(No Model.) 2 Sheets—Sheet 1.

L. MOHR & H. PERK.

EGG BEATER, &c.

No. 516,214. Patented Mar. 13, 1894.

Fig 1

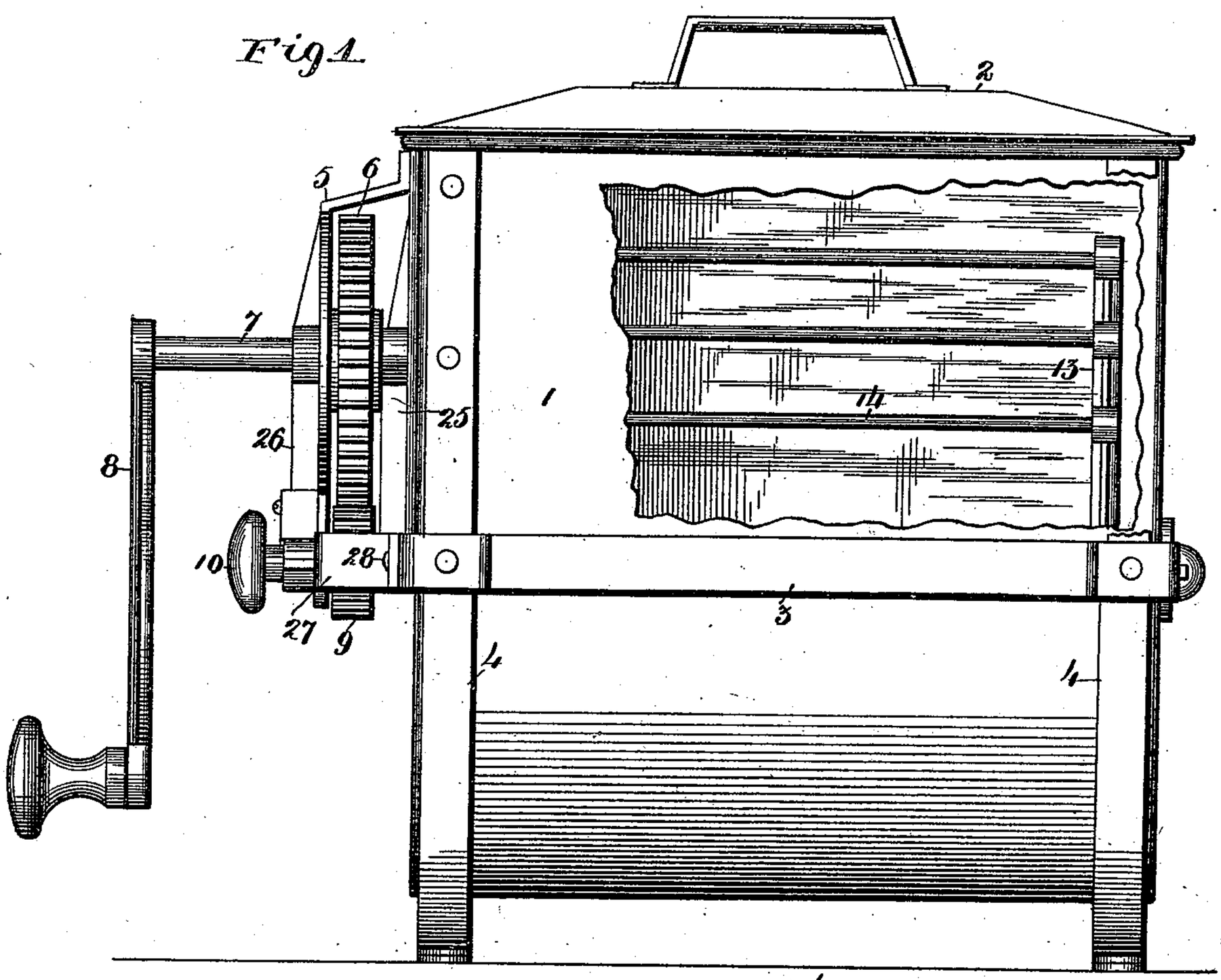
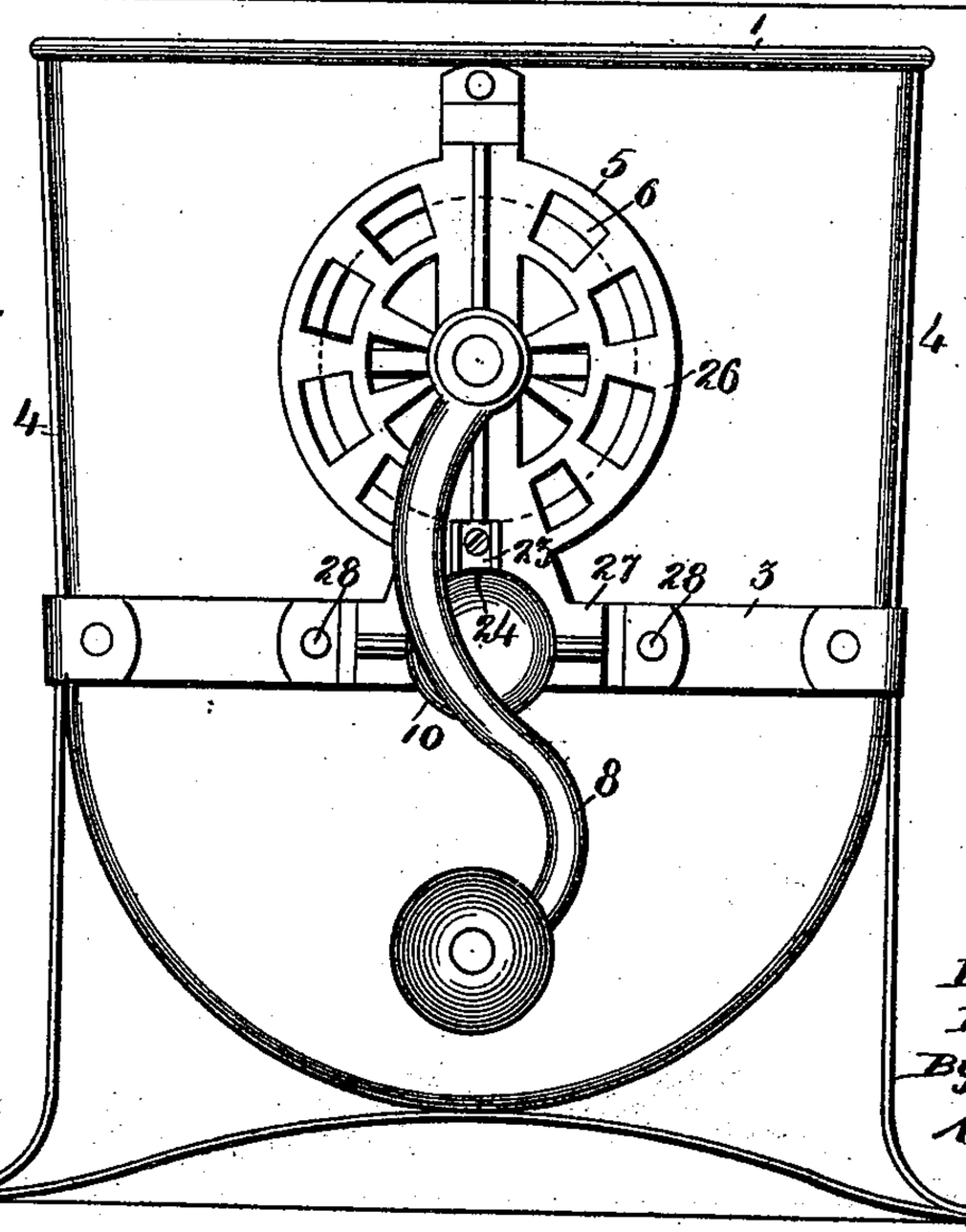


