

C. W. MOORE.
CHURN.
APPLICATION FILED JULY 20, 1911.

1,046,320.

Patented Dec. 3, 1912.

2 SHEETS—SHEET 1.

FIG. 1

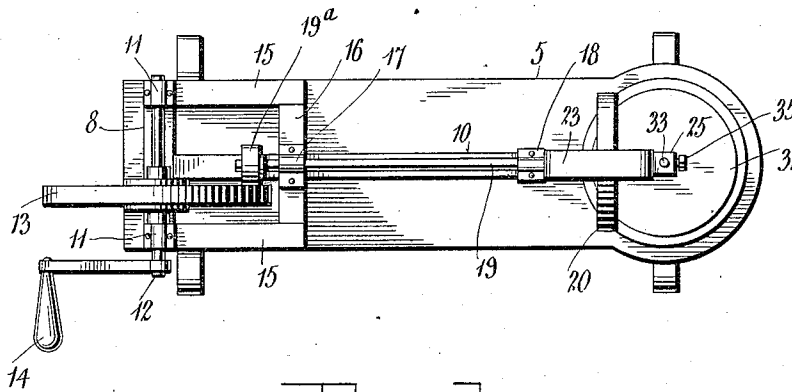
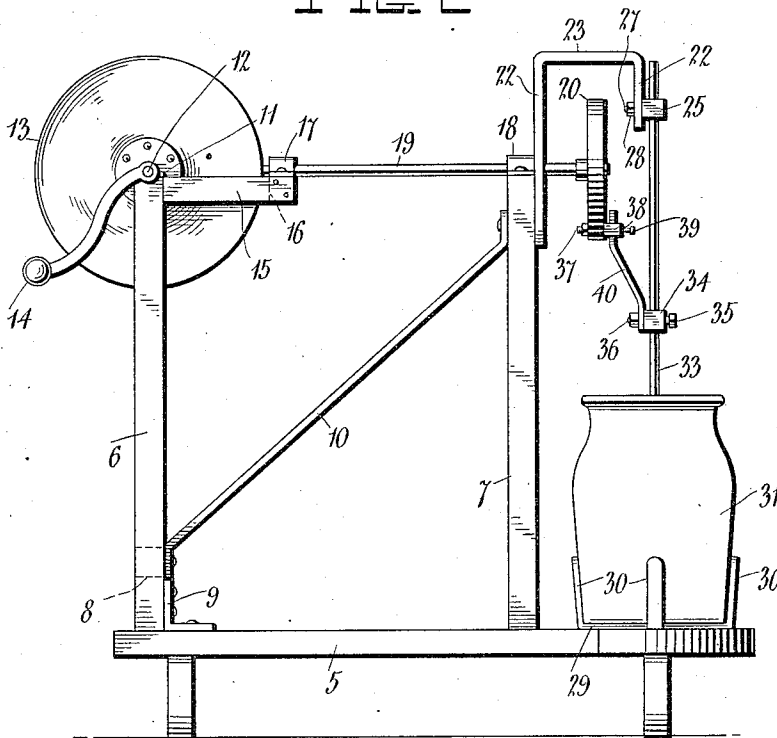


FIG. 2



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2 SHEETS—SHEET 2.

