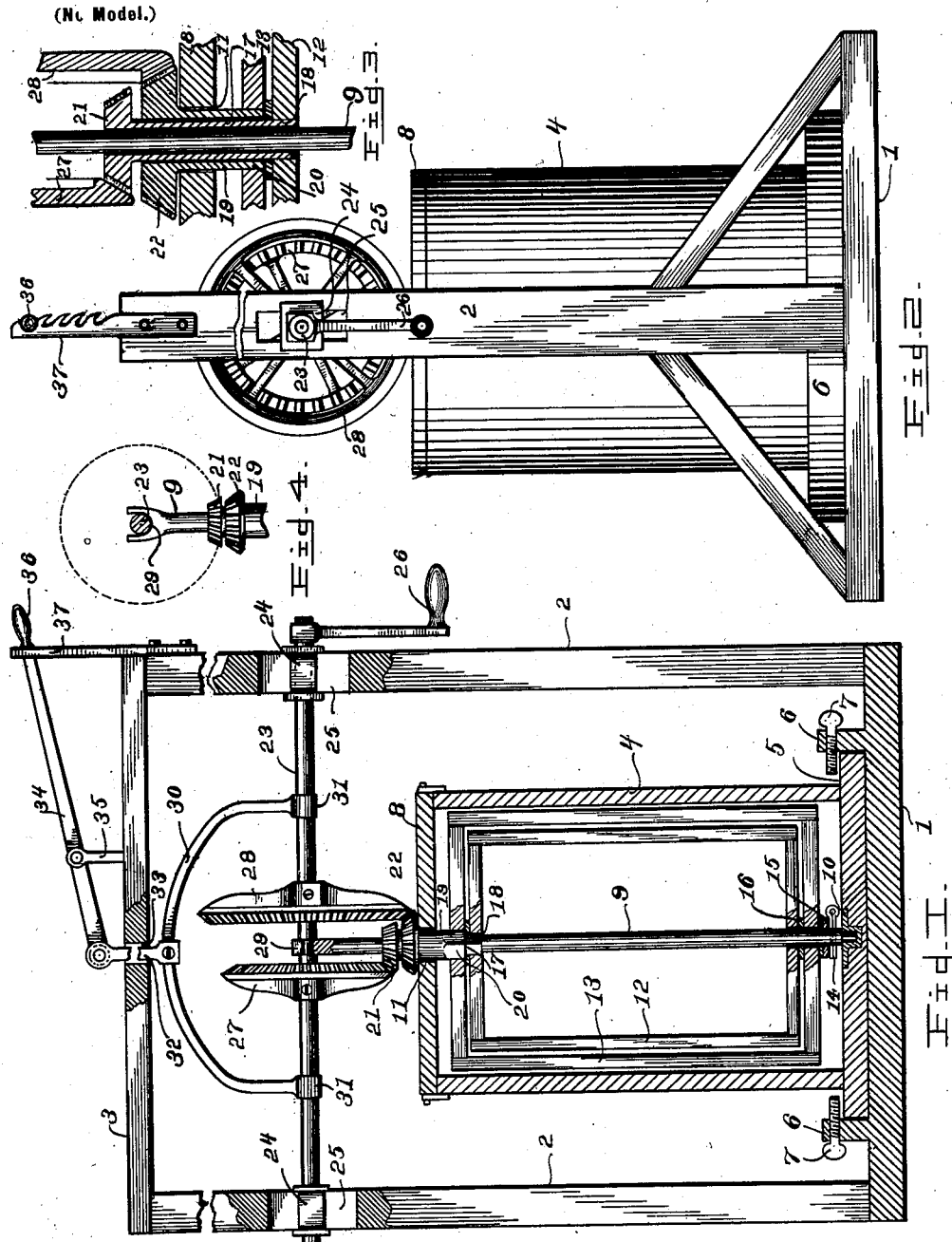


No. 646,190.

Patented Mar. 27, 1900.

J. A. PARKER.
CHURN.

(Application filed Nov. 21, 1899.)



Witnesses
Frank G. Campbell.
[Signature]

Joseph A. Parker, Inventor.
By his Attorneys,

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UNITED STATES PATENT OFFICE.

JOSEPH ANDREW PARKER, OF DRIPPING SPRINGS, TEXAS.

CHURN.

SPECIFICATION forming part of Letters Patent No. 646,190, dated March 27, 1900.

