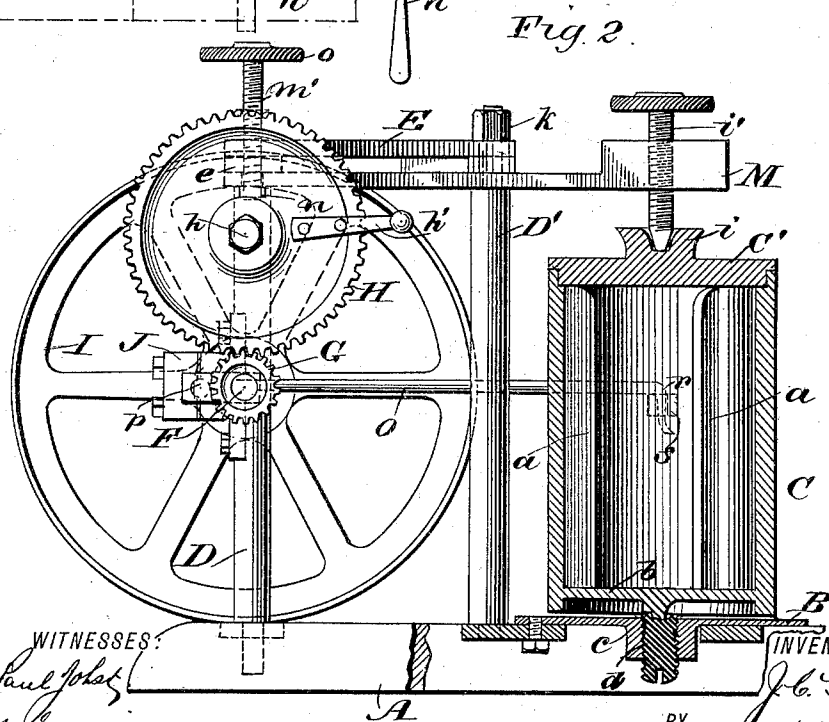
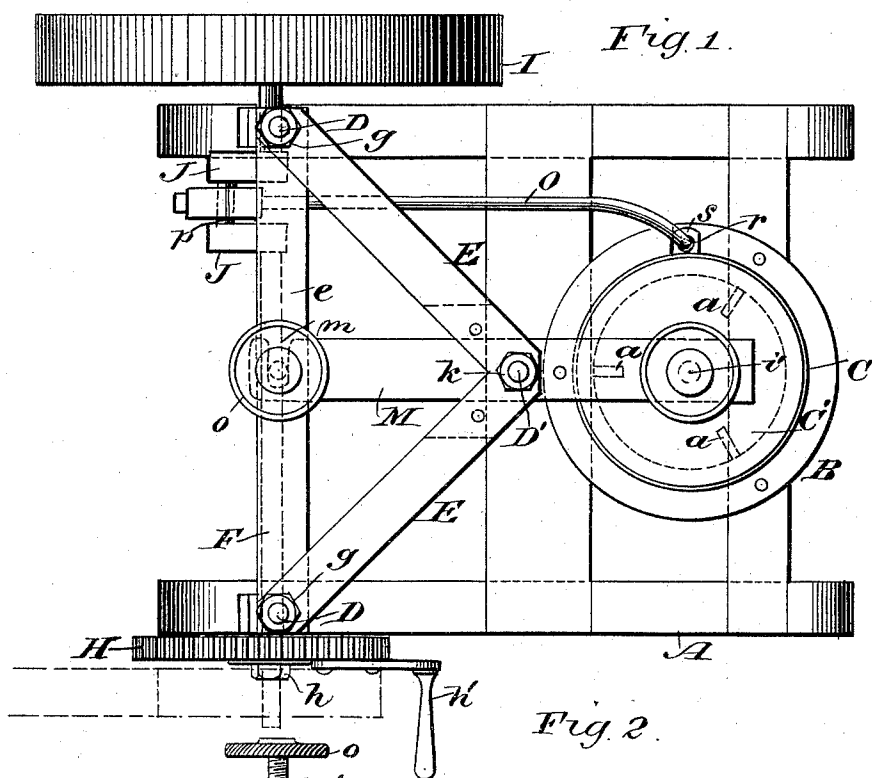


(No Model.)

J. C. GEORGE.
CHURN.

No. 476,047.

Patented May 31, 1892.



WITNESSES:
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UNITED STATES PATENT OFFICE.

JAMES C. GEORGE, OF COFFEYVILLE, KANSAS.

CHURN.

SPECIFICATION forming part of Letters Patent No. 476,047, dated May 31, 1892.

Application filed September 15, 1891. Serial No. 405,736. (No model.)

To all whom it may concern:

Be it known that I, JAMES C. GEORGE, of Coffeyville, in the county of Montgomery and State of Kansas, have invented a new and useful Churn, of which the following is a full, clear, and exact description.

This invention relates to an improved churn of the working-body type, and has for its object to provide a churn of simple construction, in which the body or cream-chamber is oscillated in a vertical plane and adapted to rapidly churn butter from cream placed therein.

