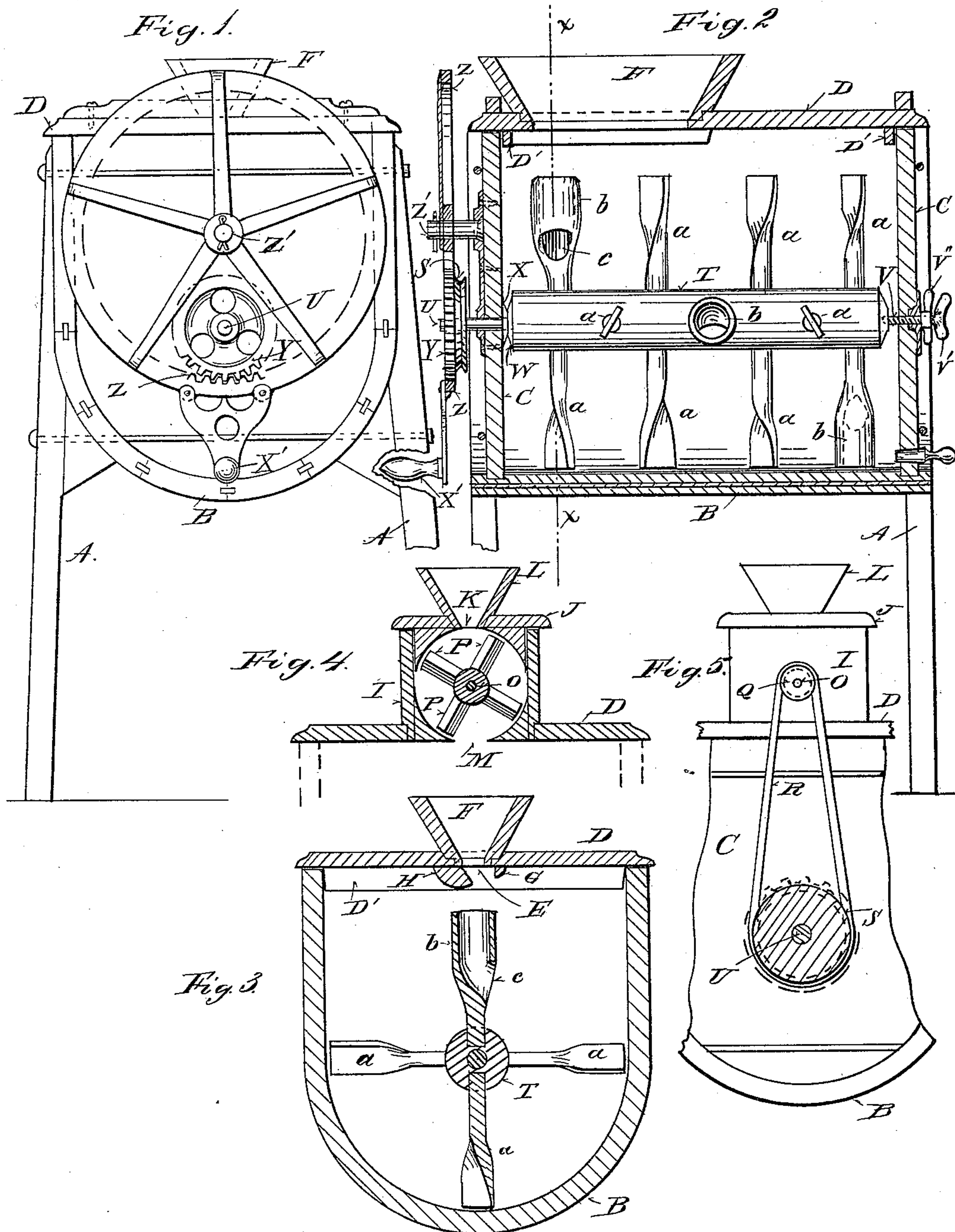


(No Model.)

W. N. WACHTER.
CHURN.

No. 447,852.

Patented Mar. 10, 1891.