Application filed November 21, 1899. Serial No. 737,784. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH ANDREW PARKER, a citizen of the United States, residing at Dripping Springs, in the county of Hays and State of Texas, have invented a new and useful Churn, of which the following is a specification.

This invention relates to churns, and has for its object to provide certain new and useful improvements whereby the operating means may be conveniently disconnected from the dasher without disarranging any of the parts thereof, so as to facilitate the removal of the dasher from the churn-body, and also permitting of the ready assembling of the parts. It is, furthermore, designed to provide an improved dasher construction, so that the members thereof may be operated in opposite directions and may also be conveniently disconnected for the purpose of cleansing the same.

To these ends the present invention consists in the combination and arrangement of parts, as will be hereinafter more fully described, shown in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that changes in the form, proportion, size, and minor details may be made within the scope of the appended claims without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings, Figure 1 is a sectional elevation of a churn constructed in accordance with the present invention. Fig. 2 is a side elevation thereof. Fig. 3 is an enlarged detail sectional view taken longitudinally through the operative connection between the dasher and the operating means therefor. Fig. 4 is a detail sectional view taken at right angles to Fig. 3 and showing the bracing connection between the dasher-shaft and the operating-shaft.

Corresponding parts in the several figures of the drawings are designated by like characters of reference.

Referring to the accompanying drawings, 1 designates the base of a supporting-frame, from the opposite sides of which rise the up-rights 2, the latter being connected at their upper ends by means of a cross-bar 3.

Located between the up-rights 2 and seated

upon the base 1 is a suitable churn-body 4, which is provided with an outwardly-directed circumferential base-flange 5, the latter being embraced by an upstanding flange 6, provided upon the upper face of the base 1. Extending transversely through the upstanding flange is a plurality of set-screws 7, which overhang the base-flange 5, so as to hold the churn-body upon the frame. The upper open end of the churn-body is closed by means of a suitable removable cover 8.

Located within the churn-body is an upright dasher-rod 9, the lower end of which is seated in a suitable socket 10, formed in the bottom of the churn, and its upper end extends through an opening 11, formed centrally in the cover. It will be understood that the dasher-rod is fixed against rotation, and the inner and outer substantially-rectangular frames 12 and 13, respectively, are mounted to turn loosely upon the rod and to form the churn-dasher. The lower end of the outer frame 13 is supported out of contact with the bottom of the churn by means of a stop-shoulder 14, preferably formed by a pin or key passed transversely through the dasher-rod. It is preferable to employ washers 15 and 16, respectively, between the stop-shoulder 14 and the outer frame and between the two frames, so as to take up wear and to prevent binding of the parts.

Fitted loosely upon the upper portion of the dasher-rod and extending in opposite directions through the central opening in the cover is a sleeve 17, the exterior of the lower end thereof being angular, as indicated at 18, and this angular portion detachably fits within a correspondingly-angular opening in the upper end of the inner frame 12, so that rotary motion imparted to the sleeve 17 will be in turn transferred to the frame. The outer frame 13 is also provided with a similar sleeve 19, which is mounted to turn upon the inner sleeve 17 and has an angular portion 20 detachably connected to the outer frame 13 in the manner described for the inner frame. The inner sleeve 17 extends above the outer sleeve, and both sleeves are provided at their upper ends with the respective beveled gears 21 and 22.

Located transversely above the churn-body is a drive-shaft 23, the opposite ends of which

are provided with suitable bearing-blocks 24, which are mounted to slide vertically in the slots 25, provided in the uprights 2. One end of this shaft projects at the outer side of the frame and is provided with an operating crank or handle 26. Fixedly mounted at intermediate points of the drive-shaft are the spaced beveled gears 27 and 28, which are in mesh with the respective gears 21 and 22. It will be noted that the gears 27 and 28 mesh with the other respective gears at opposite sides thereof, so as to turn the respective dasher members in opposite direction, and said gears are also of different diameters, so as to drive the dasher members at different rates of speed.

As clearly shown in Figs. 1 and 4 of the drawings, it will be seen that the upper end of the dasher-rod 9 extends above the top of the churn-body, and its upper end is bifurcated longitudinally or provided with a fork 29, the opposite sides of which embrace the drive-shaft 23, so as to provide a support for the dasher-rod and prevent accidental lateral movement thereof; also, the dasher-rod forms a bearing for the intermediate portion of the drive-shaft and is located between the spaced gears carried thereby.

