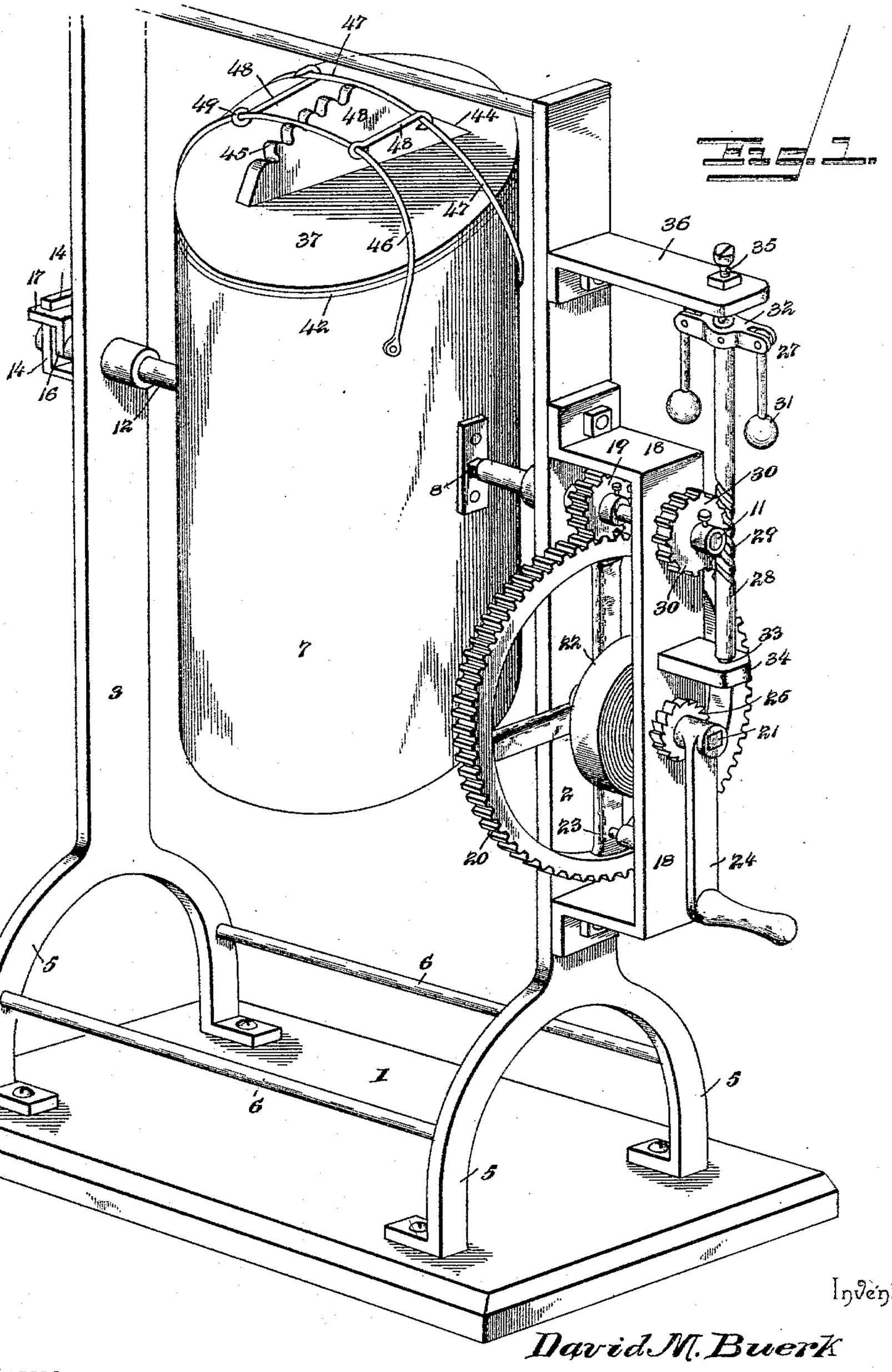
(No Model.) 2 Sheets—Sheet 1.

D. M. BUERK.

CHURN.

No. 561,652. Patented June 9, 1896.



Inventor

David M. Buerk

Witnesses
E. K. Stewart
J. F. J. Riley

By his Attorneys.

C. A. Snow & Co.

(No Model.) 2 Sheets—Sheet 2.

