

(No Model.)

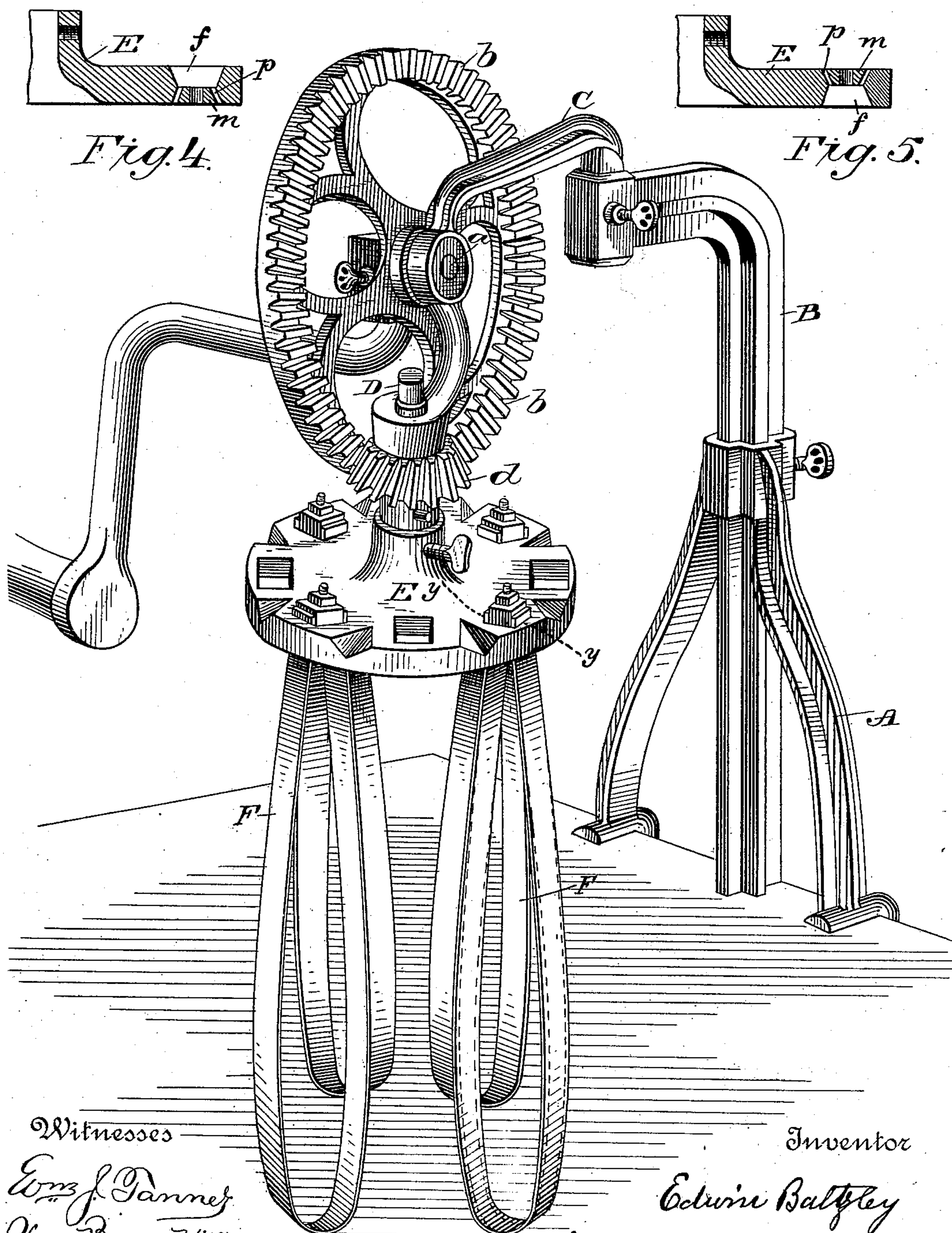
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E. BALTZLEY.
CULINARY BEATER.

No. 378,863.

Patented Mar. 6, 1888.

Fig. 1.



Witnesses

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Van Buren Hillyard.

Inventor

Edwin Baltzley

By his Attorneys

R. B. & A. P. Lacey

(No Model.)

2 Sheets—Sheet 2.

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Fig. 2.

