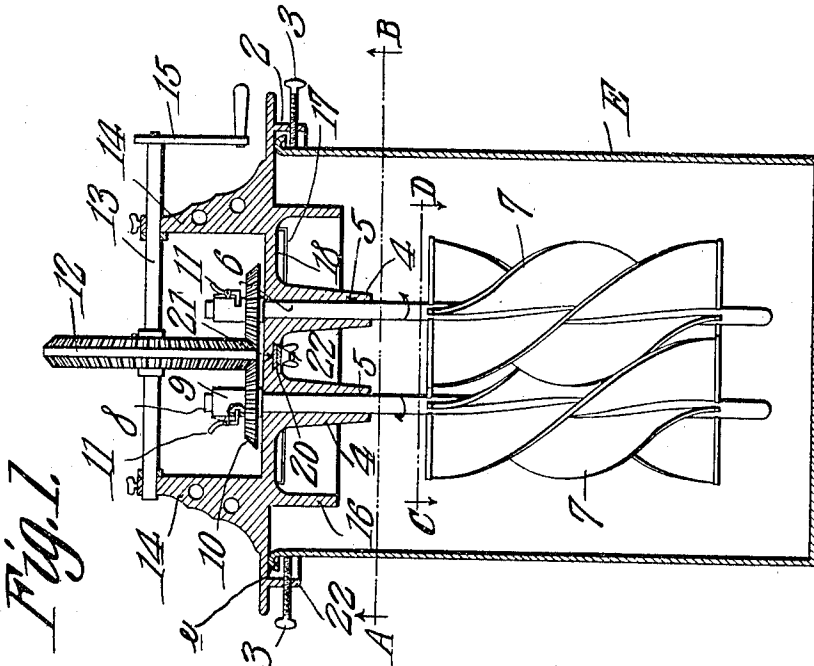
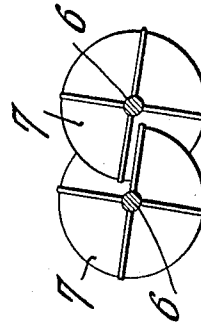
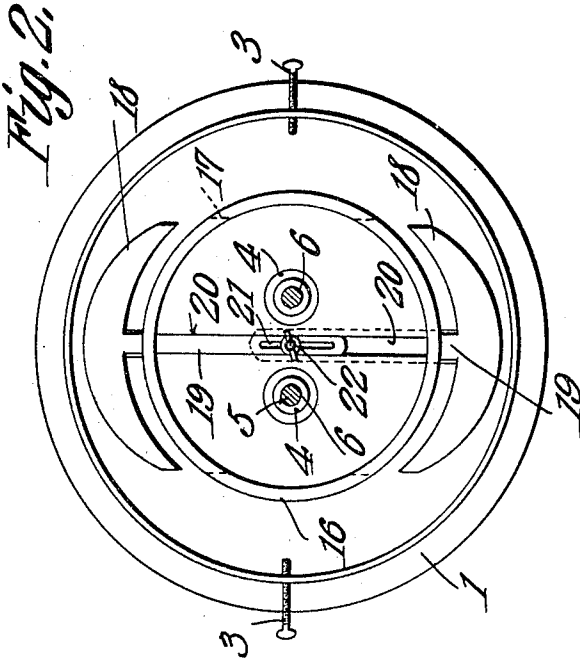


J. McLEAN.
CHURN.

APPLICATION FILED JUNE 7, 1909.

950,338.

Patented Feb. 22, 1910.



Witnesses

Robert Shawson

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UNITED STATES PATENT OFFICE.

JOHN McLEAN, OF CAMDEN, ALABAMA.

CHURN.

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Specification of Letters Patent. Patented Feb. 22, 1910.

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To all whom it may concern:

Be it known that I, JOHN McLEAN, a citizen of the United States, residing at Camden, in the county of Wilcox and State of Alabama, have invented a new and useful Churn, of which the following is a specification.

This invention relates to churns and more particularly to a cover and dasher attachment for churns.

The object of the invention is to provide a churn cover adjustable to churn bodies of different sizes, said cover being formed in practically a single piece and free of all depressions and the like in which undesirable substances might accumulate.

A still further object is to provide dashers of novel form designed to be rotated in opposite directions simultaneously and coöperating to quickly break up the cream globules.

A further object is to provide means for actuating the dashers, said means being of simple construction and the parts thereof being so assembled as to be readily disconnected for the purpose of thoroughly cleaning the same.

With these and other objects in view the invention consists of certain novel details of construction and combinations of parts hereinafter more fully described and pointed out in the claims.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings:—Figure 1 is a vertical section through a churn embodying the present improvements. Fig. 2 is a section on line A—B Fig. 1. Fig. 3 is a section on line C—D Fig. 1.

Referring to the figures by characters of reference E designates a churn body preferably cylindrical in form and provided with a retaining flange *e* at the upper end thereof.

