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Fig. 1.

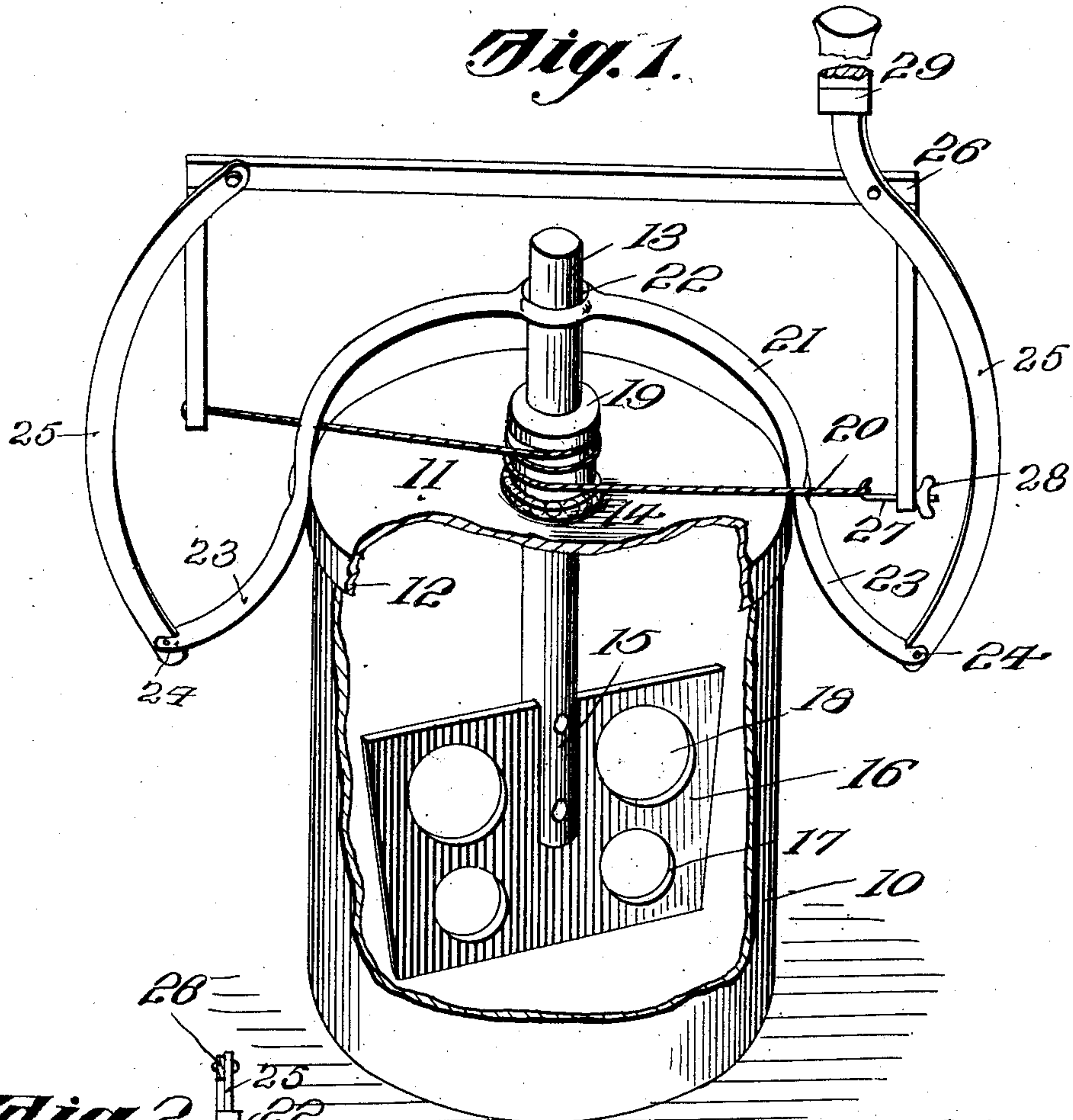


Fig. 2.

