No. 647,018. Patented Apr. 10, 1900.

J. T. MORSE.

CHURN.

(Application filed Aug. 14, 1899.)

(No Model.)

Fig. 2.

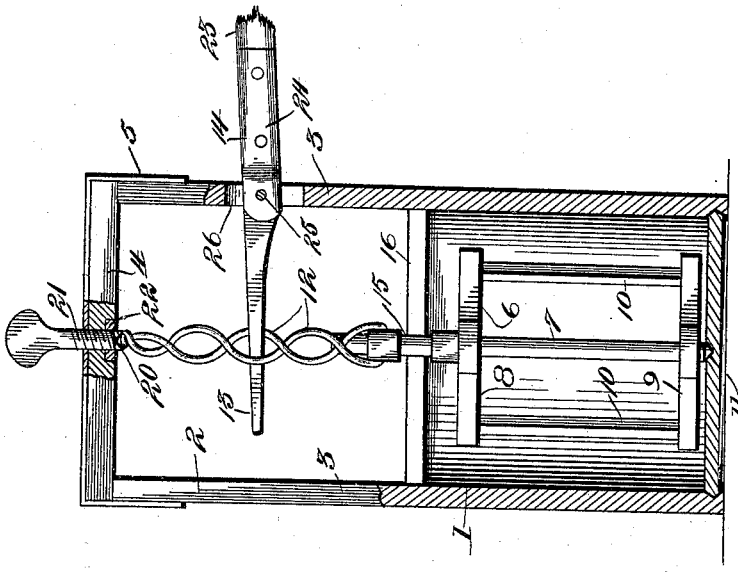


Fig. 4.

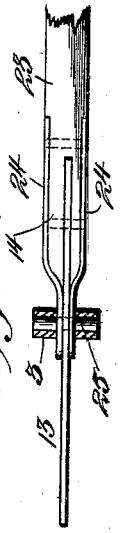


Fig. 5.

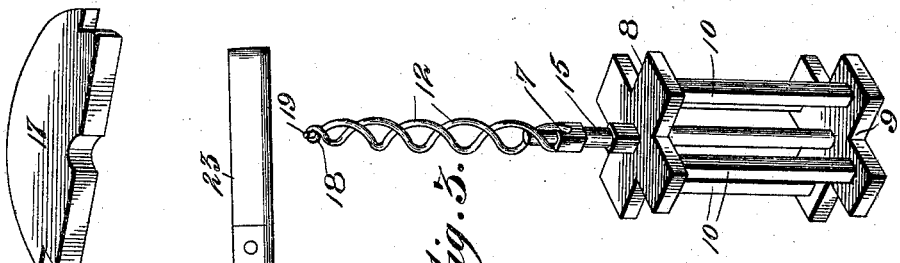
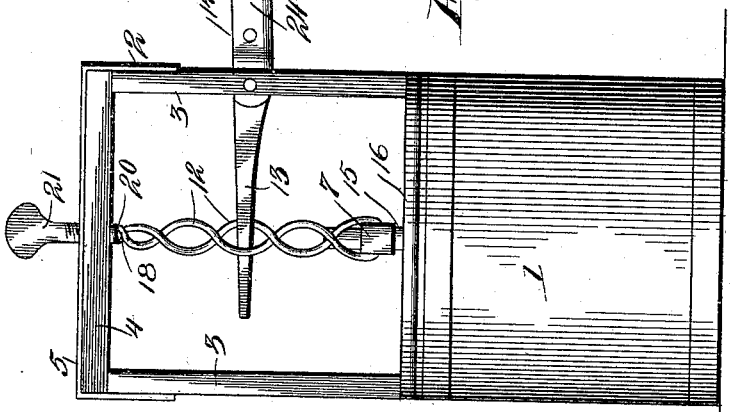


Fig. 1.



Witnesses
Clarence M. Walker
T. J. Riley

John T. Morse Inventor
By his Attorneys.
C. A. Snow & Co.

UNITED STATES PATENT OFFICE.

JOHN T. MORSE, OF ST. GEORGE, UTAH, ASSIGNOR OF ONE-HALF TO ERASTUS B. SNOW, OF SAME PLACE.

CHURN.

SPECIFICATION forming part of Letters Patent No. 647,018, dated April 10, 1900.

Application filed August 14, 1899. Serial No. 727,253. No model.

To all whom it may concern:

Be it known that I, JOHN T. MORSE, a citizen of the United States, residing at St. George, in the county of Washington and State of Utah, have invented a new and useful Churn, of which the following is a specification.

The invention relates to improvements in churns.

One object of the present invention is to improve the construction of churns and to provide a simple, inexpensive, and efficient device capable of being readily operated at the expenditure of a minimum amount of labor and adapted to produce butter in a very short time.

