

No. 750,380.

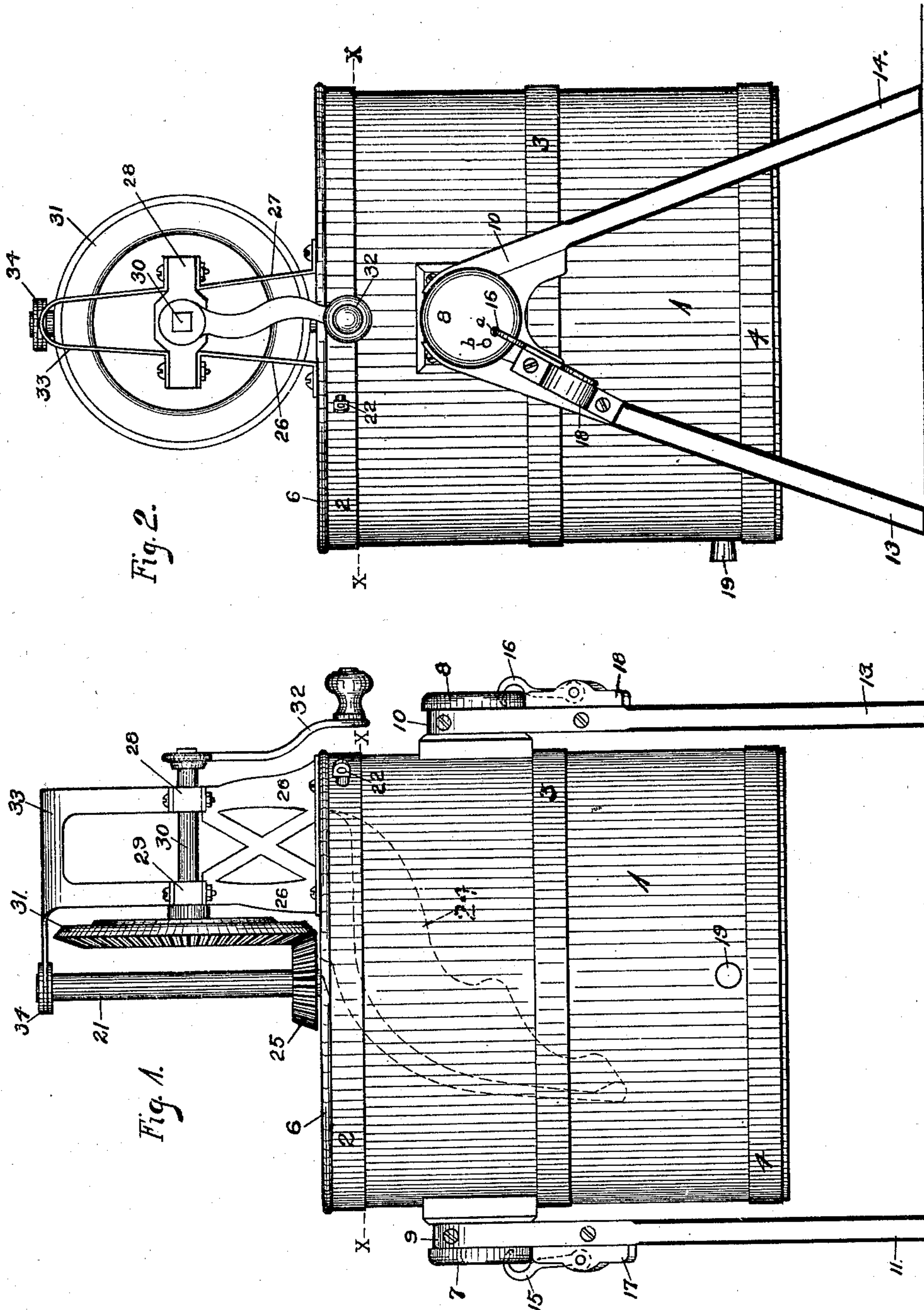
PATENTED JAN. 26, 1904.

J. S. LINDQUIST.
CHURN.

APPLICATION FILED MAY 18, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



WITNESSES:

Edwin C. Dyer.
Herbert R. Marlatt.

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INVENTOR.

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ATTORNEY.

