No. 796,685. PATENTED AUG. 8, 1905.

C. S. WAYBRIGHT.

CHURN.

APPLICATION FILED MAR. 9, 1905.

2 SHEETS—SHEET 1.

Fig. 4.

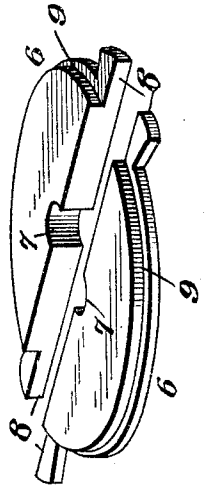


Fig. 5.

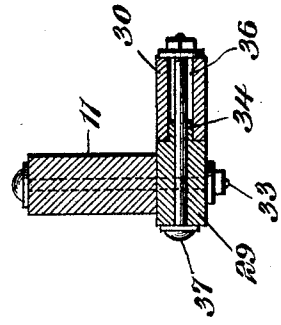
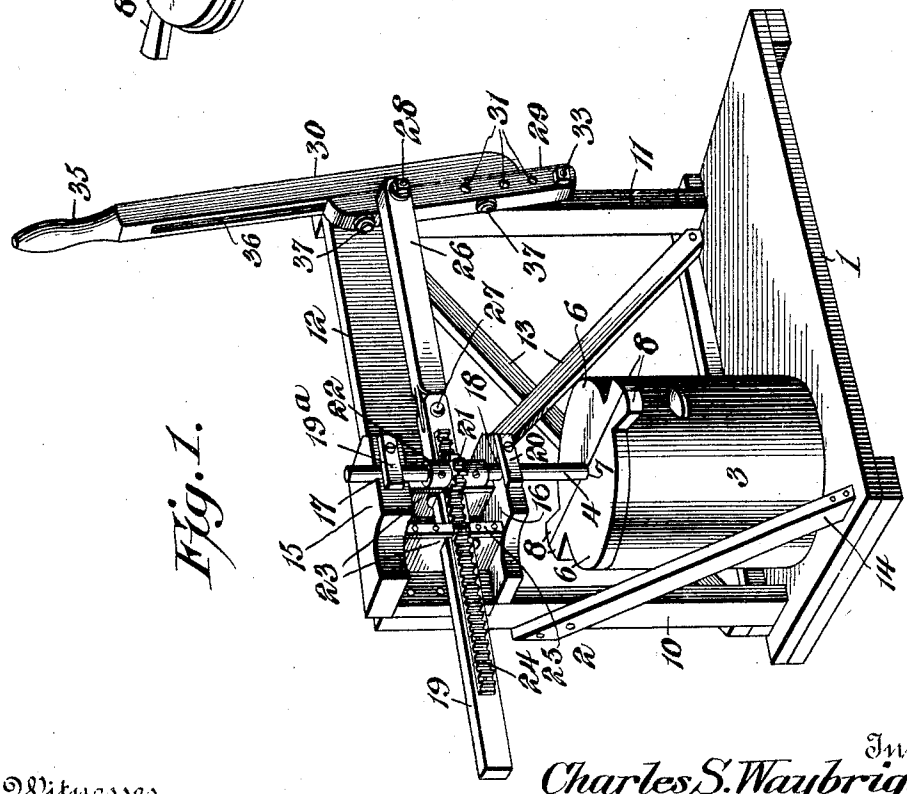


Fig. 1.



Witnesses

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2 SHEETS—SHEET 2.

Fig. 3.