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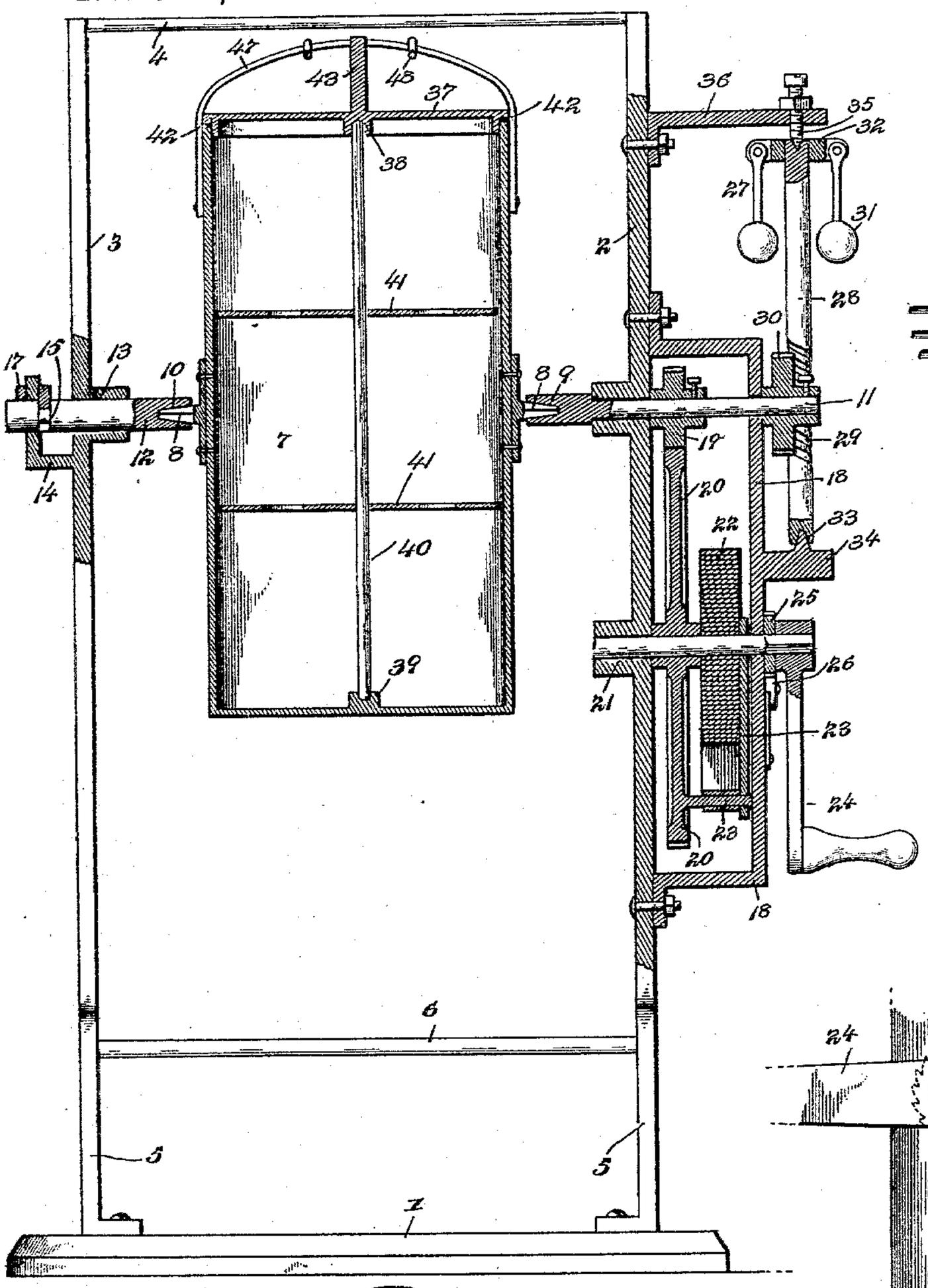

Fig. 2.

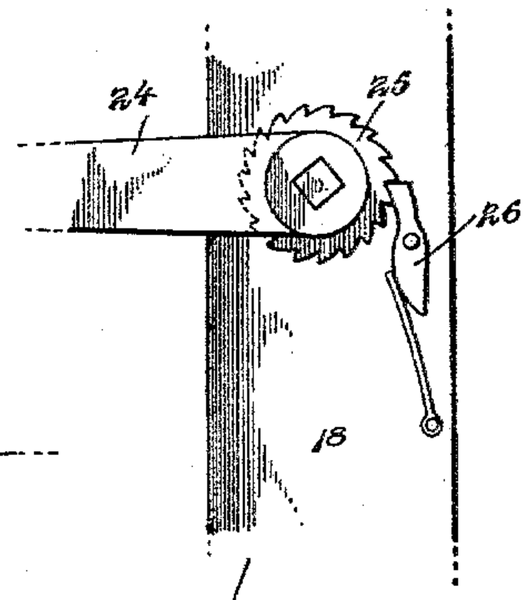

Fig. 3.