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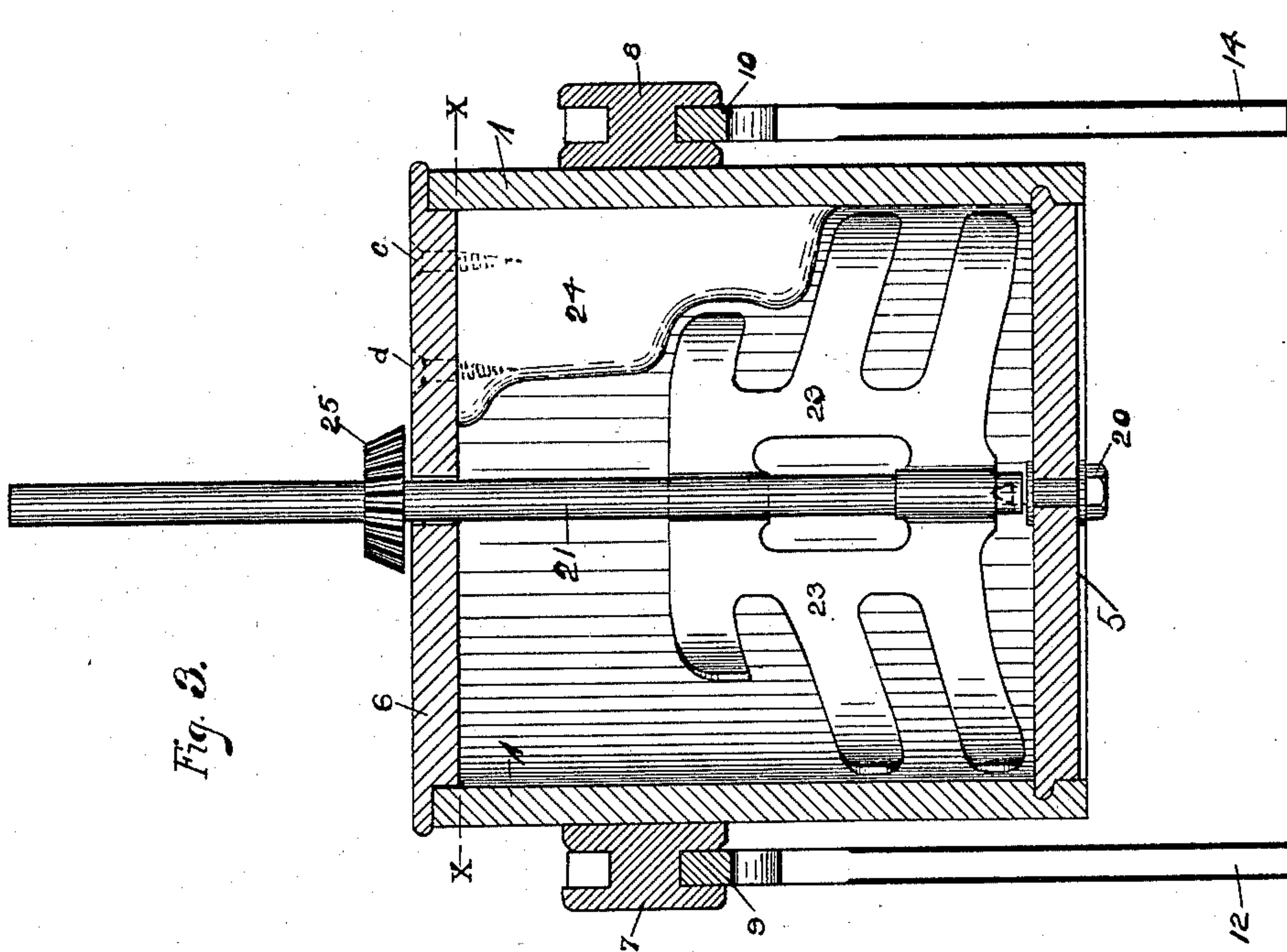
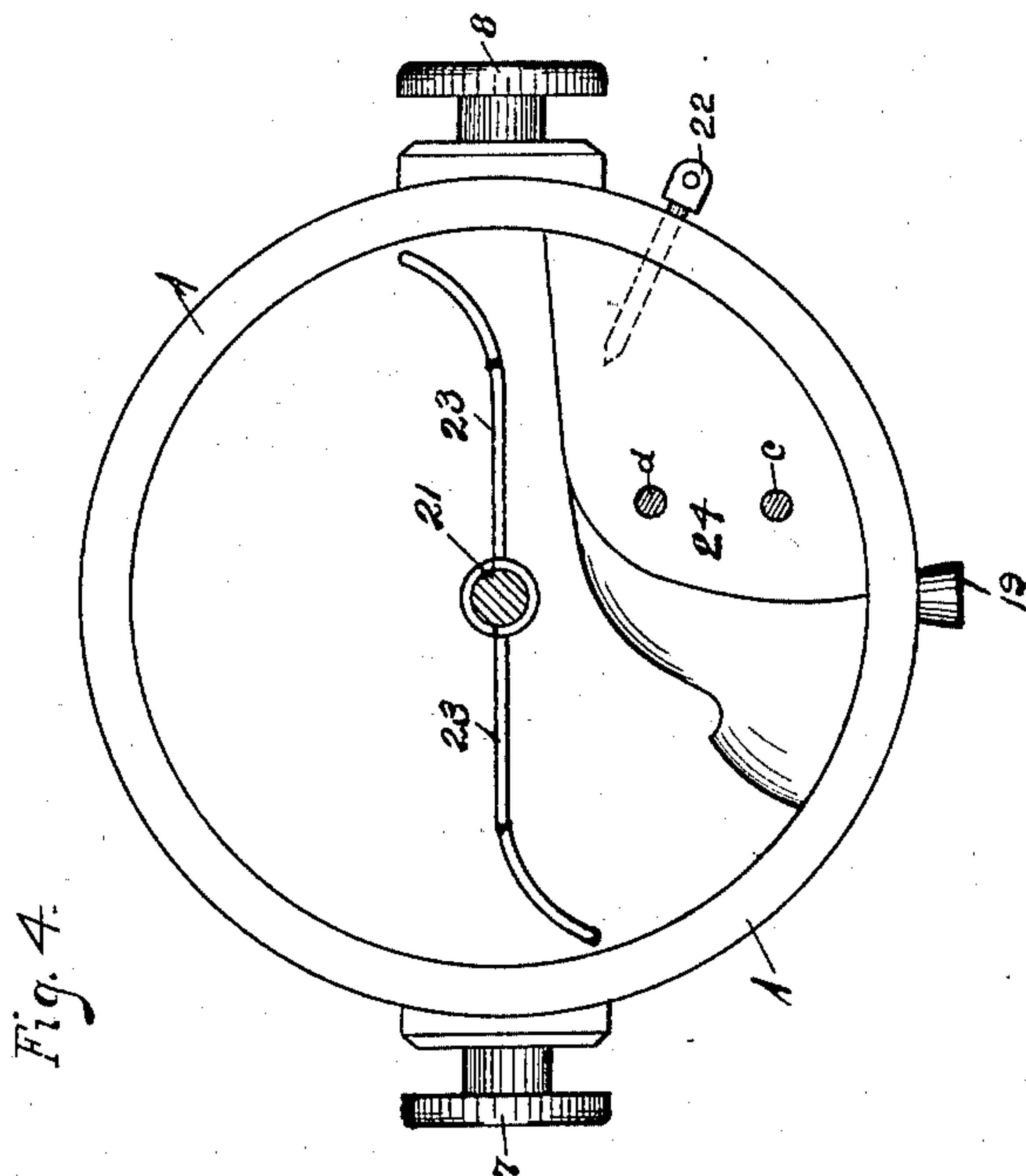
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2 SHEETS—SHEET 2.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JOHN S. LINDQUIST, OF SWEDEBURG, NEBRASKA.

