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J. S. DUNLAP.

COMBINED EGG AND CAKE BEATER.

APPLICATION FILED MAY 19, 1906.

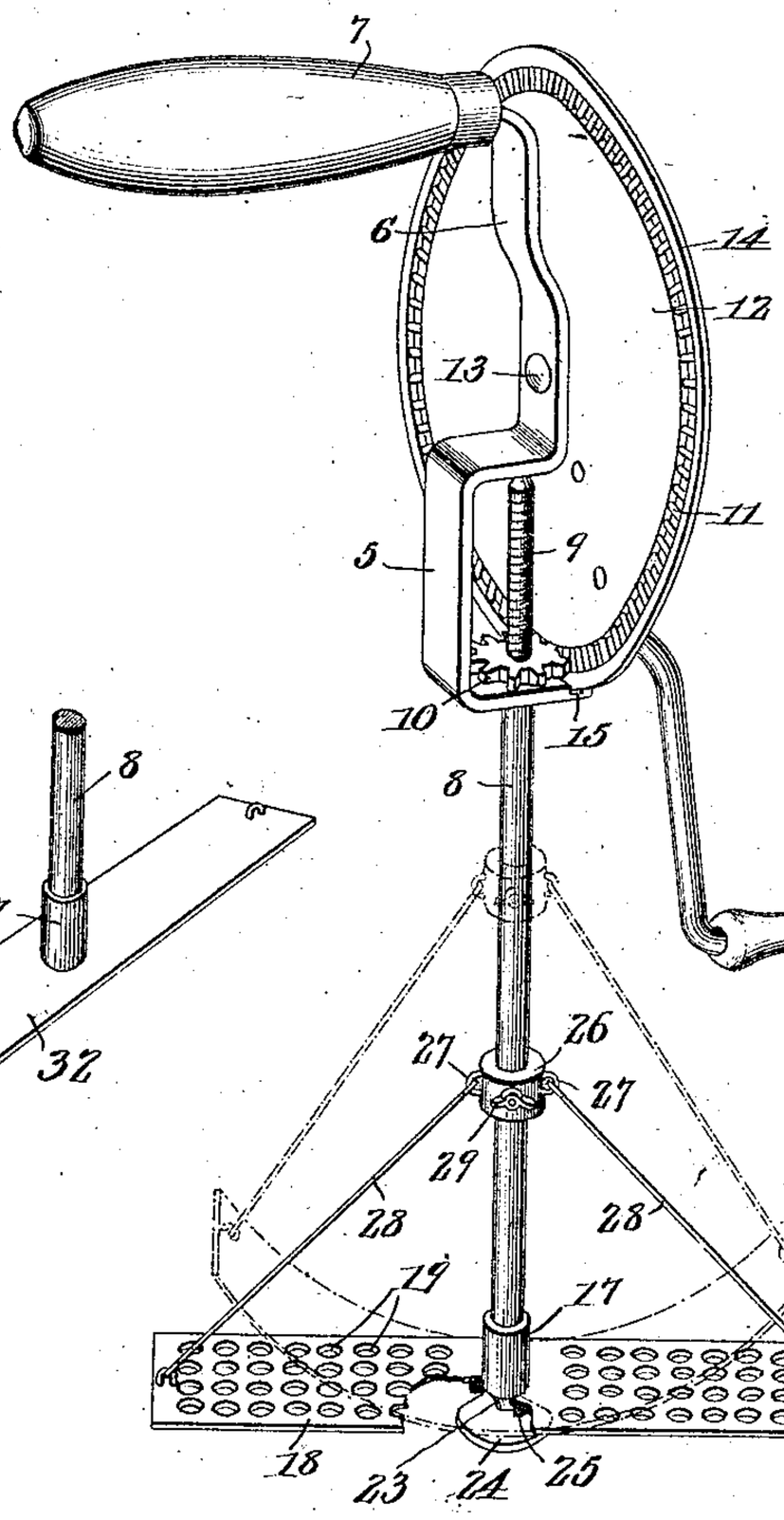

Fig. 1.

Fig. 4.

