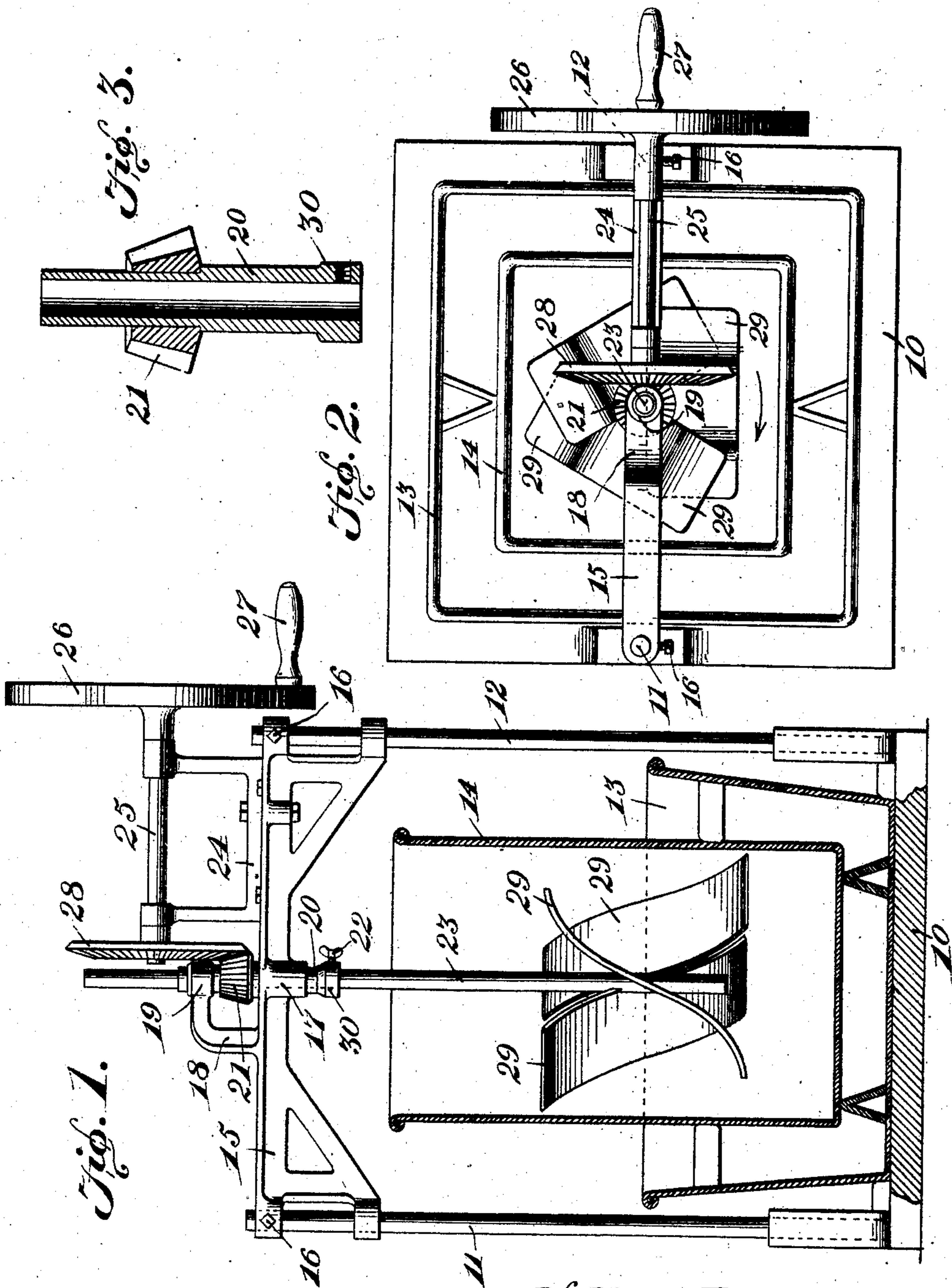


No. 850,525.

PATENTED APR. 16, 1907.

N. P. DAZEY.
CHURN.

APPLICATION FILED MAY 16, 1906.



WITNESSES:

E. J. Stewart
C. H. Woodward

Nathan P. Dazey,
INVENTOR.

By *Chas. H. Snow & Co.*
ATTORNEYS

UNITED STATES PATENT OFFICE.

NATHAN P. DAZEY, OF DALLAS, TEXAS.

CHURN.

No. 850,525.

Specification of Letters Patent.

Patented April 16, 1907.

Application filed May 15, 1906. Serial No. 317,032.

To all whom it may concern:

Be it known that I, NATHAN P. DAZEY, a citizen of the United States, residing at Dallas, in the county of Dallas and State of Texas, 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 improve the construction and increase the efficiency of devices of this character.

With these and other objects in view, which will appear as the nature of the invention is better understood, the invention consists in certain novel features of construction, as hereinafter fully described and claimed.

In the accompanying drawings, forming a part of this specification, and in which corresponding parts are denoted by like designating characters, is illustrated the preferred form of the embodiment of the invention capable of carrying the same into practical operation.

In the drawings, Figure 1 is a side elevation, partly in section of the improved churn. Fig. 2 is a plan view of the same. Fig. 3 is an enlarged sectional detail of the coupling-sleeve.

