No. 770,401. PATENTED SEPT. 20, 1904.

H. A. THOMASSON.

CHURN.

APPLICATION FILED JAN. 28, 1904.

NO MODEL.

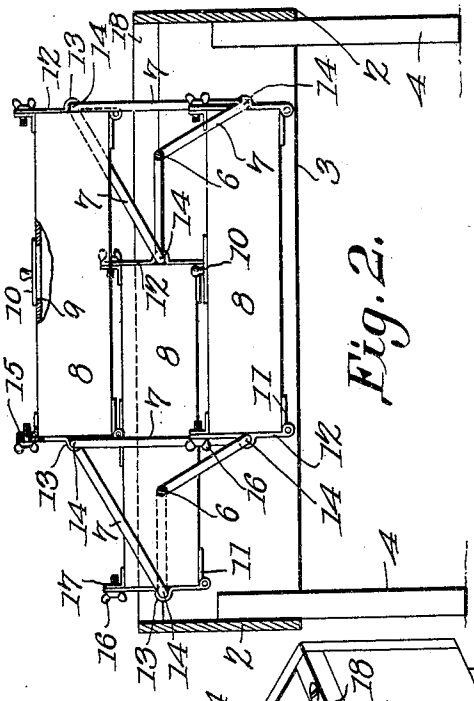

Fig. 2.

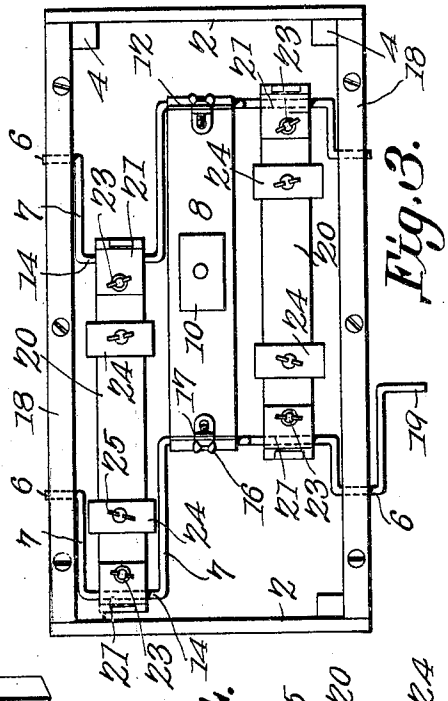

Fig. 3.

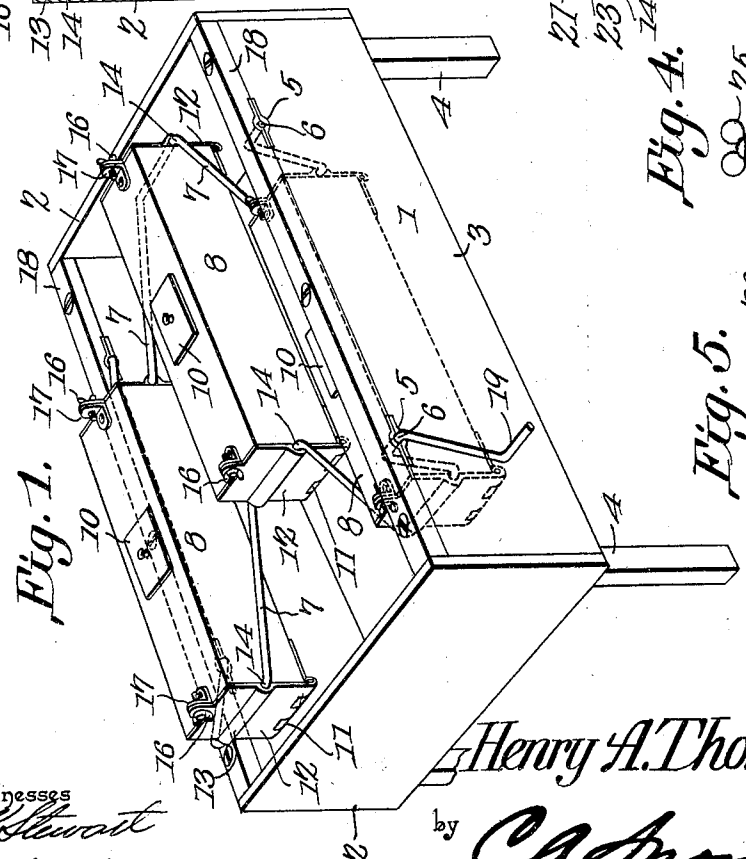

Fig. 1.

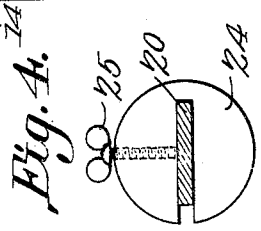

Fig. 4.

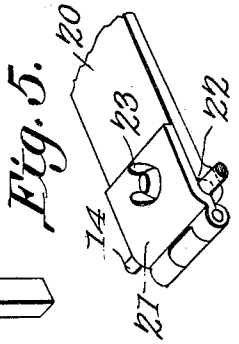

Fig. 5.

Witnesses
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No. 770,401. Patented September 20, 1904.

UNITED STATES PATENT OFFICE.

HENRY A. THOMASSON, OF WHATCOM, WASHINGTON, ASSIGNOR OF ONE-HALF TO CHARLES C. TAYLOR, OF WHATCOM, WASHINGTON.

CHURN.

