(No Model.)

F. E. HUGGINS.

CHURN VENT.

No. 481,564. Patented Aug. 30, 1892.

Fig. 1.

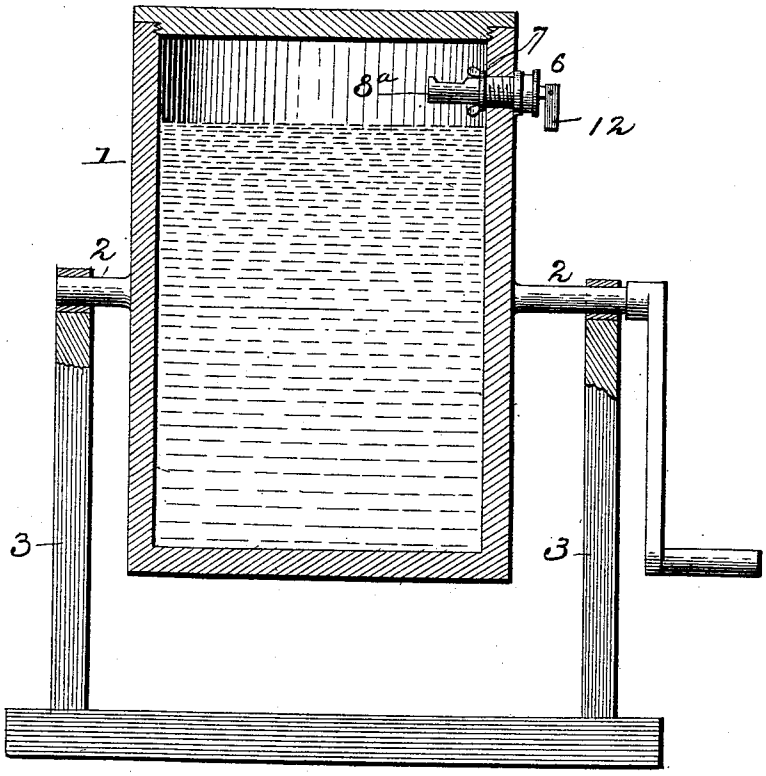


Fig. 2.

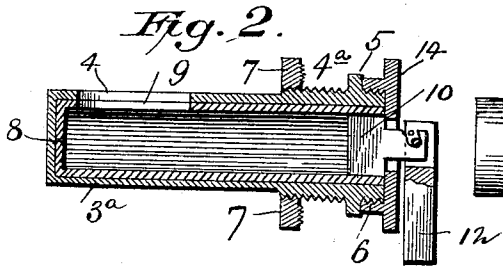
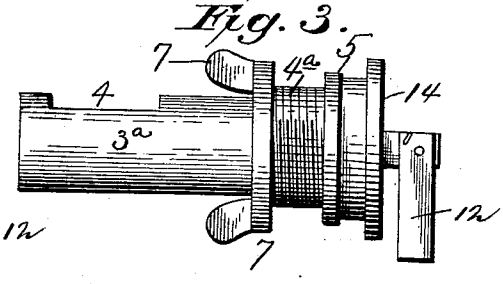


Fig. 3.



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UNITED STATES PATENT OFFICE.

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CHURN-VENT.

SPECIFICATION forming part of Letters Patent No. 481,564, dated August 30, 1892.

Application filed November 9, 1891. Serial No. 411,296. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK E. HUGGINS, a citizen of the United States, and a resident of Clinton, in the county of Clinton and State of Iowa, have invented certain new and useful Improvements in Automatic Churn-Vents; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to improvements in automatic vents for rotary churns, whereby the gases generated by the agitation of the cream may find a ready exit without liability of the cream escaping through or being forced therefrom.

The invention consists in the novel construction and combination of parts, hereinafter fully described and claimed.

In the accompanying drawings, Figure 1 is a sectional view of a rotating churn, showing my improved vent applied thereto. Fig. 2 is a longitudinal section, and Fig. 3 is a side elevation, of the vent detached.

In the said drawings, the reference-numeral 1 designates a churn-body, in this instance being shown as a vertical cylinder provided with trunnions 2, journaled in the upper ends of standards or uprights 3. Instead of the churn body or cylinder being vertical it may be horizontal, and it may be provided with dashers or not, as deemed most convenient or desirable. These, however, form no part of the present invention, which is confined exclusively to the vent.

The vent is inserted in the churn-body near one end thereof, and comprises a tube 3^a, closed at its inner end and provided with a slot 4. At its outer end it is provided with screw-threads 4^a, by which it is secured to the said body, a collar or flange 5, which abuts against the outside of the body, and a screw-threaded portion 6, adapted to engage with a collar, hereinafter described. This tube is screwed into the churn-body, (a suitable aperture being formed for its reception,) and a nut 7, passed over the inner end thereof and engaging with the screw-threads 4^a, holds the tube securely in place.

Fitting within the tube 3^a is a tube 8, closed at its inner end and provided with a slot 9, which registers with the slot 4. At its outer end this tube 8 is provided with a cross-piece 10, to which is pivoted a weighted arm 12. It is also provided with a collar 14, adapted to engage with the screw-threads 6, which will securely hold the tube 8 within the tube 3^a, yet permit of its rotation therein.

The operation is as follows: The tube 3^a is screwed into the churn-body and secured in place by means of the nut 7 and flange 5, with the slot 4 therein facing the center of the said body. The tube 8 is then inserted in tube 3^a and secured in place by the collar 14, the weight 13 being so arranged with respect to the slots in said tubes that when the end or portion of the churn-body carrying the vent is at its highest position the said slots will be in line or register with each other, thus allowing any gases or air to escape through the tube 8. As the churn is rotated, however, the weight will serve to keep the tube 8 and its slot in the same position, while the tube 3^a and its slot will change their relative positions and close or shut off communication between the churn-body and the tube 8, thus preventing the escape of the cream from the churn. When the parts again assume the first-named position, the slots will register with each other, and, being above the level of the cream in the churn, will allow the air and gases to escape, but effectually prevent escape of the cream.

Having thus described my invention, what I claim is—

1. A vent for a rotary churn, consisting of a tube adapted to be inserted into a churn-body, provided at its inner end with a slot or opening, a tube fitting and rotatable within said tube, provided with a corresponding slot, and a weight connected with said last-mentioned tube and adapted to operate the same during rotation of the churn to prevent the discharge of the cream therefrom when the vent is below the surface of the fluid, substantially as described.

2. In a vent for churns, the combination,

with the outer tube 3^a, closed at one end and provided with a slot 4 and having a flange 5 at its outer end, with screw-threads 4^a and 6 at each side of said flange, of the nut 7, adapted to engage with the screw-threads 4^a, the inner tube 8, having slot 9 and collar 14, the cross-piece 10, and pivoted weighted arm 12, substantially as described.

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

FREDERICK E. HUGGINS.

Witnesses:
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