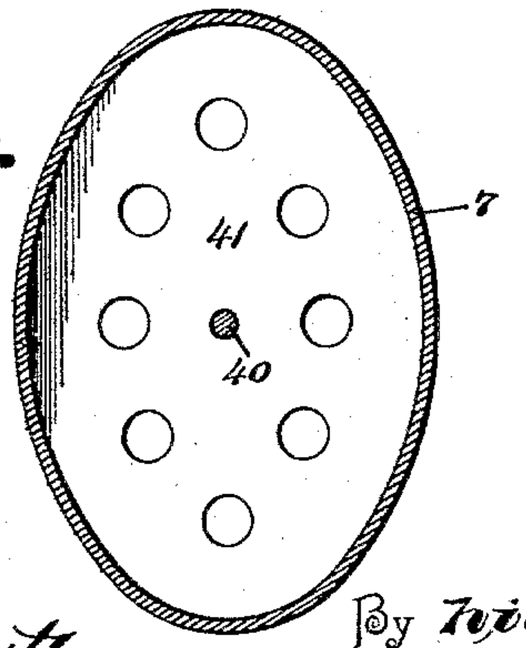

Fig. 4.

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UNITED STATES PATENT OFFICE.

DAVID M. BUERK, OF PARIS, MISSOURI, ASSIGNOR OF ONE-HALF TO FRANK O. COLLINS, OF SAME PLACE.

CHURN.

SPECIFICATION forming part of Letters Patent No. 561,652, dated June 9, 1896.

Application filed December 27, 1894. Serial No. 533,078. (No model.)

To all whom it may concern:

Be it known that I, DAVID M. BUERK, a citizen of the United States, residing at Paris, in the county of Monroe and State of Missouri, have invented a new and useful Churn, of which the following is a specification.

My invention relates to churns of the class known as "working body;" and it has for its object to provide simple and efficient means for securing the cover on the body to prevent the escape of the contents during operation, said means also facilitating the removal of the cover.

Further objects and advantages of this invention will appear in the following description, and the novel features thereof will be particularly pointed out in the appended claims.

In the drawings, Figure 1 is a perspective view of a churn constructed in accordance with this invention. Fig. 2 is a vertical sectional view of the same. Fig. 3 is a detail view of the pawl and ratchet of the winding-shaft. Fig. 4 is a horizontal sectional view of the receptacle or churn-body, illustrating the construction of the dasher.

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

1 designates a rectangular base, and secured to the same are vertical standards 2 and 3, which are connected at their upper ends by a transverse rod 4 and have their lower forked ends or feet 5 connected by transverse rods 6.

A receptacle churn-body 7 of cross-sectionally elliptical construction is journaled between the standards and is provided at opposite sides with tapering polygonal projections 8, fitting in sockets 9 and 10 of a shaft 11 and a movable journal 12. The movable journal 12 is mounted in a bearing 13 in one of the standards 3 and is supported at its outer end by an L-shaped bracket 14, located on the outer side of the standard. The journal 12 is provided between the standard and the upturned arm of the bracket with an annular groove 15, which is engaged by a holding-web 16, carried by a sleeve or collar 17, fitted on the vertical arm of the bracket 14. The depending web 16 is provided in its lower end with a curved notch or recess fitting in the annular groove 15, thereby detachably mounting the journal 12 to provide for dismounting the churn-body.

The shaft 11 is journaled in a bearing in the standard 2 and an alined bearing in a rectangular bracket 18, secured to the outer face of said standard, this shaft carrying a fixed pinion 19, which meshes with the master-gear 20, and the latter being loosely mounted on a winding-shaft 21, journaled in the standard 2 and the bearing-bracket 18. A barrel-spring 22 is secured to the winding-shaft 21 between the master-gear 20 and the vertical portion of the bearing-bracket with its outer terminal connected to the master-gear 20 by means of an L-shaped brace 23, extending from the master-gear to the winding-shaft. Said brace is in contact with the inner surface of the bracket 18 and supports the master-gear against lateral strain. The brace preferably consists of a pin extending outward from one of the spokes of the master-gear and a plate or bar secured to the outer terminal of the pin and extending therefrom to the winding-shaft. The winding-shaft has its outer terminal squared for the reception of a crank-handle 24 and is held against backward rotation by a ratchet-wheel 25 and an engaging spring-actuating pawl 26.

The speed of rotation of the churn-body is rendered uniform by means of a governor 27, comprising a vertical shaft 28, having a worm 29, a pinion 30, fixed to the shaft 11 and engaging the worm, and a pair of weighted arms 31, pivoted to a cross-head 32 and adapted to swing outward and retard the rotation of the shaft 28.