Fig. 2.



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(No Model.) 2 Sheets—Sheet 2.

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Fig. 3.

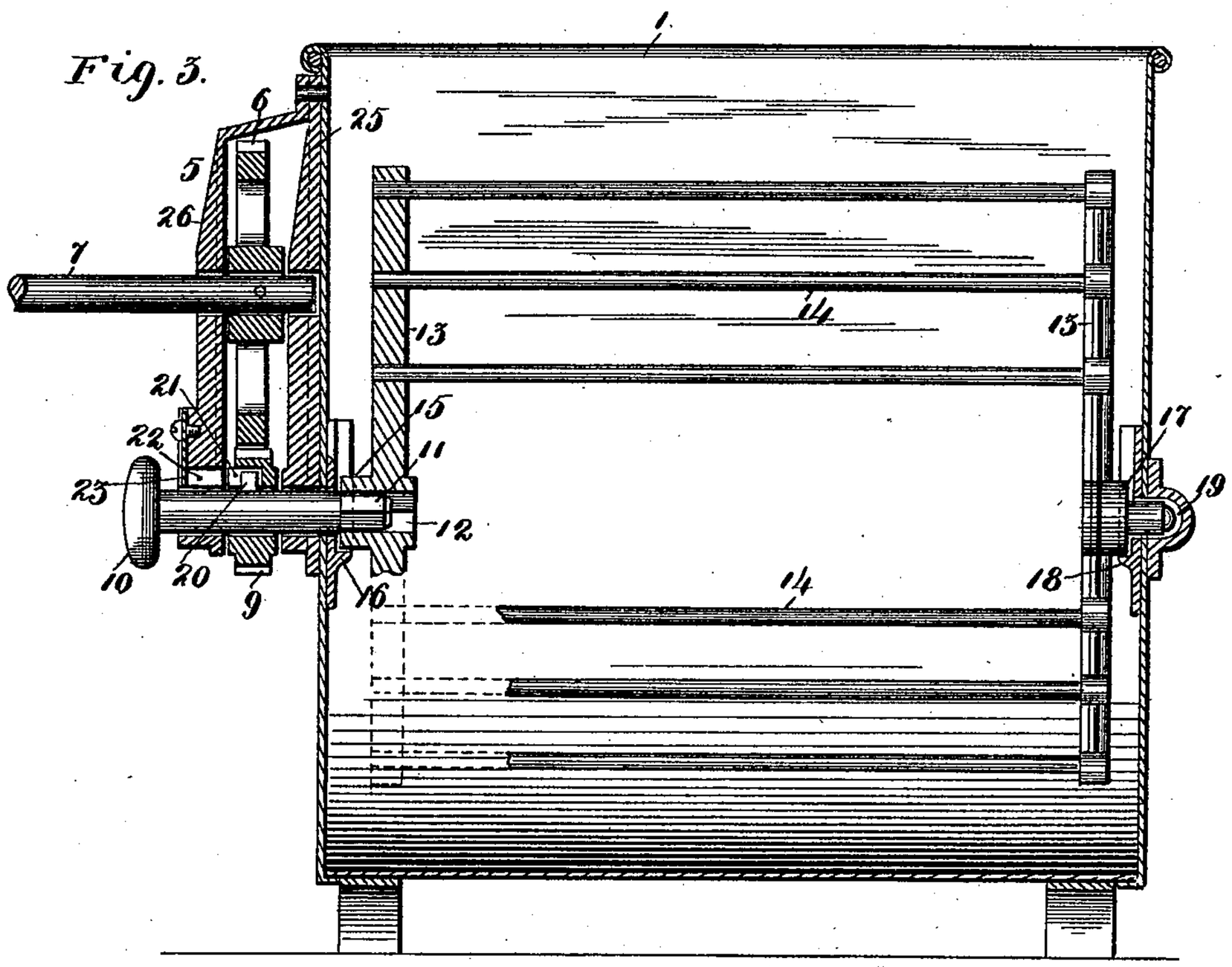
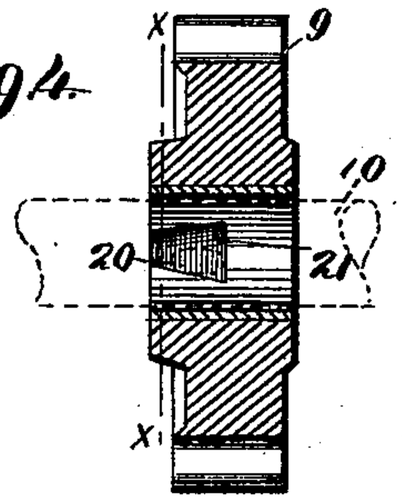


Fig. 5.

Fig. 4.



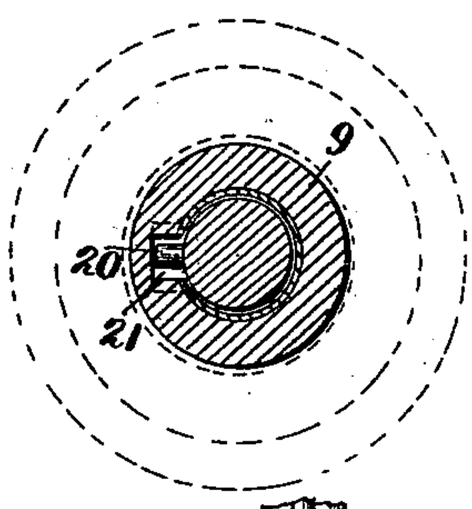


Fig. 6.

