J. LIFE.

CHURN.

APPLICATION FILED OCT. 5, 1909.

966,455.

Patented Aug. 9, 1910

2 SHEETS—SHEET 1.

Fig. 1.

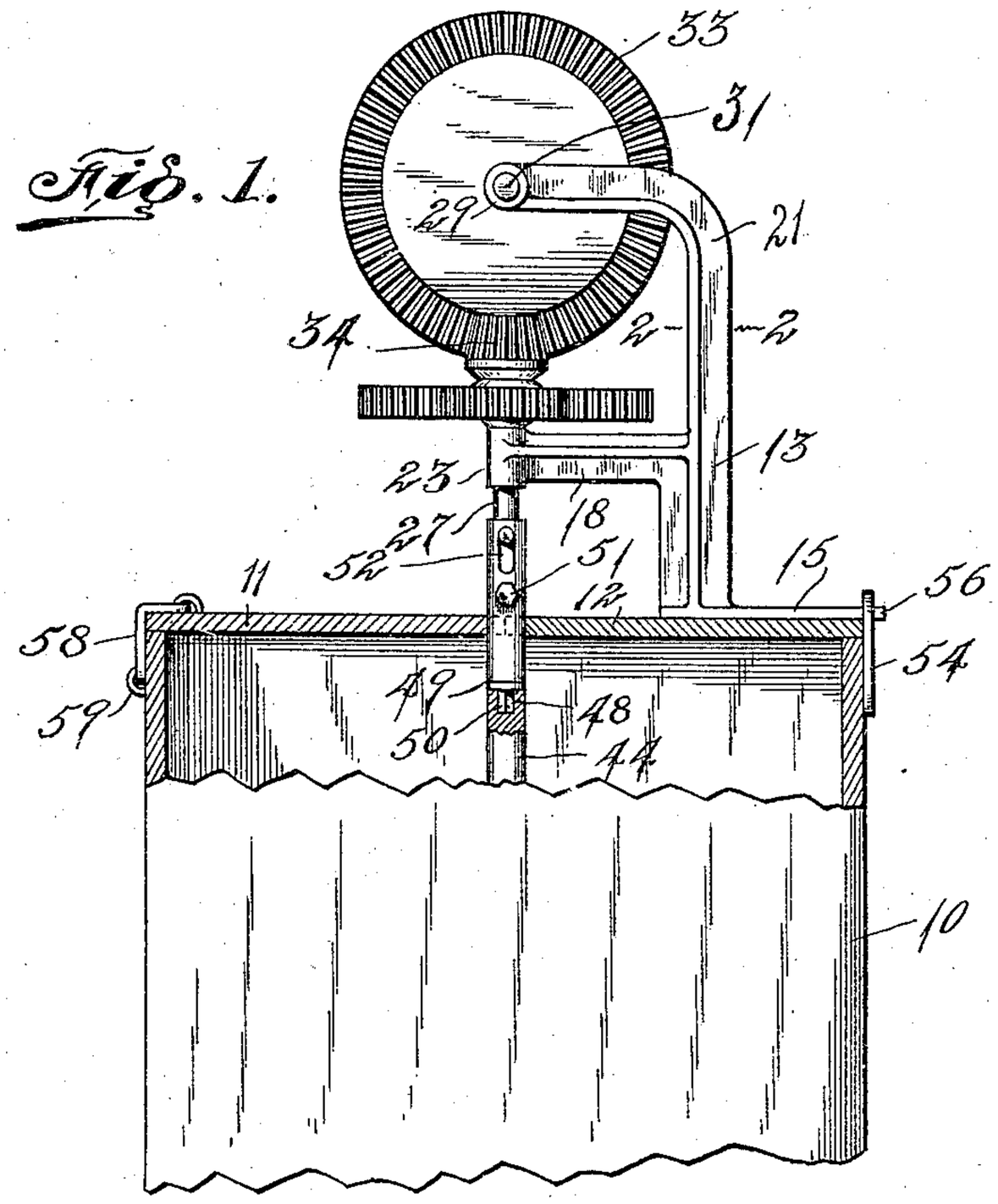
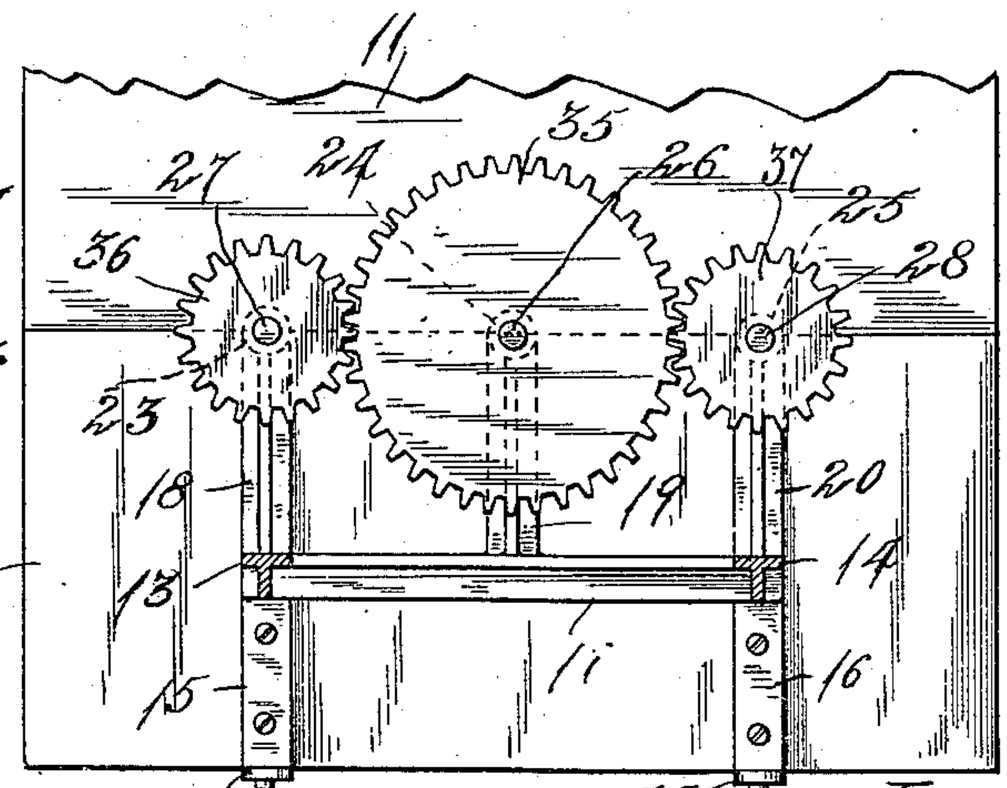


