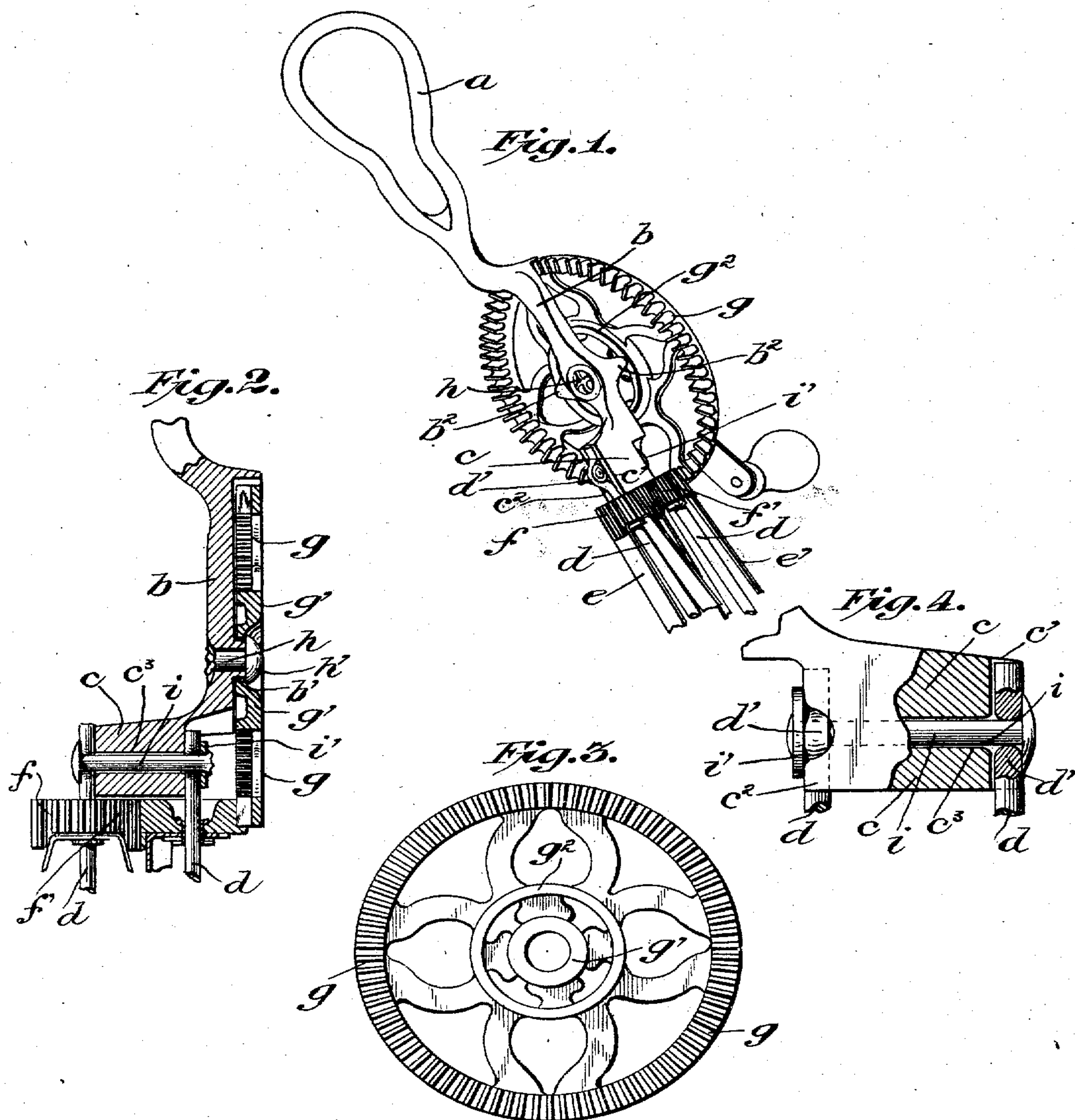


G. C. PARISH.
EGG BEATER.
APPLICATION FILED AUG. 10, 1904.



Witnesses
G. C. Mitchell
F. J. Wentworth

Graham C. Parish, Inventor
By his Attorney
M. L. Frothingham

UNITED STATES PATENT OFFICE.

GRAHAM C. PARISH, OF KINGSTON, NEW YORK.

EGG-BEATER.

No. 808,613.

Specification of Letters Patent.

Patented Dec. 26, 1905.

Application filed August 10, 1904. Serial No. 220,174.

To all whom it may concern:

Be it known that I, GRAHAM C. PARISH, a citizen of the United States, residing at Kingston, in the county of Ulster and State of New York, have invented certain new and useful Improvements in Egg-Beaters, of which the following is a specification, reference being had therein to the accompanying drawings, which form a part thereof.