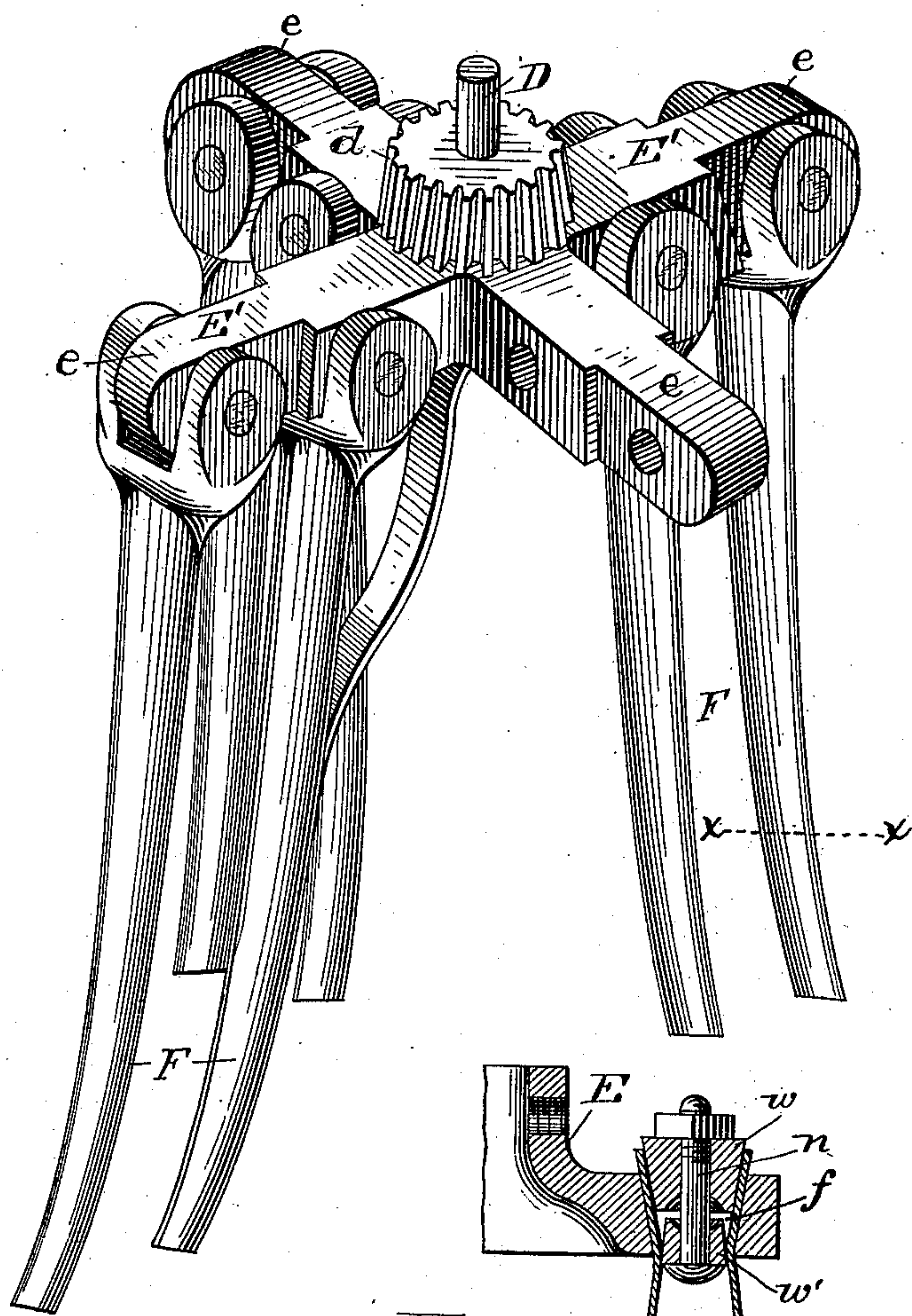


Fig. 6.

