

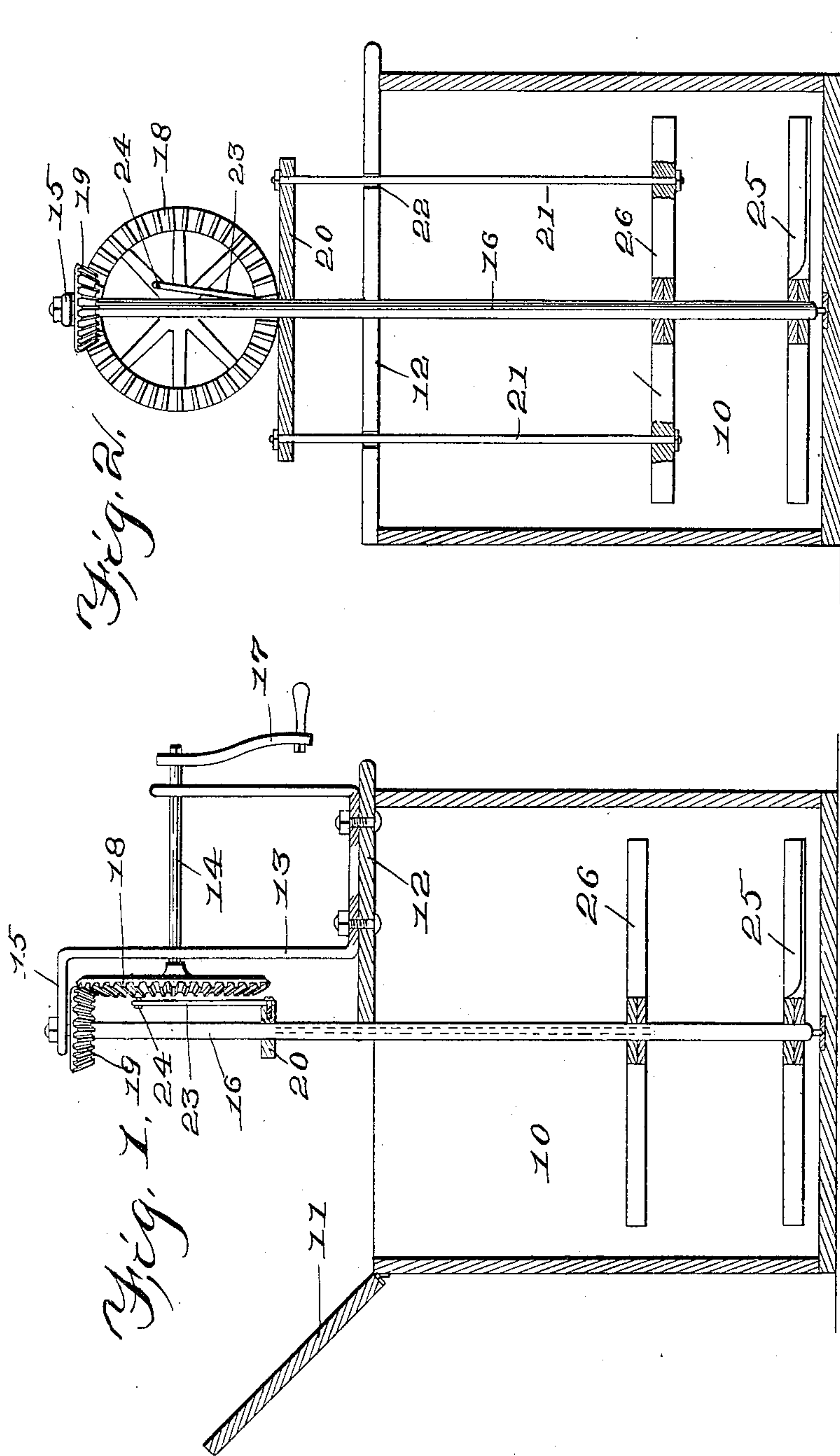
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F. H. BOGGESS, SR.
CHURN.

(Application filed Aug. 12, 1899.)

(No Model.)



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UNITED STATES PATENT OFFICE.

FLETCHER H. BOGGESS, SR., OF DEXTER, IOWA.

CHURN.

SPECIFICATION forming part of Letters Patent No. 658,421, dated September 25, 1900.

Application filed August 12, 1899. Serial No. 727,028. (No model.)

To all whom it may concern:

Be it known that I, FLETCHER H. BOGGESS, Sr., a citizen of the United States, residing at Dexter, in the county of Dallas and State of Iowa, have invented certain new and useful Improvements in Churns, of which the following is a specification.