My invention relates and is particularly adapted to the type of egg-beater generally termed the "Dover," wherein there is a beater-frame permanently attached to the handle, about which the beater-blades and their intermeshing pinions rotate, and a main actuating-gear journaled on the handle-shank, which is in mesh with one of said pinions. It has heretofore been the common practice to mount said main gear on the shank by means of a headed rivet, which served the twofold function of an axle for said gear and to hold said gear in relation to the handle. Owing to the necessity for economy of production, the handle of such beaters and its appurtenances have been made of cast-iron, and it has been found that a rivet is not capable of being fitted well to said handle, so as to give it stability as an axle, nor the gear so accurately drilled as to provide an accurate bearing for said rivet. These defects in the structure of the general type of Dover beater have resulted in a looseness of the main gear, which has resulted in an imperfect engagement thereof with its pinion after short wear, with a resultant wear on all parts, which in addition to great inconvenience to the user has tended to materially shorten the life of the beater. A further defect in this type of beater, contributing to a greater or less extent to the above-mentioned result, has been the tendency of the beater-frame to work loose and permit the pinions mounted thereon to move out of mesh with the main gear after small wear has occurred on the several contacting faces and also to give an undesirable looseness to the standards of the beater when in use.

The main object of the invention is to provide in an egg-beater a construction of main gear and axle therefor which will relieve the securing-rivet of its function of axle for said gear and provide a permanent immovable axle therefor, while admitting of a convenient and inexpensive assembling of the parts.

A further object is to provide in addition to this fixed bearing suitable means for so balancing the said gear as to compensate for any

slight irregularities of said axle; and a still further object is to provide a simple, convenient, and inexpensive means of attachment of the beater-frame to the handle-casting.

The invention consists in the novel features of construction hereinafter set forth and described, and more particularly pointed out in the claims hereto appended.

Referring to the drawings, Figure 1 is a perspective view of the upper part of an egg-beater embodying my invention. Fig. 2 is a sectional view thereof. Fig. 3 is a view of the main gear detached from the beater; and Fig. 4 is an enlarged view, partly in section, showing the means of attachment of the beater-frame to the butt of the handle.

Like letters refer to like parts throughout the several views.

In the drawings, *a* indicates the handle of the beater, which is provided with an elongated shank *b*, carrying the main gear, and a butt *c*, to which the beater-frame *d* is permanently secured. *e e'* denote the beater-blades, rotating, respectively, upon one of the standards of the beater-frame *d* and carrying the intermeshing pinions *f f'*, through which they are actuated by the main gear *g*. The general relation and construction of these parts are as in the ordinary so-called "Dover" beater, this invention appertaining more particularly to the details of construction by which said parts are maintained in relation to each other.

The main object of this invention is attained by providing a permanent axle for the main gear *g*, comprising a stud *b'*, made integrally with the shank *b* and disposed thereon at a point to conform with the diameter of said gear, which stud has a central opening extending therethrough. The main gear *g* is mounted upon said stud by means of a hollow hub presenting bearing-faces which by encircling said stud and bearing upon the periphery thereof engage both said stud and the shank *b*, means being provided for holding said gear upon said stud, as the headed rivet *h*, passing through the opening in said stud, and its head engaging said gear. This rivet may be of any desired design, as its operative parts are the head *h'*, which prevents lateral movement of the gear *g*, and its upset end, which retains the rivet in place. Preferably the stud is of approximately the same height as the hub *g'*, so as to relieve said hub of pressure from the said rivet. While this construction alone will prevent to a great extent lateral oscillations of the main gear *g*, I pre-

fer to provide additional means for preventing such movement, comprising the balance-rim g^2 on the main gear, which is adapted to come into close juxtaposition to the shank b and with the side extensions b^2 b^2 thereof, which combination of parts provides the necessary diametrically opposite points to hold the wheel perfectly true.

The butt c on each end thereof is provided with oppositely-disposed parallel ribs or flanges c' c^2 , one of which, as c^2 , is cut away centrally thereof, as shown in Fig. 4. A hole c^3 is drilled through said butt between said flanges and opposite said cut-away portion. In attaching the beater-frame to said butt c the ends of said frame are notched or indented to form a laterally-extended loop, and this looped portion is seated in the cut-away portion of the flange c^2 , the straight portions of the standards adjacent thereto resting between the flanges c' and c^2 . When the looped portions d' are in place, a single-headed rivet, as i , is passed through the hole c^3 and both said looped portions, a washer i' passed over the free end thereof, and the rivet upset. As the head of the rivet and the washer i' each incloses the looped portion of the standards, the same are simultaneously secured to said frame by this process.

The operation of the structure herein described is apparent from the description and the accompanying drawings. The parts being assembled as specified, the relation of the gear g to the shank b is such as to entirely relieve the securing-rivet h from any strains thereon through its rotation, as said gear rotates solely upon the stud b' . The depth of this stud and the cooperating hub g' limits the tendency of the gear g to oscillate materially, and the said rivet being seated in an elongated opening extending through said stud and having its head engaging said gear g serves to hold said gear upon said stud and prevent any such side movement thereof on said stud as would permit it to ride upon the pinions f or f' . The balance-rim g^2 in cooperation with the shank b and side extensions b^2 b^2 , owing to the close juxtaposition of these parts, serves as a further limitation upon the tendency of the main gear to run out of true, and thus serves to aid in relieving the head of the rivet h from such strains as would tend to work said rivet loose and defeat the objects of the invention. It is necessary, however, not only that the main gear g should be made to run true, but that the standards of the frame d should be so firmly secured in relation to the handle as to impart to the pinions f f' such a degree of stability and permanency as will prevent such movement on their part as will permit them to move so as to get the pinions thereon out of mesh with the main gear. In action the parallel ribs or flanges c' c^2 hold the parts of the frame on each side of the looped portions d' so as to prevent lateral movement. The

