(No Model.)

M. WILBUR.

CHchurn.

No. 346,697. Patented Aug. 3, 1886.

Fig. 1.

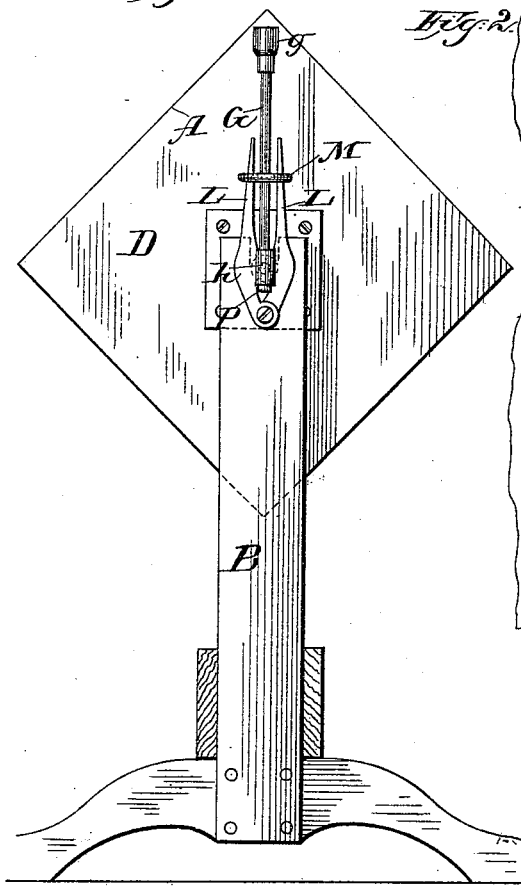


Fig. 2.

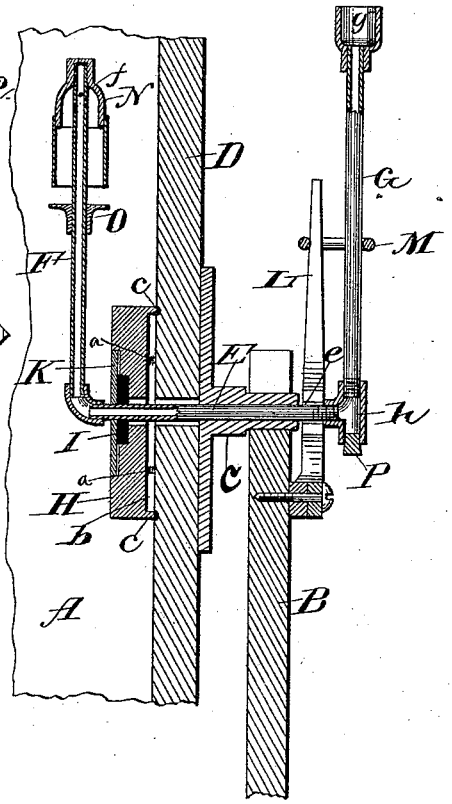


Fig. 3.

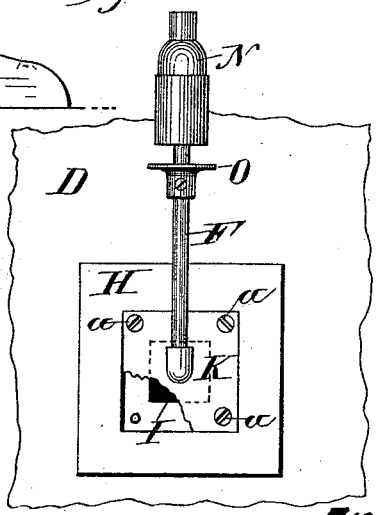
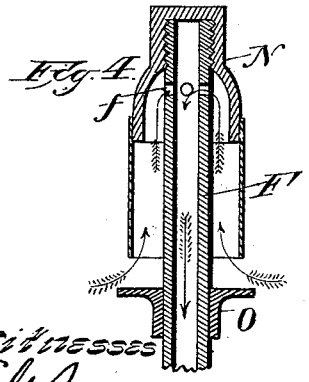


Fig. 4.



Witnesses
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UNITED STATES PATENT OFFICE.

MILES WILBUR, OF PALMYRA, WISCONSIN.

CHURN.

SPECIFICATION forming part of Letters Patent No. 346,697, dated August 3, 1886.

Application filed April 17, 1886. Serial No. 199,187. (No model.)

To all whom it may concern:

Be it known that I, MILES WILBUR, of Palmyra, in the county of Jefferson, and in the State of Wisconsin, have invented certain new and useful Improvements in Churns; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to churns; and it consists in certain peculiarities of construction, whereby the gas generated during the operation of churning has an uninterrupted escape, as will be hereinafter more fully described with reference to the accompanying drawings, in which—

Figure 1 represents an end elevation of a churn embodying my invention; Fig. 2, a sectional view of the same, and Figs. 3 and 4 details.