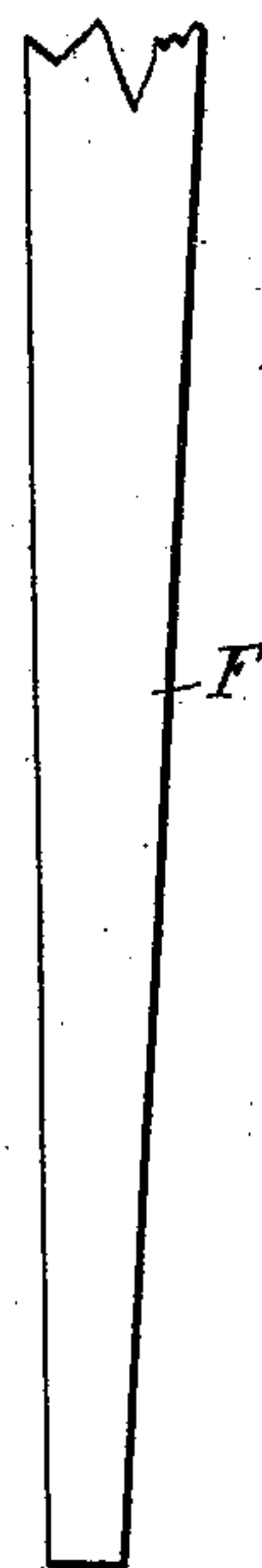


Fig. 3.

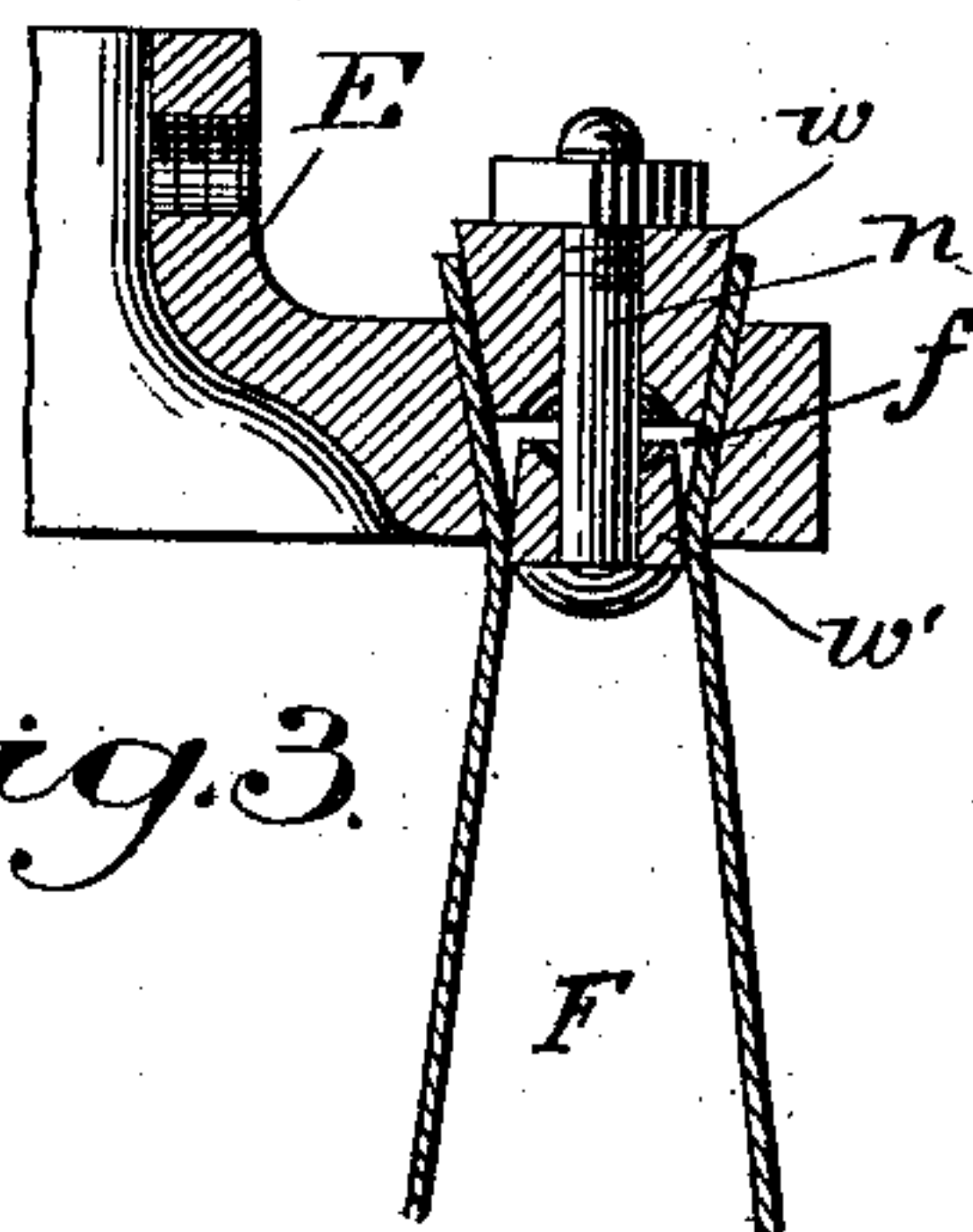
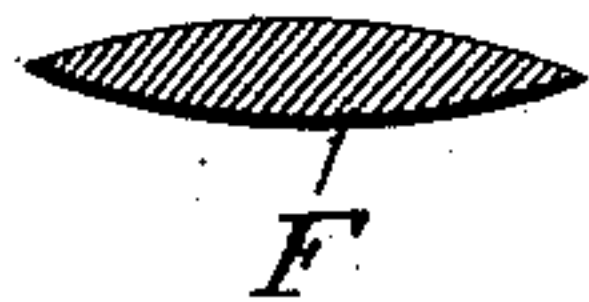


