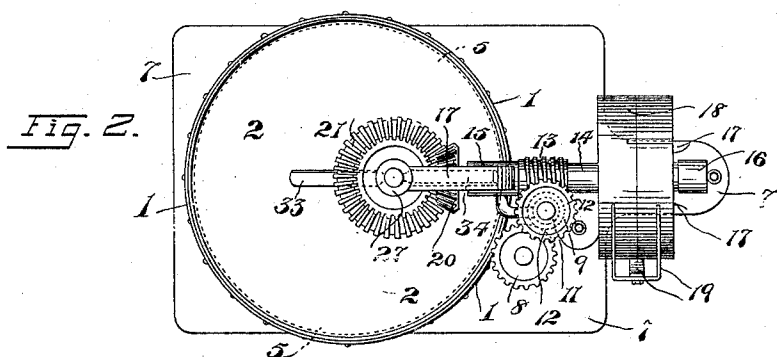
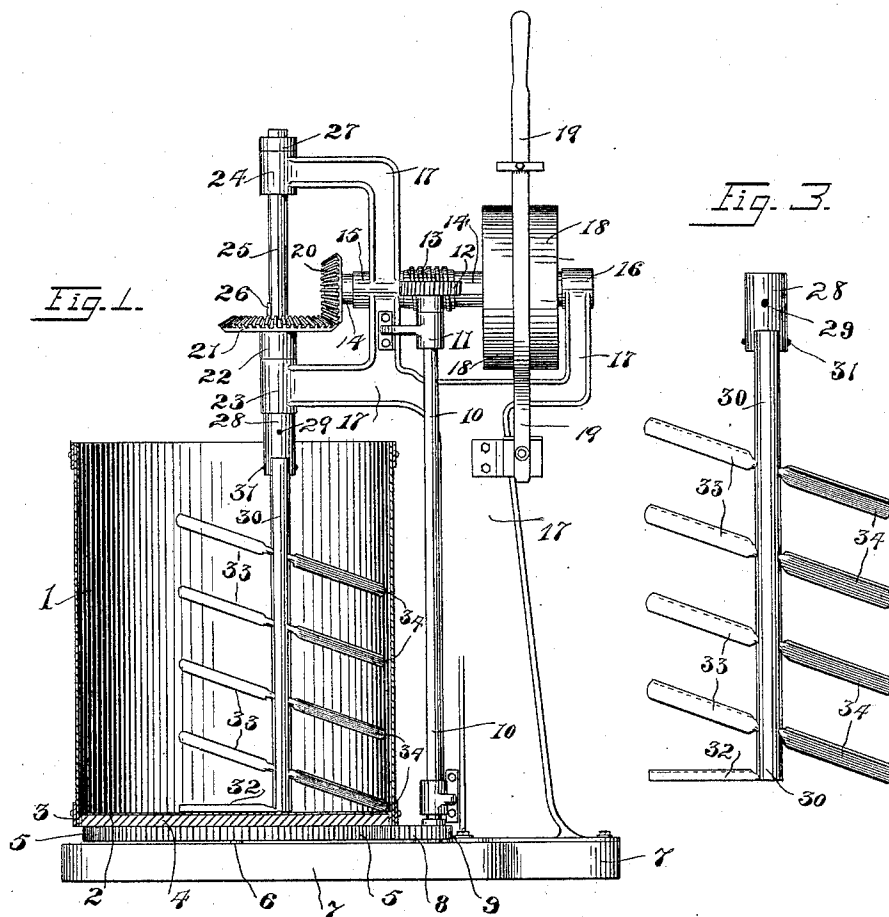


(No Model.)

C. W. HOTTMAN.
MIXING MACHINE.

No. 468,805.

Patented Feb. 16, 1892.



WITNESSES:

Percy A. Davis,
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INVENTOR

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UNITED STATES PATENT OFFICE.

CHARLES W. HOTTMAN, OF PHILADELPHIA, PENNSYLVANIA.

MIXING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 468,805, dated February 16, 1892.

Application filed May 5, 1891. Serial No. 391,674. (No model.)

To all whom it may concern:

Be it known that I, CHARLES W. HOTTMAN, 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 Mixing-Machines; and I do hereby declare the following to be a sufficiently full, clear, and exact description thereof to enable others skilled in the art to make and use the said invention.

This invention relates to mixing-machines used for the mixing of minced meat, sausage-meat, &c., and has for its object the more rapid and intimate mixture of materials and the simplification of the mechanism for the purpose and facility of emptying and cleaning.