FIG 4

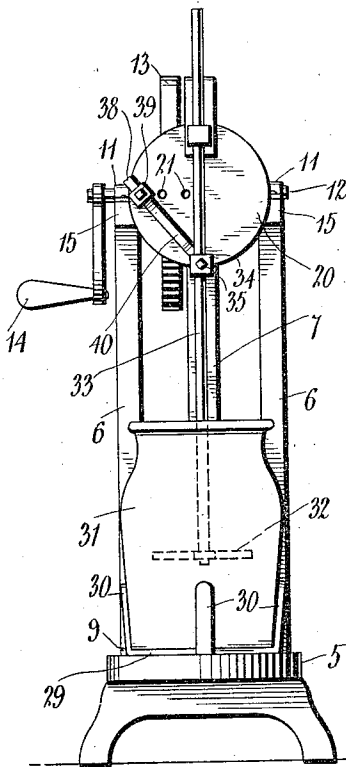


FIG 3

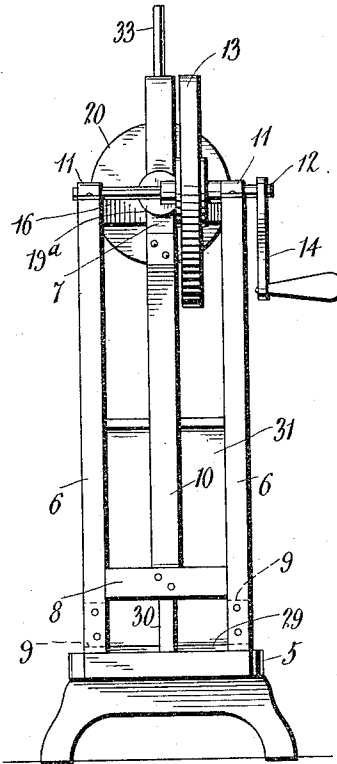
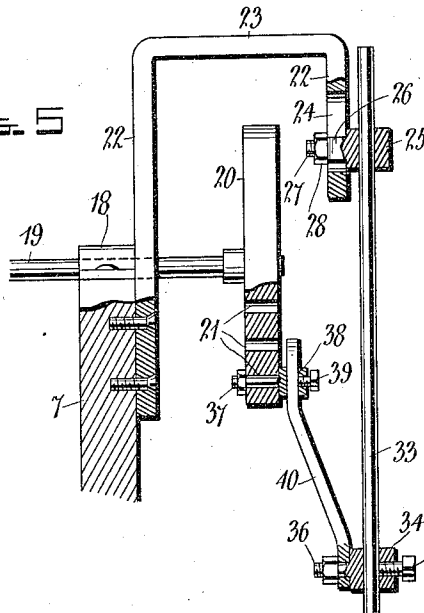


FIG 5



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UNITED STATES PATENT OFFICE.

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CHURN.

1,046,320.

Specification of Letters Patent.

Patented Dec. 3, 1912.

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To all whom it may concern:

Be it known that I, CHARLES W. MOORE, a citizen of the United States, residing at Oswego, in the county of Sumter, State of South Carolina, have invented certain new and useful Improvements in Churns; and I do hereby 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.

This invention relates to churns, and has for its principal object to provide an improved gearing therefor.

Another object of the invention is to provide a novel form of support and guide for the churn dasher, the guide being adjustably connected to the support for permitting the ready removal of the churn dasher whenever desired.

A still further object of the invention is to provide a churn of the character described, which is simple in construction and cheap to manufacture.

With these and other objects in view, the invention consists in the construction and novel combination of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended; it being understood that various changes in the form, proportion, size and minor details of construction, within the scope of the claims, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings:—Figure 1 is a top plan view of a churn constructed in accordance with my invention, Fig. 2 is a side elevation thereof, Fig. 3 is a rear end view, Fig. 4 is a front end view, Fig. 5 is an enlarged sectional view through the support, guide and churn rod.

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

Referring to the drawings, the invention comprises a base 5 upon which is secured a pair of spaced supports 6—6 and a forward support 7, the latter being centrally disposed with respect to the rear supports. A cross-brace 8 connects the rear supports near their lower ends, and angle iron braces 9—9 are connected to the said rear supports 6 and the base 5. An inclined brace 10 is connected at its lower end to the cross-brace 8 and at its upper end to the top of the front sup-

port 7. Journaled in bearings 11—11 carried by the upper ends of the front supports 6, is a transversely disposed shaft 12. Fixedly secured upon the shaft at a point slightly to one side of the center thereof, is a large friction gear 13, and connected to one end of the shaft is a hand-crank 14. Projecting forwardly from the upper end of each of the rear supports 6, is a horizontally disposed arm 15, and connecting the forward ends of said arms is a cross-arm 16 which is disposed in parallel relation to the shaft 12. Centrally mounted upon the cross arm 16 is a longitudinal bearing 17, and mounted upon the upper end of the front support 7 is a bearing 18 which is disposed in alinement with the bearing 17. A longitudinal shaft 19 is journaled in the bearings 17 and 18, and the ends thereof respectively project in rear of the cross arm 16 and in advance of the front support 7. Mounted on the rear end of said shaft 19 is a small friction gear 19^a which is engaged by the large friction gear 13. Mounted upon the forward end of said shaft is an eccentric disk 20, which is provided with openings 21, said openings being respectively disposed at different distances from the center of said disk.

