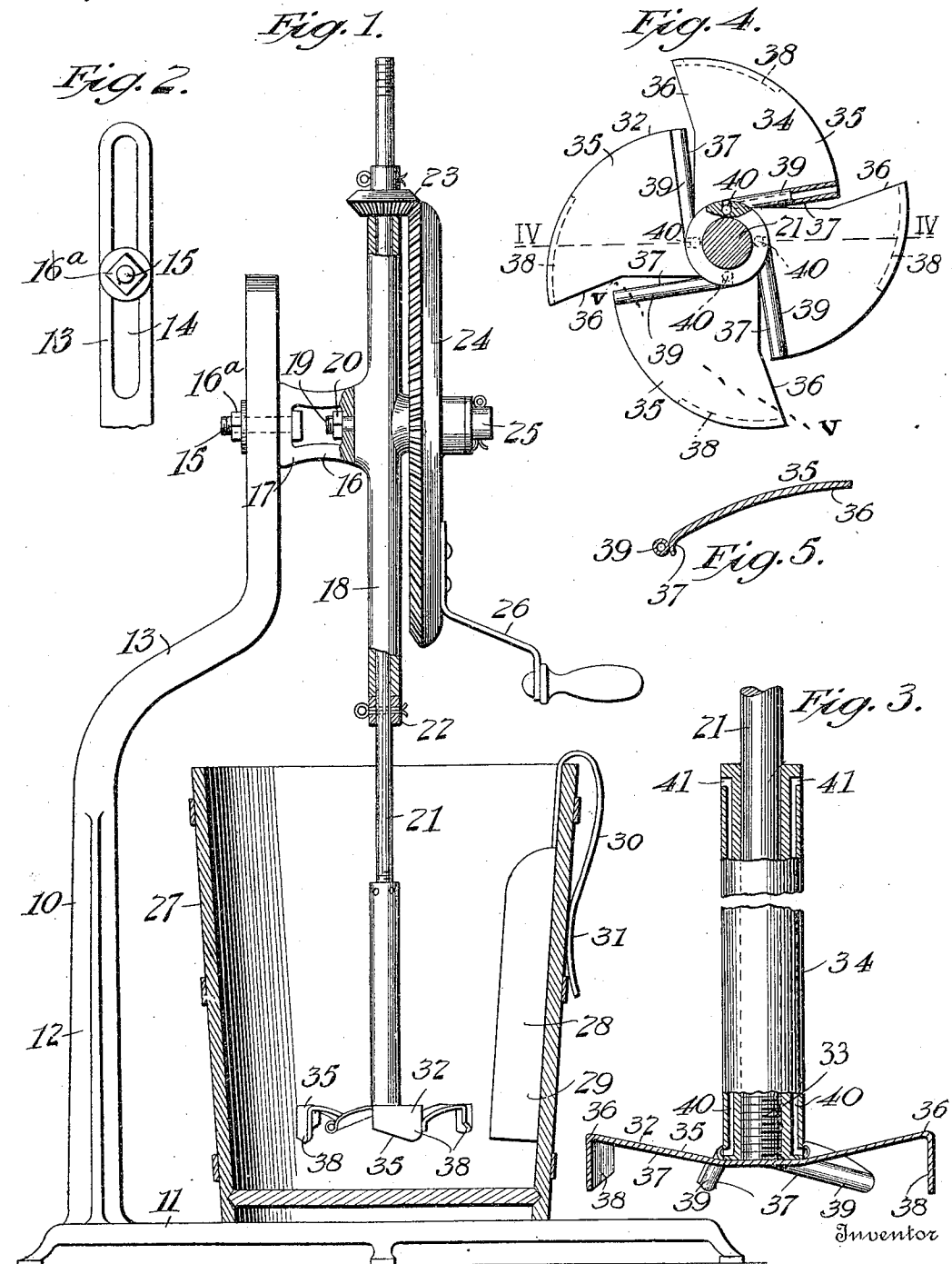


CHURN.

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Witnesses

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CHURN.

950,152.

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To all whom it may concern:

Bt it known that I, WILLIAM J. C. GAAR, a citizen of the United States, and a resident of Braxton, county of Simpson, and State of Mississippi, have invented certain new and useful Improvements in Churns, of which the following is a full, clear, and exact description.

The primary object of the invention is to provide a simple and efficient churn which is adapted to operate on the milk in such a way as to rapidly convert it into butter and which during its operation will automatically supply air to the milk.

With this and other objects in view, the invention will be hereinafter more particularly described with reference to the accompanying drawings, which form a part of this specification, and will then be pointed out in the claims at the end of the description.