This invention consists of a cylindric tub mounted upon a slowly-rotating platform and a series of inclined vanes or beaters secured to a vertical arbor placed eccentrically in the tub and a mechanism for rotating the arbor and vanes at higher velocity than the tub, the arbor being detachably secured to the propelling mechanism and the whole constructed as hereinafter described, and shown in the accompanying drawings.

Referring to the drawings, Figure 1 shows a side elevation of the invention with the tub in section; Fig. 2, a plan view, and Fig. 3 a detached enlarged view, of the vanes and their connection with the propelling mechanism.

1 is a cylindric tub open at the top and made, preferably, of metal, galvanized iron, or heavy tinned plate answering the purpose. The bottom 2 of the tub 1 is raised above the lower rim 3, so as to fit concentrically upon a block 4, fastened to a large toothed wheel 5, turning upon a central pivot 6 in the base 7. The toothed wheel 5 is turned by a spur-wheel 8, gearing with a pinion 9 upon the lower part of a vertical shaft 10, the lower end of the shaft 10 turning in a bearing formed in the base-plate 7. The vertical shaft 10 is supported in a bearing 11 near the upper part and has fixed upon it a worm-wheel 12, turned by a tangent-screw 13 on the driving-shaft 14. The shaft 14 is supported by and turns in bearings 15 and 16 in the principal frame 17 of the machine. A pair of loose and fast pul-

leys 18 serve to impart motion from a belt guided by the shifter.

Upon the front end of the shaft 14 is fixed a beveled toothed pinion 20, which engages in the teeth of and turns a correspondingly-beveled wheel 21. The wheel 21 is provided with a long hollow hub 22, which fits into and turns in the bearing 23.

Formed in the frame 17 perpendicularly above the bearing 23 is another bearing 24, through which fits a vertical shaft 25, which also fits through the hub 22 of the wheel 21 and is splined at 26, so as to fit a feather secured in the hub 22, so as to turn with it, but free to slide up and down thereon. A collar 27, secured on the upper end of the shaft 25, serves to limit the downward motion thereof.

Upon the lower end of the shaft 25 is a coupling 28, connected detachably by a pin 29, which, being withdrawn, permits of the easy removal of the shaft 25 and the coupling 28. To the lower end of the coupling 28 is secured an arbor 30 by a pin 31. The arbor 30 extends to the bottom 2 of the tub 1 and has fixed at the lower end a transverse blade 32, beveled, which scrapes the bottom 2 and raises from it any material resting upon it. The relative location of the axis of the arbor 30 to the axis of the tub 1 and the circles described by the blades 32, 33, and 34 is such that the blades sweep across the center of the tub 1 and continually turn the material from the center to the circumference, thus insuring most rapid and intimate mixture of the contents of the tub.

Above the blade 32 are two series of inclined beveled blades 33 and 34, one series 33 being inclined upwardly from the axis of the arbor 30 and the other 34 inclined downwardly. These blades 33 and 34 are also inclined in like direction to their motion of rotation, so as to lift any substances which come in their paths, and since the paths of the inclination of the blades 33 are crosswise of the paths of the inclination of the blades 34 the matter presented to their action is repeatedly turned over and over and subdivided, and by the rotation of the tub 1 all the matter in the tub is brought within reach of the blades 33 and 34 and the stratum upon the bottom 2 continuously lifted by the blade 32 within the

reach of the blades 33 and 34, so that thorough intimate mixture rapidly results from the action of the machine.

Having described my invention, what I claim is—

1. In a mixing-machine, a tub arranged to rotate upon a vertical axis, in combination with a vertical arbor located therein eccentrically to the axis of the tub and provided with inclined blades of such radial length as to sweep across the central portion of the tub, and a propelling mechanism arranged to rotate both arbor and tub, substantially as set forth.

2. In a mixing-machine, a rotating cylindric tub having a flat bottom, in combination with an arbor located therein having its axis eccentric to the axis of the tub and provided with blades of such radial length as to sweep across the center of the tub and to the circumference of the tub, a connected mechanism for rotating both the tub and arbor, and a beveled blade connected thereto and turned with said arbor to scrape the bottom of the tub from the circumference and across the center of the bottom of the tub, substantially as set forth.

3. In a mixing-machine having rotating blades upon a vertical shaft arranged to sweep across the center of a tub and to the circumference thereof, the splined shaft, the wheel-hub, and a feather engaged in the wheel-hub and splined shaft, in combination with the coupling, pin, arbor, and pin, arranged to facilitate the removal and replacement of the arbor, substantially as set forth.

C. W. HOTTMAN.

Witnesses:

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