

No. 776,791.

PATENTED DEC. 6, 1904.

E. M. MORGAN.  
BEATER FOR EGGS, CREAM, &c.  
APPLICATION FILED OCT. 15, 1902.

NO MODEL.

FIG. 1.

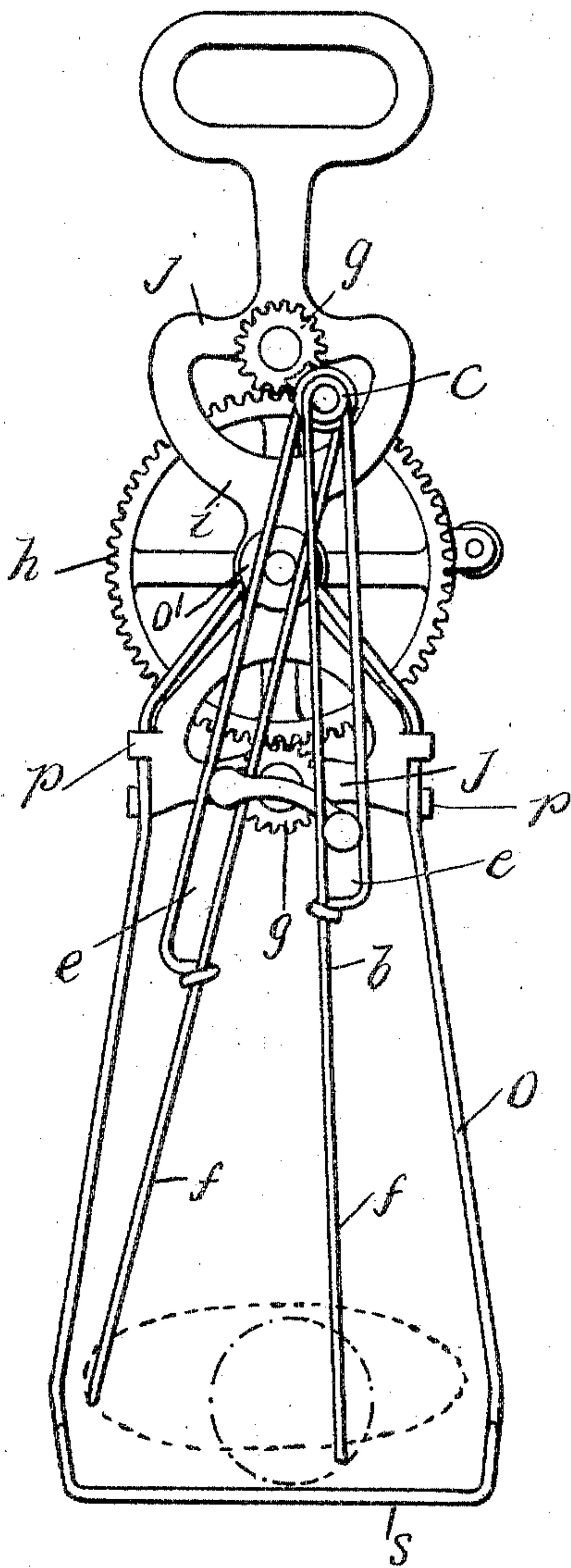
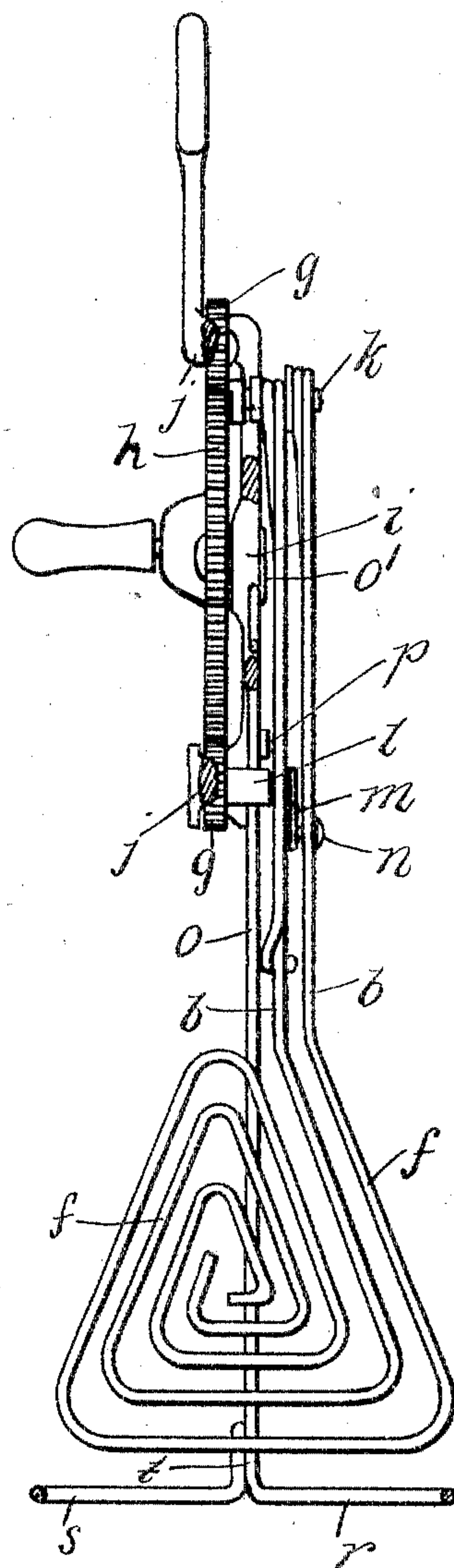