In the drawings, Figure 1 is a sectional view, partly in elevation, showing the machine as adapted for churning purposes. Fig. 2 is a fragmentary elevation of the upper portion of the support or bracket. Fig. 3 is a vertical section, partly in elevation, taken on the line IV—IV of Fig. 4, showing one form of dasher wheel or rotary element. Fig. 4 is a sectional plan view through the operating shaft, showing a part of the rotary element broken away. Fig. 5 is a section of one of the dasher wheel blades taken on the line V—V of Fig. 4.

The support 10 may have a base 11, and projecting upward from the base is a bracket 12, the upper portion of which may be offset, as at 13, and the upper part thereof is slotted, as at 14, to adapt a bolt 15 to be adjustable therein, and said bolt is adapted to be passed through an aperture in a frame 16, and has its outer end provided with a nut 16^a by which the frame 16 may be adjustably and rigidly held to said bracket 13. This frame 16 may be of any suitable construction and may comprise a member 17 adapted to be secured to the bracket 13 and the sleeve member 18 which is held to the member 17, as by a bolt 19 and nut 20, to adapt the member 18 to be differently positioned so as to assume either a vertical or a horizontal position with respect to the member 17.

A shaft 21 is held to rotate in the sleeve member 18, and on said shaft is a collar 22 which is held to the shaft so as to rest

against one end of the sleeve member 18, and at the other end of said shaft is a bevel gear 23 which is also held to the shaft and is adapted to engage the other end of the sleeve member 18 to properly hold the shaft 21 rotatably within said sleeve member. The gear 23 is in mesh with the larger bevel gear 24 which is held to rotate on a stud or shaft 25, and this large bevel gear is provided with a handle 26 by which the said gear 24 may be rotated and thereby rotate the shaft 21. By this means the shaft 21 is properly held to the frame so as to rotate therein, and said frame may be variously adjusted to properly position the shaft 21 according to the use to which it may be put.

In using the device or machine, I support a receptacle 27 on the base 11 of the support 10, and arrange a plurality of current breakers 28 around the body portion of said receptacle. Any suitable number of current breakers may be employed, and each current breaker may have a member or plate-like part 29 from the upper edge of which projects a spring member 30 which is adapted to extend over the upper edge of the receptacle and has its outer end, as 31, adapted to form a clamp for holding the member 29 in position. A dasher wheel or rotary element 32 is secured to one end of the shaft 21, and said shaft 21 has a threaded end 33 engaging an opening in the end of the hub or shaft 34 of the rotary element so that said element may be detached from the shaft 21. The dasher wheel 32 may be variously constructed. As shown the wheel comprises a plurality of blades 35, four in number, and each blade has its body portion or part 36 extending upwardly at the front edge from the center toward the periphery and downwardly at the rear edge, and at the rear edge is curved, as at 37, and at the forward or peripheral edge is provided with a downwardly-extending flange or part 38. The purpose in constructing the blades in this way is to draw the milk or fluid into the wheel and at the same time throw it downward with an outward tendency, thus serving as a means to more rapidly churn the milk.

In order that air may be mixed with the milk during the process of churning the same, I provide at the downwardly curved portion air-conveying tubes or devices 39. These devices are intended to mix air with the milk in advance of the blades, and said

tube or air-supplying devices may have an opening simply at the outer end or may be perforated at the side thereof, and each tube has its inner end communicating with air passages 40 extending lengthwise of the hub or shaft portion 34, which passages at the upper part extend laterally, as at 41, to communicate with the atmosphere. The hub or part 34 may be in the form of a hollow shaft instead of having the passages constructed as shown, and said part 34 is long enough to extend above the milk or liquid in the receptacle, and as the dasher wheel or element 32 is rotated, the air will be automatically supplied to mix with the milk.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:—

20 1. In a churn, the combination with a rotary shaft, of a hub mounted thereon and formed with longitudinal air passages, and a dasher comprising a plurality of blades each provided at one edge with an air tube, said tubes communicating at their inner ends 25 with said air passages.

2. In a churn, the combination with a rotary shaft, of a hub secured to the lower end of the shaft, and formed with a plurality of longitudinal air passages, and a 30

dasher comprising a plurality of blades inclined upwardly, and each provided along one edge with an air tube, said tubes communicating with said air passages.

3. In a churn, the combination with a rotary shaft, of a hub secured to the lower end of said shaft, and formed with longitudinal air passages extended laterally at their ends, and a dasher comprising a plurality of independent blades, inclined upwardly, and each provided along one edge with an air tube, said tubes communicating with said air passages. 40

4. In a churn, the combination with a rotary shaft, of a hub secured to the lower end of said shaft, and formed with a plurality of longitudinal air passages, and a hub comprising a plurality of independent blades upwardly inclined, and formed with downwardly extending flanges at their outer edges, and each provided at one edge with an air tube communicating with said air passages. 50

This specification signed and witnessed this first day of June A. D. 1909.

WILLIAM J. C. GAAR.

Witnesses:

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