This invention relates to that class of churns having a vertical rotatable shaft, a dasher fixed to said rotatable shaft, a reciprocating dasher mounted on said rotatable shaft, and means for driving both the rotary and reciprocating dashers from the same driving means.

The object of my invention is to provide a churn of this class of simple, strong, durable, and inexpensive construction, in which the means for imparting a reciprocating motion to the sliding dasher shall be so arranged as to prevent rotary motion of the shaft from imparting twisting strains in a lateral direction upon the reciprocating dasher, and at the same time to provide a churn-cover so tight as to prevent the passage of the contents of the churn upwardly through the cover; also, to provide a cover by which access may readily be had to the interior of the churn.

My invention consists, essentially, in the arrangement and combination, with a driving means, a rotary dasher, and a reciprocating dasher on the rotary shaft, of a centrally-divided cover, a sliding cross-head on the rotary shaft above the cover, and connecting-rods passed through notches in the edge of one of the cover-sections and connected with the said cross-head above the cover and the reciprocating dasher below the cover to serve as guides and to prevent lateral movements of the reciprocating dasher, as hereinafter more fully set forth, pointed out in my claim, and illustrated in the accompanying drawings, in which—

Figure 1 shows a central vertical section of the complete churn. Fig. 2 shows a similar view taken from a point at right angles to said Fig. 1.

Referring to the accompanying drawings, I have used the reference-numeral 10 to indicate the churn-body, which is of the usual construction.

11 indicates the hinged section of the cover,

and 12 the fixed section. On the inner edge of the said fixed cover-section is a central notch to admit the passage of a vertical shaft. Mounted upon said fixed section is a bracket 13, made of a single piece of metal and having two uprights to support a rotatable horizontal shaft 14 and also having an extension 15 on one of the uprights to furnish a bearing for the vertical rotatable shaft 16. A crank 17 on one end of the shaft 14 provides means for applying power to the churn-dashers, and on the outer end of the shaft 14 is a bevel gear-wheel 19, meshed with the wheel 18, whereby the shafts are rotated in unison.

Upon the shaft 16 is a cross-piece 20, capable of a vertical movement, and on the ends of the said cross-piece are the rods 21, which project downwardly through the openings 22 in the fixed section of the cover. These rods serve the double function of connecting said cross-piece with the reciprocating churn-dasher and preventing the said dasher from rotating. A pitman 23 connects said cross-piece with the wrist-pin 24 on the bevel gear-wheel 18'.

Upon the lower end of the vertical shaft 16 a dasher 25 is fixed for rotation with the shaft, and above the said dasher a second dasher 26 is mounted for reciprocation, which dasher is fixed to the lower ends of the rods 21.

In practical use it is obvious that upon imparting a rotary movement to the crank the lower dasher is rotated and the upper one reciprocated. Furthermore, by means of the construction shown the fixed section of the cover serves to prevent rotation of the upper dasher, and access to the interior of the churn may be easily had by means of the hinged section of the cover without in any way interfering with the dashers. This simplicity of construction reduces the friction to a minimum, and yet the oppositely-moving dashers thoroughly agitate the cream, so that butter is produced very quickly with a small amount of applied power.

It is obvious, further, that the driving mechanism is firmly supported upon the churn, and yet access may be had to the interior of the churn without delay, and, further, that the bearings for the sliding rods of the reciprocating dasher can be easily cleaned.

It is obvious, further, that the rods 21 serve the additional function of guides, arranged to prevent lateral movements or twisting strains upon the reciprocating dasher. In devices of this class where the reciprocating dasher is mounted upon the rotary shaft and motion is imparted to the reciprocating dasher through a pitman it will be seen that if no means were provided for preventing lateral movement of the reciprocating dasher the twisting strains would fall upon the bearings of the pitman, hence causing them to bind and impairing their effective operation.

I claim as my invention—

15 An improved churn, comprising a churn-body, a cover-section secured to the body, and having a notch at the central portion of one edge and two notches on opposite sides thereof on the same edge, a hinged cover-

section to lie when closed close to the fixed 20 section, a bracket on the fixed section, a rotatable shaft supported in said bracket and in the bottom of the churn-body and passed through said central notch, a dasher fixed to the shaft, a second dasher slidingly mounted 25 on the shaft, rods fixed to the sliding dasher and passed upwardly through the remaining notches in the fixed cover, a sliding cross-head on the shaft above the cover and having said rods attached thereto a pitman con- 30 nected with the cross-head and means for rotating the shaft and reciprocating the pitman.

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