WITNESSES

H. M. Plaut. Ed.
Warren Hull

INVENTOR

W. N. Wachter,
By H. A. Gardiner
his Attorney.

UNITED STATES PATENT OFFICE.

WESLEY N. WACHTER, OF SPRINGFIELD, OHIO, ASSIGNOR OF ONE-HALF TO
THOMAS REYNOLDS, OF SAME PLACE.

CHURN.

SPECIFICATION forming part of Letters Patent No. 447,852, dated March 10, 1891.

Application filed June 4, 1890. Serial No. 354,250. (No model.)

To all whom it may concern:

Be it known that I, WESLEY N. WACHTER, a citizen of the United States, residing at Springfield, in the county of Clark and State of Ohio, 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 certain new and useful improvements in churns, the peculiarities of which will be hereinafter described, and pointed out in the claim.

In the accompanying drawings, forming a part of this specification, and on which like reference-letters indicate corresponding parts, Figure 1 represents an end view of my improved churn, showing the operating mechanism; Fig. 2, a vertical sectional view of the same; Fig. 3, a transverse sectional view thereof on the line *xx*; Fig. 4, a detail sectional view in the upper part of the churn, showing a modification; Fig. 5, an end view of a portion of the churn, showing such modification applied to the body.

The letter A designates suitable legs, and the letters B and C, respectively, the body and ends of my improved churn. The body is rounded in the bottom part to agree substantially with the sweep of the beaters. The lid or cover D has a slot E and a hopper or tapering mouth F about the slot and leading to it. The under side of the cover is provided with ribs G and H, the former a slight distance from the slot and the latter about in line therewith. The function of these ribs is to prevent the cream from splashing out through the slot, while they yet admit of the free ingress of air. The cover is removable.

In Figs. 4 and 5 I have shown a modification consisting of a housing I, constructed upon the lid D and itself having a lid J, provided with a slot K and a tapering mouth L. The housing opens into the body of the churn through a slot M. The interior of the housing is perfectly cylindrical, and within it is mounted a shaft O, carrying a number of radial arms P. This shaft is operatively connected by a pulley Q, the belt R, and the pulley S, with the beater-shaft, so as to receive rapid rotary motion. The function of the shaft O, with its arms P, is to put the air in motion on its way to the interior of the churn. It is preferred, however, to use the lid without this addition. The lid has beads D' on the

lower side, which fit against the inner walls of the churn-body to hold the lid in place.

The letter T designates the beater-shaft, the same being mounted upon an arbor U and the point of a screw V, by which it may be adjusted to keep its end W against the boss X, which position brings the pinion Y properly within the internal gear-wheel Z.

Referring again to the screw V, it will be seen that it has a thumb-nut V' and a jam-nut V''. The wheel Z is mounted upon the stud Z', projecting from the churn-body, and has a handle X', by which it is rotated, whereby high speed is imparted to the beater-shaft. This shaft carries a suitable number of paddles, blades, or beaters *a*, the outer portions of which stand at an angle to the axis of rotation, so as to effect the more thorough agitation of the cream. At intervals some of the beaters are fashioned to constitute air-distributers in the form of a hollow arm, conduit, or tube *b*. The passage thus constituted opens at *c*. The air entering by the slot E naturally passes into these passages, and when the arm or tube is submerged the air within the passage is thus carried into the body of the cream. In this manner and by this violent introduction of air into and through the body of the cream it becomes thoroughly impregnated with the air and assumes a light fluffy condition. In such condition it is more readily worked into butter. Moreover, the air, being an absorbent, takes up more or less of the foreign absorbed or native impurities of the cream, tending to render the product purer and sweeter. The air-distributers may or may not incidentally perform the office of beaters; but of course they will more or less beat the cream, of necessity.

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

In a churn, the combination, with a casing and a solid shaft mounted therein, of beaters carried by said shaft and having solid inner ends and tubular outer ends, each tubular portion being provided with an opening near the shaft, substantially as shown and described.

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

WESLEY N. WACHTER.

Witnesses:

WARREN HULL,
H. M. PLAISTED.