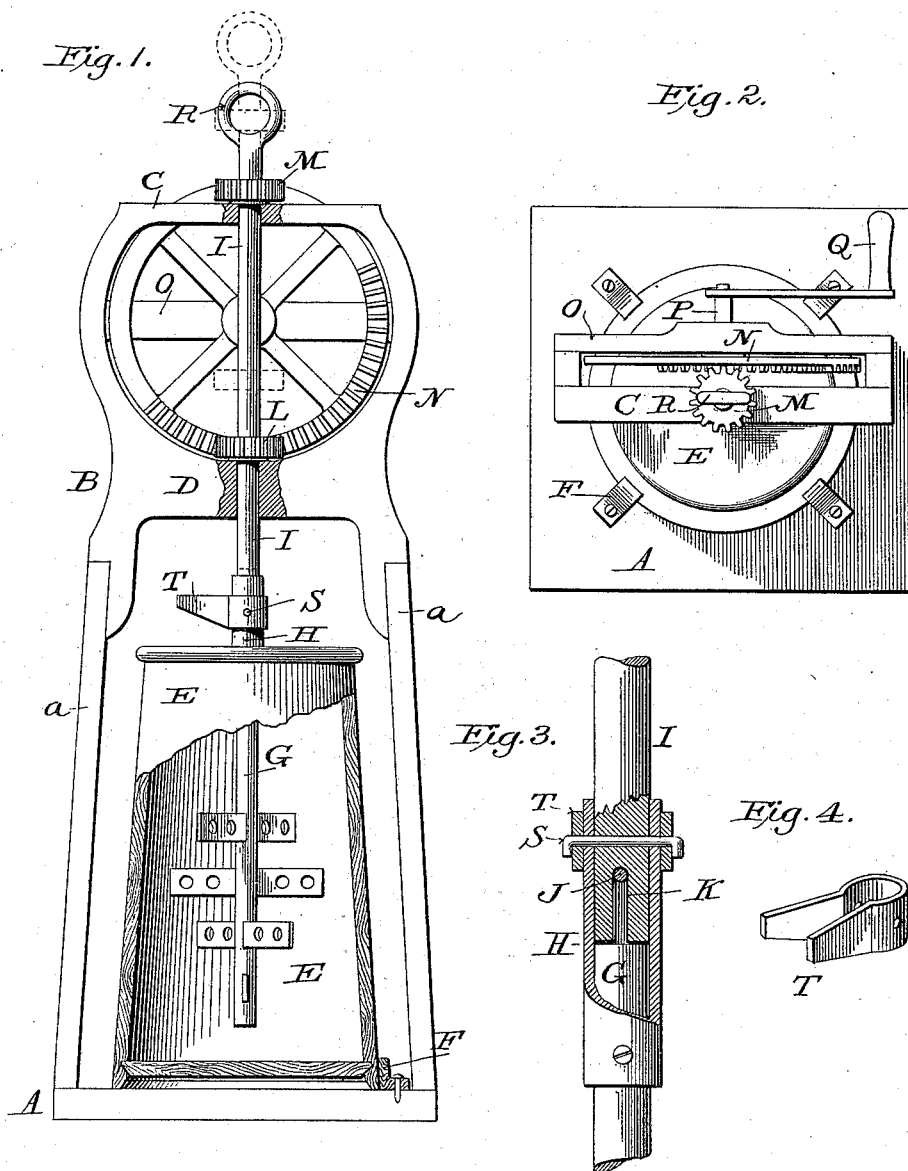


(No Model.)

W. H. CRAWFORD.
CHURN.

No. 383,866.

Patented June 5, 1888.



Witnesses:

James F. DuHamel
Horace A. Dodge

William H. Crawford,

Inventor,
by *Dodges Sons,*
his Attys.

UNITED STATES PATENT OFFICE.

WILLIAM H. CRAWFORD, OF PARIS, TEXAS, ASSIGNOR OF ONE-HALF TO
JOHN R. SNOW, OF SAME PLACE.

CHURN.

SPECIFICATION forming part of Letters Patent No. 383,866, dated June 5, 1888.

Application filed March 6, 1888. Serial No. 266,326. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. CRAWFORD, of Paris, in the county of Lamar and State of Texas, have invented certain new and useful Improvements in Churns, of which the following is a specification.

My invention relates to churns, and has reference more particularly to that class in which rotary motion is given to the dasher, alternately in reverse directions, though some of the improvements are applicable to other styles of churns.

In the drawings, Figure 1 is a side view, partly in section, of my improved churn; Fig. 2, a top plan view, and Figs. 3 and 4 views illustrating certain details.

