

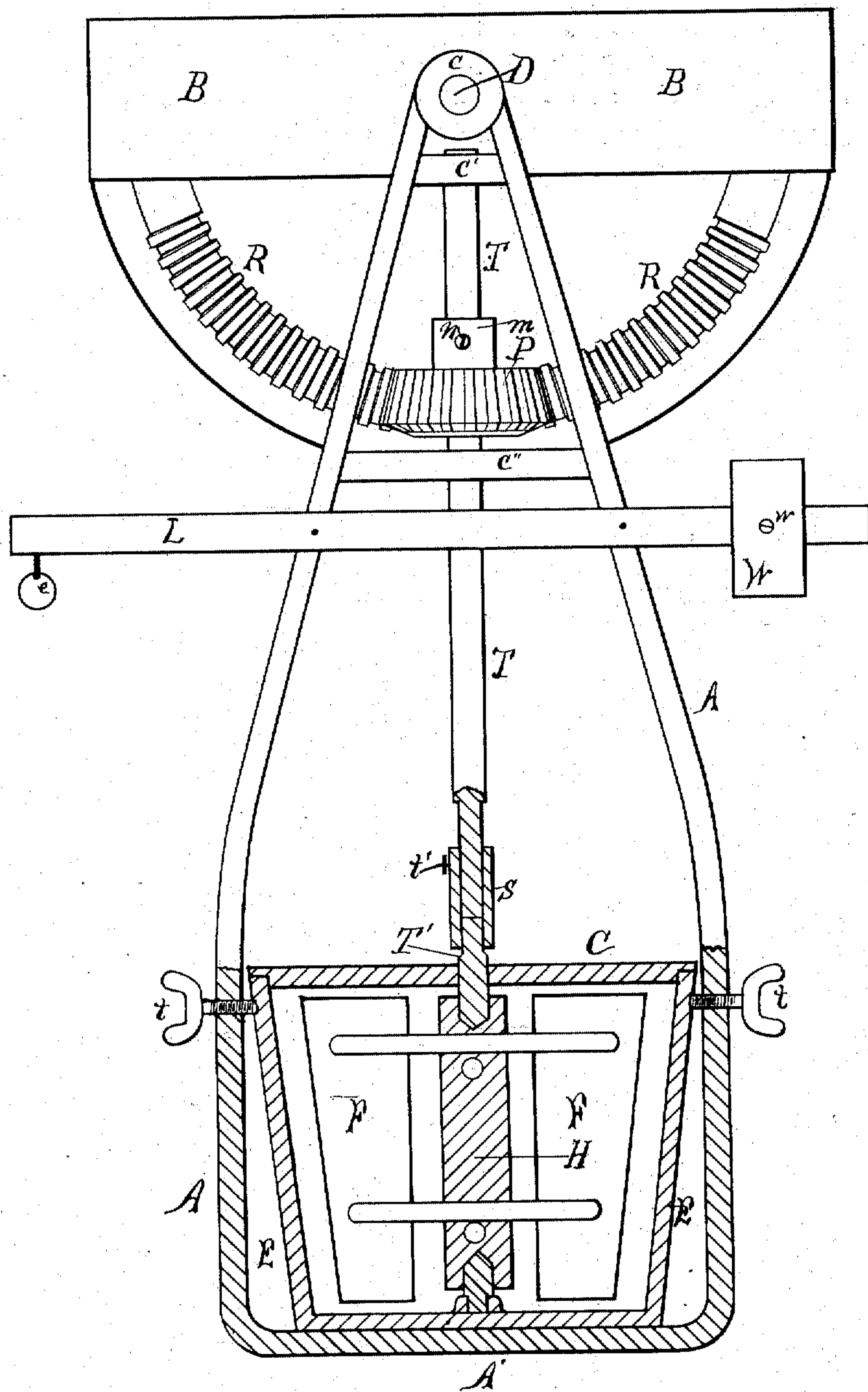
(No Model.)

W. J. TEMPLE.

SWINGING CHURN.

No. 329,689.

Patented Nov. 3, 1885.



Witnesses:
A. J. Chapman
James R. Clark

Inventor:
William J. Temple
By J. R. Mason atty

UNITED STATES PATENT OFFICE.

WILLIAM J. TEMPLE, OF HAMPDEN, ASSIGNOR OF ONE-HALF TO CHARLES E. HILL, OF BANGOR, MAINE.

SWINGING CHURN.

SPECIFICATION forming part of Letters Patent No. 329,689, dated November 3, 1885.

Application filed May 13, 1885. Serial No. 165,290. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM J. TEMPLE, a citizen of the United States, residing at Hampden, in the county of Penobscot and State of Maine, have invented a new and useful Swinging Churn; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement in swinging churns of the class in which a rotary motion is imparted to the dasher-shaft by means of a pinion upon such shaft engaging with a stationary rack, and is fully illustrated in the accompanying drawing, which shows a front view of my invention with certain portions in vertical section indicated in the usual manner.

The object of my invention is to provide a churn that may be operated with as much regularity of motion of its parts as the nature of the case admits and with a minimum of effort to the operator.

