

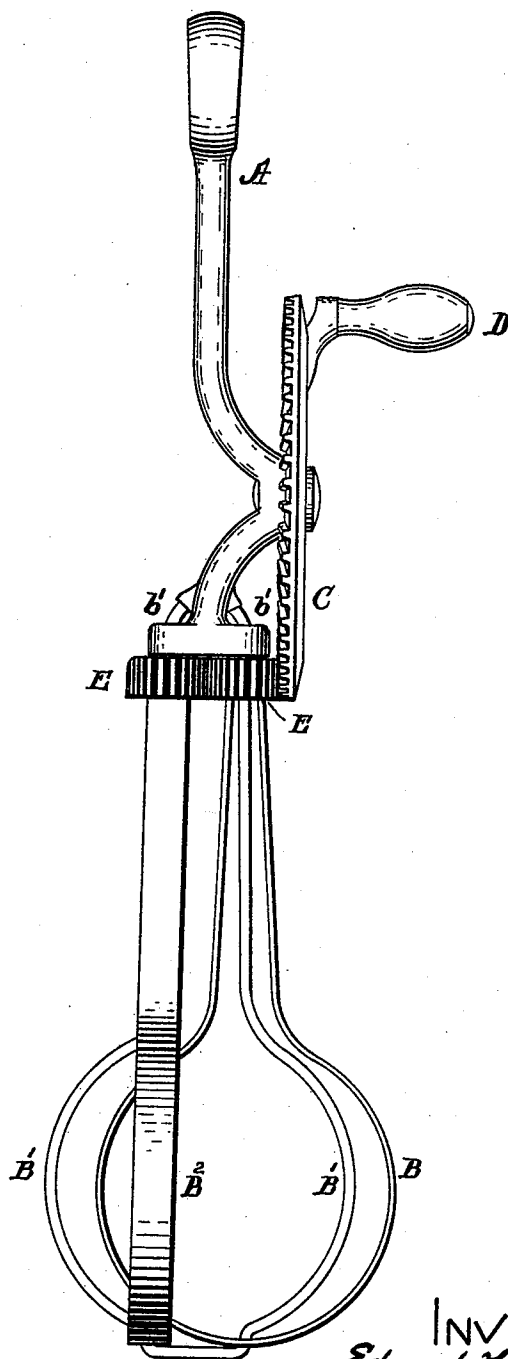
(No Model.)

2 Sheets—Sheet 1.

E. H. WHITNEY & J. L. KIRBY.
EGG BEATER.

No. 463,818.

Patented Nov. 24, 1891.



WITNESSES.

J. W. Dolan
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FIG. 1.

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(No Model.)

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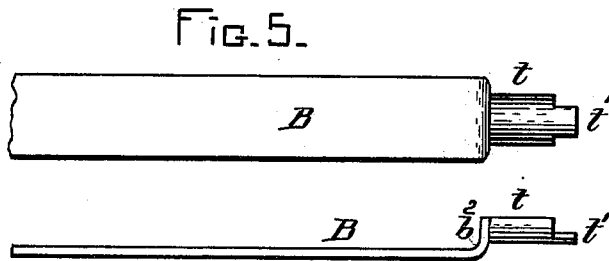
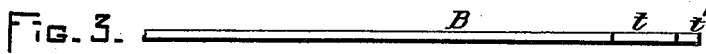
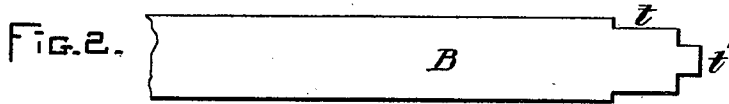


FIG. 6.

FIG. 7.

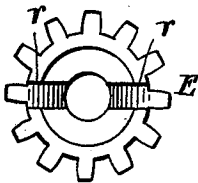


FIG. 8.

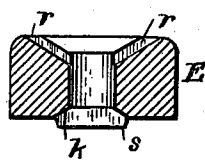


FIG. 10.

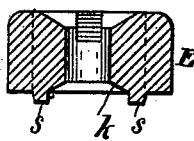


FIG. 9.

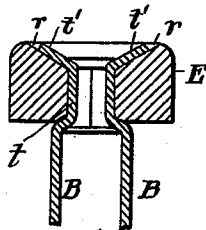
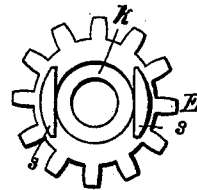


FIG. 11.

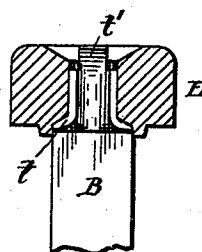


FIG. 12.

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UNITED STATES PATENT OFFICE.

EDWARD H. WHITNEY AND JOHN L. KIRBY, OF CAMBRIDGE, ASSIGNORS TO
THE DOVER STAMPING COMPANY, OF BOSTON, MASSACHUSETTS.

EGG-BEATER.

SPECIFICATION forming part of Letters Patent No. 463,818, dated November 24, 1891.

Application filed July 16, 1891. Serial No. 399,688. (No model.)

To all whom it may concern:

Be it known that we, EDWARD H. WHITNEY and JOHN L. KIRBY, both of Cambridge, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Egg-Beaters, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification, in explaining its nature.

This invention relates to egg-beaters; and the particular part of the egg-beater to which it relates is the connection and combination of the beating-floats of a mechanical egg-beater with the driving-pinion thereof. It is shown in connection with the mechanical egg-beater which has two interlocking beating-floats revolving upon different but parallel or nearly parallel axes, but of course would be applicable to any other mechanical egg-beater in which the beating-floats are attached to a wheel or pinion.