The churn cover consists of a plate 1 having diametrically opposed ears 2 extending from the bottom face thereof, each of these ears having a set screw 3 extending there-through and designed, after the cover has been placed upon the churn body, to be screwed inwardly against the churn body to thus firmly bind thereon and assist in holding the cover in position. Extending downwardly from and formed integral with

the plate 1 are tubular bearing members 4 the bores 5 of which are parallel and disposed at equal distances from the center of the top or cover plate. Each of these bores has a dasher shaft 6 journaled within it, the lower portion of the shaft being provided with preferably four spiral blades 7, the corresponding ends of each set of blades being disposed along radial lines at right angles to each other. The blades upon the two shafts are so arranged that when the shafts are rotated in opposite directions the blades of one shaft will work between the blades of the other shaft and exert an upward action upon the liquid contents of the churn, said blades also serving to produce a beating action upon the said liquid contents. One or more notches 8 are formed in those portions of the shafts 6 which project above the plate 1, and detachably mounted upon the notched portion of each shaft is a sleeve 9 extending from a beveled gear 10. A spring-pressed locking lever 11 is mounted upon each sleeve and one end thereof is designed to project through the sleeve and into one of the notches 8 so as to thus lock the gear and its sleeve upon the shaft and prevent independent movement thereof. Two gears 10 of the shaft are disposed at opposite sides of and mesh with a two-faced master gear 12 which is carried by a drive shaft 13. Said shaft is journaled in the upper portion of standards 14 which are preferably formed integral with the plate 1, although they may if preferred be secured thereto in any suitable manner. A crank 15 may be arranged at one end of the shaft for the purpose of rotating the same, although any other suitable means may be utilized if desired.

Formed upon the lower face of the plate 1 and extending downwardly therefrom is a circular extension 16 which surrounds the bearing members 4 and is provided at diametrically opposed points with slots 17. These slots constitute guide-ways for arcuate clamping jaws 18, each of which has a stem 19 extending inwardly from the center thereof, said stems being dovetailed and the two stems lapping as clearly indicated in Figs. 1 and 2. These stems are slidably mounted within a dovetailed groove 20 extending diametrically within the bottom face of the plate 1 and both stems are slotted longitudinally as shown at 21, so as to re-

ceive a clamping screw 22, by means of which the jaws 18 may be secured in any position to which they may be adjusted.

In assembling the parts herein described the shafts are first inserted into the bores 5, after which the gears 10 are fastened upon the shafts and held by means of the locking levers 11. Shaft 13 and gear 12 are then placed in position, after which the jaws 18 are shifted radially so as to lie close to the inner surface of the wall of the churn body E when the cover is placed in position upon said body. These jaws 18 are held in adjusted positions by the screw 22. The cover 15 can then be placed upon the churn body and held by the screws 3 and the jaws 18 will of course hold the dashers properly centered within the body. When the master gear 12 is rotated the gears 10 will of course revolve in opposite directions and the spiral blades 20 will work between one another as indicated in Fig. 3, these blades serving to elevate the liquid contents of the churn body and at the same time beat such contents so as to quickly 25 break the globules.

It will of course be understood that by providing a cover such as herein described the same can be used in connection with churn bodies of different diameters and will 30 always be held properly centered thereon. Moreover, the parts are all mounted in such a manner as to be readily removable for the purpose of cleaning them, and there are no depressions or corners in which objectionable 35 matter may accumulate.

It is of course to be understood that various changes may be made in the construction and arrangement of parts without departing from the spirit or sacrificing the advantages 40 of the invention.

What is claimed is:—

1. In a churn the combination with a top plate and diametrically opposed inwardly directed clamping devices carried thereby, 45 of radially adjustable outwardly directed centering jaws upon the plate.

2. A churn cover comprising a plate, inwardly directed clamping devices carried thereby, radially adjustable outwardly directed centering jaws upon the plate, clamping device for locking both of said jaws 50 against movement, revoluble dashers journaled within and centered below the top plate, and means for simultaneously rotating the dashers in opposite directions. 55

3. In a churn a cover plate, oppositely disposed inwardly directed clamping devices carried thereby for engagement with the churn body, radially adjustable centering devices mounted upon the lower face of said 60 cover plate and shiftable outwardly into engagement with the churn body, stems extending therefrom and slidably engaging the plate, and means extending through the stems for securing the stems against movement. 65

4. In a churn a cover having depending tubular bearing members, a circular extension surrounding said members and integral with the cover, centering jaws slidably mounted 70 within the extension, stems integral therewith and slidably engaging the cover, means extending through the stems for holding the jaws against movement, and diametrically opposed clamping devices carried by the 75 cover.

5. In a churn, a cover, parallel dasher shafts mounted for rotation therein and extending therebelow, means for simultaneously rotating the shafts in opposite directions, and a series of spiral blades secured 80 upon each shaft, the blades on one shaft being movable between the blades on the other shaft and each of said blades being extended directly to its shaft. 85

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

JOHN McLEAN.

Witnesses:

WILL M. COON,
W. H. HOLT.