259. AGITATING.

135

No. 820,405. PATENTED MAY 15, 1906.

J. S. DUNLAP.

EGG BEATER.

APPLICATION FILED OCT. 2, 1905.

Fig. 3.

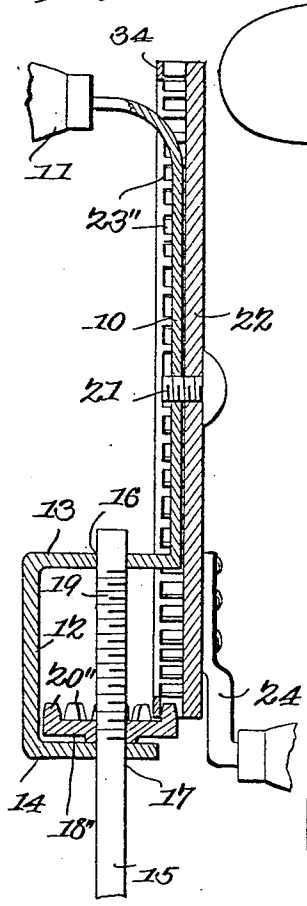


Fig. 1.

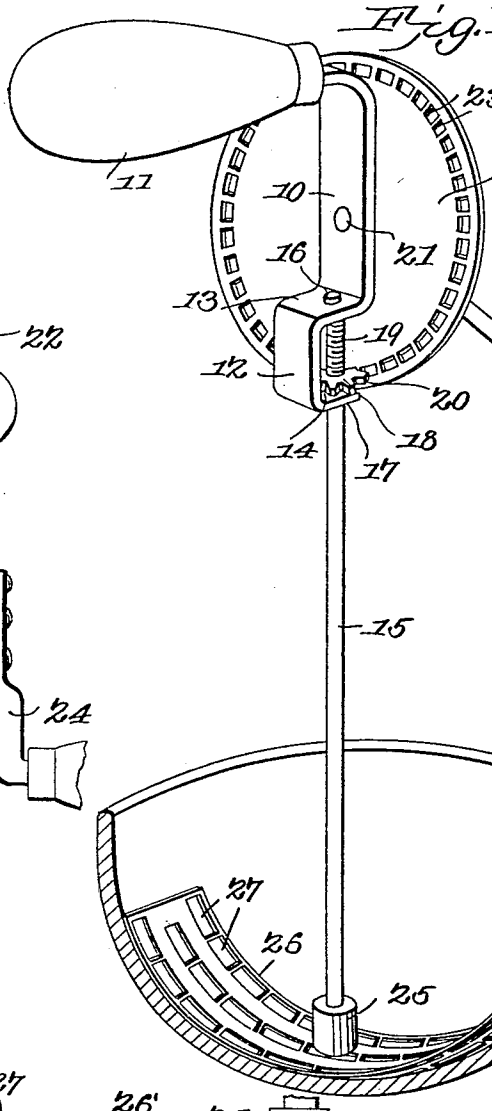
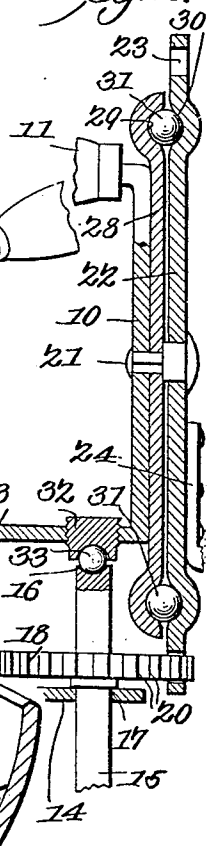


Fig. 2.



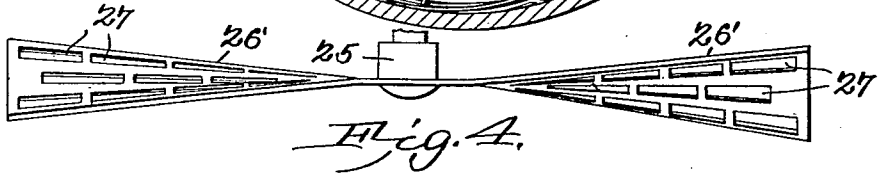


Fig. 4.

Witnesses

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UNITED STATES PATENT OFFICE.

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EGG-BEATER.

No. 820,405. Specification of Letters Patent. Patented May 15, 1906.

Application filed October 2, 1905. Serial No. 280,936.

To all whom it may concern:

Be it known that I, JOHN S. DUNLAP, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Egg-Beater, of which the following is a specification.

This invention relates to egg-beaters; and has for an object to provide a beater embodying new and improved features of simplicity, durability, utility, and efficiency.

A further object of the invention is to provide a beater having an improved form of resilient dasher adapted to conform to the shape of the interior of the bowl or other vessel in which it is being used.

It is well known that as a liquid is rotated it is thrown by centrifugal force to the sides of the vessel, at which place it assumes its greatest density.