CHURN.

SPECIFICATION forming part of Letters Patent No. 750,380, dated January 26, 1904.

Application filed May 18, 1903. Serial No. 157,695. (No model.)

To all whom it may concern:

Be it known that I, JOHN S. LINDQUIST, a citizen of the United States, and a resident of Swedeburg, in the county of Saunders and State of Nebraska, (whose post-office address is Swedeburg, Nebraska,) have invented certain new and useful Improvements in Churns, of which the following is a complete specification, which when taken in connection with the accompanying drawings, forming a part thereof, is sufficiently clear and concise to enable others skilled in the art to which it appertains to make and use the same.

In this invention my object, broadly speaking, is the provision of new and novel devices and operations in churns and to generally improve the construction and operations thereof.

Another object is the provision of a churn in which a maximum of mechanical efficiency will be developed with a minimum of power applied and at the same time providing a churn composed of a minimum of mechanical parts consistent with the work which it is adapted to perform which will be neat, artistic, and attractive in appearance, compact and symmetrical in proportions, strong and durable in construction, positive in action, and capable of a wide scope of usefulness and efficiency.

Another object is the provision of a churn composed of interdependent and coöperating elements so arranged and combined as to produce an unvarying, uniform, and perfect product and at the same time performing the work more rapidly than has heretofore been attained.

Other objects and specific advantages of my invention will appear from the following specification, from the accompanying drawings, and as colligated in the claims hereunto appended.

In carrying out the general objects referred to by the construction and arrangement constituting the present invention I arrange the various devices and parts and the several elements in approximately—that is to say, substantially—progressive succession—that is to say, that at one operation and with but one movement of the operator to produce the predetermined result and without substantial or

prolonged intervals between any two general effects.

My invention consists in a churn embodying new and useful features and details of construction and relative disposition of the several parts, substantially as particularly described otherwheres in this specification and in the legitimate combinations herein set forth.

One manner of carrying out my invention and that which in practice has been found most desirable is illustrated in the accompanying drawings, in which—

Figure 1 shows an elevation of one side of my churn. Fig. 2 shows an elevation of my churn, taken at right angles to Fig. 1. Fig. 3 is a central vertical longitudinal section of my churn, showing the dasher and the breaker in elevation. Fig. 4 is a top plan of my churn, the lid being removed, taken on the line X X of Figs. 1, 2, and 3.

Similar indices refer to and denote like parts throughout the several views.

In the drawings the numeral 1 denotes the perpendicular sides or body of my churn, formed round and of any suitable material. When constructed of staves, it is bound together by hoops, as 2, 3, and 4, and is provided with a permanent bottom 5, Fig. 3, and a removable two-part top is represented by the numeral 6. Secured opposite each other to the upper portion of the wall of the tub are the trunnions 7 and 8, consisting of circular blocks with channels cut into and around their peripheries.

The numerals 9 and 10 represent triangular blocks, with slots cut thereinto from the upper parts downward centrally, said blocks 9 and 10 being of a thickness the same as the width of the channels in the trunnions 7 and 8 and the slots in the blocks 9 and 10 being of a width the same as the peripheries of the trunnions 7 and 8 at the bottom of the channels therein. Extending downward from each of the lower points of the blocks 9 and 10 are the legs 11 and 12 from the block 9 and 13 and 14 from the block 10. It will now be seen that the churn-body may thus be suspended and caused to swing supported by the legs, substantially as shown.

In order to secure the churn-body in either a perpendicular or tilted position, I employ hooks 15 and 16, pivoted to and carried by blocks 17 and 18, which blocks are secured to the upper portions of the legs on opposite sides of the churn, as shown. In the ends of the hangers 7 and 8 are formed holes, as *a* and *b*, into which the points of said hooks may enter, as shown in Fig. 2. The churn is secured in a perpendicular position, as shown in Fig. 2; but should the hooks be disengaged from the holes *a* and the churn tilted slightly the points of the hooks may then be entered in the holes *b*, which will lock the churn in a tilted position.

In the lower portion of one side of the body of the churn I form an exit-hole, closed by a stopper or cork, (represented by the numeral 19.)

In the center of the bottom I form a vertical hole, into which I secure a pivot 20, to carry and journal the lower end of the shaft 21, said shaft 21 extending upward centrally through the body of the churn and the lid 6.

The numeral 22 represents a pin, of which there may be a plurality, adapted to be entered in corresponding holes in the upper edge of the body 1 and into the chime of the lid, substantially as shown in Fig. 4.

Secured to the lower portion of the shaft 21 is the agitator 23, formed, preferably, of comparatively thin metal, with curved oppositely-disposed sets of fingers integral thereof extending out therefrom, substantially as shown in elevation in Fig. 3 and in plan in Fig. 4.

