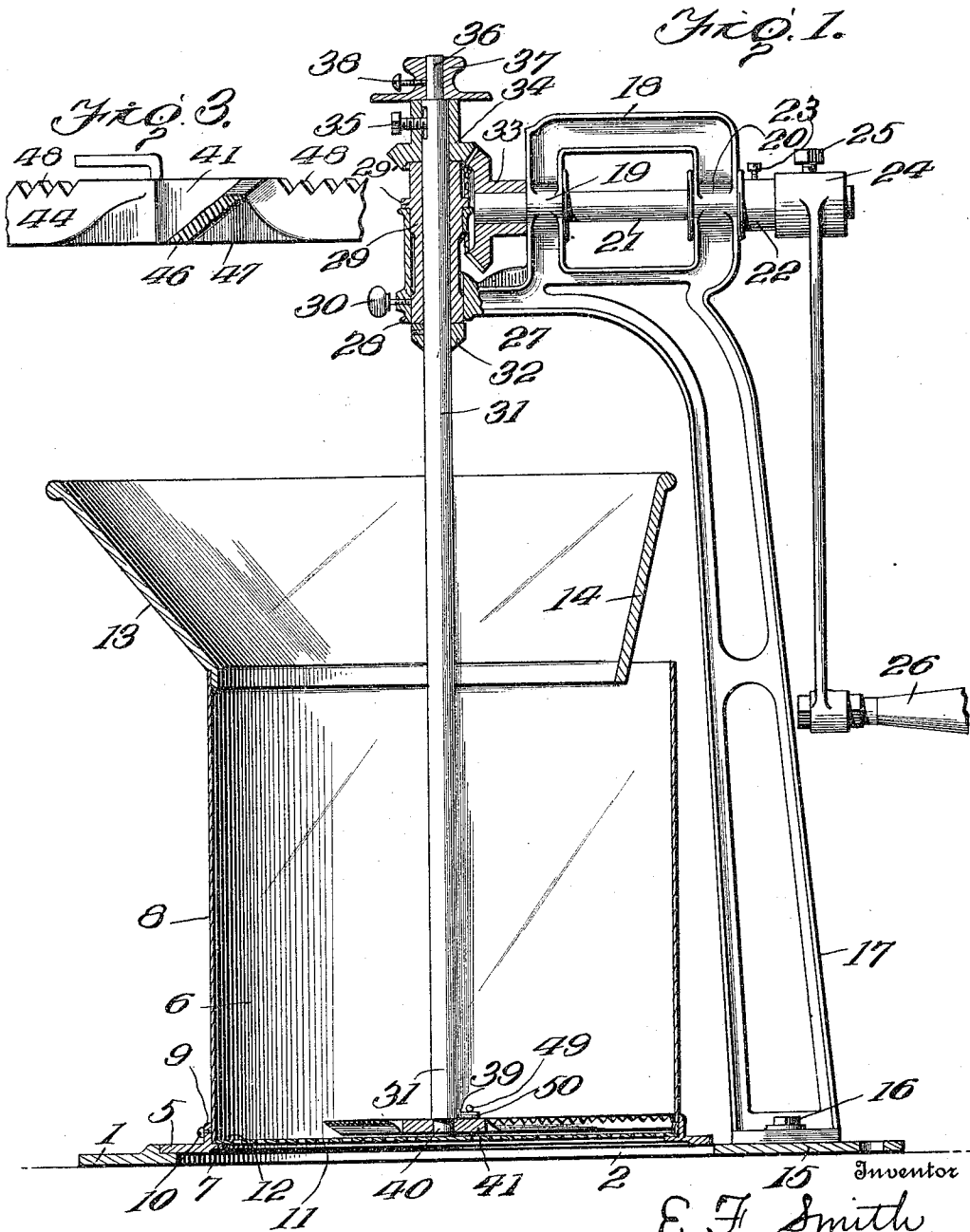


E. F. SMITH.
 POTATO MASHER.
 APPLICATION FILED NOV. 13, 1914.

1,148,547.

Patented Aug. 3, 1915.
 2 SHEETS—SHEET 1.



Witnesses
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Fig. 2.