The vertical worm-shaft 28 is provided at its ends with conical sockets, of which the lower one receives the conical extremity of a stationary point 33 on an arm 34 of the bearing-bracket 18, and the upper socket receives the tapered extremity of an adjustable center or bearing-point consisting of a screw 35, mounted vertically above the shaft 28 in an arm 36 of the bracket.

The receptacle 7 has a cover 37, provided on its lower face with a socket 38 and fitted at its upper end therein and at its lower end in a socket 39. On the bottom of the receptacle is a dasher-stem 40, carrying perforated elliptical plates 41. As the receptacle is ro-

tated its contents are thrown from one end to the other, against the dasher-plates, and through suitable perforations therein. The cover 37 is provided with a depending flange to fit within the body and packing 42, of rubber or any suitable material for forming a tight joint. The cover of the receptacle is provided upon its exterior surface with an oppositely-beveled wedge 43, with which cooperate swinging bails 46 and 47, pivoted to the sides of the receptacle and adapted at their looped ends to traverse, respectively, the oppositely-inclined edges of the wedge. As the looped ends of the bails are drawn toward each other and slide upward upon said inclined edges the downward pressure upon the cover is increased, and in order to hold the bails at the desired adjustment I employ retaining-rods 48. These rods are constructed to slide at their opposite ends upon the bails, respectively, and they are arranged approximately parallel with the wedge-block. The pivotal ends of the bails are arranged at such an interval that the sides of the bails incline inwardly or toward each other toward their upper ends or toward their looped portions, and hence in order to increase the pressure on the cover the retaining-rods may be drawn outwardly or from each other toward the pivotal points of the bails. This movement has the effect of forcing the looped ends of the bails inward or toward each other, and hence nearer to the center of the wedge-block.

In practice I prefer to provide one of the inclined faces of the wedge-block with rounded depressions or corrugations 45 for engagement with one of the bails, said corrugations being designed solely to steady the engaged bail, and hence, through the retaining-rods, prevent vibration of either rod. These corrugations do not serve to lock the engaged bail against outward movement, as this is objectionable from the fact that they would interfere with the release and removal of the cover when desired. The retaining-rods are preferably provided at one end with an eye 49, which is permanently engaged with the bail 46, and at the other end with an open eye or hook to engage the bail 47, said open eye or hook being adapted to be disengaged to allow the removal of the bails from contact with the surfaces of the wedge-block.

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

Having described my invention, what I claim is—

1. The combination with a receptacle having a removable cover, of an oppositely-beveled exterior wedge-block carried by the cover, and having its faces inclined downward from a common central apex, bails pivoted at their extremities to the sides of the receptacle approximately opposite the ends of the block and adapted to swing toward and from each other at their looped ends said bails being inclined toward each other when their looped ends are in engagement with the faces of the wedge-block, holding-rods fitted terminally to slide upon the bails, respectively, upon opposite sides of and parallel with the wedge-block, whereby as the holding-rods are moved from the wedge-block or toward the pivotal points of the bails the looped portions of the bails are drawn toward each other to exert downward spring-pressure upon the wedge-block, substantially as specified.

2. The combination with a receptacle having a removable cover, of a beveled wedge-block carried by the cover and having its faces inclined downward from a central apex, bails pivotally mounted upon the sides of the receptacle and adapted at their looped ends to traverse, respectively, the inclined faces of the wedge-block, said bails being inclined inward or toward each other when their looped ends are in engagement with the wedge-block, and retaining-rods connecting and being mounted to slide upon the bails upon opposite sides of and parallel with the wedge-block to hold the looped ends of the bails in engagement with the wedge-block and to draw said looped ends inward as the rods are slid outwardly or from each other, each holding-rod being provided at one end with a closed eye which is permanently mounted upon one of the bails and at the other end with an open eye or hook for temporary engagement with the other bail, whereby the bails may be disconnected, substantially as specified.

3. The combination with a receptacle having a removable cover, of a beveled wedge-block carried by the cover and having its faces inclined in opposite directions from a central apex, bails pivoted to the sides of the receptacle and adapted at their looped ends to traverse the respectively-inclined faces of the wedge-block, said bails being inclined toward each other when their looped ends are in engagement with the wedge-block and holding-rods terminally mounted to slide upon the bails parallel with and upon opposite sides of the block to hold the looped ends of the bails in operative relation with the inclined faces of the wedge-block and draw them upwardly thereon as the holding-rods are moved outwardly or from the wedge-block, one of said inclined faces being provided with rounded depressions or corrugations 45 to receive the looped end of one of the bails, substantially as specified.

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

DAVID M. BUERK.

Witnesses:
T. T. RODES,
THOS. BUERK, Sr.