E. E. RIPPY.

CHURN.

APPLICATION FILED JULY 16, 1908.

925,652. **Patented June 22, 1909.**

Fig. 1.

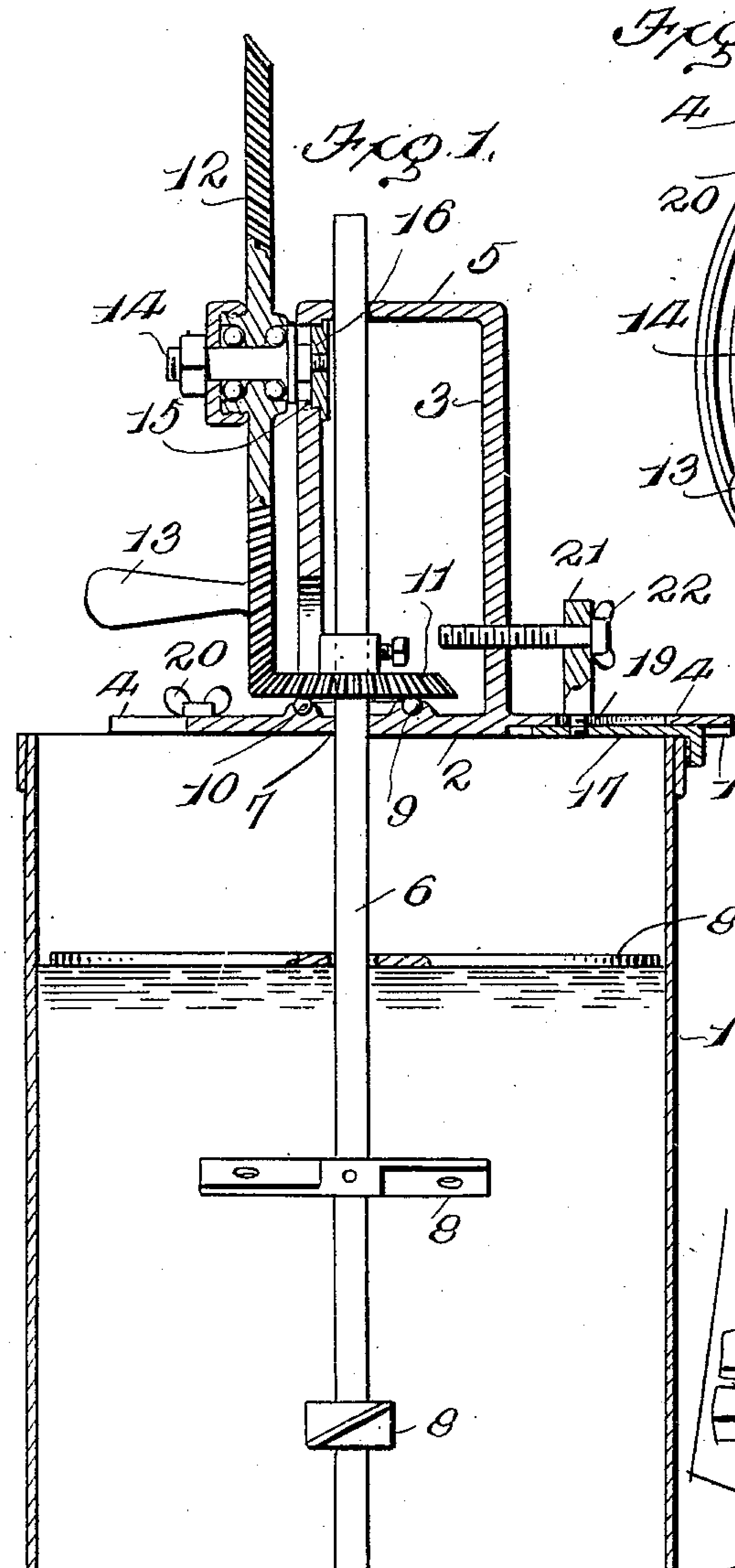


Fig. 2.

