(No Model.)

J. W. MARTIN

CHURN.

No. 565,552. Patented Aug. 11, 1896.

Fig. 1.

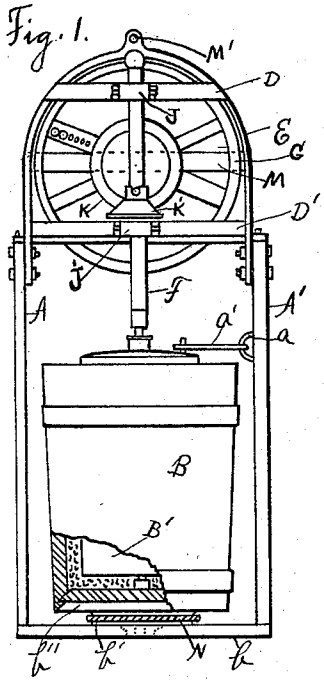


Fig. 2.

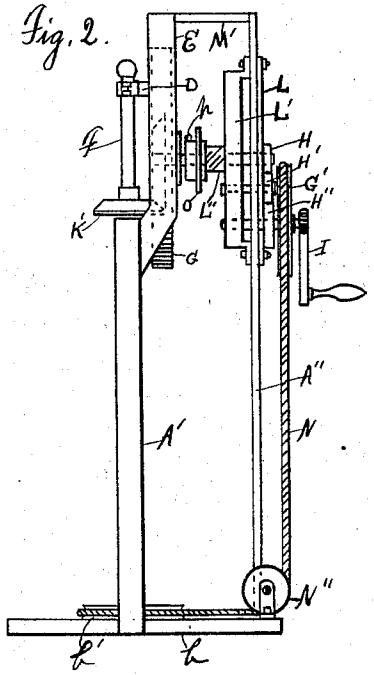


Fig. 3.

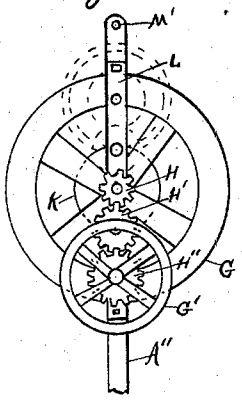


Fig. 8.

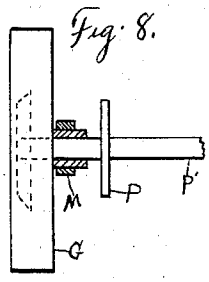


Fig. 4.

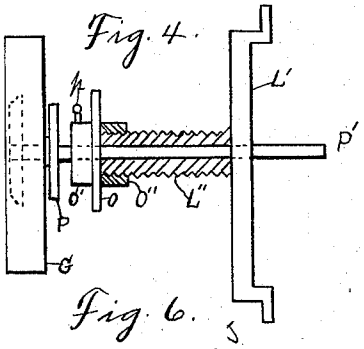


Fig. 5.

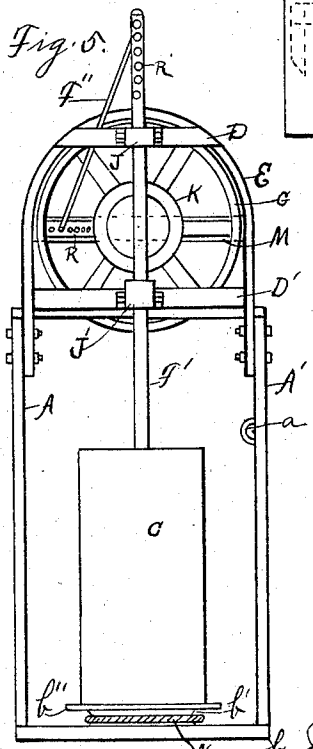


Fig. 6.

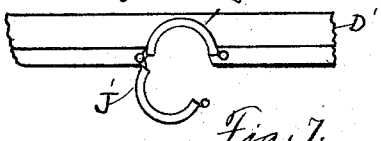
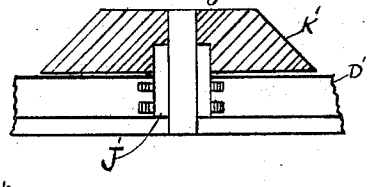


Fig. 7.



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Inventor,
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UNITED STATES PATENT OFFICE.

JAMES W. MARTIN, OF WEBB, TEXAS.

CHURN.

SPECIFICATION forming part of Letters Patent No. 565,552, dated August 11, 1896.

Application filed March 31, 1896. Serial No. 585,601. (No model.)

To all whom it may concern:

Be it known that I, JAMES W. MARTIN, a citizen of the United States, residing at Webb, in the county of Tarrant and State of Texas, have invented certain new and useful Improvements in Apparatus for Operating Churns and Freezers, of which the following is a specification.

My invention relates to improvements in driving mechanism for churns and ice-cream freezers; and it consists in features of novelty and details of construction hereinafter fully described, and pointed out in the claim.

Reference is had to the accompanying drawings, forming a part of this specification.