looped portions d' , projecting into the cut-away portion of each rib c^2 , prevents vertical movement of the entire frame, and the rivet i and washer i' , engaging both said looped portions, bind them firmly upon the butt c within the space between the ribs c' c^2 , aid in preventing such vertical movement, and prevent such a separation of the standard ends as would permit them to escape from between said ribs and the cut-away portion of the rib c^2 . The assembled structure in its entirety therefore possesses permanency and stability and in use will not have that looseness of parts which tends to make the use of the beater unsatisfactory and unreliable.

It will be observed that the construction and arrangement of the main gear and its bearing admit of the various parts being cast as usual, and, further, that the operation of assembling these parts is simplified, as it is not requisite that the securing-rivet should be carefully selected to insure a good fit both as to the hole in the shank and that in the gear g , as is the case with the ordinary type of Dover beater. Furthermore, the means of attachment of the frame to the butt c of the handle while, as stated, preventing material movement of the frame is also quickly assembled and in a manner to effectively bind the parts together.

It is not my intention to limit the invention to the precise details of construction or combination of parts as herein shown and described, as it is apparent that such may be varied without departing from the spirit and scope of the invention.

Having described the invention, what I desire to have protected by Letters Patent, is—

1. In an egg-beater, the combination with a handle, a shank therefor, a hollow stud on said shank, a beater-frame carried by said handle, a rotary beater-blade mounted on said frame and a pinion actuating said blade, of a main gear, a hollow hub therefor presenting surfaces adapted to encircle said stud and bear upon the periphery thereof, and means passing through said stud and engaging said gear whereby said gear is held on said stud.

2. In an egg-beater, the combination with a handle, a shank therefor, a hollow stud on said shank, a beater-frame carried by said handle, a rotary beater-blade mounted on said frame and a pinion actuating said blade, of a main gear, a hollow hub therefor presenting surfaces adapted to encircle said stud and bear upon the periphery thereof, and a headed rivet passing through said hollow stud and engaging said gear, and having its free end upset whereby said gear is held on said stud.

3. In an egg-beater, the combination with a handle, a shank therefor, having a hollow stud thereon, a beater-frame carried by said shank, a rotating beater-blade mounted on said frame and a pinion actuating said blade, of a main gear having a balance-rim thereon ex-

tending into close juxtaposition to said shank, and a hub mounted upon said stud and means passing through said stud and engaging said gear, whereby said gear is held on said stud.

5 4. In an egg-beater, the combination with a handle, a shank therefor having a hollow stud and side extensions thereon, a beater-frame carried by said shank, a rotating beater-blade mounted on said frame, and a pinion
10 actuating said blade, of a main gear having a balance-rim thereon extending into close juxtaposition to said shank and said extensions, and a hub mounted upon said stud and means passing through said stud and engaging said
15 gear, whereby said gear is held on said stud.

5. In an egg-beater, the combination with a handle, a shank therefor, a butt provided with parallel vertical ribs on opposite sides thereof having a hole extending laterally
20 therethrough, one of said ribs being cut away opposite said hole, a beater-frame the opposite ends of which are formed with a looped portion adapted to enter said cut-away portion, a rivet passing through said opening and both
25 said looped portions whereby said frame is secured in place, a plurality of rotating beater-

blades mounted on said frame, intermeshing pinions carried thereby and a main gear mounted on said shank and meshing with one of said pinions.

6. In an egg-beater, the combination with a handle, a shank therefor, a butt provided with parallel vertical ribs on opposite sides thereof having a hole extending laterally
35 therethrough, one of said ribs being cut away opposite said hole a beater-frame, the opposite ends of which are formed with a looped portion adapted to enter said cut-away portion, a rivet passing through said hole and
40 both said looped portions, a washer on the free end of said rivet, whereby said frame is secured in place, a plurality of rotating beater-blades mounted on said frame, intermeshing
45 pinions carried thereby and a main gear mounted on said shank and meshing with one of said pinions.

In witness whereof I have hereunto affixed my signature this 11th day of February, 1904.

GRAHAM C. PARISH.

Witnesses:

VIRGIL B. VAN WAGONER,
HELEN A. JANES.

Correction in Letters Patent No. 808,613.

It is hereby certified that Letters Patent No. 808,613, granted December 26, 1905, upon the application of Graham C. Parish, of Kingston, New York, for an improvement in "Egg-Beaters," was erroneously issued to said Parish, whereas said Letters Patent should have been issued to *The W. G. Browne Manufacturing Company of Kingston, N. Y., a corporation of New York*, as shown by the records of this office; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 9th day of January, A. D., 1906.

[SEAL.]

W. H. Mortimer
Chief D. U. B.

F. I. ALLEN,
Commissioner of Patents.

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