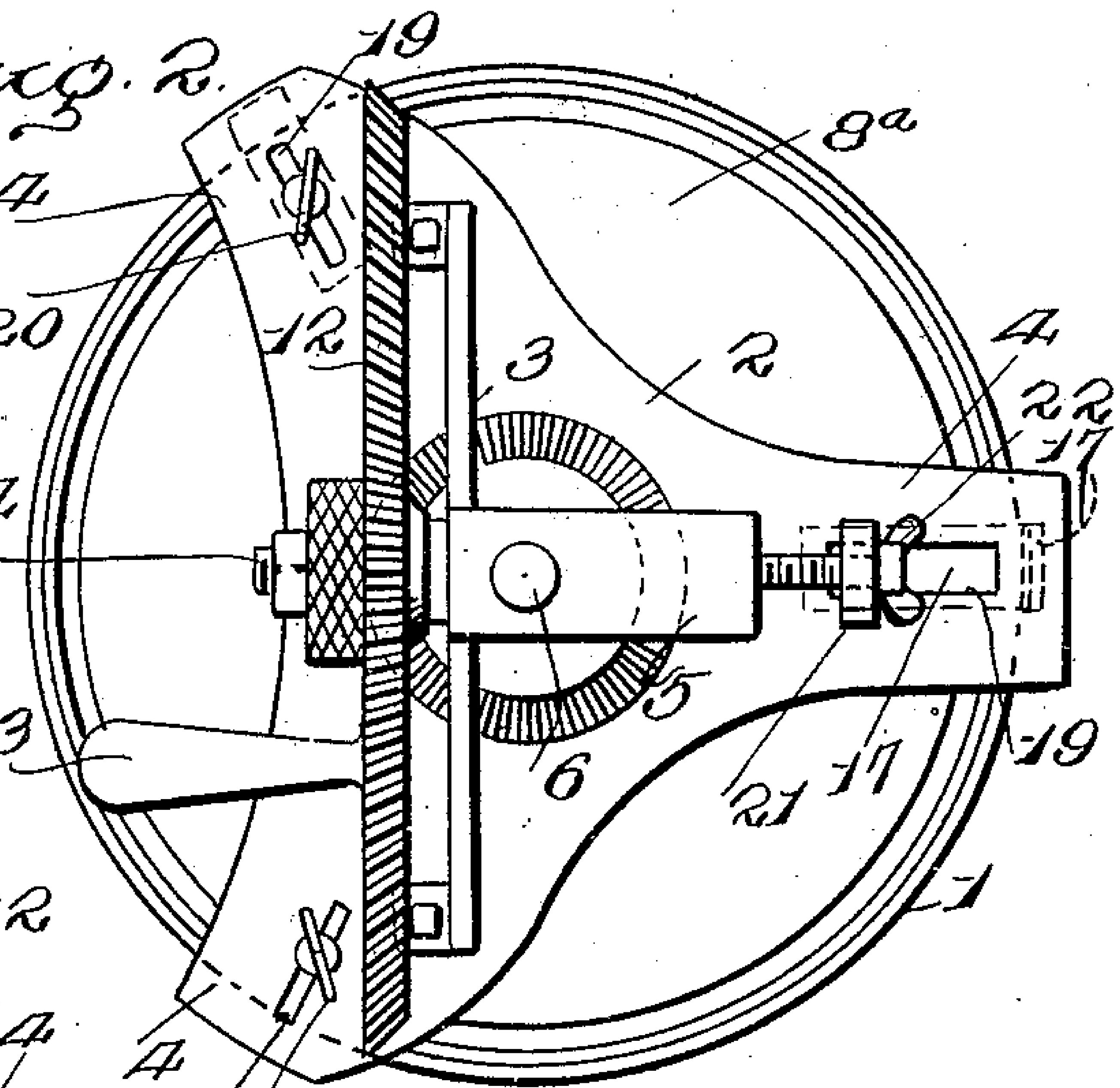


Fig. 3.