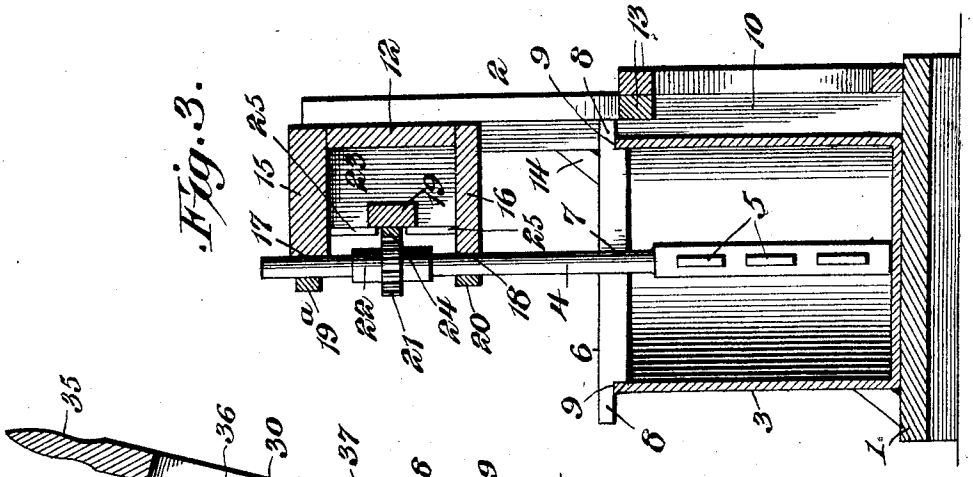
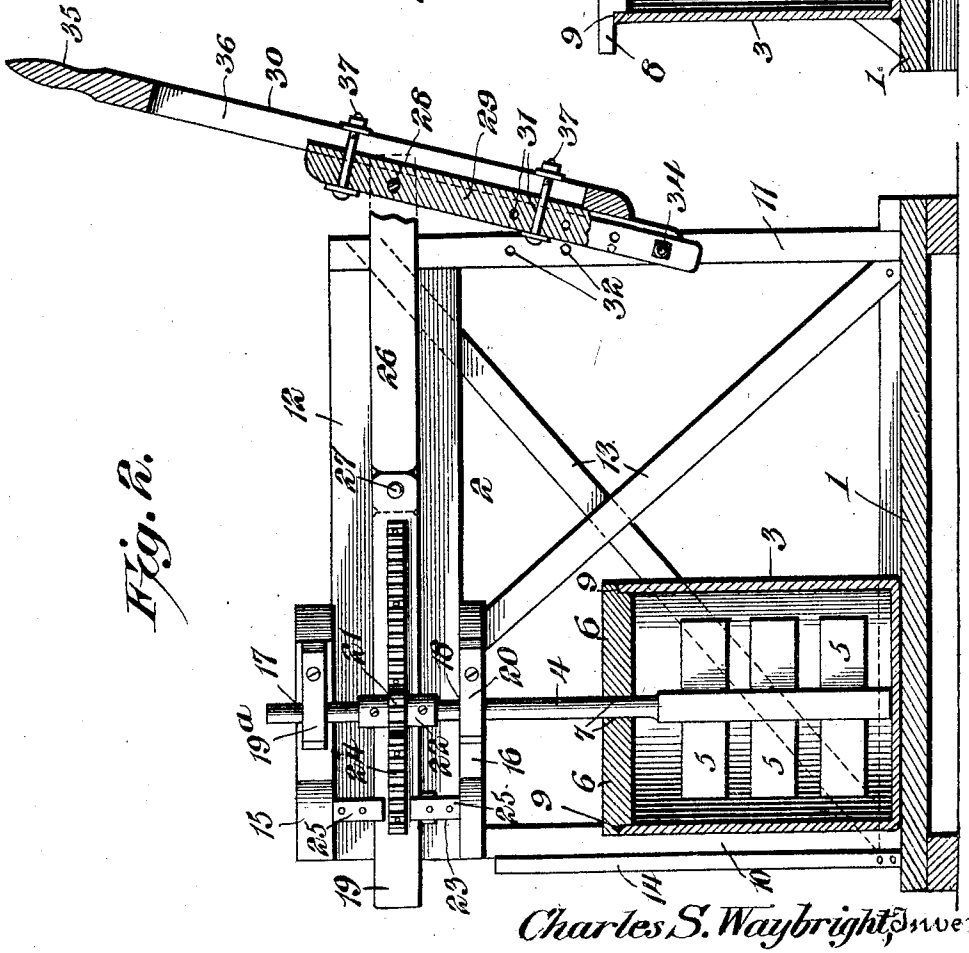


Fig. 2.



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UNITED STATES PATENT OFFICE.

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CHURN.

No. 796,685. Specification of Letters Patent. Patented Aug. 8, 1905.

