(No Model.)

W. OMER.

MOTOR FOR CHURNS.

No. 436,992. Patented Sept. 23, 1890.

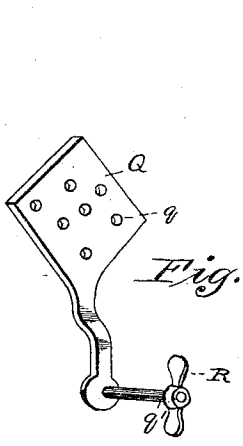


Fig. 3.

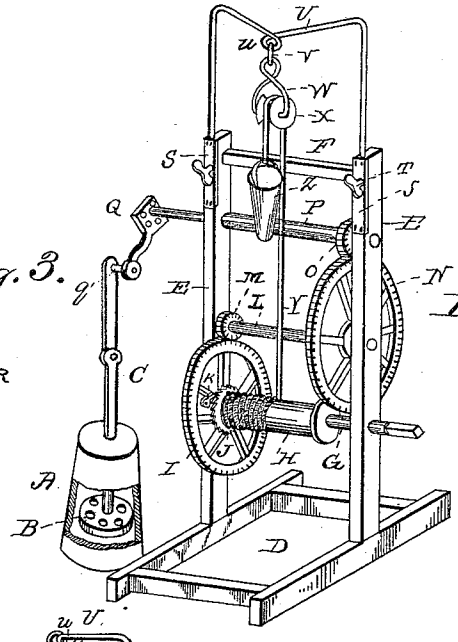


Fig. 1.

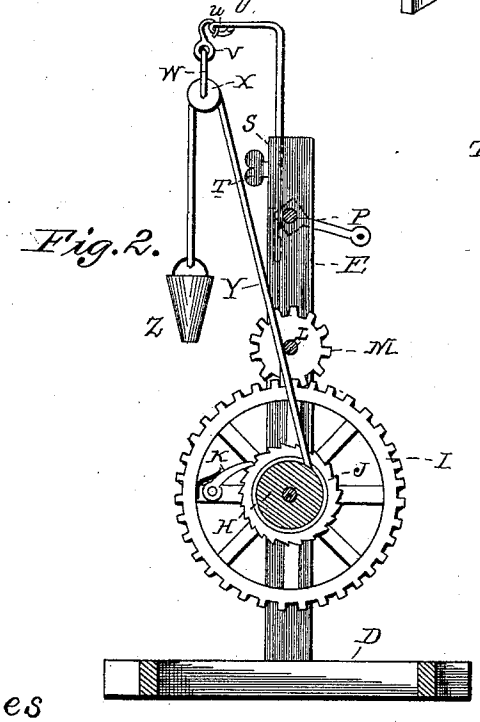


Fig. 2.

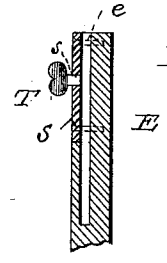


Fig. 4.

Witnesses
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UNITED STATES PATENT OFFICE.

WILSON OMER, OF CAINESVILLE, MISSOURI.

MOTOR FOR CHURNS.

SPECIFICATION forming part of Letters Patent No. 436,992, dated September 23, 1890.

Application filed June 14, 1890. Serial No. 355,459. (No model.)

To all whom it may concern:

Be it known that I, WILSON OMER, a citizen of the United States, residing at Cainesville, in the county of Harrison and State of Missouri, have invented certain new and useful Improvements in Motors for Churns; and I do 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention has relation to churns of that class known as "vertically-reciprocating" churns.

The object is to provide a device of this character which shall be in a measure automatic in its operation and at the same time capable of a most effective churning in a simple and expeditious manner.

With the above object and others in view my invention consists in the improved construction and combination of parts, as hereinafter more fully set forth.

In the accompanying drawings, Figure 1 is a perspective view of my device. Fig. 2 is a central vertical section. Fig. 3 is a detail of the crank, and Fig. 4 is a detail sectional view of the upper end of the upright.