To this end my invention consists in the peculiar construction of parts and their combination, as is hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in both the figures.

Figure 1 is a plan view of the churn; and Fig. 2 is a side view broken and partly in section, showing the interior of the body.

Upon a preferably-rectangular frame A the base-plate B is secured near one end and at the transverse center of said frame. The churn-body C is made cylindrical by preference, but may be square or polygonal in cross-section. Within the churn-body any preferred number of wings *a* are affixed to the side wall of the body, radiating toward the axial center of the same. The lower end wall *b* of the churn-body C is affixed thereto, and there is a central pivot projection *c* made to depend from this wall, which pivot is seated in the cupped upper end of an adjustable foot-block *d*, which latter is threaded exteriorly to engage a tapped hole formed in a center boss of the base-plate B. Two similar posts D are erected on the frame A at each side oppositely and a suitable distance from the churn-body C, said posts being joined above by a transverse bar *e*. Near the center of the frame A an upright post D' is located, equal in height to the post D, from which it is equidistant. Between the posts D and forward post D' a pair of diagonally-extending braces E are placed thereon, which are secured by nuts *g* or other means in firm connection with the posts D, thereby producing a strong and light gear-supporting structure. Across and between the posts D a main driving-shaft

F is rotatably supported in boxes secured to said posts at a proper distance above the frame A. On one end of the shaft F, that projects beyond one of the posts D, a pinion G is secured, and above the pinion a larger driving gear-wheel H is revolubly sustained on a laterally-projecting stud or journal bolt *h*, which wheel, having geared connection with the pinion, may be revolved by manipulation of an attached handle-lever *h'*. Oppositely and on the other projecting end portion of the shaft F a balance-wheel I is affixed, and between the posts D D the double crank J is formed or secured, which crank lies near one of said posts. The upper end of the churn-body C is hermetically sealed by a removable lid C', which is provided with a centrally-cupped boss *i*. On the top of the post D' and below the joined braces E a bracket-arm M is supported by its loose engagement with a reduced journal end formed on the post, which reduced portion is sufficiently extended above the arm to receive the perforated junctional ends of the diagonal braces E, that are retained in place by a nut *k*. The forward end of the bracket-arm M is vertically perforated at a point which, when the arm is properly adjusted, will vertically align with the cupped depression in the boss *i*, said perforation being threaded to receive a set screw bolt *i'*, the lower end of which is shaped to seat within the cupped boss and afford a top pivot-center for the churn-body C. At the rear end of the bracket-arm M a latch-slot *m* is cut from one edge inwardly, as shown by dotted lines in Fig. 1, said slot having such a location as will adapt it to receive the lower portion of a clamping-screw *m'*, which latter has threaded engagement with the transverse bar *e*, and is provided with a radial collar *n* on its lower end and a head-piece *o* on its upper end that projects above the bar mentioned. The relative location and proportion of parts is such that when the bracket-arm M is swung so that the latch-slot *m* will receive the clamping-screw *m'* and be clamped upon the bar *e* by a proper manipulation of the screw the forward end of the bracket-arm will have its bolt *i'* in vertical alignment with the axis of the cylindrical body of the churn, that will be held free to turn when said screw is seated in the boss *i*, as before explained. A connect-

ing-rod O is provided, which has one end loosely attached to the cross-pin *p* between the twin cranks J, and its forward end portion formed into a hook *r*, that removably engages a perforated ear *s*, which projects from the side of the churn-body C.

In operation, the churn-body having been supplied with a proper quantity of cream that is in condition to produce butter and the lid C' secured on it by an adjustment of the screw *i'*, motion is communicated to the churn-body by the described mechanism and as the throw of the cranks J is correctly proportioned to establish a rotative reciprocation of the churn-body when the crank-shaft is revolved it is evident that a rapid rotary movement of the latter will cause the cream to be thrown alternately in one direction against the wings *a* and then in an opposite direction, quickly breaking up the butter-globules and separating the butyric granules from the whey. When the churning is completed, the lid C' can be readily removed to afford access to the interior of the body C by releasing the arm M and swinging it laterally.

A pulley and belt (shown by dotted lines in Fig. 1) may be substituted for the gearing shown when manipulation is to be superseded by other power.

Having thus fully described my invention,

I claim as new and desire to secure by Letters Patent—

The combination, with a base, a plate thereon, an adjustable externally-threaded foot-block in the plate cupped on its upper end, a cylindrical churn-body on the base, having radial wings therein, a central pivot depending from its bottom and engaging the foot-block, and provided with a removable lid having a central cupped depression on its top, of an upright frame on the base at one side of the churn-body, a horizontally-swinging arm pivoted between its ends to the frame, slotted at one edge of its outer end and having a vertical pivot-bolt on its inner end engaging the churn-lid, a vertical set-screw on the frame to engage said slotted end, a transverse shaft journaled in said frame provided with a double crank, a rod removably connecting the cranks and the churn-body, and gearing connected with the crank-shaft for rotating the shaft and oscillating the churn-body, substantially as described.

JAMES C. ^{his} X GEORGE.
mark

Witnesses:

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