Application filed March 9, 1905. Serial No. 249,269.

To all whom it may concern:

Be it known that I, CHARLES S. WAYBRIGHT, a citizen of the United States, residing at Crabbottom, in the county of Highland and State of Virginia, have invented a new and useful Churn, of which the following is a specification.

The invention relates to improvements in churns.

The object of the present invention is to improve the construction of churns and to provide a simple, inexpensive, and efficient one of great strength and durability, capable of rapidly producing butter, and adapted to be easily and thoroughly cleaned after the operation of churning has been completed.

A further object of the invention is to provide operating means adapted to be readily adjusted to suit the height of a person without changing the leverage and adapted also to be readily adjusted for enabling it to be easily operated by either a child or adult.

With these and other objects in view 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, 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 perspective view of a churn constructed in accordance with this invention. Fig. 2 is an elevation, partly in section. Fig. 3 is an enlarged transverse sectional view of the upper portion of the churn. Fig. 4 is a detail perspective view of the cover, showing the same inverted and the sections being partially separated. Fig. 5 is an enlarged detail sectional view taken transversely of the operating-lever and illustrating the manner of adjustably connecting the sections thereof.

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

1 designates a horizontal base of a supporting-frame, which is also provided with an upwardly-extending portion 2. The base is adapted to receive a churn-body 3, and the upwardly-extending portion is adapted to support the mechanism for rotating a dasher-shaft 4. The churn-body, which is loosely placed upon the horizontal base, may be of any desired construction and preferably consists of a cylindrical vessel of stoneware or analogous material. The lower portion of the dasher-shaft is enlarged and has mounted on it a plurality of dasher-blades 5, forming a dasher and preferably consisting of bars centrally secured within slots of the enlarged lower portion of the dasher, as clearly illustrated in Fig. 2 of the drawings. The dasher, however, may be of any other desired construction.

The churn is provided with a cover composed of semicircular sections 6, provided with central recesses 7, forming a central opening in the cover for the passage of the dasher-shaft. The sections of the lid or cover are adapted to be placed around the dasher-shaft, and they are provided at opposite sides with sectional handles 8, fitting together when the sections of the cover are in position and adapted to facilitate placing the cover or lid on and removing the same from the churn-body. The lid or cover has a peripheral groove 9, forming a depending portion, and an upwardly-extending flange. The reduced depending portion of the lid or cover fits snugly within the churn-body, and the outwardly-extending flange rests upon the upper edges thereof. The sections of the cover fit snugly together and do not require any fastening device to retain them on the churn-body.

The upwardly-extending or upright portion of the supporting-frame, which may be constructed in any desired manner, is preferably provided with vertical end bars 10 and 11, a horizontal top bar 12, and connecting-braces 13, disposed diagonally, as clearly shown in Fig. 2 of the drawings. The end bar 10 is also preferably strengthened by a brace 14, located at one end of the supporting-frame. The horizontal connecting top bar 12 is provided at one end with horizontally-projecting bearing portions 15 and 16, provided with bearing-recesses 17 and 18 to receive the dasher-shaft and spaced apart to receive a horizontally-reciprocating slide 19. The bearing-recesses 17 and 18 are located at the front edges of the projecting bearing portions 15 and 16, which may be secured to the upper and lower edges of the connecting top bar 12 in any desired manner. The upper portion