FIG. 2.



Witnesses

Alex. Currie  
Wm. H. Shaw

Edward M. Morgan  
Inventor

By Attorney

Wm. H. Shaw



# UNITED STATES PATENT OFFICE.

EDWARD MOMPESSEON MORGAN, OF WESTMOUNT, CANADA.

## BEATER FOR EGGS, CREAM, &c.

SPECIFICATION forming part of Letters Patent No. 776,791, dated December 6, 1904.

Application filed October 15, 1902. Serial No. 127,360. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD MOMPESSEON MORGAN, doctor of medicine, a resident of the town of Westmount, in the district of Montreal, Province of Quebec, Dominion of Canada, have invented certain new and useful Improvements in Beaters for Eggs, Cream, &c.; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention may be said, briefly, to consist in providing a beater or whipper for eggs, cream, or the like having a pair of dashers revoluble in opposite directions and adapted to pass through one another during their revolution; and it further consists in the specific construction and arrangement of the parts thereof.

For full comprehension, however, of my invention reference must be had to the accompanying drawings, forming a part of this specification, in which similar reference characters indicate the same parts, and wherein—

Figure 1 is a side elevation of a beater or whipper constructed according to my invention, and Fig. 2 is a similar view taken at right angles to Fig. 1.

Each dasher consists of a single length *b* of wire, bent to form an eye *c* at its upper end, and a resilient loop *e*, extending from said eye to about midway the length of the beater, while the dasher end proper, *f*, is bent into substantially flattened volutoid form, the convolutions of one dasher being of different measurement to the corresponding convolutions of the other to allow the dasher ends proper to pass through one another. These dashers are carried and actuated by a pair of pinions *g*, one located at each side of and intermeshing with a driving-gear *h*, pivoted upon a frame *i*. This frame consists of a piece of X form having a pair of cross-pieces *j* at each end thereof and offset slightly to positions beyond the driving-gear. The pinions *g* are rotatably mounted upon pins upon the inner sides of the cross-pieces, and each pinion has a radial arm *k* and *l*, the arm *k* upon the upper pinion being longer than the arm upon the lower pinion and having the eyes at the ends of the dasher-arms pivoted thereon, while the arm *l* has a cranked arm *m* rigidly upon the end thereof and pro-

jecting across its carrying-pinion, the end of this cranked arm having a headed stud *n* thereon. The resilient loops of the beater-arms are sprung over the outer end of the arm *l* and the stud *n*, respectively, and the loop of the beater-arm sprung over the arm *l* is of greater length than the loop of the other arm.

The supporting end of the carrying-frame consists of a piece of wire *o*, bent in the form of a U, with the ends of its legs sprung between projections *p* upon the main carrying-frame and bent inwardly toward the middle thereof, where said ends are inserted in holes in the frame, where they are held by the riveted end *o'* of the stub-spindle of the main gear, while the supporting end proper, *r*, is offset at right angles and presents a curved bearing-surface, and a correspondingly-curved wire *s* is secured at its ends, as at *t*, to the bends in said bearing end, thus constituting a substantially circular or oval support. The arm *l* upon the lower pinion is disposed a less distance from the center of its carrying-pinion than the stud *n*, the object being to give one beater a throw that will describe an oval, while the other beater will describe substantially a circle, this being caused by the different throws combined with the same extent of lift and depression imparted by the upper pinion.

An advantage of having one beater of greater area than the other is that a flow of the substance being beaten will constantly follow the beater of larger area even if such beaters revolve in opposite directions.

What I claim is as follows:

1. In a beater the combination with a carrying-frame, of a pair of dashers having a reciprocating and oscillating movement, and means for reciprocating said dashers in opposite directions in a vertical plane.