The improved device comprises a base or support 10, having spaced standards 11 12 rising from its sides and supporting a receptacle 13, in which the body or milk receptacle 14 is disposed, the receptacle 13 being considerably larger than the body 14 and providing means for hot or cold water with which to temper the milk in the body.

When using the churn in cold weather, the churning action is materially improved by slightly heating the milk or cream in the body 14, and in warm weather it is frequently desirable to cool the milk or cream, and this can be readily accomplished by supplying hot water or cold water to the receptacle 13, as circumstances may require. The body 14 is preferably square transversely, as represented in Fig. 2, this form giving the best results, as hereinafter explained. Slidably disposed upon the standard 11 12 is a frame 15, adjustable on the standards by set-screws 16 and provided with a central bearing 17 and standard 18, the latter having a bearing 19 in vertical alinement with the bearing 17.

Rotatively disposed in the bearings 17 19 is a tubular sleeve 20, having a bevel-pinion 21, adapted to be rigidly connected thereto between the bearings 17 19 and with a flange 30 at its lower end provided with a set-screw 22.

Any suitable and well-known means may be employed for fastening the pinion 21 to the sleeve 20; but as these fastening means are so well known they are not illustrated.

Slidable through the sleeve 20 is a dasher-rod or stem 23 and adjustable in the sleeve by means of a set-screw 22.

Disposed upon frame 15 is a standard 24, having bearings at its upper end rotatively supporting a drive-shaft 25, having a balance-wheel 26 and crank-arm 27 at one end and a bevel-gear 28 at the other end engaging the bevel-pinion 21. By this means the dasher-rod is rotated rapidly.

The dasher portion of this device consists of a plurality of blades 29, preferably of sheet metal and reversely curved and interlapping, as represented in Figs. 1 and 2. The blades 29 are first formed of rectangular sheets of metal and reversely curved and attached in inclined positions around the stem 23 and uniformly disposed relative thereto, so that they partially interlap when viewed from above, as shown in Fig. 2. The blades 29 are so arranged that the convexed or hollowed portions of their faces are presented first toward the direction of motion. For instance, when the dasher-rod and its attached blades are moved in the direction indicated by the arrow in Fig. 2 the convexed or hollow portions of the blades are at the lower part and have a tendency to rapidly elevate the cream or move it toward the top of the mass and at the same time throw it into the vacant spaces in the corners of the same. When the blades are rotated in the opposite direction, the hollow or concaved faces at the upper portions will be first presented to the direction of motion and the cream moved rapidly downward and thrown outwardly toward the vacant corners of the receptacle. The action is thus very rapid and thorough and produces the requisite separation of the butter particles in a correspondingly short period.

Any desired number of blades may be employed; but generally three will be used, as shown. By this simple arrangement as the dasher-rod or stem, with its connected reversely-curved blades, is rapidly rotated the lower convex portions of the blades produce an upward movement of the milk and causes it to pass over the convex portions of the blades, the milk being thus thoroughly agitated and moved upwardly adjacent to the stem and thrown against the sides of the body 14 and into the square corners of the

same, thereby effecting a thorough and vigorous agitation of the milk or cream and producing a very rapid churning action, which thoroughly and rapidly effects the separation
5 of the butter particles.

The square form of the body 14 is an important feature of the device, as the vacant spaces thereby produced outside the circular area of the rotating dasher provides chambers into which the milk or cream is thrown
10 and from which it is drawn again by the motion of the dasher, and thus keeps up a thorough and continuous circulation throughout the entire interior of the body or receptacle,
15 and thus materially accelerating the churning action and increasing the agitation.

The presence of the vacant spaces formed by the square corners of the casing also effectually prevents the splashing action so common in churns of ordinary construction.
20

Another important advantage gained by the use of the square corners is that by this means a relatively large quantity of air is drawn into the cream or milk by the upward
25 and outward movement of the cream produced by the novel form of dasher herein shown, and thereby still further accelerating the action, as will be obvious.

By arranging the dasher-rod or stem 23
30 vertically adjustable in the sleeve 20 the dasher-blades may be located at any required point relative to the body 14, and thus adapt the blades or dasher portion to the quantity of cream in the receptacle, so that
35 the churn is easily adaptable to the quantity

of cream within the receptacle, and may be employed with equal facility for churning small quantities or large quantities of milk or cream, as required. This is a very important advantage and materially increases the value
40 and efficiency of the device, as it can be quickly adapted to the quantity of milk or cream available for the "churning."

Having thus described the invention, what is claimed as new is—
45

Combined in a churn, a base-plate, an upright on oppositely-disposed sides of said base-plate, a churn-body supported on said base-plate, a vertical standard mounted in each upright, a frame having sockets on its
50 ends slidably mounted on said standards, means on said frame to secure it in adjusted position on said standards, a bearing on said frame, a bracket also on said frame and carrying a bearing above the first-mentioned
55 bearing the two bearings being vertically disposed above the center of the churn-body, a sleeve rotatably mounted in said bearings and provided with a pinion, a dasher-rod
60 slidably in said sleeve and means for clamping the sleeve to the rod, and mechanism for rotating said dasher-rod through its connection to said pinion.

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

NATHAN P. DAZEY.

Witnesses:

G. L. WILLIAMS,
WM. STILLER.