Fig. 2.



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2 SHEETS—SHEET 2.

Fig. 3.

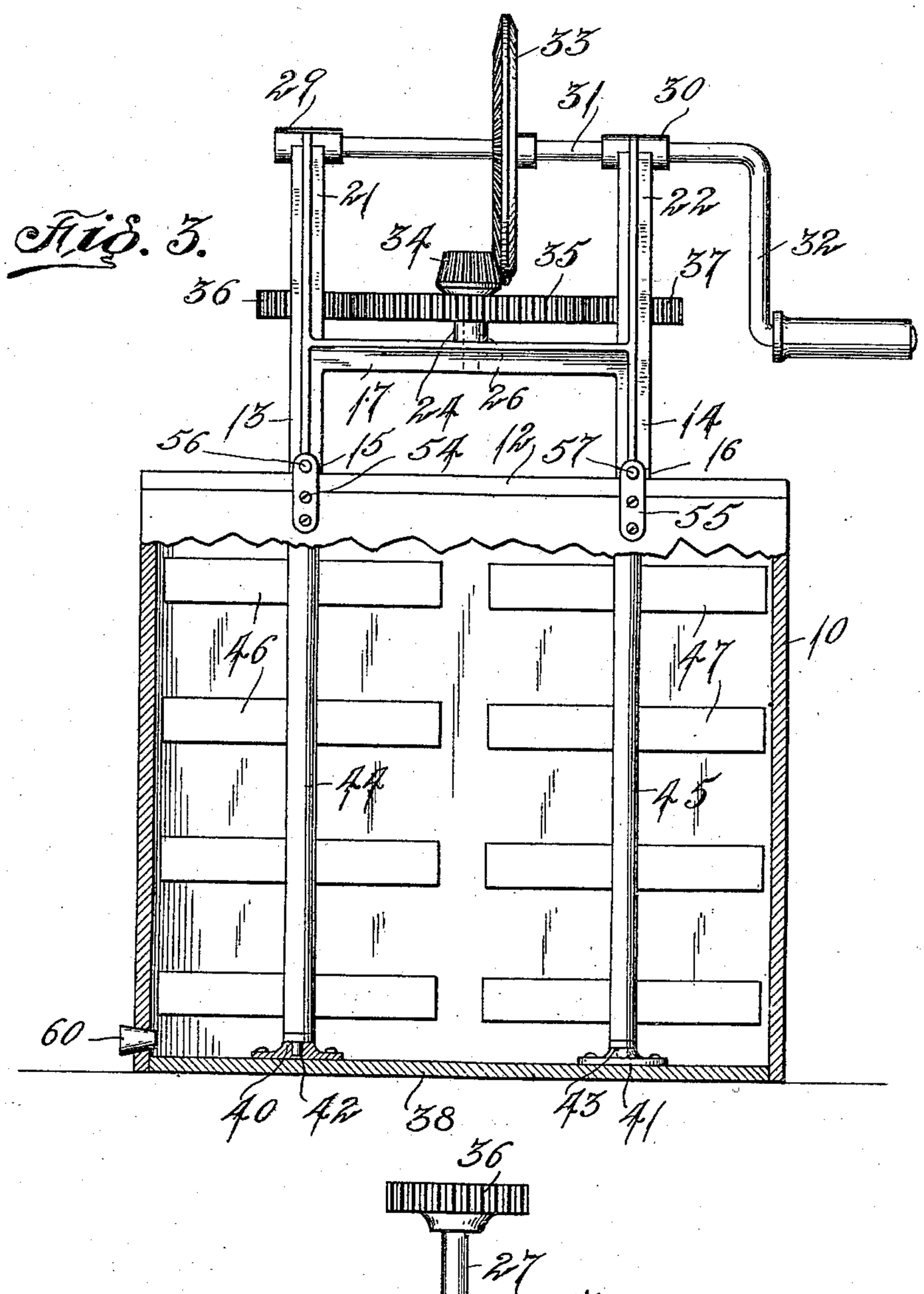
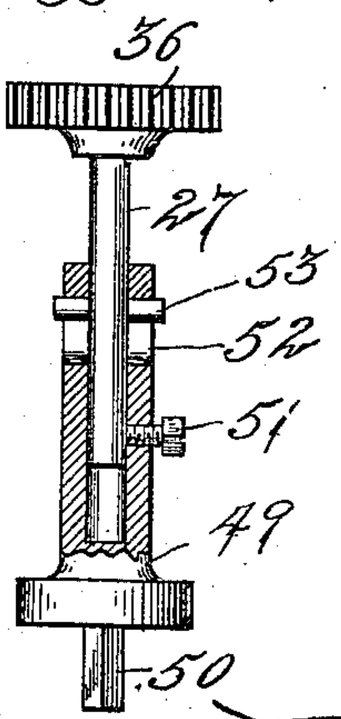


Fig. 4.



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UNITED STATES PATENT OFFICE.

JACOB LIFE, OF RIDGEVILLE, INDIANA.

CHURN.

966,455. Specification of Letters Patent. Patented Aug. 9, 1910.

Application filed October 5, 1909. Serial No. 521,121.

To all whom it may concern:

Be it known that I, JACOB LIFE, a citizen of the United States, residing at Ridgeville, in the county of Randolph, State of Indiana, have invented certain new and useful Improvements in Churns; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to churns, and has for one of its objects to improve the construction and increase the efficiency and utility of devices of this character.

With this and other objects in view, the invention consists in certain novel features of construction as hereafter shown and described and then specifically pointed out in the claim, and in the drawings illustrative of the preferred embodiment of the invention, Figure 1 is a side elevation, partly in section, of the improved device. Fig. 2 is a plan view of a portion of the same, with the upper portion of the frame in section on the line 2—2 of Fig. 1. Fig. 3 is a rear elevation with the churn body partly in section. Fig. 4 is an enlarged sectional detail of one of the coupling devices between the operating mechanism and the dasher members.

The improved device may be applied to churn bodies or receptacles of any required size or form, or to churn bodies constructed from any required material, but for the purpose of illustration is shown applied to a conventional churn body 10 of wood, which is rectangular in outline and with a two-part cover 11—12 divided centrally of the body, as shown.

