

No. 890,345.

PATENTED JUNE 9, 1908.

D. R. DRUMMOND.
CHURN.

APPLICATION FILED AUG. 13, 1907.

2 SHEETS—SHEET 1.

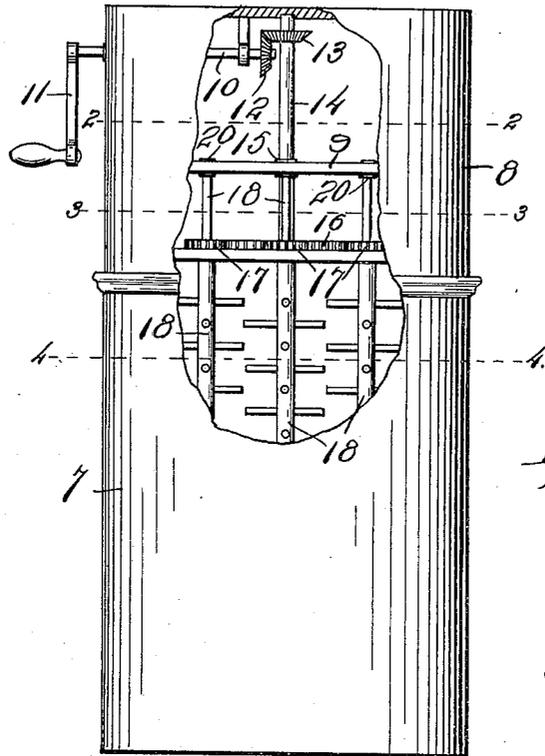
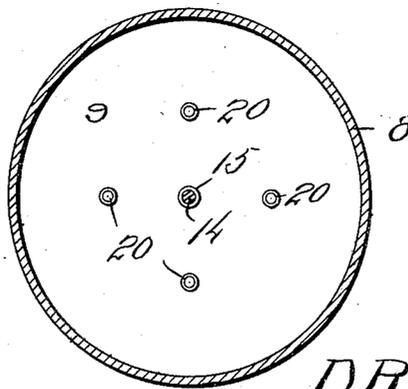


Fig. 1.

Fig. 2.



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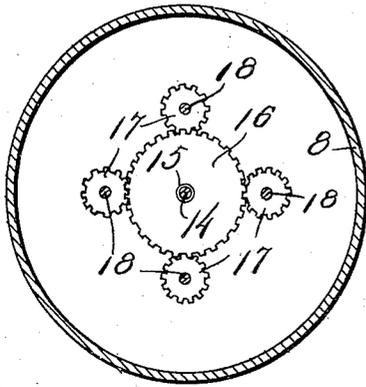


Fig. 3.

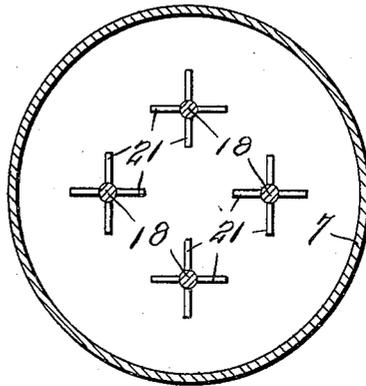


Fig. 4.

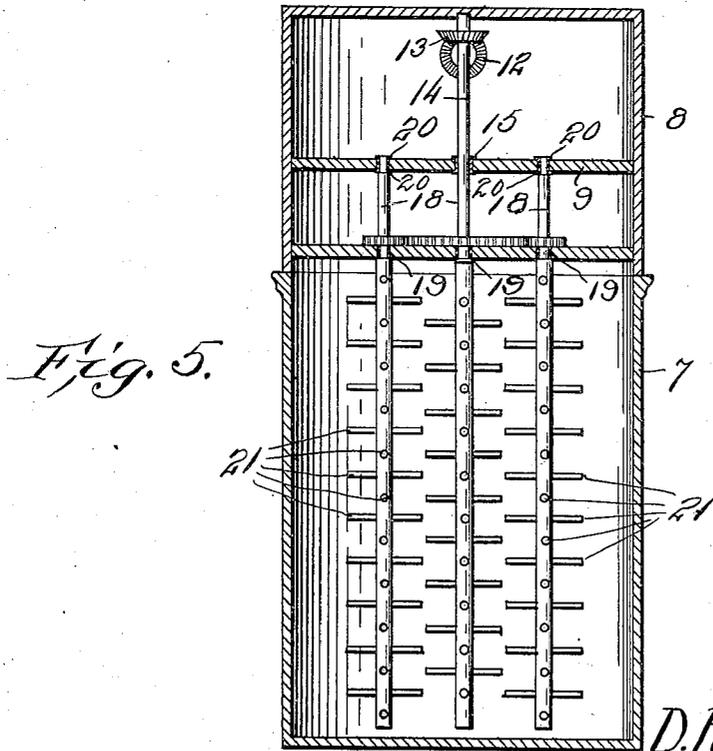


Fig. 5.