Figure 1 is a side elevation of my invention, showing the apparatus as used for operating an ice-cream freezer. Fig. 2 is a front elevation of the driving mechanism. Fig. 3 is a side elevation of the drive-wheels and connecting-cogs. Fig. 4 is a detailed view of mechanism for controlling the drive-wheel and the beveled friction-wheels. Fig. 5 is a side elevation of the apparatus as used for operating a churn. Fig. 6 is a detailed view of the bracket-hinge for holding the agitator in place. Fig. 7 is a detailed view showing a section of the lower beveled friction-wheel and the bearing for same. Fig. 8 is a detailed view partly in section.

Similar characters of reference indicate the same parts throughout the several views.

The apparatus is mounted on a suitable frame consisting of bottom *b*, uprights A A′ A″, cross-pieces D, D′, and M, and arch E. The arch E, cross-pieces D, D′, and M may be cast in one piece of metal and bolted to the uprights, as illustrated. The driving mechanism for a churn consists of drive-wheel G, for operating the agitator F′, a cog H, mounted on the same shaft, a drive-pulley G′, a crank I, and cog H″, all mounted on one shaft, and intermediate or connecting cog H′, meshing with cogs H and H″, and a base-pulley *b′*. A pitman-rod F″ connects drive-wheel G and agitator F′ by means of holes R′ in the agitator-handle and holes R in one of the spokes of wheel G. The pulley N runs under two small guide-wheels N″, mounted on the bottom part of the frame. A rotating platform B″ is mounted just above base-pulley *b′*. By the mechanism thus described a rotary motion is given to the churn C, and a vertical motion is given to agitator F′.

Plates L and L′ are attached to upright A″, and constitute bearings for the three shafts of the driving mechanism. The plate L′ holds the shafts steady and prevents a wabbling motion of same. I have provided means by which the device can be operated by a person sitting down or standing up. Holes are made in plates L L′ and upright A″ above cog H. Cog H′ and H″ and pulley G can be placed above cog H, in the position indicated by dotted circles. The additional mechanism for operating an ice-cream freezer consists of the beveled friction-wheels K and K′ and shaft F. Beveled wheel K is made rigid with drive-wheel G, and wheel K′ is mounted on shaft F. This shaft is coupled to a freezer in any suitable way.

In order to prevent the friction-wheel K′ from bearing too heavily against shaft F, I provide bearings for this shaft, which may be cast with cross-pieces D and D′, or they may be cast separate and welded to these pieces. The bearing mounted on D′ extends above D′, and the beveled wheel K′ has a bearing on this extended part, as illustrated in Fig. 7.

Bracket-hinges J and J′ are attached to these bearings, as illustrated in Figs. 6 and 7, so that the shafts may be easily removed. I provide means for keeping wheel K pressed against wheel K′. Wheel K being rigid with wheel G, it is only necessary to put pressure against wheel G. The hub of wheel G extends through cross-piece M. I put a washer P on the shaft with wheel G. The plate L′ has a sleeve L″, which is threaded exteriorly. The driving-shaft P′ runs in this sleeve. A nut O″, made rigid with a hand-wheel O, operates on this sleeve. By means of the hand-wheel the nut can be driven against washer P as hard as desirable, and held there by a set-screw *p*. (See Fig. 4.) A cross-piece M′ holds the upright A″ and the arch E rigid.

In order to prevent the cream-can from turning with the agitator, any suitable device may be used, as the link *a′*, attached to one of the uprights by a staple *a* and put over a pin or projection on the cream-can.

It will be seen that a rotary motion can be

given to the vessel B and an opposite rotary motion given to the cream-agitator.

The churn and the freezer can be used alternatively by simply changing the shafts and the lower beveled friction-wheel.

It will be noticed that the holes R and R′ are made very close together. This makes the mechanism for churning perfectly adjustable to different quantities of milk. The several parts may be made of any suitable material.

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

In an apparatus for operating churns and ice-cream freezers the combination of bottom *b*, uprights A, A′, and A″, arch E, cross-pieces D, D′, and M, and M′, shaft P′, mounted in cross-piece M′, and in upright A″, wheel G, and beveled wheel K, mounted on said shaft, plates L, and L′, attached to upright A″, sleeve L″, rigid with plate L′, nut O″, and hand-wheel O, operating on said sleeve, cog H, mounted on shaft P′, drive-pulley G′, and cog H″, mounted on a suitable shaft having bearings in said plates, cog H′, mounted on a suitable shaft and meshing with said cogs H, and H′, base-pulley *b*′, guide-pulleys N″, belt N, operating on said pulleys and on said wheel G′, a revolving platform *b*″, mounted above said base-pulley, suitable shafts and connecting devices for connecting said mechanism to churns and freezers, and bracket-hinges J, and J′, whereby said shafts can be inserted and removed, substantially as described.

In testimony whereof I have hereunto set my hand this 27th day of March, 1896.

J. W. MARTIN.

Witnesses:

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R. H. GORGAS.