E. T. SLAYTON.

CHURN.

No. 183,714. Patented Oct. 24, 1876.

Fig 1

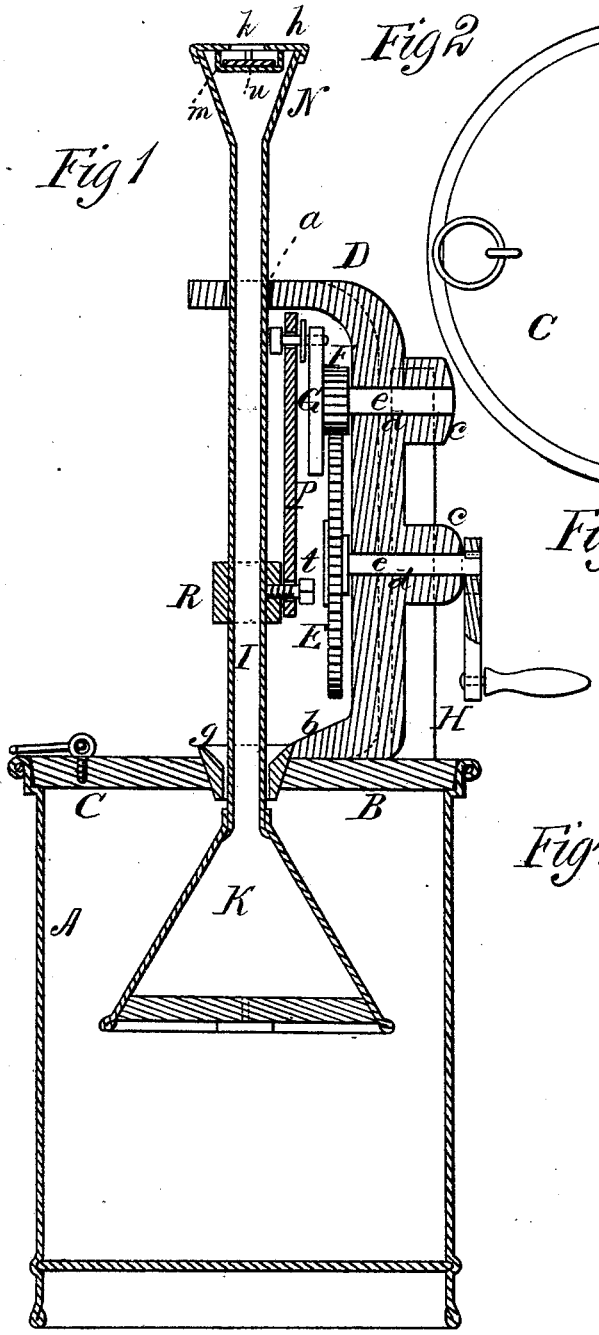


Fig 2

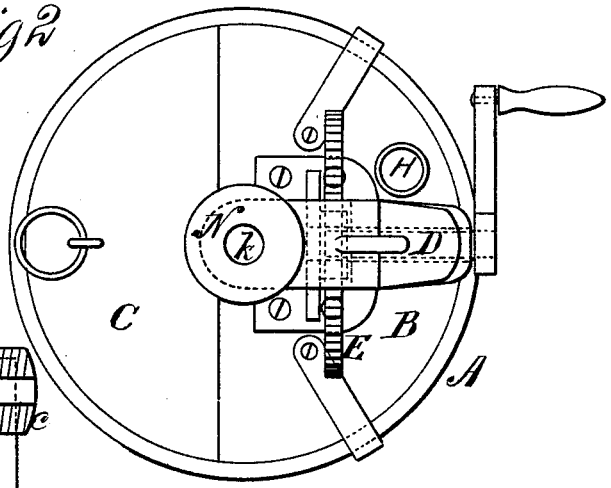


Fig 3

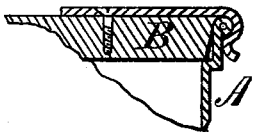
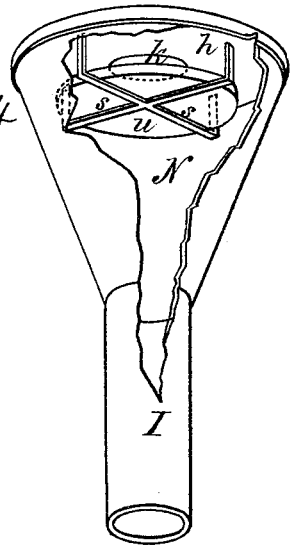


Fig 4



WITNESSES

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UNITED STATES PATENT OFFICE.