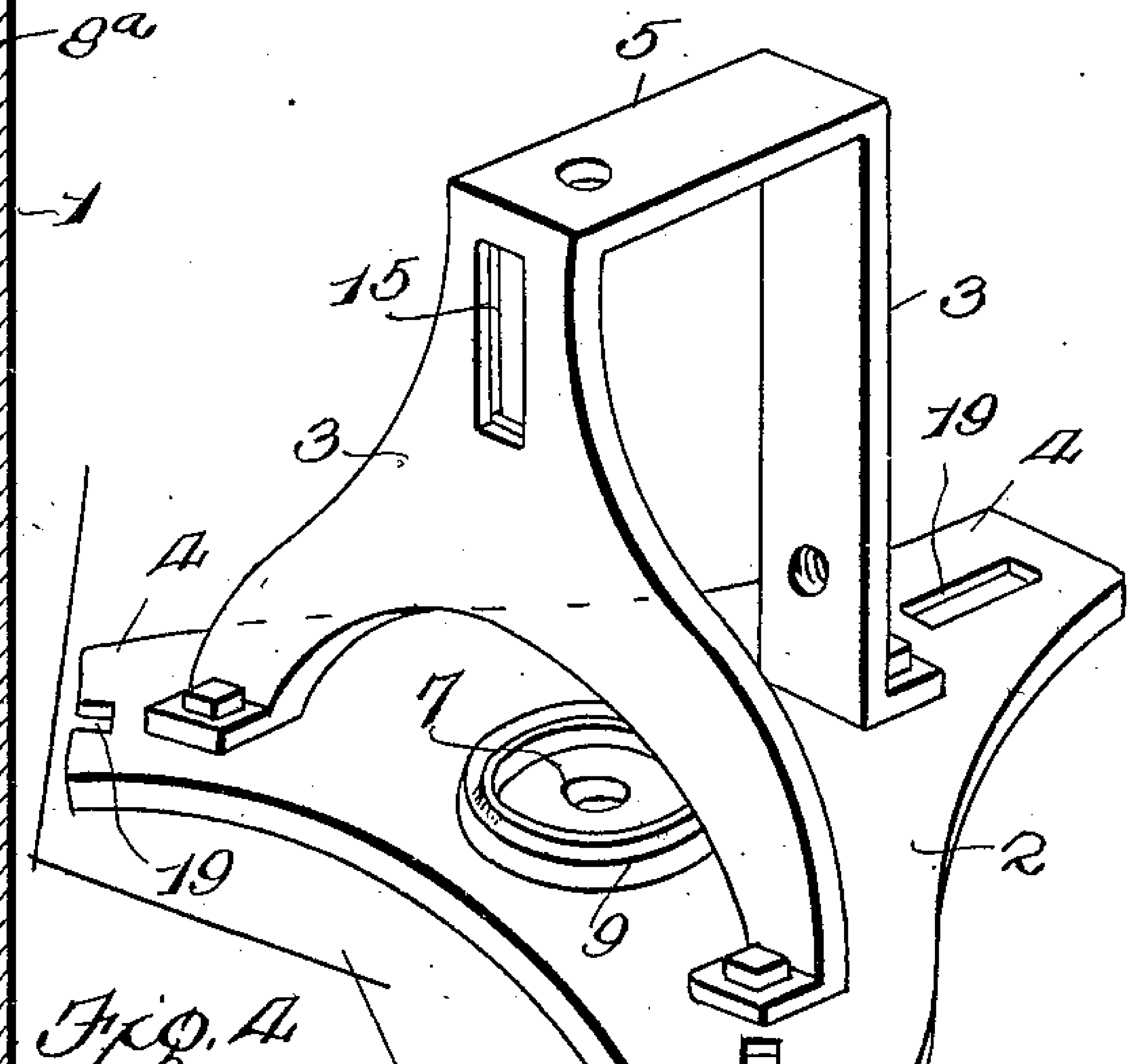


Fig. 4.