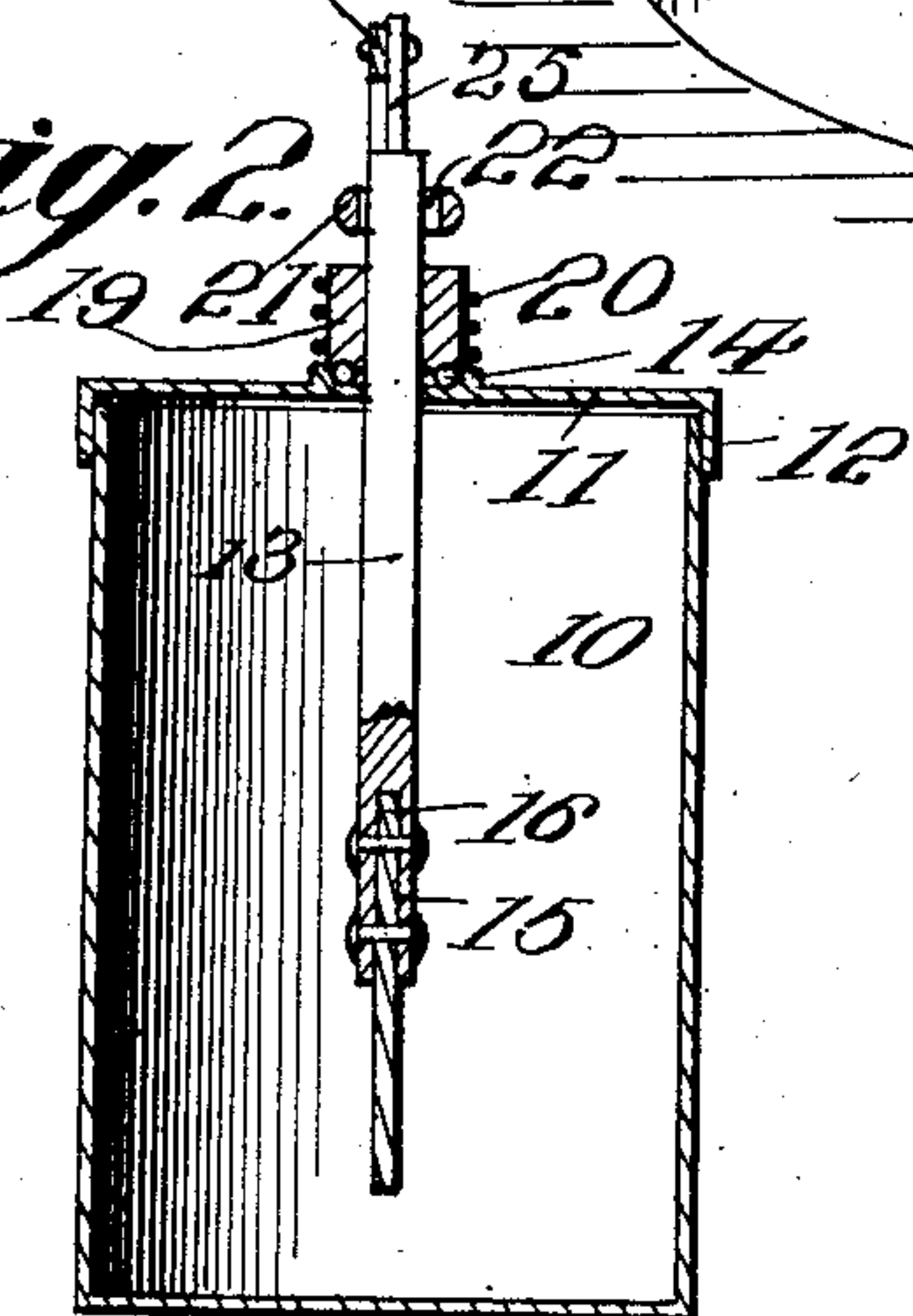