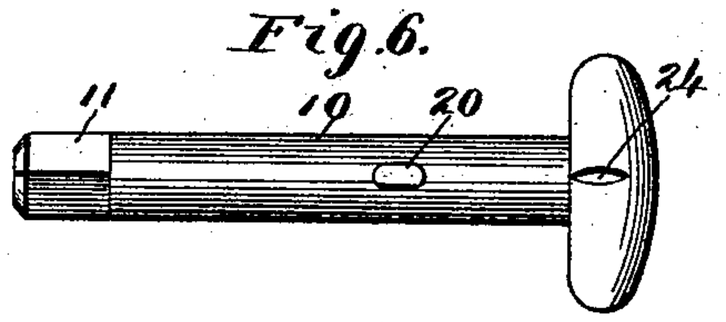
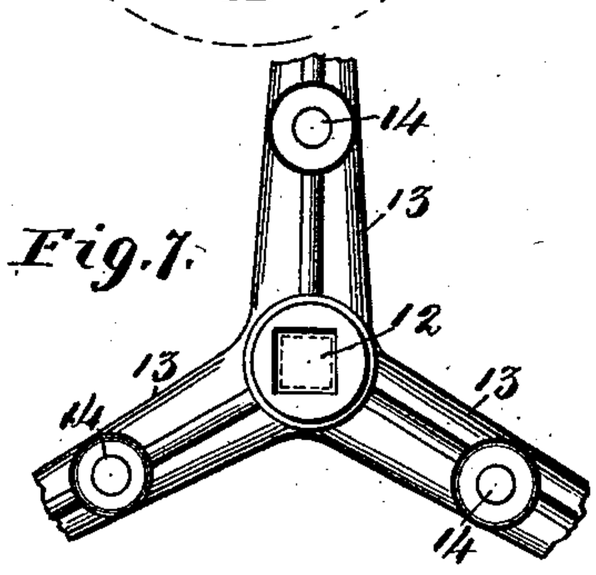


Fig. 7.



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UNITED STATES PATENT OFFICE.

LEOPOLD MOHR AND HERMAN PERK, OF ST. LOUIS, MISSOURI; SAID PERK ASSIGNOR TO SAID MOHR.

EGG-BEATER, &c.

SPECIFICATION forming part of Letters Patent No. 516,214, dated March 13, 1894.

Application filed December 18, 1893. Serial No. 493,977. (No model.)

To all whom it may concern:

Be it known that we, LEOPOLD MOHR and HERMAN PERK, of the city of St. Louis, State of Missouri, have invented certain new and useful Improvements in Egg and Sponge Beating Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of the same.

Our invention has relation to improvements in egg and sponge beaters and consists in the novel arrangement and combination of parts more fully set forth in the specification and pointed out in the claim.

In the drawings, Figure 1 is a side elevation with parts broken away of our improved device. Fig. 2 is an end view of the same. Fig. 3 is a middle vertical longitudinal section of the same. Fig. 4 is an enlarged view of a section taken through the middle of the driving pinion. Fig. 5 is a section taken on the line *x*—*x* of Fig. 4. Fig. 6 is an enlarged view of the removable pin for driving the dasher; and Fig. 7 is an end view of the dasher (with the arms broken off) showing the opening within which the removable pin operates.

The object of the present invention is to construct an egg and sponge beater from which the dasher can readily be removed without materially disturbing the gearing mechanism and the remaining parts of the machine. For this purpose we provide a removable pin or bearing which enters the side of the vessel within which the dasher revolves, said pin serving the double function of a bearing for one end of the dasher and also the function of a water-tight valve, thus preventing the contents of the vessel from escaping during the operation of the dasher. Special means are provided for retaining the pin or valve in place.