Fig. 7.



Witnesses

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UNITED STATES PATENT OFFICE.

EDWIN BALTZLEY, OF PHILADELPHIA, PENNSYLVANIA.

CULINARY BEATER.

SPECIFICATION forming part of Letters Patent No. 378,863, dated March 6, 1888.

Application filed May 16, 1887. Serial No. 238,364. (No model.)

To all whom it may concern:

Be it known that I, EDWIN BALTZLEY, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Culinary Beaters; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to devices for creaming, mixing, and kneading, and has for its object the production of a device which will be efficient and durable and perform the work intended rapidly and in a thorough manner, and in which the knife-beaters will present a minimum resistance-surface, which is a desideratum in kneading dough and mixing thick batters, and will be rigid and unyielding in the direction of their motion and free to move at right angles to their line of motion, if desired.

The improvement consists in having the beaters knife-shaped and arranged with their flat sides substantially parallel with the line of motion; in having the knife-beaters connected at their upper ends with the carrier and rigid or unyielding in the direction of their motion and free at their lower ends to move to and from the axis about which the knife-beaters travel; in the peculiar formation of the knife-beaters, which are preferably loop-shaped and have their upper ends separated and connected with the carrier; in the novel construction of the knife-beaters, which have their edges gradually approaching from top to bottom, thereby compensating for the strain and offering a minimum amount of surface for the adhesion of the substance operated on; in the novel means and provisions for securing the knife-beaters to the carrier, and, lastly, in the peculiar construction and combination of parts, which will hereinafter more fully appear.

In the drawings, Figure 1 is a perspective view of a whipper embodying my invention; Fig. 2, a perspective view of a modified form; Fig. 3, a detail sectional view of the carrier and knife-beaters on the line Y Y of Fig. 1;

Figs. 4 and 5, sectional views of modified forms; Fig. 6, a front view of a knife-beater having the upper portion broken away, and Fig. 7 a cross-section on the line X X of Fig. 2.

To illustrate the application of my invention, the following old instrumentalities are shown, namely: the standard or clamp A, the overhanging bracket B, adjustably connected with the standard, the frame C, the horizontal shaft or spindle *a*, the master gear-wheel *b*, the vertical shaft D, and the pinion *d*, keyed thereto and meshing with the master-wheel.

The carrier E, which supports the knife-beaters, may be of any desired pattern and shape and corresponding with the form of connection between it and the knife-beaters. It is preferably circular; but the form is immaterial, and it may be provided with a suitable pinion, *d*, which meshes with the master-wheel *b* and is driven thereby.