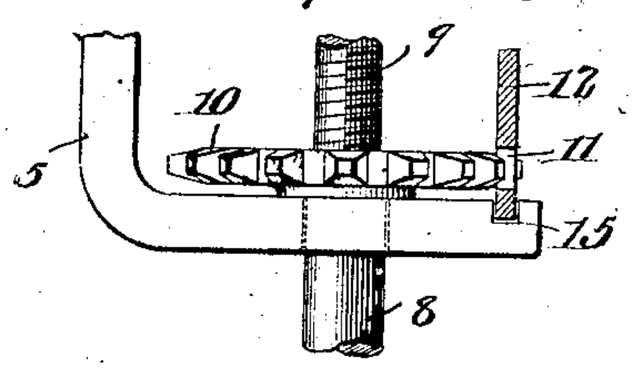

Fig. 3.

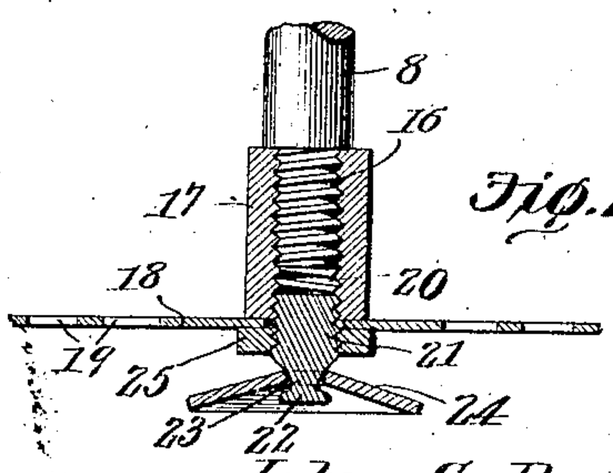

Fig. 2.

WITNESSES:

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JOHN S. DUNLAP, OF CHICAGO, ILLINOIS.

COMBINED EGG AND CAKE BEATER.

No. 845,341. Specification of Letters Patent. Patented Feb. 26, 1907.

Application filed May 19, 1906. Serial No. 317,774.

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 Combined Egg and Cake Beater, of which the following is a specification.

This invention relates to beaters or stirrers of that general class employed for beating and whipping cake, cream, eggs, batter, and other material.

The primary object of the invention is to provide a strong, durable, and efficient beater in which the beating or whipping is effected by a relatively thin stiff dasher or cutting-blade mounted for rotation in a containing vessel and adapted to cut or sever the material as the latter is thrown outwardly by centrifugal force in contact with the side walls of said vessel.

A further object of the invention is to form the operating-shaft with a swivel plate or disk adapted to bear against the bottom of the containing vessel, thereby to permit free rotation of the dasher or blade without undue friction between the shaft and vessel.

A further object is to provide a driving-gear adapted to engage a pinion on the operating-shaft for rotating the latter and means for locking the driving-gear in engagement with said pinion.

A still further object of the invention is to provide a detachable dasher or cutting-blade the opposite ends of which may be deflected upwardly to conform to the interior walls of the containing vessel and means for retaining the dasher in position on the operating-shaft.

With these and other objects in view the invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, and illustrated in the accompanying drawings, it being understood that various changes in form, proportions, and minor details of construction may be resorted to within the scope of the appended claims.

In the accompanying drawings, forming a part of this specification, Figure 1 is a perspective view of a beater constructed in accordance with my invention. Fig. 2 is a detail sectional view of the lower end of the operating-shaft, showing the construction of the dasher and swivel bearing-plate. Fig. 3 is a detail side elevation of the pinion and a portion of the driving-gear. Fig. 4 is a perspective view illustrating a modified form of dasher.

Similar numerals of reference indicate corresponding parts in all of the figures of the drawings.

The improved device comprises a supporting-frame, preferably formed of a single strip of metal, one end of which is bent laterally to produce an angularly-disposed bracket 5, while the opposite end thereof terminates in a vertically-disposed arm 6 for attachment to a handle 7.

Mounted for rotation in the bracket 5 is an operating-shaft 8, the upper end of which is threaded at 9 for engagement with a pinion 10, the latter being interposed between the arms of the bracket 5 for engagement with teeth 11, formed in the marginal edge of a master-gear 12. The master-gear 12 is mounted for rotation on a pin or stud 13, carried by the arm 6, and is provided with a smooth peripheral edge 14, adapted to engage a transverse groove or recess 15, formed in one of the arms of the bracket 5, thereby to lock said master-gear in engagement with the teeth on the pinion, and thus prevent accidental slipping of said teeth.

The free end of the shaft 8 is threaded at 16 for engagement with a sleeve 17, and bearing against said sleeve is a flat relatively stiff dasher or cutting-blade 18, having its major axis substantially parallel with the plane of its movement and provided with a plurality of spaced perforations 19, the walls of which form cutting edges for engagement with the cream, cake, or other material when the shaft 8 is rotated.