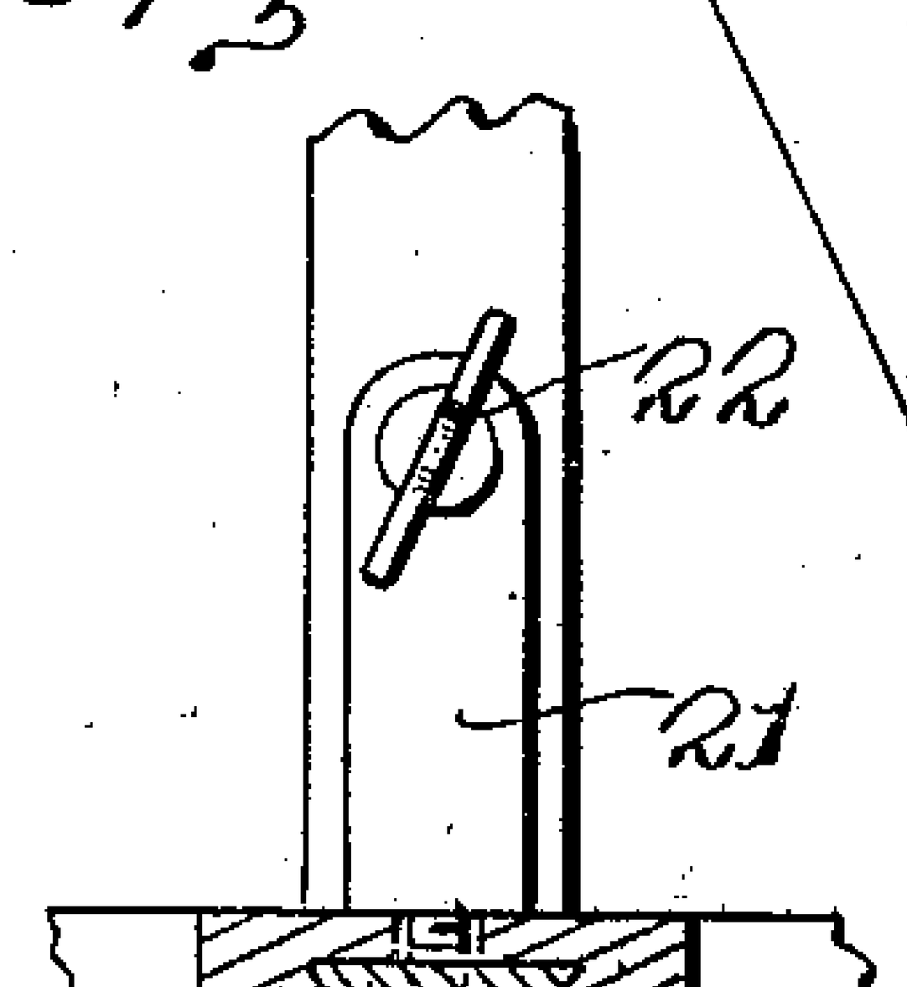
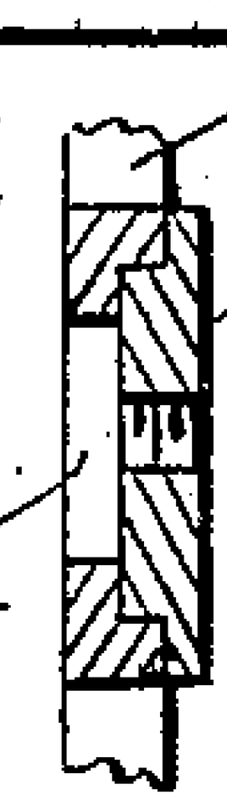


Fig. 5.



Witnesses

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UNITED STATES PATENT OFFICE.

ELBERT E. RIPPY, OF ODIN, ILLINOIS.

CHURN.

No. 925,652. Specification of Letters Patent. Patented June 22, 1909.

Application filed July 16, 1908. Serial No. 443,827.

To all whom it may concern:

Be it known that I, ELBERT E. RIPPY, a citizen of the United States, residing at Odin, in the county of Marion and State of Illinois, have invented certain new and useful Improvements in Churns, of which the following is a specification.

This invention comprehends certain new and useful improvements in churns, and the object of the invention is an improved attachment that embodies an efficient churning mechanism, which may be readily applied to stone jars or similar receptacles and may be quickly and conveniently attached thereto, or detached therefrom, which may be adjusted so as to be rendered capable of use with jars of different diameters and depths, and which is thus particularly desirable, since it may be readily applied to a jar of a requisite size suitable to the quantity of cream it is desired to churn.

With this and other objects in view that will more fully appear as the description proceeds, the invention consists in certain constructions and arrangements of the parts that I shall hereinafter fully describe, and then point out the novel features thereof, in the appended claim.

For a full understanding of the invention and the merits thereof, and to acquire a knowledge of the details of construction, reference is to be had to the following description and accompanying drawing, in which:

Figure 1 is a vertical section of a churn constructed in accordance with my invention; Fig. 2 is a top plan view thereof; Fig. 3 is a perspective view of the frame, showing one of the clamping members detached therefrom; Fig. 4 is a detail view of the clamping member that is extended through the slot and connected with one of the standards; Fig. 5 is a similar view in horizontal section, showing the nut that is arranged to sustain the spindle in adjusted position in the slot.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawing, by the same reference characters.

My improved attachment is designed to be applied to a churn body 1 which may be of any desired construction or design, such as a stone jar, said attachment embodying a preferably metallic frame 2 that is formed with two upwardly disposed spaced standards 3 and with three horizontally and outwardly disposed arms 4 that are designed to rest upon the upper end of the churn body to support the frame in position thereon. The standards 3 are connected at their upper ends by a cross-bar 5 formed with an opening which constitutes a journal for the upper end of a vertical shaft 6, said shaft extending downwardly through an opening 7 in the frame and projecting into the churn body 1, as shown. The lower portion of this shaft is designed to constitute a dasher, and for this purpose is formed with a plurality of radially extending arms 8 which are preferably inclined and perforated, and which are arranged to thoroughly and effectually agitate the cream within the churn body, upon the rotation of the shaft, a preferably annular plate or float 8^a being loosely mounted upon the shaft above the arms 8 and below the frame 2, and being designed to extend transversely of the churn body and to rest upon the liquid therein to prevent the admission of dust or dirt thereto, and also to eliminate the possibility of the contents splashing out of the churn body during agitation.