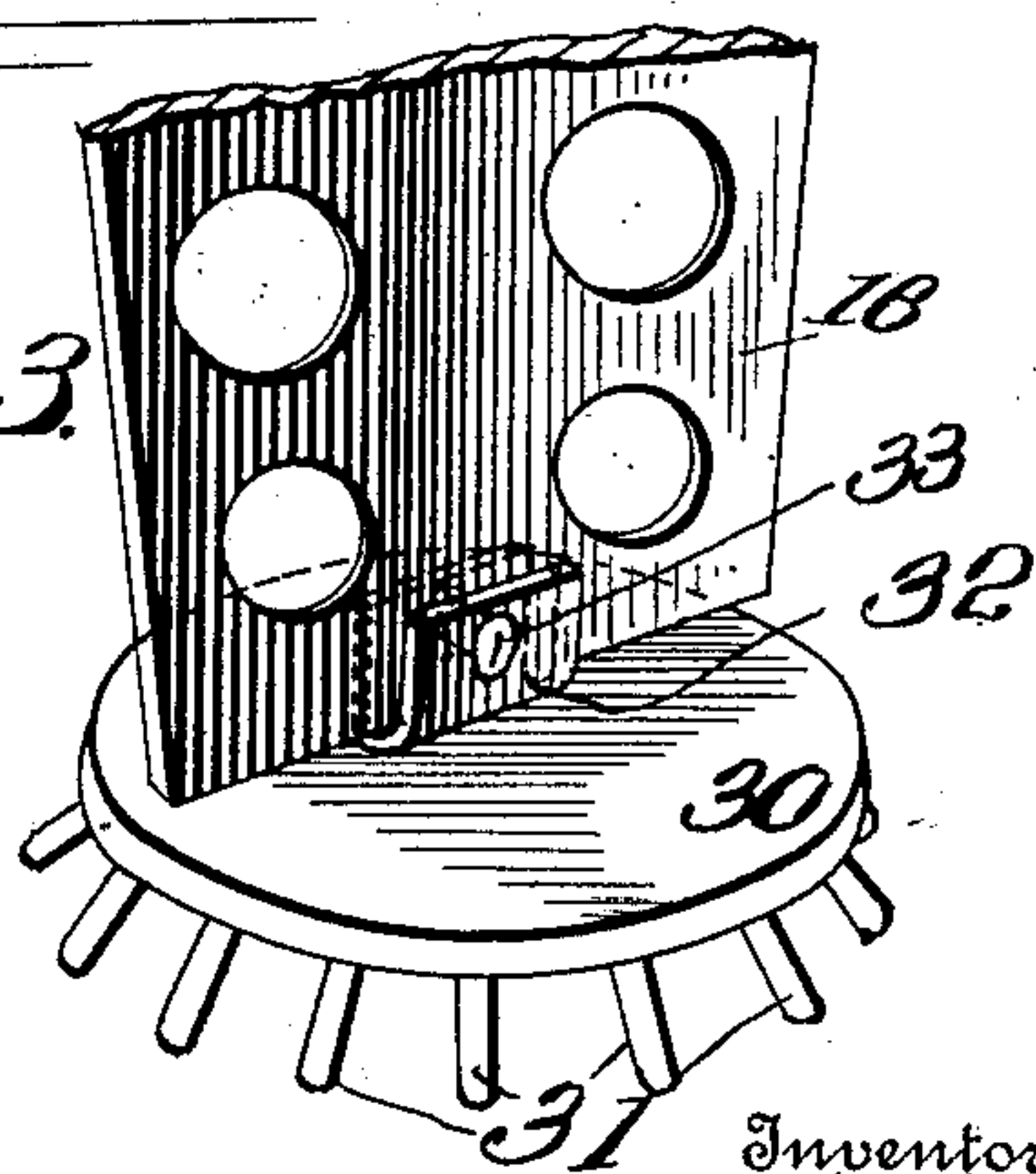