Engaging the interior threads 20 of the sleeve 17 is a depending pin 21, provided with a terminal head 22, defining a reduced neck 23, upon which is swiveled a bearing plate or disk 24, adapted to bear against the bottom of the containing vessel, so as to permit the dasher to rotate freely therein without danger of friction between the shaft and the walls of said receptacle. The disk 24 is preferably circular in shape and the central portion thereof concaved, as shown, so as to permit the peripheral edge of the plate to bear against the bottom of the receptacle and sustain the weight of the dasher and at the same time permit the head 22 to rotate within the concavity of the disk.

The dasher 18 is detachably secured to the operating-shaft by means of a nut 25, adapted to engage the threads on the pin 21, so

that when the nut is tightened the dasher will be forced upwardly into engagement with the sleeve 17, and thus effectually prevent independent rotation of the dasher on the operating-shaft.

When the beater is used for whipping or agitating cream, eggs, and similar light substances, a relatively thin dasher will be employed to permit the same to conform to the interior walls of a containing vessel; but when the device is used for whipping cake, batter, and similar heavy material the dasher will be made relatively stiff and non-flexible, so as to permit the latter to readily cut the material as the dasher is rotated.

As a means for deflecting the free ends of the dasher upwardly, so as to permit the same to conform to the interior walls of the containing vessel, there is provided a collar 26, mounted for sliding movement on the shaft 8 and provided with oppositely-disposed lugs or pins 27. Secured to each of the lugs on the collar 26 is one end of a wire or other flexible medium 28, the opposite end of which is detachably secured to the free end of the dasher, so that by adjusting the collar 26 vertically on the shaft 8 the free ends of the dasher may be deflected upwardly to any desired height, said collar being locked in adjusted position by means of a screw or similar clamping device 29. If desired, however, the collar and flexible wires 28 may be dispensed with, and the dasher instead of being disposed in a horizontal plane may be arranged at any desired angle with respect to shaft. The shaft 8 may be rotated in any suitable manner, and in the present instance a crank or handle 31 is employed, the latter being riveted or otherwise rigidly secured to the driving-gear 12, as shown.

In Fig. 4 of the drawings there is illustrated a modified form of the invention in which the dasher is constructed in the form of an imperforate bar or blade 32, which may be relatively thin and flexible or stiff and non-flexible, according to the use for which it is designed.

From the foregoing description it will be seen that there is provided an extremely simple and inexpensive device admirably adapted for the attainment of the ends in view.

Having thus described the invention, what is claimed is—

1. A beater including a shaft, a dasher detachably secured to the shaft, a threaded pin carried by the shaft, a bearing-plate swiveled on the pin, and a nut engaging the threads on the pin and bearing against the dasher.

2. A beater including a shaft, a dasher secured to the shaft, a threaded pin carried by the shaft and provided with a terminal head, a conical bearing-plate swiveled on the head of the pin, and a nut engaging the threads on the pin and bearing against the dasher.

3. A beater including a shaft having a threaded terminal, a sleeve engaging said terminal, a dasher bearing against the sleeve, a pin threaded in the sleeve, a bearing-plate swiveled on the pin and having its central portion concaved, and a nut engaging the threads on the pin for locking the dasher in engagement with the sleeve.

4. A beater including a shaft having a threaded terminal, a relatively stiff flat dasher detachably secured to the shaft and provided with cutting edges, a sleeve engaging the threaded terminal of the shaft, a threaded pin carried by the sleeve, a bearing-plate swiveled on the pin, and a clamping-nut engaging the threads on the pin and bearing against the dasher for locking the latter in engagement with the sleeve.

5. A beater including a shaft, a dasher secured to the shaft and having its major axis substantially parallel with the plane of its movement, means adjustable vertically of the shaft for deflecting the ends of the dasher, means for locking the deflecting means in adjusted position, and means for operating the shaft.

6. A beater including a shaft, a dasher secured to the shaft, means adjustable longitudinally of the shaft and operatively connected with the dasher for deflecting the free ends thereof upwardly, and means for rotating the shaft.

7. A beater including a shaft, a dasher secured to the shaft, a collar slidably mounted on the shaft, a flexible connection between the dasher and collar for deflecting the free ends of the latter upwardly, means for locking the collar in adjusted position, 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:
JOHN B. VAN KEUREN,
GEO. H. PAINE