EDWARD T. SLAYTON, OF BERLIN, WISCONSIN.

IMPROVEMENT IN CHURNS.

Specification forming part of Letters Patent No. **183,714**, dated October 24, 1876; application filed May 6, 1876.

To all whom it may concern:

Be it known that I, EDWARD T. SLAYTON, of Berlin, in the county of Green Lake and State of Wisconsin, have invented a new and valuable Improvement in Churns; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a longitudinal section of my improved churn. Fig. 2 is a top view of the same; and Figs. 3 and 4 are detail views.

This invention has relation to churns; and it consists in the construction and novel arrangement of a case close-fitted, with a lid having an air-exit pipe projecting upward therefrom; a hollow dash-rod, having at its upper end a valve in an inverted conical valve-seat, and at its lower end a conical concave beater; and suitable mechanism to operate the same, as hereinafter fully set forth and shown.

In the accompanying drawings, the letter A designates the churn-case, and B the stationary portion of its lid, which carries the driving mechanism. C represents the removable portion of the lid. D represents the frame of the driving-gear. This is an upright casting, having an eye, *a*, at its upper end for the passage of the dash-tube, and at its lower end a flange-foot, *b*, for attachment to the lid-section B. Protuberances or re-enforcements *c* are cast on the back of the upright to strengthen the bearings *d*, which are provided through the upright and its re-enforcements for the journals *e* of the driving-gear E, and the pinion F of the crank-wheel G. H represents an exit-tube for the air which has passed through the churn, which is fitted by its lower end into an aperture in the sectional cover B, at the side of the upright casting. K designates the conical dash-beater, having its open base downward in the ordinary manner, and a conical cavity within extending upward and communicating with the base of a tubular stem or dash-rod, I, which passes upward through the concave center-piece *g* in the lid of the churn, and through the upper arm of the frame casting. N represents the upper end of the tubular stem, which is a hollow expansion in the form of an inverted cone of metal, having a circular top, *h*, in the center of which is an opening, *k*. Within this expansion is located the valve *u*, which is seated in the cross-bearings *s*, formed by radial bars *m* bent upward at their outer ends for attachment to the top *h* of the valve-chamber N, or otherwise suitably connected thereto in such a manner as to leave an opening between the top *h* and said cross-bearing for the play of the valve. R indicates a clip, which is clamped on the tube by a set-screw, *t*, and connected with the pitman P, which is attached to the crank-wheel of the driving mechanism.

The operation of this churn is simple and effective. The movement of the dash is made sufficiently forcible and rapid by the driving-gear, and the valve will therefore answer the movement. As the dash ascends, the cream falls out of it, drawing air into its cavity by a suction through the open valve and stem, at the same time by lifting the cream with its outer inclined surface creating an outside current therein, which facilitates and adds to the suction drawing the air from the cavity of the dash through the cream into the chamber of the churn-case. When the movement of the dash is reversed, and it descends, the valve is closed, and the air within its cavity is carried to the bottom of the churn-case, there to be discharged on the rising of the dash, as above described.

The air which passes through the cream into the upper part of the churn is discharged by pressure through the pipe H. Pure air is thus forced continuously through the cream in such a manner as to add to the movement thus caused by the beating of the dash, and at the same time to aerate the cream in a proper manner.

What I claim as new, and desire to secure by Letters Patent, is—

The churn herein described, consisting of the case having the close-fitted lid B, the exit-pipe H projecting upward therefrom, the operating gear, and the hollow metallic dash-rod having at its upper end the inverted conical valve-seat N, and valve *u*, and at its lower end the imperforate conical concave beater K, substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

Witnesses: EDWARD T. SLAYTON.
L. EICHSTAEDT,
J H. TURNER.