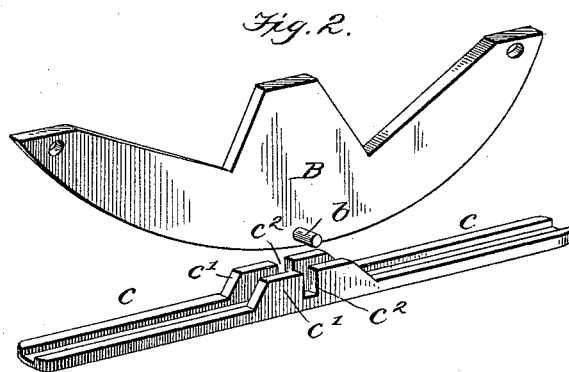
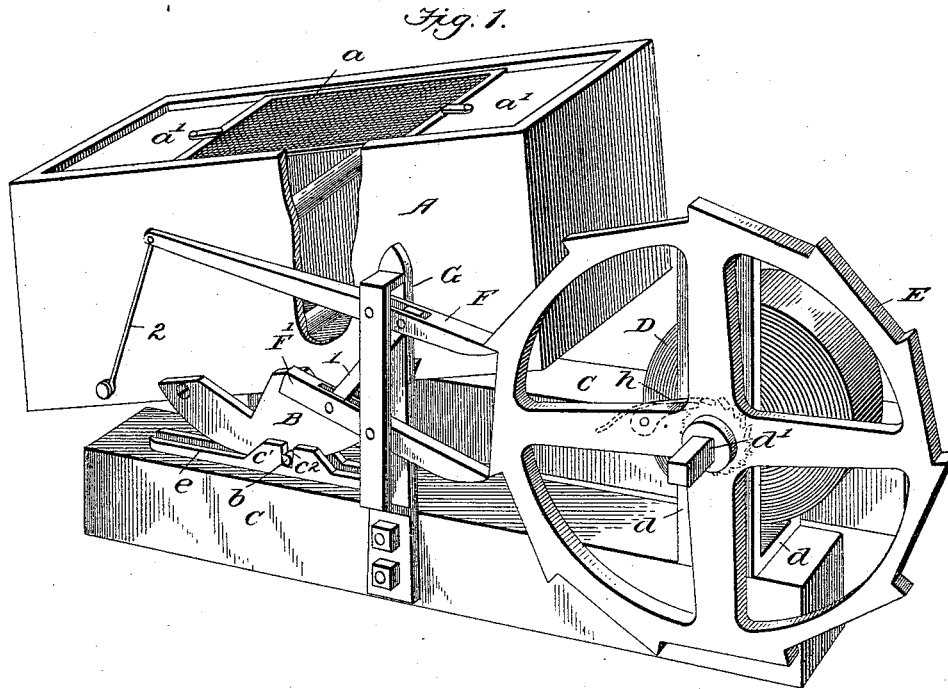


(No Model.)

M. S. THOMAS.  
AUTOMATICALLY OPERATED CHURN, &c.

No. 523,135.

Patented July 17, 1894.



Witnesses:

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# UNITED STATES PATENT OFFICE.

MAURICE S. THOMAS, OF HUGHESVILLE, PENNSYLVANIA.

## AUTOMATICALLY-OPERATED CHURN, &c.

SPECIFICATION forming part of Letters Patent No. 523,135, dated July 17, 1894.

Application filed February 14, 1894. Serial No. 500,150. (No model.)

### *To all whom it may concern:*

Be it known that I, MAURICE S. THOMAS, a citizen of the United States, residing at Hughesville, in the county of Lycoming and State of Pennsylvania, have invented certain new and useful Improvements in Automatically-Operated Churns and Washers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Figure 1, is a perspective view of this apparatus showing side of the tub partly broken away. Fig. 2, is a perspective view showing the rocker and the seat or track.

This invention belongs to that class called motors for churns, and washers.

The novelty consists in the construction of the several parts, in their combination with each other, and in the machine as a whole; all as will now be more fully and formally described as well as pointed out in the claims.