Secured to the under side of one-half of the top of lid 6 by screws *c* and *d* is the breaker 24, the outer edge of which extends downward, adjoining the inner face of the tub 1, extending inward at the top to near the shaft 21, and from the latter point tapering downward and outward in a series of escallops, following somewhat the contour of the agitator 23 to the tub 1, substantially as shown in Figs. 1, 3, and 4.

Secured to the shaft 21, immediately above the lid 6, is a small bevel gear-wheel 25, by which the shaft 21 is revolved.

Mounted on top of the lid 6 is the mechanism for operating my churn, and consists of the two supports 26 and 27, attached to the lid 6 and carrying on their upper ends the boxings 28 and 29, in which latter parts is mounted the horizontal shaft 30, which extends through and beyond said boxings. On the inner end of the shaft 30 is secured the large bevel gear-wheel 31, which meshes at right angles with the small bevel gear-wheel 25, and on the outer end of the shaft 30 is secured the crank 32, by which the shaft 30 may be revolved by hand. Mounted on top of the boxings 28 and 29, extending upward to substantially the height of the wheel 31, is the

one-piece hanger 33, with an inward projection from its apex with a vertical opening therethrough, forming the bearing 34 for the upper end of the shaft 21.

From the above it will be apparent that as the crank 32 is turned the agitator 23 will revolve horizontally at a comparatively high rate of speed, breaking up the cream, forcing it outward, and carrying it against the breakers 24, by which the cream will be turned over and carried to the center, and thus every particle of the cream will be worked into a boiling dilanation and by which the particles of fatty matter will be segregated from the other residual constituents, and also I can increase the pressure on the cream by tilting the churn in the manner above indicated without additional effort in operation, which under some circumstances will be of great advantage. By tilting the churn to a certain position the breaker will gather and retain the bulk of the butter while the agitator cuts through it, thus forming a perfect butter-worker.

To make the operation more perfect, the churn should be thoroughly saturated on the inside with rosin, and this should be burned in with a hot iron or the like, which will render the inner surface of the churn more smooth and hard, giving it the quality of glass.

From the above description, taken in connection with the accompanying drawings, it will be seen that I have produced an improved churn embodying the objects elsewhere referred to in this specification.

While I have illustrated and described the best means now known to me for carrying out my invention, I wish it to be understood that I do not restrict myself to the exact details of construction shown and described, but hold that any slight changes or variations in such details as would suggest themselves to the ordinary mechanic would clearly fall within the limit and scope of my invention.

Having now fully shown and described my invention and the best means for its construction to me known at this time, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a churn having a round body with a removable two-part top, a shaft extending vertically therethrough with an agitator secured on the lower portion of said shaft and a breaker secured to the under side of the lid and corresponding with said agitator, a gear-wheel secured to said shaft above the lid of the churn, supports secured to and rising from the top of the churn, a pair of boxings carried on the upper ends of said supports, a horizontal shaft carried in said boxings, the inner end of said horizontal shaft carrying a bevel gear-wheel meshing at right angles with said gear-wheel on the main shaft, a crank mounted on the outer end of the horizontal shaft, a hanger rising from said boxings with an inward pro-

jection carrying a bearing for the upper end of the main shaft, all substantially as shown and described.

2. In a churn having a round body with a removable two-part lid, a pair of oppositely-disposed trunnions secured near the top on the outside of said body, a pair of triangular blocks adapted to fit in grooves in the periphery of said trunnions, each of said blocks having a pair of legs radiating therefrom, hooks pivoted to said legs and adapted to engage in holes in said trunnions, a shaft extending vertically through the interior of said body and pivoted in the bottom thereof, a bevel gear-wheel secured to said shaft above the lid, an agitator secured on the lower portion of said shaft, a breaker having a large upper end secured to one side of the under surface of said lid and extending down the interior of the

churn in a curve terminating in a point, supports secured to and rising from the lid, a pair of boxings carried on the upper ends of said supports, a horizontal shaft carried in said boxings, a bevel gear-wheel secured to the inner end of said horizontal shaft and meshing at right angles with said bevel gear-wheel on the main shaft, a crank mounted on the outer end of said horizontal shaft, and a bearing secured to said boxing for the upper end of the main shaft, all substantially as shown and described.

In testimony whereof I have hereunto signed my name to this specification in the presence of two subscribing witnesses.

JOHN S. LINDQUIST.

Witnesses:

J. J. JOHNSON,
J. S. BASTAE.