Like letters of reference refer to like parts throughout the several views.

Referring to the drawings, the letter A indicates the churn-body, B the perforated dasher, and C the dasher-staff.

To one side of the churn-body I provide a frame, which consists of the base D, uprights E, and top cross-piece F. Journaled between the uprights in suitable bearings is a transverse shaft G, said shaft having rigidly mounted thereon a winding-drum H and carrying loosely upon one side a main gear-wheel I. The drum has also fast thereon a ratchet-wheel J, which is engaged by a spring-actuated pawl K, secured to one of the spokes of the main wheel. Above the shaft G is located a second shaft L, which is provided near one end with a pinion M, meshing with gear-wheel I, and on its opposite end is provided with a large gear-wheel N, which in turn meshes with a pinion O upon an upper shaft P, one end of said shaft being extended to receive a crank Q. This crank is provided at its upper end with a series of apertures *q*, so as to provide for its adjustment relative to the shaft in order to secure different lengths of stroke, according to the amount of cream contained within the churn-body. The lower end of this crank is provided with a laterally-extending pin *q'*, which passes through the upper end of the dasher-staff, the extremity of said pin being screw-threaded to receive a thumb-screw R in order to secure the parts together. The upper extremities of the uprights or standards are provided with elongated recesses *e e*, which are faced by metallic plates S S, said plates being provided with apertures *s s*, in which work set-screws T T. Adapted to pass into the recesses of the uprights are the downwardly-bent ends of an approximately inverted-U-shaped pulley-supporter U, said supporter having a central twist *u*, to which is secured a hook V, said hook in turn passing into the eye of a V-shaped hanger W, said hanger having inwardly-bent ends, which pass into the sides of a pulley X and form trunnions or bearings upon which said pulleys may turn freely.

It will be noticed that by passing the ends of the pulley-supporter U into the recesses of the uprights and to the rear of the metallic facings provision is made for the vertical adjustment of said supporter, the same being retained in its adjusted position by means of the set-screws hereinbefore referred to.

Secured to the drum is one end of an operating-rope Y, the other end being passed over a pulley and having secured thereto a hollow cup-shaped weight Z. By graduating the amount of water or other substance contained within this receptacle I am enabled readily to increase or decrease the weight, and thereby regulate the velocity or rapidity of the stroke of the dasher-staff.

The above being the description of my invention, the operation of the same is as follows: When it is desired to commence the churning, a key (not shown) is fitted to the extended end of the lower shaft and the drum turned in one direction. When turned in this direction, it will be understood that the spring-actuated pawl secured to the main wheel does not engage the ratchet-wheel of the drum, so that during the operation of winding said

main wheel remains idle and does not communicate motion to the other gearing. After the rope has been fully wound upon the drum, however, the weight upon the end of said rope exerts a downward pull and causes the shaft and drum to rotate in an opposite direction. As they are thus rotated, the pawl secured to the main wheel engages the ratchet and causes said main wheel to rotate in unison with the lower shaft and impart its motion to the other gearing, which, as will be readily understood, imparts a vertically-reciprocating motion to the dasher-staff, thus insuring a most effective churning.

My device is not only simple in construction, consisting of comparatively few parts, but is inexpensive of production.

By providing for the convenient vertical adjustment of the pulley-supporter I am enabled to provide for a greater or less extent of rope, thereby lengthening the time during which the machine will run before it is necessary to be rewound. It is obvious that if this supporter is adjusted upwardly to its full extent the weighted end will have an increased vertical path of movement, whereas by bringing the supporter farther downward the line of movement will be decreased.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

In a motor for churns and the like, the combination, with a crank provided with an enlarged upper end having a series of apertures for the reception of the end of the shaft and having its lower end provided with a laterally-extending pin, of a thumb-screw fitting the extremity of said laterally-extending pin, substantially as set forth.

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

WILSON OMER.

Witnesses:
JOHN POSLERNO,
HENRY C. POTARF.