Fig. 3.



Inventor

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Attorneys

Witnesses

W. V. Woodson.
Juana M. Fallin.

UNITED STATES PATENT OFFICE.

JAMES H. PEARSON, OF WESTPLAINS, MISSOURI, ASSIGNOR TO M. A. COOPER, OF WESTPLAINS, MISSOURI.

ROTARY BEATER.

973,554.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JAMES H. PEARSON, citizen of the United States, residing at Westplains, in the county of Howell and State of Missouri, have invented certain new and useful Improvements in Rotary Beaters, of which the following is a specification.

This invention relates to rotary beaters and refers particularly to a device which is adaptable as a churn or as a washing machine.

An object of this invention is to provide a rotary beater with an actuating mechanism in which a reciprocatory motion of a handle lever effects the reciprocating rotary motion of the beater within the receptacle and wherein all friction of the movable parts is greatly reduced to provide an apparatus which can be operated with the expenditure of but a small amount of power.

The invention has for a further object the provision of a beater which may be engaged over the open end of a receptacle of practically any formation and which is of sufficient size to admit of the insertion of the paddle, so as to provide a beater which carries the entire mechanism upon the detachable cover of the same.

The invention has for another object the provision of a device of this character which is so formed as to admit of the attachment of a dasher when the device is to be employed in connection with a washing machine.

For a full understanding of the invention reference is to be had to the following description and accompanying drawing, in which:—

Figure 1 is a perspective view of the complete device partly shown in section. Fig. 2 is a reduced central section through the device, and Fig. 3 is a detailed perspective view of the paddle disclosing a dasher as applied to the same.

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.

Referring to the drawings the numeral 10 designates a receptacle which is preferably of cylindrical formation and of any adaptable length and diameter. The receptacle 10 is open at its upper end and receives a cover 11 having a depending flange 12 disposed about the edge thereof for engage-

ment over the upper edge of the receptacle 10 and to rest against the outer face of the same for the purpose of preventing the displacement of the cover 11. The cover 11 is provided centrally with an aperture through which is disposed a vertical shaft 13 which is depended within the receptacle 10 and which rests against a plurality of ball bearings 14 which are carried by the cover 11 in order to insure the easy movement of the shaft 13. The lower extremity of the shaft 13 is provided with fork arms 15 which are spaced apart and form continuations of the lower end of the shaft 13 to support therebetween a paddle 16. The paddle 16 comprises a plate which has oppositely beveled ends to reduce the size thereof at its lower extremity, and which is provided immediately with apertures 17 and 18. On the drawing it will be observed that the apertures 18 are of greater size than the apertures 17 to reduce the frictional contact of the liquid contained in the receptacle 10 with the upper extremity of the paddle 16.

The mechanism employed for rotating the paddle 16 within the receptacle 10 includes a drum 19 provided with a smooth outer face, and about which is wound a cord 20. The opposite ends of the cord 20 terminate at the upper and lower ends of the drum 19 and are extended outwardly above the cover 11 therefrom. The cover 11 is provided with a bail 21 which is rigidly secured thereto and extended upwardly and centrally thereover, the central portion of the bail being provided with a ring 22 for loosely receiving the upper end of the shaft 13. The lower ends of the bail 21 are continued downwardly from the cover 11 and flared outwardly from the receptacle 10 to provide arms 23 which are forked as at 24 at their lower extremities. The forks 24 receive therebetween a pair of arcuate rocker arms 25 which are extended upwardly above the bail 21 and are pivotally connected to the opposite corners of a U-shaped frame 26. The frame 26 is so positioned that the opposite arms of the same are depended, and are in alinement with the ends of the cord 20 which are extended outwardly from the drum 19. One end of the cord 20 is rigidly secured to one end of the arms of the frame 26, while the opposite end of the cord 20 is connected to an adjusting screw 27 which is carried in the opposite arm of the frame 26.