In the drawings, Figure 1 is an elevation of an egg-beater of the sort above referred to, the construction of which, so far as it relates to the interlocking floats, was patented May 31, 1870, No. 103,811. Fig. 2 is a view in upper part of one of the beating-floats taken flatwise, and Fig. 3 is a similar view of one of the beating-floats taken edgewise, these views being taken after the wire is cut. Figs. 5 and 6 are similar views, one flatwise and one edgewise, of the upper part of a beating-float after its tang has been shaped for application to the cogs. Fig. 7 is a plan of the upper part of a cog-pinion. Fig. 8 is a transverse section of one of the cog-pinions. Fig. 9 is a plan of the bottom of one of the cog-pinions, and Fig. 10 is a transverse section of one of the cog-pinions at right angles with the section Fig. 8. Fig. 11 is a transverse section of one of the cog-pinions with the float applied, and Fig. 12 is a similar transverse section at right angles to the one shown in Fig. 11.

Various methods have been devised for attaching the flat beating-floats of mechanical egg-beaters to the cog-pinions which carry them. One of these methods was by forming two staples on the under side of the cog-pinions, through which the flat wire of the floats was passed, and these flat wires, being lapped

over each other and bored through, were easily and readily held in place by passing the wire frame through them. Another way was by recessing the interior of the cog-pinion and soldering the floats in place by the insertion of a Babbitt-metal bushing put in hot. Another way was to form the ends of the floats to fit specially-made recesses in the cogs by driving in a hard-metal bushing. Another way was to fasten together the cog-pinion and beating-floats by an eyelet passed through holes in the float and forming the bushing of the pinion. Another way was to cast a spur or projection from the center of the pinion and rivet the beating-floats upon it.

In the present method the axis of the pinion is bored out from top to bottom and the pinion is slightly concaved on top and provided on top with small recesses. It is also provided at the bottom with two small starts or projections the width of the float apart. The float is formed with a tang of the length of the bore of the cog and with a short secondary tang at the outer end of the tang just referred to. The first tang is formed to fit the interior of the pinion, and the two parts of the float thus shaped form a cylinder of the size of the cylindrical wire of the supporting-frame of the beater. The edges of these two curved tangs being brought together, they are inserted in the hollow of the pinion, and the supplemental or terminal tang is turned down into the recesses upon the upper side of the pinion. The recesses on the upper side of the pinion are at right angles with the line of the projections on the under side of the pinion, and the width of the beating-float fits between these lower projections, and thereby the float is steadied, the pinion is bushed, and the whole very firmly fastened together.

In the drawings, A is the handle of the beater. B B' are the beating-floats. They are made of flat wire. B' is the frame around which the beating-floats revolve and which is fastened to the handle, as shown at b' in Fig. 1. The pinions are marked E E'. They are driven by the cog-wheel C, mounted on the side of the handle A, which is driven by a driving-handle D. The beating-floats, made of flat wire, are formed at each end into a primary tang t, on the end of which is a second-

ary tang t' . The beating-float near its junction with the tang t is bent, as shown in Fig. 6 at b^2 , toward the tang t , and the tang t is then bent at right angles and concaved into one-half of a hollow cylinder. It is obvious that if two of these pieces are put together edge to edge a hollow cylinder will be made, and the exterior of this cylinder is to be of such a size as to readily fit the interior of the pinion E and form a bushing thereto. The pinion E is concave on top, as shown in Figs. 7 and 8, and at opposite ends of a diameter two recesses r are made below the general surface of the concavity. Upon the under side of this pinion are raised two spurs s near opposite ends of a diameter, which diameter is transverse to the diameter running through the recesses r . These spurs s are separated from each other by a distance equal to the width of the beating-float B. The pinion is concave below, as shown at k in Figs. 8, 9, and 10, into which concavity the curvature shown at b^2 is adapted to fit. The pinion E is bored through its center, and the curved tangs of the two branches of the beating-float shown in Fig. 1 have their edges brought together, and the double tang (now cylindrical) is inserted in the axial cavity of the pinion and the supplemental tangs t' are turned down into the recesses r , fastening the whole firmly together.

We claim as our invention and desire to secure by Letters Patent of the United States—

1. As a beating-float for a mechanical egg-beater, the float B, formed at each of its free ends into a tang molded into the form of a hollow half-cylinder t and provided with the supplemental tang t' , substantially as and for the purpose described.

2. As an improvement in the mechanical

egg-beater, the pinion E, centrally and cylindrically pierced and formed with cogs on its exterior edge and concaved on its two faces and provided with recesses r and spurs s , substantially as and for the purpose described.

3. As an improvement in the mechanical egg-beater, the combination of the float B, having its ends formed with the semi-cylindrical tangs t and supplemental tangs t' , with the pinion E, centrally and cylindrically pierced and provided with cogs on its edge and concave on its two faces and provided with recesses r and spurs s , all co-operating together, substantially as and for the purposes described.

4. As an improvement in the mechanical egg-beater, the beating-float B, formed at its ends into the semi-cylindrical tang t and provided with a supplemental tang t' , in combination with the pinion E, centrally and cylindrically pierced and furnished with cogs upon its edge and concave on its faces, and provided with recesses r and spurs s , and in further combination with the wire frame B', substantially as and for the purpose described.

5. As an improvement in the mechanical egg-beater, the beating-float B, provided with the semi-cylindrical tang t and auxiliary tang t' , in combination with the pinion E, provided with teeth upon its edge and concave upon its faces and formed with recesses r and spurs s , and the wire frame B', handle A, and driving-wheel C, all substantially as and for the purpose described.

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