To raise the drive-gears out of engagement with the dasher-gears, there is provided a yoke-shaped bracket 30, the opposite ends of which are provided with bearing-sleeves 31, which loosely embrace the drive-shaft and at opposite sides of the drive-gears. Connected to an intermediate portion of the bracket is a vertically-disposed link 32, passing through an opening 33, formed in the cross-bar 3. Pivotaly connected to the upper end of the link 32, which projects above the upper end of the frame, is a lever 34, fulcrumed intermediate of its ends upon an upstanding bracket 35, provided upon the cross-bar 3. The lever 34 is located above the cross-bar 3 and extends longitudinally thereof, the outer or handle end 36 extending a suitable distance beyond the frame and above the operating-crank 26. Secured to the adjacent upright 2 and extending a suitable distance above the upper end of the frame is a rack 37, with which the lever 34 is designed to engage. It will be apparent that by depressing the free end of the lever 34 the bracket 30 and the drive-shaft 23 may be elevated, so as to disconnect the drive-gears from the dasher-gears without disarranging any of the parts of the churn.

From the foregoing description it will be apparent that the sleeves 17 and 19 may be readily removed from the dasher-rod and from the dasher members, so that the latter may be disconnected whenever desired, and the operating means may be applied to and disconnected from the dasher without requiring any marked degree of skill. Furthermore, the drive-shaft may be adjusted vertically, so as to accommodate the same to drive-gears of different diameters.

What is claimed is—

1. In a churn, the combination with a frame, and a churn-body, having a dasher, of a vertically-movable and substantially-horizontal transverse drive-shaft, provided with a gear-wheel in operative connection with the dasher, a yoke-shaped bracket, having its opposite ends connected to the drive-shaft and at opposite sides of the gear-wheel, and a lever fulcrumed upon the frame, and connected to the yoke-shaped bracket.

2. In a churn, the combination with a frame, having vertically-slotted uprights, and an upper cross-bar connecting the uprights, of a churn-body located between the uprights, and provided with a dasher, a substantially-horizontal drive-shaft, having its opposite ends slidably mounted in the slots of the uprights, and also provided with a gear-wheel in operative connection with the dasher, a yoke-shaped bracket, having its opposite ends provided with bearing-sleeves receiving the drive-shaft, and located at opposite sides of the gear-wheel, an upright link connected to the bracket and passing loosely through an opening formed in the upper cross-bar, a lever fulcrumed upon said cross-bar, and pivotally connected to the link, and a rack adjustably engaging the lever.

3. In a churn, the combination with a churn-body, having a cover provided with a central opening, of a non-rotatable dasher-rod extending through the opening in the cover, inner and outer dasher members mounted to turn independently upon the dasher-rod, a rotatable sleeve mounted upon the dasher-rod, projecting in opposite directions through the opening in the cover, provided at its lower end with an angular portion detachably fitting a similar angular opening in the inner dasher member, and having its upper end provided with a beveled gear, a second sleeve rotatable upon the first sleeve, having an angular portion detachably fitting an angular opening in the outer dasher member, and also provided with a beveled gear, and a drive-shaft, having beveled gears in mesh with the respective dasher-gears, and means for operating the drive-shaft.

4. In a churn, the combination with a frame, and a churn-body, having a rotatable dasher, of a non-rotatable dasher-rod projecting above the top of the churn, and a transverse drive-shaft, having an operative connection with the dasher, and means for operating the drive-shaft, the upper end of the dasher-rod engaging the drive-shaft and forming a bearing therefor.

5. In a churn, the combination with a frame, and a churn-body, of a vertically-disposed non-rotatable dasher-rod, extending above the top of the churn-body, and having its upper end provided with a fork, dasher members mounted to turn upon the dasher-rod, beveled gears mounted upon the dasher-rod and connected to the respective dasher members, a transverse drive-shaft, having its intermedi-

ate portion seated in the fork of the dasher-rod, spaced gear-wheels carried by the drive-shaft, located at opposite sides of the dasher-rod, and in mesh with the respective dasher-
5 gears, and means for operating the drive-shaft.

In testimony that I claim the foregoing as

my own I have hereto affixed my signature in the presence of two witnesses.

JOSEPH ANDREW PARKER.

Witnesses:

R. E. SPAUR,
I. M. POUND.