The adjusting screw 27 comprises an elongated portion of metal which is rounded and provided at its outer end with a threaded portion upon which is engaged a winged nut 28 which rests against the outer face of the arm supporting the adjusting screw 27. The inner end of the adjusting screw 27 is curved to form a suitable hook for engagement with the end of the cord. One of the arms 25 is extended upwardly beyond the frame 10 to support a handle 29 which is employed for reciprocating the rocker arms 25.

In Fig. 3 the paddle 16 is disclosed as supporting a dasher 30 which is formed of a disk member having depended therefrom a plurality of outwardly extending fingers 31 which are arranged adjacent the peripheries of the disk 30. Upon the upper face of the disk 30 a U-shaped clamp 32 is positioned having the ends thereof so spaced apart as to snugly receive the lower edge of the paddle 16, and are held in such relation by the provision of a screw or rivet 33. The device may be employed with or without the improved dasher, according to the use to which the same is to be placed.

The operation of the device is as follows: When the cover 11 is positioned over the receptacle 10 the shaft 13 extends downwardly into the receptacle 10 to a point adjacent the lower end thereof. The operator now grasps the handle 29 and moves the same inwardly and outwardly from the shaft 13 to swing the rocker arms 25 upon the forks 24. This movement reciprocates the frame 26 across the cover 11 raising and lowering the same during the movement thereof. The arms of the frame 26 are formed of different lengths in order to guide the cord 20 over the periphery of the drum 19 during the reciprocation of the frame. As the frame 26 is moved toward one side of the cover 11 the cord is unwound at one end from the drum 19, by reason of the drawing action of the frame 26, whereby the rotation of the drum is effected. The opposite end of the cord is wound about the drum 19 by reason of this rotation thereof and arrests the movement of the drum when the handle 19 is held at the end of its stroke. The opposite action now takes place when the frame 26 is reciprocated toward the opposite side of the cover. The drum 19 is revolved in the reverse direction and the ends of the cord are alternately unwound and wound during such action. When the device is employed in connection with a washing machine the clamp 32 is secured about the lower end of the paddle 16 and the rivet 33 positioned therethrough. The same action takes place whereby the dasher is given a reciprocating

rotary motion. Should it be desired to adjust the cord 20, owing to the stretching of the same, the winged nut 28 is rotated to draw the adjusting screw 27 inwardly through the supporting arm of the frame 26, whereupon the cord is tightened and the desired adjustment obtained.

Having thus described the invention what is claimed as new is:—

1. A rotary beater including a receptacle, a cover disposed upon the receptacle, a beater shaft vertically arranged through the central portion of the cover, a drum carried upon the beater shaft above the cover, a bail extending upwardly from the cover and engaging at its central portion with the beater shaft to support the same, outwardly flared arms depending from the ends of the bail, rocker arms hinged upon the lower ends of said flared arms and extending upwardly therefrom, a U-shaped frame hinged upon the upper ends of said rocker arms to reciprocate horizontally above the beater shaft, one of said rocker arms being terminated at its upper end in a handle, and a cord wound about the drum and having its extremities extending oppositely from the drum and secured to the free ends of said frame.

2. A rotary beater including a receptacle having a cover, a beater shaft vertically disposed within the receptacle and extending upwardly through the cover, a drum carried upon the upper end of the beater shaft, a cord wound about the drum and having its ends extending oppositely from the same, and a U-shaped frame hingedly mounted over the receptacle and having its free ends connected to the extremities of the cord, said frame adapted for horizontal reciprocation to rotate the drum and for slight vertical movement to guide the cord over the periphery of the drum.

3. A rotary beater including a covered receptacle, a vertical beater shaft arranged in the receptacle and extending upwardly therefrom, a drum arranged upon the upper extremity of the beater shaft, a cord wound about the drum and having its ends extending oppositely from the same, and an inverted U-shaped frame hinged above the receptacle to support the ends of the cord and adapted for horizontal and slight vertical reciprocation about the drum.

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

JAMES H. PEARSON. [L. s.]

Witnesses:

NORTON S. THOMPSON,
JOHN S. HOUSE.