In the accompanying drawings A, denotes a churn body or tank having centrally across its top a screen *a*, against which the cream dashes when the machine is in operation and which serves to break or disintegrate the cream globules; and *a'* *a'*, are the strips at either end over the body of the tank, which serve to prevent any splashing of the cream outside of the tank. On the under side or bottom of this tank and on each side about the longitudinal center is fixed a curved rocker piece B, and under this and fastened to the base C, is fixed the track piece *c*. This track piece is grooved or flanged along its length and in this groove or between these flanges the bottom of the rocker fits. At the center of this piece and on each side of the track are the wide flanges *c'*, each having a vertical aligning slot *c''*. In these slots the trunnions *b*, of the rocker fit and though removable therefrom are designed to rest there all the time. By means of this construction the tank is so adjusted that it is properly balanced and can easily be vibrated by any desired mechanism or power. In the present instance this power is derived from the spiral spring D, suitably arranged within the vertical standards *d*, fixed to the base C, and on

the shaft *d'*, of this spring is fixed the ratchet wheel E.

When the spring is wound up the movements of the wheel communicate an oscillatory or vibratory motion to the tank by means of the lever arms F and F'. These arms are each pivoted in the vertical bracket G, which at its lower end is fastened to the base C, the lever arm or pawl F', being the lowest. The two arms or pawls are connected by the bar 1, jointed at its ends to each. The end of the upper pawl lever arm F, is connected by rod 2, to the lower end of the tank at a point opposite to the operating power. It will thus be perceived that as the wheel E, is rotated by the spring or other power the motion is so communicated to the tank through the pawls or pivoted arms that as ratchet teeth by turns or alternately slip off the ends of the lever arms or pawls a vibratory or oscillatory movement of the tank is caused. Or, to state the operation more particularly, when one of the ratchet teeth strikes the end of the pawl or arm F', motion is communicated through bar 1, to the end of pawl F, causing it to rise; thus at its opposite end pawl F, through rod 2, forces the rear of the tank down. But while the end of pawl F', is passing over the ratchet wheel between the teeth, the end of pawl F, is impinged on by one of the ratchet teeth and thus the end of pawl F, at the front of the machine is drawn down and the opposite elevated end of the lever F, acting on the rear of the tank through the rod 2, raises it. This vibratory movement is kept up as long as is needed to complete the operation of churning. In case a spring, as now shown, is the power, it can be rewound as often as it may be necessary. The winding up is done by attaching a key to the outer end of the shaft or arbor *d'*, on which the spring is wound; backward movement of the wheel is prevented by the engagement of pawl *h*, on the rack *e*, on its axle.

Broadly speaking I am aware that it is not wholly new to utilize spring power or clock movement for the purpose of operating a churn but in no instance that I know of has this means been so cheaply and simply applied or in such a manner as to secure in the easiest and best manner the entire force of the

motive power. While I have in the present instance illustrated my invention as applied to a churn, it is evident at a glance that by some merely mechanical changes in the structure  
5 the churn body can be converted into a washing machine. In either instance the tank will constitute, practically, the pendulum. The mere arrangement of the several parts can be very greatly changed without departing  
10 from my invention.

What I claim is--

1. The combination of the vibratory tank, as described, the base of the machine, the bracket attached to said base, the two levers  
15 pivoted to said bracket and the pivoted bar connecting said levers, combined with the spring actuated ratchet wheel with which said levers engage, and the rod connected with one of said levers and the tank, all substantially as described.  
20

2. The tank A, having rockers at each side, the track piece e, in which the said rockers operate, combined with the levers F, and F', and the spring mechanism operating the  
25 same, and the bar 1, connecting said levers

and the rod 2, connecting one lever with the tank, all substantially as and for the purposes set forth.

3. In combination with the base, and the track pieces fixed to the base, each having  
30 flanges at the sides and vertical aligning slots in the same, the tank A, and the curved rocker pieces attached to each side of the bottom and each piece provided with trunnions  
b, adapted to rest in the bottom of said slots  
35 all the time, all substantially as and for the purposes set forth.

4. The combination with the spring actuated escapement wheel, of the pivoted levers engaging therewith and the link connecting  
40 said levers together, and the churn which is operatively connected with one of said levers, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

M. S. THOMAS.

Witnesses:

J. H. FAGUE,

FRANK L. LAIRD.