A further object of the invention is to provide a rotary dasher capable of being operated at a comparatively high rate of speed and adapted to be readily removed after the operation of churning has been completed.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

In the drawings, Figure 1 is a side elevation of a churn constructed in accordance with this invention. Fig. 2 is a vertical sectional view of the same. Fig. 3 is a detail perspective view of the dasher. Fig. 4 is a detail sectional view illustrating the manner of fulcruming the operating-lever. Fig. 5 is a detail view of one of the sections of the cover.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

1 designates a cylindrical churn-body provided with a substantially-rectangular support 2, composed of extensions 3, of two of the sections or staves which form the sides of the churn-body, and a connecting top piece 4, secured to the upper ends of the sides of the supporting-frame. The support or frame 2 is strengthened by a reinforcing plate or strip 5, secured to the upper face of the top cross-piece 4 and having its terminals bent downward and secured to the upper portions of the sides of the frame or support, as clearly shown in Figs. 1 and 2 of the drawings. Within the churn-body is arranged a dasher 6, fixed to a vertical shaft 7 and composed of upper and lower heads 8 and 9 and vertical bars 10, connecting the heads and spaced from the shaft 7, as clearly shown in Fig. 3 of the drawings. The upper and lower heads are in the form of a cross having equal arms and angles, and the vertical bars 10, which are squared, are secured to the arms and interposed between the heads. The shaft 7 is tapered at its lower end to fit a bearing 11 of the bottom of the churn-body, and the upper end of the shaft is connected with a pair of spiral wires or members 12, disposed vertically and forming a spiral way between them for the reception of an arm 13 of an operating-lever 14, whereby when the latter is oscillated the dasher will be rapidly rotated. The shaft is provided at its upper portion 15 with an annular groove or recess and extends through a circular opening of a cover 16, composed of approximately-segmental sections 17, recessed at their ends to fit the supporting-frame and provided with flanges to rest upon the upper edges of the churn-body, the lower portion of the cover being extended into the churn-body to effect a tight joint. The spiral wires or members which form a spiral way between them are secured at their lower terminals to the shaft, and the upper terminals 18 of one of the wires is coiled to form an eye, and the terminal 19 of the other wire is extended through the eye 18 to provide a journal for engaging a bearing 20 of a screw 21, engaging a threaded opening of a nut 22, mounted on the support. The screw is adapted to be readily operated to release the upper ends of the spiral members. The nut is seated in a recess of the lower face of the top connecting-piece 4, as clearly shown in Fig. 2 of the drawings, and the lever preferably consists of a wooden handle portion 23 and a metal bar forming the arm 13 and secured within the bifurcation of the inner portion of the handle 23, which is supported by metal straps or braces 24. The metal straps or braces 24 are secured to the handle at opposite sides thereof and are extended along the inner portion of the arm 15, the straps and the arm being perforated for the reception of a pivot 25. The pivot 25 passes

through one side of the supporting-frame, which is provided with an opening 26 for the operating-lever.

It will be seen that the churn is simple and comparatively inexpensive in construction, that it is easily operated, and that the dasher is rapidly rotated when the operating-lever is oscillated. It will also be seen that the rotation of the dasher is reversed at the end of each oscillation of the operating-lever and that the contents of the churn will be rapidly and thoroughly agitated, so that butter may be quickly produced. Furthermore, it will be seen that as the arm of the operating-lever is simply arranged between the spiral members the latter may be readily engaged with and disengaged from the lever without any inconvenience.

Changes in the form, proportion, size, and the minor details of construction within the scope of the appended claims may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

What is claimed is—

1. In a device of the class described, the combination with an operating-lever, of a pair of spiral members spaced apart to form a spiral opening or way and connected at the ends thereof and receiving the said lever within the opening or way and adapted to be rotated when the lever is oscillated, said lever being adapted to be readily withdrawn from the opening or way, substantially as described.

2. In a device of the class described, the combination with an operating-lever, a shaft, a pair of spiral members extending from the shaft and receiving the operating-lever, one of the spiral members being provided at its outer end with an eye, and the other spiral member being extended through the eye to provide a journal, and bearings for the shaft and the said journal, substantially as described.

3. In a device of the class described, the combination of a receptacle, a frame, a dasher arranged within the receptacle, a pair of spiral members spaced apart to form a spiral opening or way and connected at the ends thereof, the lower ends of the spiral members being connected with the dasher, a bearing arranged at the top of the frame and receiving the upper ends of the spiral members, and a lever removably fulcrumed on the frame and having one end arranged in the spiral opening or way and adapted to be readily withdrawn therefrom, substantially as described.

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

JOHN T. MORSE.

Witnesses:
WM. N. GRAY,
M. M. SNOW, Jr.