Secured to the cover portion 12 is a frame formed with vertical standard portions 13—14 having rearwardly extending base members 15—16, the latter bearing upon the cover member 12 and secured thereto by screws or other suitable fastening means, as shown. The standard members 13—14 are coupled by a transverse member 17 and likewise provided with forwardly directed intermediate brackets 18—19—20 and forwardly directed arms 21—22 having vertical bearings 23—24—25. The bearing 24 is arranged to support a stub shaft indicated at 26, while the bearings 23—25 are designed to support stub shafts indicated at 27—28. Connected to the body or receptacle 10 are perforated ears 54—55, and extending from the base members 15—16 of the standards are studs 56—57 which pass through the ears 54—55, and thus couple the cover member 12 to the body or receptacle. The cover member 11 is also provided with a suitable catch device such as a hook 58 and staple 59. The receptacle is also provided with a draw-off plug 60 of the usual construction. The receptacle may also be provided with supporting feet if required, but as the construction of devices of this character are so well known, and as they form no part of the present invention it is not deemed necessary to illustrate them.

The forwardly projecting portions 21—22 terminate in bearings 29—30, and mounted for rotation through these bearings is a main drive shaft 31 having an operating crank 32 upon one end with a relatively large bevel gear 33 located between the bearings and arranged to operate a pinion 34 carried by the stub shaft 26. Another gear 35 is connected to the stub shaft 26 and engages respectively with pinions 36—37 carried by the stub shafts 27—28. By this arrangement it will be obvious that when the shaft 31 is rotated by power applied to the crank 32, the stub shafts 27—28 will be rotated at a greatly increased speed and in the same direction.

Supported upon the bottom 38 of the body 10 are step plates 40—41, and stepped at 42—43 in these step plates are dasher rods 44—45 having dasher blades 46—47. The dasher rods are provided with sockets in their upper ends, one of which is shown at 48 in Fig. 1, the sockets being square or of other irregular shape transversely, and bearing upon each dasher rod is a coupling member, one of which is represented at 49. Each coupling member is provided with a pin, one of which is shown at 50 in square or other irregular shape, and fitting within the sockets 48 of the dasher rods. Each dasher rod is provided with one of the sockets and with one of the coupling devices, but as they are precisely alike the description of one will suffice for both.

The coupling members 49 are tubular as shown in Fig. 4 and receive the stub shafts 27—28. Each of the coupling members is provided with a set screw one of which is shown at 51 by which the stub shafts 27—28 may be locked in position relative to the coupling member. Each coupling member is also provided with transverse slots shown at 52, and the stub shafts 27—28 are each provided with a transverse pin, one of which

is shown at 53 and passing through the slots, and thus slidably coupling the members 49—27 or 28, as the case may be, the movement of the stub shafts relative to the coupling members being limited by the slots. By this means the dasher rods 44—45 may be coupled to thus rotate with the stub shafts 27—28, or released therefrom as may be desired. For the purpose of illustration the dasher member of the device is represented conventionally, and it is not desired therefore to limit the device to any specific form of paddle, but any form of paddle may be employed upon the dasher rods. By this arrangement it will be obvious that the parts constituting the churn may be readily separated for cleansing by simply removing the cover member 11, loosening the set screws 51 and removing the cover member 12 together with its attached frame and dasher operating mechanism and the coupling members 49, leaving the dasher members 44—46 and 45—47 within the body 10, and from which they may be readily removed. By this simple means the various parts of the churn may be readily separated and removed. To assemble and operate the churn it is necessary to again insert the dasher rods 44—45 with their parts 42 within the steps 40—41, replace the cover 12 with its attached operating mechanism and coupling members, and guide the parts 50 into their seats 48 in the dasher rods, and replace the cover member 11 after the cream or milk has been poured into the body. Then by rotating the handle 32, the churning action will be accomplished. After the churning action the parts may be removed as above described.

The improved device is simple in construction, can be inexpensively manufactured, and adapted to churns of various forms and sizes. For the larger classes of churns power of any desired kind may be applied to the shaft 31, but as the means for operating the churn is not a part of the present invention it is not deemed necessary to illustrate it.

What is claimed is:—

In a churn, the combination with a receptacle and its cover, of a spindle supported for rotation upon said cover, a dasher rod mounted for rotation within said receptacle and provided with a socket in its upper end, a sleeve slidable upon said stem and provided with a stud detachably engaging the socket of the dasher rod, said sleeve having longitudinal slots, and a pin carried by said stem and extending through said slots, whereby the dasher rod may be inserted and removed without displacing the stem.

In testimony whereof, I affix my signature, in presence of two witnesses.

JACOB LIFE.

Witnesses:
C. L. ARTHUR,
A. B. WILSON.