It is an object of the invention to provide a beater which may be used in connection with a bowl of ordinary shape and with the dasher-blade always disposed in the liquid at its greatest density.

A further object of the invention is to provide an improved form of gearing for driving the beater and improved means for mounting the gear and connecting it to the dasher.

With these and other objects in view the present invention consists in the combination and arrangement of parts, as will be hereinafter fully described, shown in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that changes in the form, proportion, size, and minor details may be made without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings, Figure 1 is a perspective view of the improved egg-beater applied to a conventional bowl shown in section. Fig. 2 is a longitudinal sectional view of a modified form of the improved beater. Fig. 3 is another modification of the beater. Fig. 4 is a modified form of the dasher.

The improved egg-beater forming the subject-matter of this application comprises a bar 10, bent for the application of the handle 11 at one end at substantially right angles to the bar. Opposite the handle the bar is bent to form the U-shaped bracket 12, in the opposite arms 13 and 14 of which the dasher-shaft 15 is journaled, as at 16 and 17. Within the bracket the pinion 18 is mounted upon the shaft in any approved manner, as by the screw-threads 19, and having the gear-cogs 20.

Upon the bar is provided a pivot 21, upon which is rotatably mounted the gear 22, provided adjacent its periphery with apertures 23, engaging the cogs of the pinion 18 and having a crank-arm 24 to operate it.

At the end opposite the pinion 18 a hub 25 is secured to the shaft and which carries a thin and relatively flexible blade or plate 26, having apertures 27 therein of any desired form, number, or order of arrangement. The flexible blade or dasher 26 is disposed at substantially right angles to the shaft 15 and is secured to the hub 25 at a point intermediate its ends, so as to permit the opposite arms of the dasher to conform to the interior walls of a containing vessel.

To the bar may be secured a disk 28, having stamped near its periphery a ball-race 29, and the gear-wheel may be provided with an opposed ball-race 30, as shown in Fig. 2, and therein may be disposed the series of balls 31.

Instead of journaling, as at 16, the end of the dasher-shaft directly in the arm 13 a plug 32, having a concavity, may be engaged in the arm, as in Fig. 2, and a ball 33 unite the plug and end of the shaft by engaging the concavity of the plug and a similar concavity in the end of the shaft. The gear may also be formed by turning the periphery into a flange 34, as in Fig. 3, and forming the apertures 23″ through the flange, in which case gear-cogs 20″ will stand perpendicular to the plane of the pinion 18″. The dasher-blade may also be twisted somewhat from a plane, as at 26′, to assume the form of a propeller-screw.

From the foregoing it will be readily understood that the blade of the dasher in operation conforms to the inner surface of the vessel in which it is being used and that while named and described as an "egg-beater" it will be understood that such name is used only for brevity and clearness, the device being equally adapted for whipping cream, cake, and many other materials.

Particular stress is laid upon the extreme thinness and flexibility of the dasher-blade, whereby the material remains at comparative rest while being beaten, the blade cutting the material as differentiated from creating a great commotion and violently agitating the entire quantity. Instead of using the single plate-like blade a plurality of

smaller blades or wings may of course be substituted.

Having thus described the invention, what is claimed is—

1. An egg-beater comprising a shaft having a perforated dasher secured thereto and normally disposed at right angles to the shaft, said dasher being relatively thin and flexible to permit the opposite ends thereof to be deflected upwardly in contact with the interior walls of a containing vessel when placed within the latter, and means for rotating the shaft.

2. An egg-beater comprising a bar having a handle at one end and with the opposite end bent to form a U-shaped bracket, a dasher-shaft journaled in the opposite arms of the bracket, a pinion mounted upon the shaft within the bracket, a resilient blade mounted upon the shaft and adapted to conform substantially to the interior of a containing vessel, a disk mounted upon the bar and provided with an annular ball-race, a gear-wheel provided with an opposing ball-race and mounted to rotate adjacent the disk and in engagement with the pinion and means for rotating the gear.

3. An egg-beater comprising a shaft, a dasher secured to the shaft and normally disposed at substantially right angles thereto, said dasher being relatively thin and flexible to permit the arms of the dasher to conform to the interior walls of a containing vessel, and means for rotating the shaft.

4. An egg-beater comprising a shaft, a dasher secured to the shaft and normally disposed at substantially right angles thereto, said dasher being relatively thin to permit the arms of the dasher to conform to the interior walls of a containing vessel, and means for rotating the shaft.

5. An egg-beater comprising a shaft, a dasher secured to the shaft and consisting of a flat relatively thin cutting-blade the front and rear edges of which are disposed in the same horizontal plane, said dasher having its major axis disposed substantially parallel with the plane of its movement, and means for rotating the shaft.

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

JOHN S. DUNLAP.

Witnesses:
FREDERIC J. JOSLIN,
LOUIS DOLSKI

Draper. #389,795. Sept. 7, 1897 (107-37)
Fitch. #501,649. July 18, 1893 (107-38)
Davis. #680,229. Aug. 13, 1901 (31 U.S.D.)