The invention further comprises an inverted U-shaped support consisting of legs 22—22 and a bight 23. One leg of the support is connected to the upper end of the forward support 7, and the bight 23 is longitudinally disposed over the disk 20. Formed in the end of the leg 22 is an elongated opening 24, and disposed in said opening is the shank of a bearing 25. The inner end 26 of the shank is angular so as to hold the bearing 25 vertically, and the outer end 27 of the shank is threaded for engagement with a nut 28 by means of which the bearing can be held in any adjusted position. Mounted upon the base 5 in advance of the front support 7 is a holder which consists of crossed arms 29—29, the outer end of each arm being bent upwardly to form fingers. Detachably positioned upon the arms 29 and within the fingers 30 is a churn body 31, in which is disposed an ordinary reciprocating dasher 32 having an operating rod 33 connected therewith, said rod having its upper end slidably mounted in the bearing 25. Slidably mounted on the rod 33 of the dasher and below the bearing 25, is a sleeve 34 having a set screw 35 for retaining the same upon said rod. Projecting rearwardly

from the sleeve 34 is a crank pin 36. Rotatably mounted in one of the openings 21 of the eccentric disk 20 is a crank pin 37 having a bearing 30 formed at its outer end. 5 Disposed within the bearing 38 and retained therein by a set screw 39, is one end of a pitman rod 40, the other end of the rod being connected to the pin 36.

From the foregoing, it will be seen that 10 the churn dasher can be reciprocated with great rapidity upon every revolution of the hand crank 14, and by adjusting the crank pin 37 in any of the openings 21 of the disk 20, the movement of the dasher can easily 15 be regulated to accommodate churn bodies of different heights.

What is claimed is:—

1. A churn operating mechanism comprising in combination, a base, a pair of rear 20 supports connected to the base, a front support connected to the base and centrally disposed in spaced relation to the rear supports, a transverse shaft rotatably supported upon the rear supports, a friction gear 25 mounted thereon, supporting arms projecting forwardly from the rear supports, a longitudinal shaft rotatably supported from said arms and the front support, a friction gear mounted on the rear end of the shaft 30 and engaging with the first mentioned gear, a crank disk mounted on the other end of said longitudinal shaft, a crank pin carried by said disk, an inverted U-shaped support connected to the front support and extending 35 forwardly above the friction disk, a bearing mounted on the forward end of the said U-shaped support for receiving the operating rod of a churn dasher, and a pitman rod connected at one end to the crank

pin of the disk and having means for en- 40 gagement with said operating rod of the churn dasher.

2. A churn operating mechanism comprising in combination, a base, a pair of rear 45 supports connected to the base, a front support connected to the base and centrally disposed in spaced relation to the rear supports, a transverse shaft rotatably supported upon the rear supports, a friction gear 50 mounted thereon, supporting arms projecting forwardly from the rear supports, a longitudinal shaft rotatably supported from said arms and the front support, a friction gear mounted on the rear end of the shaft 55 and engaging with the first mentioned gear, a crank disk mounted on the other end of said longitudinal shaft, a crank pin carried by said disk, an inverted U-shaped support connected to the front support and extending 60 forwardly above the friction disk, said U-shaped support having an elongated opening formed in the forward end thereof, an angular shank disposed within said opening and having a bearing formed on one end 65 for receiving the operating rod of a churn dasher, the other end of the shank being threaded for engagement with a nut, and a pitman connected at one end to said bearing and having its other end adapted for 70 connection to the operating rod of a churn dasher.

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

CHARLES W. MOORE.

Witnesses:

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