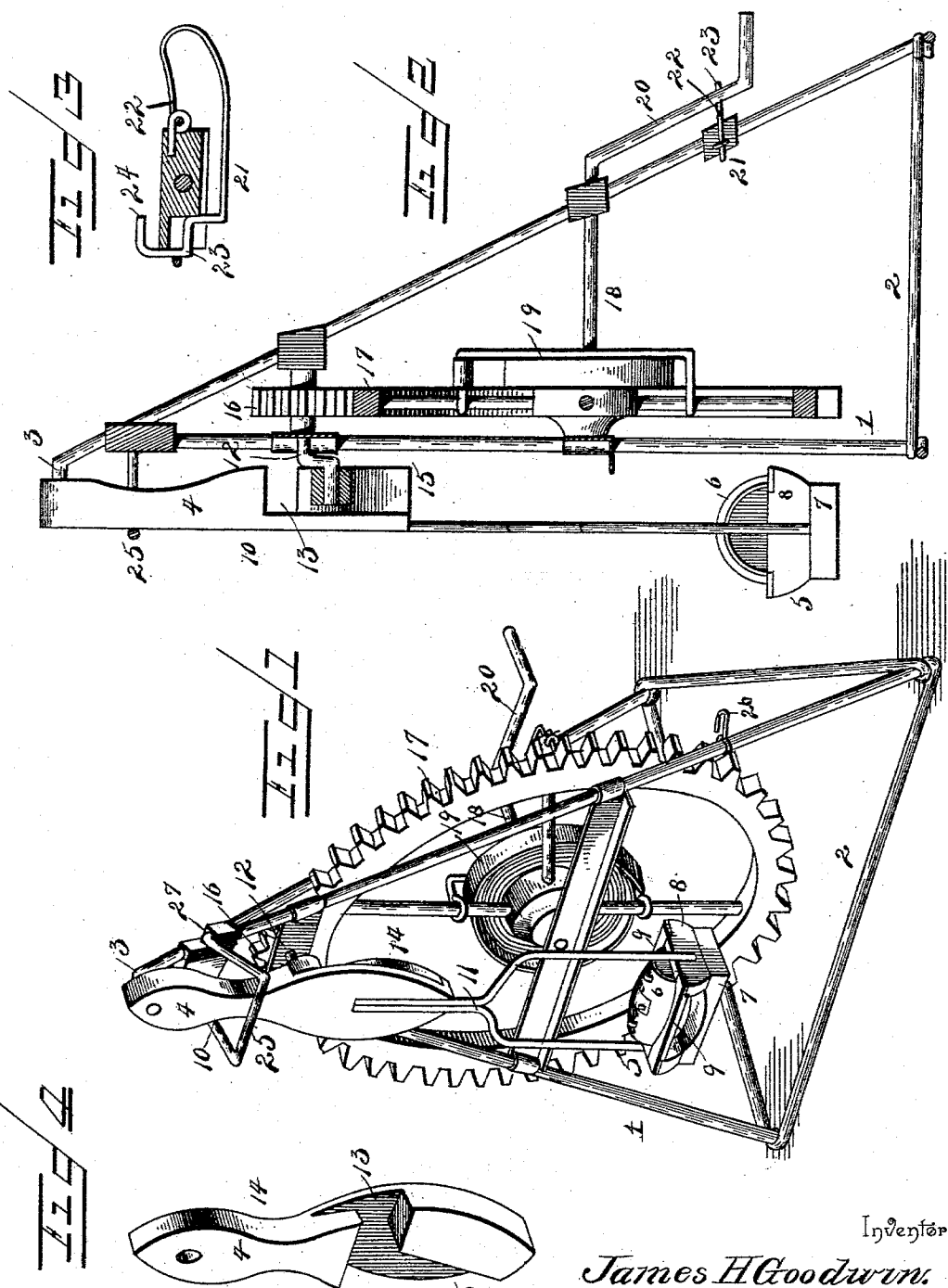


(No Model.)

J. H. GOODWIN.
CHURN POWER.

No. 533,641.

Patented Feb. 5, 1895.



Inventor

James H. Goodwin.

Witnesses

W. E. Schneider.
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UNITED STATES PATENT OFFICE.

JAMES H. GOODWIN, OF LOWELL, ARKANSAS.

CHURN-POWER.

SPECIFICATION forming part of Letters Patent No. 533,641, dated February 5, 1895.

Application filed September 13, 1893. Serial No. 485,420. (No model.)

To all whom it may concern:

Be it known that I, JAMES H. GOODWIN, a citizen of the United States, residing at Lowell, in the county of Benton and State of Arkansas, have invented a new and useful Churn-Motor, of which the following is a specification.

The invention relates to improvements in churn motors.

The object of the present invention is to improve the construction of churn powers and to provide a simple and inexpensive one by which butter may be rapidly produced.