2. In a beater the combination with a carrying-frame, of a pair of dashers having a reciprocating and oscillating movement, means for rotating said beaters in opposite directions in a vertical plane, and means for causing said beaters to follow paths of different contour and longitudinally of the beater, for the purpose set forth.

3. In a beater the combination with a car-



rying-frame, of a main driving-gear rotatably mounted upon said carrying-frame, a pair of pinions one located above and one below said main driving-gear, a pair of dashers, means  
5 connecting said dashers to said pinions and means coacting with said pinions whereby said dashers have imparted thereto a reciprocating and oscillating movement.

4. In a beater the combination with a carrying-frame, of a main driving-gear rotatably  
10 mounted upon said carrying-frame, a pair of pinions one located above and one below said main driving-gear, a crank-arm upon said lower pinion, a pair of dashers pivotally connected at their upper ends to the upper pinion and slidably connected to each end of said  
15 crank-arm, said dashers having a reciprocating and oscillating movement substantially as described and for the purpose set forth.

20 5. In a beater the combination with a carrying-frame and a pair of dashers having a reciprocating and oscillating movement, of a rotary part having a pair of pivot-points thereon at different distances from the center,  
25 means for rotating said rotary part, means for reciprocating said dashers with their upper ends coinciding, and means for slidably connecting said dashers to said pivot-points upon the rotary part.

30 6. In a beater the combination with a carrying-frame and a pair of dashers having a reciprocating and oscillating movement, of a pinion having a pair of pivot-points thereon at different distances from the center, means  
35 for rotating said pinion, means for reciprocating said dashers with their upper ends coinciding, and means for slidably connecting said dashers to said pivot-points upon the pinion.

40 7. In a beater the combination with beating or whipping means of a support adapted to rest upon the receptacle containing the substance being beaten or whipped and consisting of a single length of rigid wire bent to  
45 present a pair of rigid legs supporting the beating or whipping means at their upper ends and having a complete annular horizontal bearing part at their lower ends of a diameter greater than that of the horizontal orbit of the whipping means, substantially as  
50 described and for the purpose set forth.

8. In a beater the combination with a carrying-frame of X form having cross-pieces at its upper and lower ends and offset therefrom, a  
55 driving-gear rotatably mounted upon one side of said frame between said cross-pieces, a pair of pinions rotatably mounted upon the sides of the cross-pieces opposite to that upon which the main driving-gear is mounted and intermeshing with said main driving-gear, a radial  
60 arm upon the upper pinion, a radial arm upon the lower pinion and having a cranked arm thereon of greater length than the radial arm, a pair of dashers pivoted at their upper ends

to the arm upon the upper pinion and slidably  
65 connected midway of their length to the arm upon the lower pinion and the end of the cranked arm thereon, respectively said dashers having a reciprocating and oscillating  
70 movement and a support for said frame, substantially as described and for the purpose set forth.

9. A flat dasher-arm made from a single piece of wire bent at its lower end into substantially volutoid form in the longitudinal  
75 plane of the dasher-arm and means for reciprocating such dasher-arm and moving the volute bodily in a direction at substantially right angles to its flat side, substantially as described.  
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10. A dasher-arm made from a single piece of wire bent to form an eye at its upper end, a resilient loop extending from said eye to about midway the length of said dasher and its lower end bent into substantially volutoid  
85 form in a plane longitudinally of said dasher-arm, substantially as described.

11. In a beater, a pair of dashers each comprising a strand of volutoid form the volute of one being of less area than that of the other  
90 and means for reciprocating such dashers in opposite directions with each volute passing bodily through the other in a direction substantially at right angles to its flat side and causing a flow constantly in the same direction.  
95

12. In a beater the combination with means for reciprocating a pair of dasher-arms, of a pair of dasher-arms reciprocated by said means in opposite directions with a reciprocating and oscillating movement the dasher ends  
100 proper of said arms being of substantially volutoid form and each in a plane longitudinally of the arm of which it forms a part, and the convolutions of one being of different measurement to the corresponding convolutions of  
105 the other, substantially as described and for the purpose set forth.

13. A dasher-arm consisting of a strand bent to present substantially a triangle with its base at one extremity thereof and means for  
110 reciprocating such dasher-arm and moving the triangular portion thereof bodily in a direction at substantially right angles to its flat side.

14. In a beater, a pair of dashers each comprising a strand of volutoid form bent to present substantially a triangle with its base at one extremity, the volute of one being of less area than that of the other and means for reciprocating such dashers in opposite directions  
115 with one volute passing through the other and causing a flow constantly in the same direction.  
120

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

EDWARD MOMPESON MORGAN.

Witnesses:

WILLIAM P. McFEAT,  
FRED J. SEARS.