My improved churn is constructed as follows: I provide a swinging frame, A A' A C, for holding the vessel E, containing the cream, the bottom A' of the frame affording a seat for the vessel E. I attach side pieces or straps, A A, extending upward, and preferably inclined inwardly toward their tops, where they are rigidly secured to the top piece, C, of the frame. The whole frame and the vessel or churn supported by it are designed to be swung backward and forward like a pendulum. To this end the frame may be suspended from any suitable support and attached to such support in any way which will admit of a free swing backward and forward. This may be accomplished in various ways, but the manner which I have adopted is more fully described hereinafter. From the top piece, C, of the frame a shaft or arbor, D, projects horizontally backward, fitting into and passing through a circular aperture in the bearing or backing B, and is keyed or otherwise secured in position on the back side of B. The part B is designed to afford a bearing for the shaft D, and may be of any convenient shape. It may be made in the form shown in the drawing or extended downward, and so shaped as to allow the rack

R to be secured upon it. Journaled in the cross-pieces C' and C'' is the shaft T, extending downward into the top of the churn E, where it is detachably connected and engaged with the shaft T', carrying the dasher F F of the churn. Upon the shaft T, and preferably between the cross-pieces C' and C'', I fit the beveled pinion P, which may be adjusted and held in position by the hub m and set-screw n; or, if desired, the pinion may be formed integral with the shaft. To the lower edges of bearing B, or when extended downward upon the face of B, or upon any proper backing or support, I attach the curved beveled rack R, so formed and placed as to engage with the pinion P. The rack R may be made integral with its backing or detachable therefrom. The shape of the curve of the rack is that of the arc of a circle. The lower end of the shaft T is detachably engaged with the shaft T' of the dasher by the vertically-sliding sleeve s and set-screw t', or by any equivalent device, and the vessel E is held upon the seat A' by means of the set-screws t t, passing through the side straps, A A, or in any suitable manner.

The whole device may be suspended from brackets fixed to the side of the wall or to hooks from the ceiling, or upon a frame or horse, or in any convenient manner.

In operation the vessel E is supplied with cream, the dasher F placed in position with its shaft T' projecting upward through an aperture in the cover C of the vessel E. The shaft T is engaged with the shaft T', and the vessel E and the frame in which it is suspended pushed sidewise, the whole swinging upon the shaft D. The pinion P, in engagement with the rack R, causes the shaft T to revolve, and the shaft T' carries with it in its revolution the dasher F F. Upon the return swing, caused by the weight of the apparatus and the contents of the vessel E, the revolution of the pinion P, the shafts T T', and the dasher F F is reversed. The swinging motion is continued until the churning is completed.

It is evident that by my invention the cream is subjected to a continuous, even, and what may be called a "compound motion," there being the motion from the swing of the frame and the simultaneous rotation of the dasher reversing with each oscillation. It must also

be obvious that as the churn operates partly on the principle of the pendulum, motion having been once communicated to it only the slightest force is thereafterward required to maintain the motion, and this irrespective of the amount of cream churned at one time.

As a convenient means of applying the force necessary to maintain the motion, I sometimes form an arm or lever, L, across the front of the side straps, A A'. To one end of this arm I attach a cord and ring or staple and ring, e, through which the finger may be passed, and motion is then imparted to the whole by a simple up-and-down movement of the hand. To the opposite end of the lever L, I attach a weight, W, movable and adjustable by a set-screw, w, or other suitable device to assist the return swing of the frame.

My churn operates so easily that, once started, the weight of the hand alone, with scarcely a perceptible exertion of force, is sufficient to perform the operation of churning.

I am aware that churns swinging on the principle of the pendulum are not new, and that in such churns a rotary motion has been communicated to the dasher-shaft by means of a pinion upon such shaft engaging with a curved stationary rack, and I therefore do not claim a swinging churn, broadly, or broadly the method of rotating the dasher-shaft by means of a pinion upon the dasher-shaft engaging with such rack; but

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

1. The combination of the loose bearing B, adapted to be secured to a fixed support, and provided with shaft D and curved rack R, frame A A' C, sleeved at its upper end upon said shaft, dasher-shaft T, having pinion P near its upper end, dasher F, connected to said shaft, and the churn-body E, secured in said frame, substantially as described.

2. The combination of the loose bearing B, adapted to be secured to a fixed support, and provided with the shaft D and curved rack R, frame A A' C, sleeved at its upper end upon said shaft, dasher-shaft T, having pinion P near its upper end, dasher F, connected to said shaft, churn-body E, secured in said frame, and lever L, secured across the face of said frame, substantially as described.

3. The combination of the loose bearing B, adapted to be secured to a fixed support and provided with the shaft D and curved rack R, frame A A' C, sleeved at its upper end upon said shaft, dasher-shaft T, having pinion P near its upper end, dasher F, connected to said shaft, churn-body E, secured in said frame, lever L, secured across the face of said frame, and weight W, adjustable upon said lever, substantially as described.

WILLIAM J. TEMPLE.

Witnesses:

A. J. CHAPMAN,
L. J. BLANCHARD.

It is hereby certified that in Letters Patent No. 329,689, granted November 3, 1885, upon the application of William J. Temple, of Hampden, Maine, for an improvement in "Swinging Churns," errors appear in the printed specification requiring correction as follows: In line 29, page 1, before the words "I attach," the words *To two or more points upon A* should be inserted; in line 54, page 1, the word "into" should be stricken out and the words *to the top or nearly to* inserted; in line 90, page 1, the reference letter "T'" should be stricken out and the letter *T* inserted; and the reference letters *c c' c''* should be substituted for the reference letters "C C' C'" throughout the specification and claims, except in line 84, page 1; and that the said Letters Patent should be read with these corrections therein to conform to the papers pertaining to the case in the Patent Office.

Signed, countersigned, and sealed this 26th day of January, A. D. 1886.

[SEAL.]

H. L. MULDROW,
Acting Secretary of the Interior.

Countersigned:

M. V. MONTGOMERY,
Commissioner of Patents.