In detail the invention can be described as follows:

Referring to the drawings, 1 represents a vessel of any material having a suitable cover 2 therefor. In the present instance the vessel is constructed of sheet iron being reinforced by a frame composed of wrought iron strips or bars 3 and 4, the latter serving as supporting legs for the device. To one side of the vessel is secured a cast iron housing 5 within which the main driving gear wheel 6 is mounted. The shaft 7 of the latter is driven by a suitable crank arm 8 secured to the outer end thereof, although a pulley may be substituted therefor and steam or other power may be employed in the place of hand power. To the gear wheel 6 is geared a pinion 9 which is keyed to a pin or bearing 10 in a manner to be presently described. The pin 10 is cylindrical or round for a portion of its length the said pin revolving in suitable bearings within the housing 5 and projecting some distance into the interior of the vessel 1. The interiorly projecting end or shank 11 of the pin 10 is polygonal, preferably square, and fits snugly within an opening 12 at the center of the dasher, said dasher being formed by a series of radial arms 13 joined by connecting bars 14. As the pin 10 revolves through the action of the pinion 9 and gear 6, the dasher will of course revolve also. It will be apparent from an inspection of Fig. 3 that in case the pin 10 is pulled out entirely from the opening 12 of the dasher, the latter will still remain in place being supported at one end by the trunnion 15 resting on the bearing 16, and at the other end by the trunnion 17 resting on the bearing 18. The end of the trunnion 17 rests within a suitable depression 19 formed in the brace bar 3 opposite thereto, this arrangement making the vessel 1 water tight at that end.

It is apparent that some provision must be made to prevent the pin 10 from working out from the opening 12 and from its bearings during the operation of the machine, the centrifugal force having a tendency of course to throw the pin outwardly. This is accomplished as follows: The pin 10 has a suitable projecting peg 20 which enters a suitable groove 21 within the pinion 9. The groove 21 is dovetailed, the sides of the dovetail inclining as best shown in Fig. 4, that is, inclining toward each other outwardly. It is apparent that during the revolution of the pinion 9 and thereby of the pin 10, the tendency of the latter would be to work itself out sufficiently for the part 11 to pass entirely out of the opening 12 of the axis of the dasher, leaving the dasher suspended on its bearing 16 with no provision for turning said dasher. The dovetail form

of the groove 21 however prevents this, as the peg 20 cannot work up on the inclined sides of the groove, the centrifugal force causing the peg 20 to closely hug the sides as it were and thus prevent the pin from slipping or working out. In this way, the pin forms a water-tight valve at that end of the vessel preventing the contents of the same from running out. To remove the dasher, the pinion 9 is rotated until the groove 21 comes opposite a corresponding groove 22 formed in the housing 5, and when the two grooves are thus opposite one another the pin 10 is pulled out sufficiently to withdraw the shank 11 from the opening 12. The dasher can then be removed and cleaned and the rest of the machinery is left intact. To prevent the pin 10 from being withdrawn altogether accidentally, a plate 23 is secured over the front end of the groove 22 with which the peg 20 comes in contact. To indicate when the grooves 21 and 22 are directly opposite one another, we have formed an indicator notch or mark 24 on the knob or handle of the pin, said notch being directly opposite and in line with the peg 20, so that when said notch comes opposite the position of the groove 22, the operator knows that the two grooves are in alignment and the pin 10 can accordingly be withdrawn. When the dasher is cleaned, the pin 10 is pushed into the opening 12 and the operation is resumed.

We do not limit ourselves to the precise details of parts here shown. It is apparent that any kind or form of dasher can be employed; the vessel 1 may be of any suitable material and may be constructed in any suitable and convenient manner. The device is used for egg beating and making of sponge, but its use is not limited to these particulars.

The housing 5 in the present case is simple in construction, being composed of an inner plate or casting 25 secured to the side of the vessel and forming bearings for one end of the shaft 7 and pin 10; and an outer plate 26 forming bearings also for said shaft and pin. It is to the forward projecting portion 27 of this plate that the plate 23 is secured. The portion 27 spans the pinion 9 and at its ends is secured to the side of the vessel by the bolts 28 as best seen in Fig. 2. The pin 10 passes through this portion.

Having described our invention, what we claim is—

An egg beater comprising a vessel, a suitable housing secured thereto, a main driving gear wheel mounted within said housing, a pinion geared to said gear wheel, there being a dovetail groove within said pinion, a removable pin having a cylindrical portion passing through said pinion, housing and adjacent wall of the vessel, a peg on the cylindrical portion of said pin operating within the dovetail groove, there being a second aligning groove formed in said housing for the passage of the peg, a removable plate secured to the housing and covering said aligning groove, a dasher within the vessel, trunnions formed on said dasher, suitable bearings for said trunnions, the inner projecting end of the pin cooperating with one of the trunnions of said dasher, and means for imparting motion to the several parts, substantially as set forth.

In testimony whereof we affix our signatures in the presence of two witnesses.

LEOPOLD MOHR.
HERMAN PERK.

Witnesses:
C. F. KELLER,
JAMES J. O'DONOHOE.