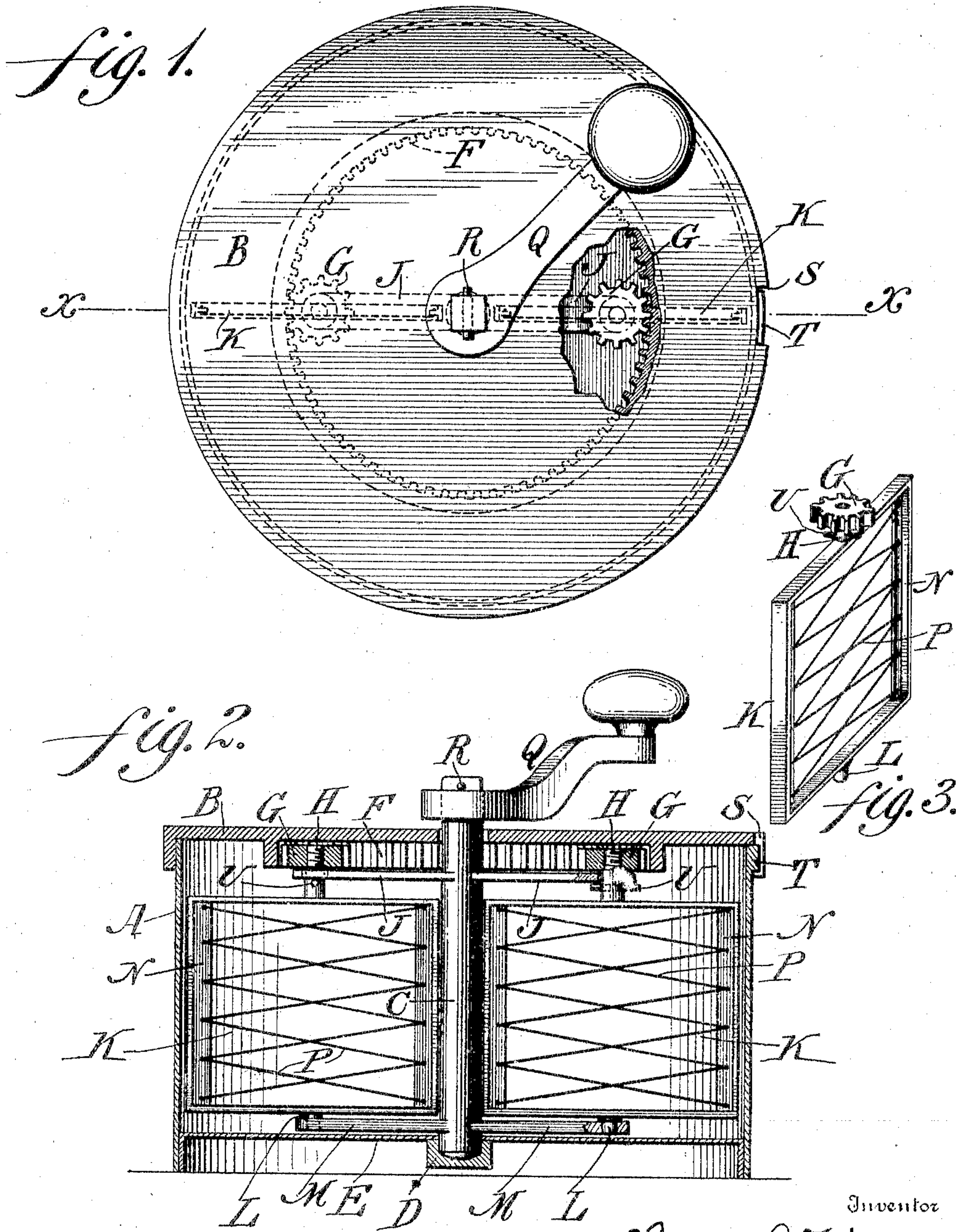


No. 777,675.

PATENTED DEC. 20, 1904.

S. B. HILLMAN.
BEATER, MIXER, AND MASHER.
APPLICATION FILED DEC. 30, 1903.

NO MODEL.



Witnesses

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UNITED STATES PATENT OFFICE.

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BEATER, MIXER, AND MASHER.

SPECIFICATION forming part of Letters Patent No. 777,675, dated December 20, 1904.

Application filed December 30, 1903. Serial No. 187,122.

To all whom it may concern:

Be it known that I, SHIMER B. HILLMAN, a citizen of the United States, residing at Jenkintown, in the county of Montgomery, State of Pennsylvania, have invented a new and useful Improvement in Beaters, Mixers, and Mashers for Eggs, Cream, Vegetables, &c., of which the following is a specification.