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 perspective view of a churn motor constructed in accordance with this invention. Fig. 2 is a transverse sectional view. Fig. 3 is a detail sectional view showing the catch for holding the winding shaft against turning. Fig. 4 is a detail perspective view of the stock of the pendulum.

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

1 designates a tripod supporting frame having a triangular base formed by rods 2 and provided at its apex with a horizontal journal 3, from which depends a pendulum 4. The pendulum 4 is provided at its bottom with a holder 5, adapted for the reception of a churn body or cream receptacle 6; and the contents of the latter are agitated by oscillations of the pendulum.

The churn body or cream receptacle 6, may be of any desired construction, but is preferably in the form of a barrel and is provided with handles to enable it to be readily lifted out of the holder or basket 5, and it has a suitable opening and cover to enable cream to be supplied to it. The holder 5 is approximately rectangular, and is composed of a base 7, ends 8 and top side bars 9, having their inner sides or edges recessed and conforming to the configuration of the churn body or receptacle.

The pendulum consists of an upper stock 10, and lower divergent suspension bars 11, which have their lower ends secured to the holder 5. The stock is provided at its top

with a bearing opening to receive the journal 3, and it is engaged adjacent to its center by a crank shaft 12, and is provided on its inner face with a recess having a transverse portion 13, and upper and lower branches 14 and 15 arranged at opposite sides of the stock. The crank of the shaft is provided with an anti-friction roller, and it alternately engages the stock at the upper and lower branches of the recess, and it operates to lift the pendulum and its weight to the end of the stroke. After the pendulum has been lifted to the end of its stroke by the crank-shaft the crank passes into the transverse portion 13 of the recess, and the pendulum is then permitted to return to a vertical position by its own weight, without the aid of the crank shaft, which is held against rotation by being in the said transverse portion of the recess; and when the pendulum has reached and partially passed a vertical position the crank of the shaft is released, and continues its rotation to lift the pendulum to the opposite end of the oscillation, when the operation is completed, the pendulum returning to a perpendicular by its own weight. This arrangement insures a steady movement of the churn power, and economizes the power as the crank shaft is intermittently rotated.

The crank shaft carries a pinion 16, which meshes with a masterwheel 17 loosely mounted on a winding shaft 18 and connected with the latter by a coiled or barrel spring 19 which has its inner end connected with the shaft and its outer terminal connected with the master wheel. The spring 19 actuates the cog or master-wheel; and the winding shaft is provided at its outer end with a crank handle 20, which is held against retrograde rotation by a spring catch 21.

The spring catch 21 consists of a casing, which is secured to one of the inclined bars of the tripod frame, and a spring frame constructed of spring wire or other resilient material, and provided at one end which is attached to one end of the casing, with a spring coil. The other end of the spring frame is arranged in an opening of the casing, and is provided with a rectangular bend forming a shoulder to engage the handle of the winding shaft, and the adjacent end of the metal forming the frame is bent at an

angle to form a stop 24 to limit the outward movement of the shoulder. By this construction the catch presents a rounded or beveled end at one terminus and a rectangular shoulder at its other terminus, in order that in turning the handle for winding up the spring the handle may readily pass the catch without interference, but will be prevented from retrograde rotation by the shoulder.

10 The pendulum has its upper end arranged within a keeper 25, and it is held stationary when desired to stop the motor by a hook 26, which is secured to the frame and adapted to engage one of the suspension rods or bars 15 11. The keeper 25 extends outward from the top of the frame and receives the stop of the pendulum, and is approximately rectangular, and is provided with depending shanks 27, which are fitted in suitable sockets of the 20 apex of the tripod frame.

It will be apparent that the churn motor is simple and comparatively inexpensive in construction, that it is positive and reliable and capable of a rapid production of butter, and 25 that the power is economically expended.

Changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this in- 30 vention.

What I claim is—

1. In a churn motor, the combination of a supporting frame, a pendulum depending therefrom and comprising an upper stock pro-

vided with a transverse recess with upper and 35 lower branches and depending suspension bars, a churn body, a holder or basket receiving the churn body and conforming to the configuration of the bottom of the same and secured to the lower ends of the suspension bars, 40 and a rotating crank engaging the stock of the pendulum and arranged in the recess thereof, substantially as described.

2. In a churn motor, the combination of a frame provided with a horizontal journal, a 45 pendulum suspended from the journal and provided with a recess having a transverse portion and upper and lower branches, a keeper extending from the frame and receiving the pendulum, a crank shaft having its 50 crank engaging the pendulum at the recess thereof, means for rotating the crank shaft, and a churn body carried by the pendulum, substantially as described.

3. In a churn motor, the combination of a 55 supporting frame, a pendulum provided with a transverse recess and having upper and lower extensions of the same, and a rotating crank arranged in the recess of the pendulum and engaging and oscillating the latter, 60 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.

JAMES H. GOODWIN.

Witnesses:

J. D. BROWN,

M. B. BROWN.