of the dasher-shaft is retained in the bearing-recesses of the projecting portions 15 and 16 of the frame by means of pivoted buttons 19ª and 20, preferably secured to the front edges of the horizontal portions 15 and 16 by screws or other suitable fastening devices and adapted to be arranged in a horizontal position to extend across the bearing-recesses and capable of being swung from the same to permit the removal of the dasher-shaft. The dasher-shaft carries a pinion 21, and when the pivoted buttons are swung away from the recesses of the projecting horizontal portions 15 and 16 the dasher-shaft is adapted to be removed from the supporting-frame and is entirely disconnected from the operating mechanism, whereby the dasher may be conveniently and thoroughly cleaned after the operation of churning has been completed. The pinion is formed integral with a sleeve 22, fitted on the dasher-shaft and secured to the same by screws or other suitable fastening devices. The dasher-shaft rests loosely upon the bottom of the churn-body and does not require any socket or bearing at that point, as it is retained in proper position by the upper and lower bearings of the top bar 12 of the supporting-frame. The spaced horizontal bearing portions of the top of the supporting-frame are connected by spaced vertical guides 23, provided with recesses receiving the reciprocating slide 19 and suitably secured to the horizontal blocks or pieces 15 and 16 and to the top bar 12 of the frame. The slide is provided at its front or outer face with a metallic rack-bar 24 of a width less than the slide 19 and spaced from the upper and lower edges thereof, the upper and lower portions of the slide being engaged by blocks or pieces 25, secured to the front edges of the vertical guides 23 and extending over the recesses thereof. The adjacent ends of the blocks or pieces 25 are spaced apart to provide a passage for the rack-bar. By this construction the slide is guided in its reciprocation and is retained in place. If desired, any form of antifriction device may be employed for reducing the friction to a minimum. The pinion meshes with the rack-bar and is rotated by the reciprocation thereof, and the removal of the dasher-rod does not affect the slide or necessitate the removal thereof. The inner end of the slide is bifurcated to receive a tongue of a connecting-bar 26, which is secured to the slide by a pivot 27. The outer end of the connecting-bar is pivoted by a bolt 28 or other suitable fastening device to an operating-lever, which is composed of sections 29 and 30, the sections being adjustably connected together and adjustably mounted on the frame to permit the operating-lever to be varied in length to suit the height of a person without changing the leverage and also to permit the leverage to be changed to enable the churn to be easily operated by either a child or an adult. The section 29 is provided at intervals with perforations 31, and the end bar 11 is also provided with perforations 32, corresponding with the perforations 31 and adapted to receive a bolt 33, by which the operating-lever is pivotally mounted on the upright portion of the supporting-frame. The bolt is adapted to be arranged in the different perforations to change the fulcrum-point of the lever. The section 29 is provided at its inner edge with a longitudinal tongue 34, and the section 30, which is provided at its upper end with a handle or grip 35, has a longitudinal slot 36 for the reception of the tongue. The two sections 29 and 30 are connected by bolts 37, which pass through the slot 36 of the section 30 and which pierce the other section. The bolts are provided with suitable clamping-nuts, and washers are preferably interposed between the nuts and the parts, which are preferably constructed of wood, but which may be constructed of any other suitable material. The adjustment of the fulcrum of the lever does not affect the position of the connecting-bar, which always remains in substantially a horizontal position in alinement with the slide. When it is desired to shorten the operating-lever without correspondingly changing the leverage, the pivot-bolt 33 is placed in one of the upper perforations, and by this construction a child may operate the churn as easily as an adult. When the operating-lever is oscillated and the slide reciprocated, the dasher-shaft will be rapidly rotated. This will enable butter to be rapidly produced, and after the operation of churning has been completed the churn-body and the dasher may be removed to facilitate cleaning the parts, it being only necessary to clean the lower portion of the dasher, the churn-body, and the sectional covers.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a churn, the combination with a dasher-shaft having a pinion, and a slide having a rack-bar meshing with the pinion, of a connecting-bar extending from the slide, and an operating-lever pivoted to the connecting-bar and composed of independently-adjustable sections for varying the length of the operating-lever, the pivot of the latter being also adjustable for changing the position of the fulcrum.

2. In a churn, the combination of a frame provided at intervals with perforations, a dasher-shaft, a slide having means for rotating the dasher-shaft, a connecting-bar extending from the slide, and an operating-lever pivoted to the frame and composed of separate sections, one of the sections being provided with perforations corresponding

with those of the frame and adapted to receive the pivot thereof, and the other section being slidably connected with the section having the perforations and provided with means for securing it in its adjustment.

3. In a churn, the combination of a frame, a dasher-shaft, and operating mechanism therefor embodying an operating-lever composed of two sections, one of the sections being provided at intervals with perforations and having a longitudinal tongue, and the other section being slotted to receive the tongue, fastening devices operating in the slot and securing the sections together, and a pivot adapted to be arranged in the perforations of the lever.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

CHARLES S. WAYBRIGHT.

Witnesses:
JOHN H. SIGGERS,
MARY A. CROOK.