SPECIFICATION forming part of Letters Patent No. 770,401, dated September 20, 1904.

Application filed January 28, 1904. Serial No. 191,051. (No model.)

To all whom it may concern:

Be it known that I, HENRY A. THOMASSON, a citizen of the United States, residing at Whatcom, in the county of Whatcom and State of Washington, have invented a new and useful Churn, of which the following is a specification.

This invention relates to certain improvements in churns, and more particularly to that class commonly known as "working-body churns."

One object of the invention is to provide a simple, inexpensive, and efficient device of this character capable of being easily operated and by means of which large quantities of milk or cream may be quickly churned in independent vessels driven from a common operating-shaft.

A further object of the invention is to provide a cranked supporting-shaft having a plurality of churn boxes or casings mounted thereon and spaced at uniform angular distances, so as to counterbalance each other, said churn-boxes being detachably mounted on the shaft to permit the same to be quickly removed when desired.

A still further object is to provide a coupling-bar adapted to connect the respective cranks of the operating-shafts when one or more of the churn-boxes are removed, said bar being provided with a series of removable weights adapted to counterbalance the remaining box or boxes.

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 form, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

In the accompanying drawings, Figure 1 is a perspective view of a churn constructed in accordance with my invention. Fig. 2 is a longitudinal sectional view of the same. Fig. 3 is a top plan view showing two of the churn-casings detached from the crank-shafts and the weighted connecting-bars secured in position thereon. Fig. 4 is a transverse sectional view of the connecting-bar, and Fig. 5 is a detail perspective view of the same.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

1 designates the frame of the churn, comprising the end beams 2 and longitudinal bars 3, to which are secured in any suitable manner uprights 4. Journaled in bearings 5 in the longitudinal bars 3 are supporting-shafts 6, the cranks 7 of which are angularly disposed with relation to each other and form hangers or supports for churn boxes or casings 8. The churn-boxes 8, which may be of any desired shape, are preferably rectangular in contour, as shown, and provided each with a central opening or orifice 9, through which the milk or cream is introduced, the filling-orifices being closed by suitable lids or covers 10. Secured to the opposite ends of the churn-boxes 8 and at the lower edge thereof are outwardly-extending ears or lugs 11, to which are pivoted in any suitable manner bearing-plates 12, provided with bearings 13, in which are journaled the crank-arms 14 of the cranks 7.

The bearing-plates 12 are provided with threaded openings 15, adapted to receive securing-bolts 16, which engage threaded lugs 17, secured to the top of the churn-boxes and by means of which said boxes are detachably supported on their respective cranks or hangers, as clearly shown in Fig. 1 of the drawings.

The crank-shafts 6 are secured in the bearings 5 by longitudinal retaining-strips 18, fastened in any suitable manner to the beams 2, and the terminal portion of one of said shafts is preferably bent to form a crank or handle, as shown at 19. The relative disposition of the supporting-shafts is such that when the churn-boxes are secured in position thereon one box will counterbalance the other, thereby equalizing the draft and rendering the churn easy of operation.

As a means for balancing the machine when but a single churn-box is employed I provide a coupling-bar 20, the opposite ends of which

are provided with hinged members 21, having bearings 22 formed therein adapted to receive the crank-arms 14, said bars being secured in position on the crank-arms by clamping-screws 23. Slidably mounted on the coupling-bar 20 are a series of removable weights 24, each provided with a clamping-screw 25, which engages the bar and prevents accidental displacement of said weights as the churn-boxes are rotated.

In operation the milk or cream is introduced in the different churn-boxes through the filling-orifices 9, after which the lids 10 are closed and the boxes rapidly rotated by turning the handle 19, which causes the milk or cream to be violently agitated, and thereby rapidly and effectively churned.

When it is desired to operate but a single churn-box, the side boxes are removed and the crank-arms 14 of the shafts 6 connected by the coupling-bar 20, the number of weights employed being in proportion to the amount of milk or cream being churned in the central box.

It is obvious the churn-boxes may be provided with one or more dashers or breakers, if desired, and the machine instead of being operated manually may be operated from any suitable source of power.

Having thus described the invention, what is claimed is—

1. A device of the class described comprising supporting-shafts each having a plurality of equidistantly-spaced cranks, and a plurality of churn-boxes mounted on said cranks and arranged to counterbalance each other.

2. A device of the class described comprising a pair of supporting-shafts each having a plurality of equidistantly-spaced cranks, a plurality of churn-boxes detachably secured to said cranks, and means for counterbalancing said boxes.

3. A device of the class described comprising a frame, a pair of cranked shafts journaled in the frame, a plurality of churn-boxes removably mounted on the shafts, and a rod or bar provided with removable counterbalancing-weights adapted to connect said shafts.

4. A device of the class described comprising a frame, a pair of cranked shafts journaled in the frame, a plurality of churn-boxes provided with pivoted bearing-brackets adapted to receive the shafts, said boxes being spaced at uniform distances to counterbalance each other, and means for locking the bearing-plates in engagement with said shafts.

5. A device of the class described comprising a frame, a pair of cranked shafts journaled therein, a plurality of churn-boxes removably mounted on said shafts, a coupling bar or rod provided with hinged locking members adapted to connect the shafts, removable counterbalancing-weights carried by the rod or bar, and means for clamping the weights in position thereon.

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

HENRY A. THOMASSON.

Witnesses:
R. S. SIMPSON,
C. C. TAYLOR.