the present invention and may be either of the spring or weight type, in order to illustrate an operative device a preferable form of spring-motor is shown. This motor comprises, essentially, a spring-drum 5, mounted within the housing or casing 4 and carried by a key-shaft 6, which is supported by a suitable frame 7, and a drive-shaft 8, which is driven from the spring-drum 5 by means of an intermediate train of gears, as shown. The outer end of the drive-shaft 8 passes laterally through the inner side of the

housing or casing 4 and the adjacent leg-standard 2 and is provided at its outer extremity with a fixed angular enlargement. 55

It will be seen that the churn-body is pivotally mounted at its diagonally opposite ends or corners, which are provided with the bearing cap-plates 11 and 12, respectively. The outer cap-plate 11 embraces the outer corner of the churn-body and is provided with a socket 13, pivotally receiving a fixed pin 14, which projects laterally inward from the outer standard 1. The opposite cap 12 also embraces the adjacent corner of the churn-body and is formed in sections, which when combined form a socket 15, within which is clamped the angular enlargement of the shaft 8. 60 65

In the operation of the device the drive-shaft 8 is operated by the spring-drum 5, whereby the churn-body is turned axially by reason of the engagement between the enlargement 10 and the socketed cap-plate 12, so that the contents of the churn-body are thoroughly agitated. 70 75

As best shown in Fig. 2, it will be seen that one of the walls of the churn is provided with an entrance-opening 27^a, having beveled edges, and said opening is closed by a cover 28^a, having its periphery correspondingly beveled to fit tightly in the opening 27^a. Pivotaly mounted upon the cover 28^a is the cross-bar 29, the ends of which project over the edges of said cover and are adapted to be engaged under the angular keepers 30, provided on diametrically opposite sides of the opening 28^a, thereby clamping the cover tightly in place. 80 85

In order to allow the gas confined within the churn-body to readily escape, a vent 31 is provided through one of the walls thereof, the inner surface of the wall of the churn about said vent being concaved to form a valve-seat 31^a. This vent is adapted to be automatically closed by a flap-valve 32, having an arm 32^a hinged to the inner wall of the churn-body at one side of the vent, said valve having a convex portion adapted to fit snugly in the valve-seat 31^a, and thus securely close the vent-opening. A keeper 33 limits the swinging movement of said valve and arm. It will thus be evident that as the churn revolves the valve will open when the vent is 90 95 100

in its highest position above the level of the liquid contents of the churn and allow the free escape of accumulated gas; but as it rotates the valve will drop by gravity and automatically close the vent, thus preventing the escape of the contents.

From the above description it will be seen that a rotatable churn-body is provided which permits the ready escape of the gas, but retains the liquid contents within the body.

From the foregoing it is thought that the construction, operation, and many advantages of the herein-described invention will be apparent to those skilled in the art without further description, and it will be understood that changes in the size, shape, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

Having thus described the invention, what I claim as new, and desire to secure by Letters Patent, is—

In a churn, the combination with a rotatable body having a vent-opening in one of the walls thereof and a concave valve-seat in the inner surface surrounding said opening, of a freely-swinging arm pivotally hung at one end to the inner wall of the churn-body at one side of the opening, a convex valve arranged upon the swinging or free end of said arm, said convex valve being adapted to fit snugly in the concave valve-seat and thus cover and uncover the vent-opening as the body is rotated, and a keeper secured to the inner wall of the body intermediate the ends of the arm, said keeper passing over said arm to limit the swinging movement thereof.

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

JOHN WILLIAM WILSON.

Witnesses:

J. J. PEERMAN,
C. C. WILSON.