A indicates a base board or block, to which is secured an upright frame, B, comprising legs *a* and cross-bars C and D. This frame will preferably be made in two parts, the upper portion, comprising the two cross-bars C and D, being bolted or otherwise secured to the upper ends of the legs, as shown in Fig. 1.

E indicates the churn-body, which may obviously be made in any desired manner, and which rests upon the base-board A, and is held in position thereon by means of turn buttons or stops F, as shown in Figs. 1 and 2.

It is apparent that instead of employing the base-board the legs of the frame may be provided with feet, and the churn placed upon the floor; but I prefer the construction shown because it is stronger.

The churn proper will be provided with a dasher, the shaft G of which may vary considerably in its construction, the said dasher extending upward through the cap of the churn-body and provided with a sleeve, H, as shown in Figs. 1 and 3.

I indicates an upright shaft journaled in the cross-bars C D, directly above and in line with the dasher-shaft G, the said shaft I being slotted at its lower end, as at K, to receive a cross bar or pin, J, secured within the sleeve, near its upper end, as shown in Fig. 3. By means of the pin J the two shafts are prevented from rotating or turning independently of each other. To prevent the shaft I from being removed from within the sleeve H, a pin, S, is

employed, which extends through the shaft I and the sleeve H, as shown in Fig. 3. This pin S may be a screw or bolt, or even a piece of wire, and is designed also to secure in proper position upon the sleeve a fan, T. (Shown in Figs. 1, 3, and 4.)

The construction of the fan may obviously be varied, but a simple and cheap construction is illustrated in the drawings and will be seen to comprise a single piece of sheet metal cut and bent to proper form and arranged to encircle the sleeve. Now, when it is desired to remove the churn proper, it is only necessary to remove the pin S, so as to allow the shaft I to be raised out of the sleeve H, when the dasher shaft will drop down into the churn-body far enough to allow the upper end of the sleeve to clear the lower end of the main shaft I. The churn with its dasher then may be moved as desired. In order to provide ready means for raising the shaft I when desired it is furnished at its upper end with a ring or handle, R, Figs. 1 and 2.

Secured rigidly upon the shaft I are two pinions, L and M, the former resting upon the cross-bar D and the other resting upon the cross-bar C. These pinions L and M are adapted to mesh alternately with a mutilated gear-wheel, N, which is journaled at a point between the gears L and M in a cross-bar, O, as shown in Figs. 1 and 2. The shaft P of the gear-wheel N is extended outward and provided with a winch or handle, Q, by which the wheel may be turned. As the wheel N is thus rotated upon its axle, its teeth engage alternately with the gears L and M, and, as the latter are arranged upon opposite sides of the shaft Q, these pinions will be rotated in opposite directions alternately, as is well understood. By a rapid rotation in one direction of the wheel N a rapid rotation alternately in reverse directions is imparted to the shaft I and the dasher.

I am aware that long prior to my invention it has been proposed to operate churns by means of a mutilated gear-wheel engaging with pinions on an upright shaft, and no broad claim is made by me to such a construction.

The construction herein shown and described

is cheap, strong, and rigid, and it will be noticed that by supporting the pinions on the upright shaft upon the cross-bars C D no specially-made bearings are required for the shaft, nor is there anything to prevent the shaft from being moved vertically after it is disconnected from the dasher-shaft.

The frame B may be readily cast in one piece and bolted to its legs, or, if desired, it may be made of wood; but in any event it will be observed that the construction of the frame is such as to render less liable any play of the parts or breakage of the machine.

Having thus described my invention, what I claim is—

1. In combination with the base A, the frame B, having the cross-bars C D O, churn E, provided with a dasher-shaft, G, a second shaft, I, passing through cross-bars C D and connected with the dasher-shaft, pinions L and M, secured to the shaft I and adapted to rest upon the cross-bars D and C, a shaft, P,

journaled in the cross-bar O, and a mutilated gear engaging the pinions L M.

2. In combination with the frame B, having the cross-bars C D O, a churn, E, provided with a dasher-rod, G, a shaft, I, journaled in the cross-bars C D and connected with the dasher-shaft, a ring or handle, R, at the upper end of said shaft, pinions L M, secured rigidly upon the shaft and resting upon the cross-bars D and C, a shaft, P, journaled in the cross-bar O, a mutilated gear, N, engaging the pinions L M, and a winch or handle, Q, all arranged substantially as shown, whereby the shaft is adapted to be raised to permit the churn to be removed.

In witness whereof I hereunto set my hand in the presence of two witnesses.

WILLIAM H. CRAWFORD.

Witnesses:

H. B. BIRMINGHAM,
FRANK LEE.