Referring by letter to the drawings, A represents a churn-barrel journaled in a suitable frame, a portion of the latter being shown at B, Figs. 1 and 2. One of the journals, C, of the barrel A is centrally perforated, as is also the adjacent head D of said barrel, as shown in Fig. 2, to permit the passage of a horizontal pipe, E, the latter being coupled at its inner and outer ends to vertical pipes F G. The horizontal pipe E also passes through a block, H, of metal, hard wood, or other suitable material, that is secured upon the inside of the barrel-head D by screws *a*. This block is centrally hollowed out upon its rear side, as shown at *b*, so as to present edges *c*, that are somewhat embedded in the wood composing the barrel-head D, when the screws *a* are tightened, thereby securing a tight joint. The front side of the block H is also hollowed out to form seats for an elastic packing, I, and binding-plate K. The packing I surrounds the horizontal pipe E, and is slightly thicker than the depth of its seat in the block, so that when the binding-plate is pressed down by tightening the screws *a* said packing will be compressed, and thereby form a tight joint.

Pivotally connected to the frame B are two opposing arms, L L, that form tongs to prevent the horizontal pipe E from turning, each arm having a suitable recess, *e*, that partially surrounds said pipe, while a link, M, is passed over the upper ends of these arms to retain them in operative position. As an additional means for holding the pipe E stationary, I may employ set-screws operatively arranged to bear against said pipe.

The vertical pipe F, that comes within the churn-barrel A, has screw-threaded thereto at its upper end an inverted-cup-shaped shell, N, said upper end being provided with a series of perforations, *f*, to allow the escape of the gas in the direction of the arrows, Fig. 4. Below the shell N, I detachably secure to the pipe F a shield, O, that prevents the contents of the churn from splashing up into said shell.

The upper end of the pipe G, on the outside of the churn-barrel A, rises above that of the inner pipe, F, and is preferably provided with a cup, *g*, to facilitate the entrance of water when desirable to cleanse the gas-escape.

The ⊣-coupling *h*, that connects the horizontal pipe E with the outer vertical pipe, G, is open at its bottom to receive a suitable plug, P.

The churn-barrel A is revolved, while the means for permitting the escape of the gases generated therein are stationary. As the process of churning proceeds the generated gases are drawn into the shell N, and pass through the perforations *f* into the pipe F, to finally escape at the upper end of the pipe G, this escape of said gases being uninterrupted, while at the same time a constant supply of fresh air is allowed to enter the churn, thereby aiding to secure a better quality of butter.

To cleanse the gas-escape, water is poured in at the top of the pipe G and finds its way up in the one, F, the latter being shorter than the former to accomplish this result. The plug P is now withdrawn from the joint *h* and the water in the pipes flows off, carrying with it such sediment as may have accumulated in said pipes. The shell N and shield O may be detached from the pipe F, and their cleansing thus facilitated.

Although I have described a revolving churn in connection with my gas-escape, I do not wish to be understood as confining myself to such construction, it being obvious that my invention is equally applicable to any style of churn.

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

1. The combination, with a churn-barrel, of

a gas-escape consisting of a stationary horizontal pipe extended into the said barrel and coupled at its ends to inner and outer vertical pipes, the former provided with a shell and perforations at its upper end, a packing for said stationary pipe comprising a centrally-perforated block hollowed out upon its front and rear sides, and an elastic cushion and binding-plate seated in the front side of said block, as set forth.

2. The combination, with a churn-barrel, of a gas-escape consisting of a horizontal pipe extended into the said barrel and coupled at its extremities to vertical pipes, the inner vertical pipe provided at its upper end with perforations and an inverted-cup-shaped shell, and a pair of opposing arms pivotally connected to the supporting-frame and adapted to engage said horizontal pipe, as set forth.

3. The combination, with a churn-barrel, of a gas-escape consisting of a stationary horizontal pipe extended into the said barrel and coupled at its ends to an inner and outer vertical pipe, the coupling for the latter being open at its lower end and provided with a suitable plug, and said inner vertical pipe perforated at its upper end and provided with a suitable shell and shield, substantially as and for the purpose set forth.

4. The combination, with a churn-barrel, of a gas-escape consisting of a stationary horizontal pipe extended into said barrel and coupled at its respective ends to an inner and outer vertical pipe, the inner one having its upper end perforated and provided with a detachable shell and shield, as set forth.

In testimony that I claim the foregoing I have hereunto set my hand, at Palmyra, in the county of Jefferson and State of Wisconsin, in the presence of two witnesses.

MILES WILBUR.

Witnesses:
J. A. ALLEN,
F. P. WILBUR.