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UNITED STATES PATENT OFFICE.

DOVER R. DRUMMOND, OF ARBELA, MISSOURI.

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No. 890,345.

Specification of Letters Patent.

Patented June 9, 1908.

Application filed August 13, 1907. Serial No. 388,356.

To all whom it may concern:

Be it known that I, DOVER R. DRUMMOND, a citizen of the United States, residing at Arbela, in the county of Scotland, State of Missouri, 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.

The present invention has reference to churns, and it aims to provide an exceedingly simple, easy running, and efficient device of that nature which is adapted for use in connection with any churn body of conventional type, and which may be readily attached to and removed therefrom.

A further object of the invention resides in the provision of a churn in which the several dasher shafts are positively held against both lateral and endwise movement and in which the gears for effecting the rotation of the dasher shafts are inclosed by a dust-proof casing.

With the above and other ends in view the invention consists in the construction, combination, and arrangement of parts, all as hereinafter fully described, specifically claimed, and illustrated in the accompanying drawings, in which like parts are designated by corresponding reference numerals in the several views.

Of the said drawings, Figure 1 is a front elevation of the improved churn, a portion of the casing and of the churn body being broken away to illustrate the position of the various parts. Figs. 2, 3, and 4, are transverse sections taken respectively on the lines 2—2, 3—3 and 4—4, thereof. Fig. 5 is a longitudinal section through Fig. 1.

Referring more particularly to the drawings, the numeral 7 indicates a churn body having an open mouth directly over which is placed a cylindrical casing 8, closed at each end and provided with a horizontal partition plate 9 dividing the casing into an upper and a lower compartment. Disposed within the upper compartment is a horizontal shaft 10 which is journaled at one end in the side wall of the casing and at the other end in a depending bracket disposed therewithin said shaft extending beyond the casing at one end and being provided at such point with a crank portion 11 to serve as a handle. The shaft 10 is further provided with a gear 12 which

is located within the upper compartment of the casing and meshes with a gear 13 carried by a vertical shaft 14 adjacent the upper end thereof. This last-mentioned shaft, whose opposite ends are fitted in bearings set into the upper and lower ends of the casing, extends through a bearing sleeve 15 set into the partition plate. Said shaft is further provided with a second gear wheel 16 which is disposed within the lower compartment of the casing and meshes with a series of gears 17 carried by their vertical dasher shafts 18, the gears 16 and 17 being held upon their respective shafts by collars or other preferred means.

The ends of the various dasher shafts upon which the gears 17 are mounted are reduced slightly in thickness with respect to the body portion thereof, said reduced portions extending through bearing-sleeves 19 set into the partition plate and into the lower end of the casing. The upper end of each dasher shaft is provided in addition, with a pair of collars 20 which are disposed adjacent the opposite faces of the partition plate and thus prevent any endwise movement of said shafts. It will likewise be apparent that any lateral or sidewise movement of the dasher shafts is prevented by their passage through the pairs of bearing-sleeves 19.

The body portion of each dasher shaft is provided with a series of laterally projecting fingers 21 which are preferably arranged in staggered relation to each other.

From the foregoing description it will be apparent that the entire churning mechanism may be readily and quickly disposed upon or removed from any ordinary receptacle which is used as the churn body; the disposition of the several gears, by means of which the rotation of the dasher shafts is effected, within the casing, prevents the admission of the lubricant for the gears into the churn body.

What is claimed, is,

The combination, with a churn body, of a removable cylindrical casing disposed directly upon the mouth of the churn body and closed at opposite ends; a stationary horizontal partition plate disposed within the interior of the casing and dividing the latter into an upper and a lower compartment; a vertical shaft journaled at opposite ends in said casing and extending intermediate its ends through an opening formed in said partition plate; a gear carried by said

shaft and disposed within the lower compartment; a series of vertical dasher shafts having their upper ends extending through alining openings formed in the lower end of
5 the casing and in the partition plate, each dasher shaft being provided with a gear in mesh with said first-mentioned gear; a pair of collars carried by each dasher shaft and disposed against opposite faces of said par-

partition plate for preventing endwise movement of said shaft; and means for rotating said vertical shaft. 10

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

DOVER R. DRUMMOND.

Witnesses:

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