The frame 2 is formed in its upper face around the opening 7 with a circular ball channel 9 in which are mounted a plurality of balls 10 that are designed to support a bevel-pinion 11 and constitute an anti-friction bearing therefor. This pinion is held in vertically adjusted position upon the shaft 6 in any suitable manner, as by set screws or the like, and is thus adapted to regulate the extent of the dasher into the churn body. The pinion 11 meshes with a relatively large beveled gear wheel 12 that is provided with a handle 13 by means of which it may be conveniently rotated to effect the operation of the churning mechanism, and that is mounted to turn about and has a ball or other anti-friction bearing upon a substantially horizontal axis or spindle 14. One end of this axle is preferably reduced and threaded, as shown, and is mounted in a vertical slot 15 formed in one of the standards 3, said axle being sustained in vertically adjusted position by means of a nut 16 working upon the threaded extremity and being thus adapted to raise or lower the gear wheel 12 to compensate for the adjustment of the pinion 11 upon the shaft 6.

Each of the arms 4 of the frame is provided with a hooked clamping member 17

that is adjustable thereon to render the frame capable of being applied to and secured in position upon churn bodies of different diameters, said arms being formed in their lower faces near their extremities with longitudinally disposed recesses 18 which preferably have under-cut walls and in which the respective clamping members are slidingly mounted. The arms are also formed near their extremities with slots 19 extending therethrough and communicating with the respective recesses 18, thumb screws 20 being mounted in two of said slots and being arranged to engage the corresponding clamping members to hold the same in the desired adjusted position. The other clamping member is extended upwardly through the slot 19, as indicated at 21, and is connected to the adjacent standard 3 by means of a thumb screw 22 working in a threaded aperture therein, so as to permit the clamping member to be moved inwardly with considerable force, to bear against the jar and hold the frame rigidly in position thereupon.

It will be noted that when the frame is used in connection with jars or churn bodies of a uniform size, it may be readily and quickly attached thereto or detached therefrom by the proper manipulation of the thumb screw 22, the adjustment of all three clamping members being only required when it is desired to apply the frame to a jar of greater or less diameter.

The hooked portions of each of the clamping members, or those portions thereof which come directly in contact with the outer surface of the jar, are preferably provided with pads of rubber or other suitable adhesive material, so as to prevent the frame from slipping during the operation of the churn, and also to afford a cushioned contact with the jar, and thus eliminate the liability of breaking the latter by the clamping members having too forcible a contact therewith.

From the above description, in connection with the accompanying drawing, it will be apparent that I have provided a simple, durable and efficient device which may be readily applied to or detached from a churn body, which may be adjusted so as to be rendered capable of use in connection with churn bodies of different sizes, in which the dasher may be raised or lowered in the churn body according to the quantity of cream that it is desired to churn or to compensate for the depth of the jar to which the device is applied, and which consists of comparatively few parts that may be easily and cheaply manufactured and readily assembled.

Having thus described the invention, what I claim is:

In a churn, the combination with a churn body, of a frame 2 disposed at the upper end of the churn body and formed with a plurality of outstanding arms 4 engaging the same to mount the frame thereon, the said frame being formed with a central opening 7 and being provided with upwardly disposed standards 3 arranged on opposite sides of the opening, and a cross bar 5 connecting the standards at their upper ends, the cross bar being formed with an opening in vertical alinement with the opening 7, and one of the standards having a vertically elongated slot 15 and the other standard being formed with a threaded aperture extending therethrough, a vertical shaft mounted to turn in the opening 7 and the opening in the cross bar, and extending downwardly into the churn body and carrying agitating means, a bevel pinion adjustably mounted upon the shaft above the frame, a bevel gear wheel meshing with the bevel pinion, an axle 14 upon which the bevel gear wheel is journaled and which is formed with a reduced extremity mounted in the slot 15, a nut working upon the said reduced extremity to maintain the shaft in adjusted position, clamping means carried by the arms 4 and engaging the churn body, one of the arms being formed with a slot 19 extending therethrough, and the clamping means projecting upwardly through such slot, and a thumb screw engaged with such clamping means and working in the threaded aperture in the adjacent standard 3.

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

ELBERT E. RIPPY. [L. S.]

Witnesses:
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