My invention consists of a device for beating, mixing, and mashing eggs, cream, vegetables, &c., the same embodying beaters of novel construction, means for rotating said beaters on their own axes, as well as in the circular direction of the containing vessel, and means adapted to permit the removal of the cover of the vessel or said cover with the beaters and other appurtenances connected therewith, and likewise means to permit the convenient removal of said beaters from their upper and lower bearings, as will be hereinafter described, the novel features being pointed out in the claim.

Figure 1 represents a top view, partly broken away, of a beater, mixer, and masher embodying my invention. Fig. 2 represents a vertical section thereof. Fig. 3 represents a perspective view of one of the beaters of the device detached.

Similar letters of reference indicate corresponding parts in the figures.

Referring to the drawings, A designates a can or vessel, and B the cover thereof.

C designates the driving-shaft, the lower end whereof is mounted in the step D on the bottom E of the vessel A.

On the under side of the cover B is the circular rack F, with which mesh the pinions G, the latter being keyed on the journals H, which freely enter and pass upwardly through the arms J, which are connected with the upper end portion of the shaft C and extend radially therefrom. The journals H are secured to the upper sides of the beaters K, from whose under side depend the gudgeons L, which are freely mounted in the arms M, which are connected with the lower end portion of the shaft C and extend radially therefrom.

The beaters K consist each of the frame N and the wires or rods P, which are firmly secured to said frame and crossed, so as to be oblique or inclined, the members of each pair of said rods intersecting, forming together what may be said to be a converging and diverging piece which multiplies the number of reverse currents imparted to the article or material in the vessel.

The upper end of the shaft C passes freely through an opening in the cover B and has connected with it the crank-handle Q.

The operation is as follows: The crank-handle is displaced and the cover removed, when the vessel A may be supplied with the article to be beaten, mixed, or mashed. Then the cover and crank-handle are returned to their positions and the shaft C rotated by said crank-handle, whereby motion is imparted to the arms J, thus carrying around with them the beaters K and also the pinions G, and as the latter mesh with the circular rack F said pinions receive rotary motion independently of that imparted by the arms J, and thus twofold rotary motions are imparted to the beaters. Owing to the crossed wires or rods P, the article in the vessel A is subjected to beating, mixing, and mashing operations in oblique or diagonal directions, and thus the article is raised and lowered, and as the beaters describe two motions, one on themselves and one around the vessel, the article will be dashed in various directions and thoroughly and effectively beaten, mixed, mashed, &c. Should it be desired to examine the condition of the article, the crank-handle is removed, whereby the cover B may be raised and displaced, in which case the rack F follows the same, it readily sliding off from the pinions G, after which the cover and crank handle may be restored and the operations of the device continued, if desired. When the article as treated is to be removed from the vessel, a pin R is passed through the shaft C above the collar of the crank-handle, when the cover, with the rack thereon, and the shaft C, with its connected appurtenances, may be entirely lifted out of the vessel A, and so the

contents of the latter are accessible and may be taken out by a spoon, ladle, &c., while the material adhering to the beaters and other parts may be readily scraped therefrom.

5 In order to prevent rotation of the cover, in the periphery of the same I form a recess S in the depending rim thereof, the same being adapted to receive a tongue T on the upper end of the wall of the vessel A, thus inter-
10 locking said cover with said wall, while said rim closes the joint of the vessel A and the cover thereof, the effect of which is evident.

In order to remove the beaters, the upper journals H are elongated, so that they may be
15 lifted with the beaters toward the upper arms J, whereby the lower gudgeons L may be lifted from their seats and cleared of the lower arms M; but improper elevation of said journals H is primarily prevented by means of
20 pins U, which are passed through said journals below said arms J and are adapted to contact with the under side of the latter, as most plainly shown in Fig. 2. The pinions G are detached from said journals, and the beaters
25 may then be withdrawn from both arms, the cover B of course having been previously removed to afford access to said pinions and raise the beaters and their connections from the vessel. When the journals and gudgeons
30 are again returned to the arms J M, the pins

U are inserted in said journals below the arms J, whereby the beaters cannot be raised, and so retain their proper position. The pinions are also restored and secured and the cover re- 35
applied, and thus the parts are again assembled for operation.

Various changes may be made in the details of construction shown without departing from the general spirit of my invention, and I do not, therefore, desire to be limited in each 40
case to the same.

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

In a device of the character stated, a driv- 45
ing-shaft, arms radiating therefrom at the upper and lower portions thereof, a rotary and removable beater having an elongated journal at top and a gudgeon at bottom, said journal and gudgeon being mounted on said arms, a 50
removable gear-wheel connected with said journal above the upper arm and removable means on said journal below said arm for preventing the elevation of said elongated journal and consequently of said beater.

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Witnesses:

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