The knife-beaters F are connected at their upper ends with the carrier, and are free at their lower ends to move in and out or to and from the axis about which the carrier revolves. They are preferably thin and wide, and are arranged with their wide or flat sides substantially parallel with the line of motion or at right angles to radial lines extending from the axis around which the beaters travel, so that they will not yield in the direction of motion. By this arrangement the work of mixing thick batters, kneading dough, and creaming butter and sugar for pastry is lessened, because the thin or knife edge of the beaters cuts its way through and disintegrates lumps, &c., that may come in its path, while the dough, batter, and other substance adhering to the sides of the beaters are drawn forward and lightened, and the lateral movement works the mixture outward from the center and corresponds to the opening and closing of fingers and effects the same result.

The beaters F may be made of any desired material and pattern, provided they are thin and rigid in the direction of their width. If made of cast metal, the upper ends will be pivotally connected with the carrier, and are preferably bifurcated and embrace the arms *e*, composing the carrier E', and radiating from a hub. There may be one or more knife-beaters on an arm, according to the size of the machine, and the beaters may taper in width and

thickness from top to bottom and may be straight or curved slightly. The preferred form of knife-beater is made from a strip of flat material—either wood or metal—steel being best adapted for the purpose, in that it can be very thin and be rigidly connected with the carrier and possess sufficient elasticity to move laterally and yet remain firm and unyielding in the direction of travel or motion of the carrier, which is doubled on itself, forming a loop, and the ends are firmly secured to the carrier in any known manner, either by passing them through openings *f* in the carrier and passing two blocks, *W* and *W'*, between the separated ends from opposite sides of the carrier and drawing the blocks, which are wedge-shaped, together by bolts *n*, passed through them, thus clamping the ends of the beaters between the sides of the blocks and the sides of the openings; or one of the blocks may be dispensed with—either the upper or lower block—in which case it will be replaced by a cross-bar, *m*, made with the carrier and extended across the opening, leaving a space, *P*, on each side thereof for the insertion of the ends of the beater, which are passed through such openings, and the block is passed between the ends either from above or below, whichever is the case. Instead of the lower ends being connected, they may be separated, and the edges may approach each other, thus forming a tapering beater.

From the foregoing description, reference being had to the drawings, the operation of the device can be readily comprehended. The knife-beaters being revolved, cut their way through the mixture with very little difficulty, and, moving laterally or outward, work it up thoroughly. The knife-edge offers very little resistance to the passage of the beater through the heaviest batter or mixture and the toughest dough.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination, with the revoluble carrier, of the knife-beater composed of a thin flat bar connected at its upper end with the carrier rigid or unyielding in the direction of the motion of the carrier, and having its lower end free to swing laterally or outward, substantially as and for the purpose described.

2. The combination, with the revoluble carrier, of the knife-beater composed of a flat bar formed into a loop, the ends of which are sepa-

rated and fixedly secured to the carrier, having the outer ends free to swing outward, substantially as and for the purpose described.

3. The combination, with the revoluble carrier, of the knife-beater connected with the carrier and rigid or stiff in the direction of its motion and free to swing outward, substantially as and for the purpose described.

4. The combination, with the revoluble carrier, of the knife-beater composed of a flat bar tapering in width and connected with the carrier at its upper end rigid or unyielding in the direction of the motion of the carrier and free to swing outward at its lower end, substantially as set forth.

5. The combination, with the revoluble carrier, of the knife-beater having knife-edges composed of a flattened bar tapering in width and thickness from top to bottom and connected with the carrier at its upper end rigid or unyielding in the direction of the motion of the carrier and free to swing outward at its lower end, substantially as set forth.

6. The combination, with the carrier having openings therein and the knife-beaters, of the block fitted into the opening, and means, substantially as described, for clamping the beater between its side and the side of the opening, substantially as set forth.

7. The combination, with the carrier having openings and the ends of two knife-beaters fitted in the opening, of the block inserted between said ends, and means, substantially as described, for clamping them between its sides and the sides of the opening, substantially as specified.

8. The combination, with the carrier having openings, and the loop-shaped beater having its ends inserted in one of the openings, of the block inserted between the ends, and means, substantially as described, for clamping the ends of the beater, the sides of the block, and the sides of the spring.

9. The combination, with the carrier having openings, and the loop-shaped beater having its ends fitted in the opening, of the two wedge-shaped blocks fitted between said ends and the bolt for drawing the blocks together, substantially as set forth.

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

EDWIN BALTZLEY.

Witnesses:

L. L. JOHNSON,
M. A. BAILLINGER.