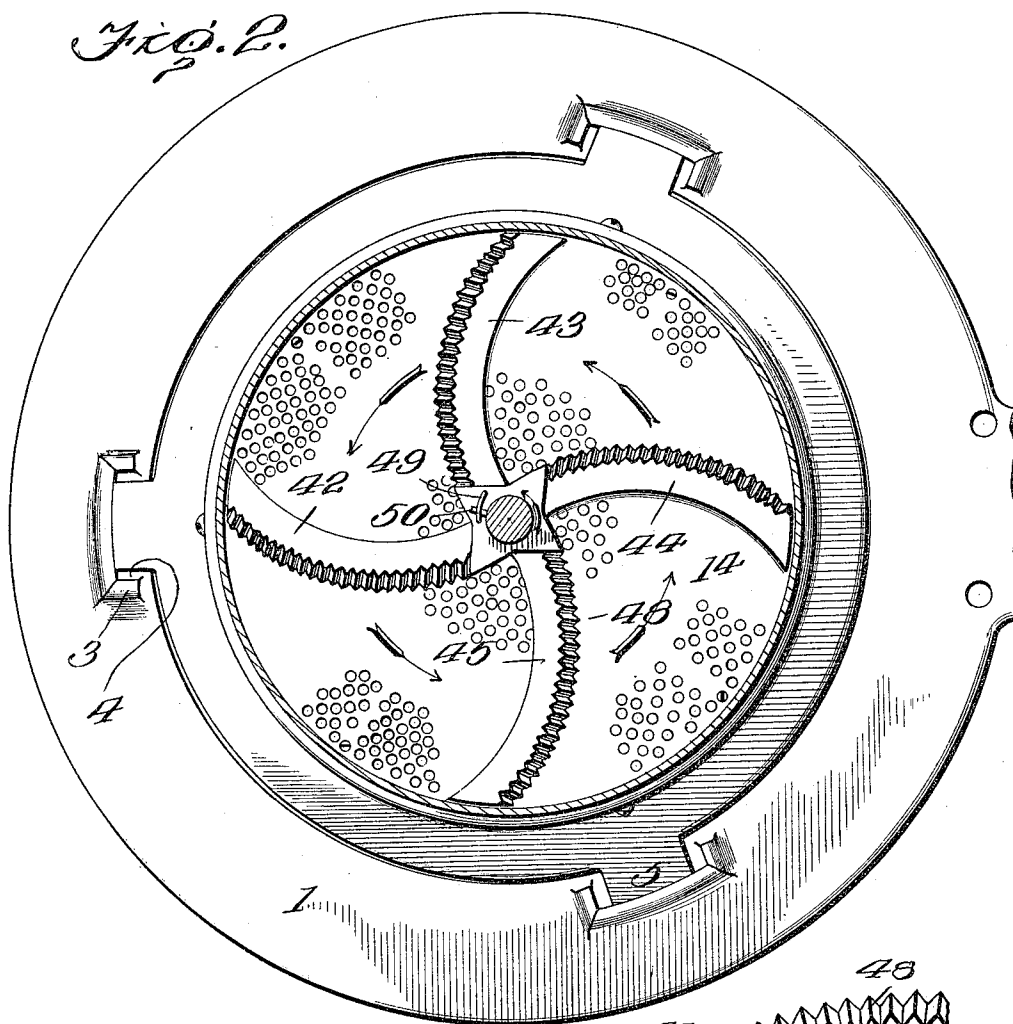


Fig. 4.

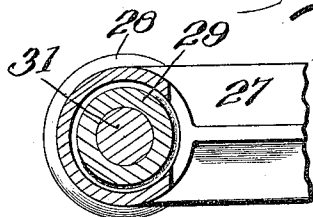
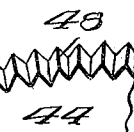


Fig. 5.

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UNITED STATES PATENT OFFICE.

EDWARD F. SMITH, OF ROCHESTER, NEW YORK, ASSIGNOR TO JOSIAH ANSTICE, OF ROCHESTER, NEW YORK.

POTATO-MASHER.

1,148,547.

Specification of Letters Patent.

Patented Aug. 3, 1915.

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To all whom it may concern:

Be it known that I, EDWARD F. SMITH, a citizen of the United States, residing at Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Potato-Mashers, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention relates to improvements in potato mashers.

The object of my invention is to provide a potato masher more especially designed for mashing large quantities of potatoes and in which the potatoes are more evenly mashed and will not be discharged from the masher in lumps as is the case with many of the mashers now on the market.

Another object of my invention is to provide a masher of this character in which the grating and forcing blades and other parts can be readily removed for cleaning and in which the bearing of the rotary shaft carrying the masher will not be clogged with the mashed potatoes.

A still further object of my invention is to provide a simple, cheap and effective masher of this character having certain details of structure and operation hereinafter more fully set forth.

In the accompanying drawings: Figure 1 represents a side elevation partly in section of my improved potato masher. Fig. 2 represents a horizontal sectional view taken on the line 2—2— of Fig. 1. Fig. 3 is a side elevation partly in section of the grating and forcing blades. Fig. 4 is a horizontal transverse sectional view of the removable sleeve bearing taken on the line 4—4 of Fig. 1. Fig. 5 is a perspective view of the grating and forcing blades partly broken away.

In potato mashers heretofore used, it has been necessary to use a follower to force the potatoes to the mashing blades and in this case the potatoes are often forced through the perforated plate at the lower end of the masher in lumps, and it is the main object of this invention to dispense with the follower and at the same time cause the potatoes to be forced through the perforated plate in a perfectly mashed condition and thus obviate the lumps that are usually found in mashed potatoes.

Referring now to the drawings, 1 represents the base of my improved potato masher,

which is provided with a central opening 2, and on the outside of the said opening the base is provided with the recessed portions 3, forming the recesses 4, in which fit the outwardly extending lugs 5, of the receptacle 6. This receptacle is formed of a base plate 7 having the cylindrical side walls 8, secured to the upwardly extending flange 9, by means of the screws 10. The perforated plate 11 is secured upon the flange 12 of the cylindrical body-portion 8, as clearly shown in Fig. 2 of the drawings. The upper end of the cylindrical body-portion is open and in which is removably supported the hopper 13, which has its rear wall flattened, as indicated at 14, so as not to interfere with the standard, as will be more fully described hereinafter.

The base 1, at one side, is provided with an enlarged portion 15, upon which is bolted by means of bolts 16 the upwardly extending standard 17. The upper end of the standard 17 is provided with a yoke-portion 18 having the bearings 19 and 20, in which is rotatably mounted the shaft 21. The shaft 21 on the outside of the bearing 20 has a collar 22, locked thereon by means of the set-screws 23, and secured upon the shaft beyond the collar 22 is the handle 24. This handle is locked upon the shaft 21 by means of the set-screws 25. By this arrangement of the collar 22, it will be seen that the handle is brought out beyond a vertical alignment of the standard 17 so that the handle can be readily rotated. The handle 24 is provided with the usual hand gripping portion 26, which is adapted to rotate upon the bolt upon which it is mounted, as is fully understood and needs no further description. The standard 17 below is provided with an inwardly extending portion 27, which is in a horizontal alignment with the lower end of the yoke 18 and is provided at its inner end with a vertically disposed elongated bearing holder 28. Loosely mounted in the bearing holder 28 is a removable sleeve bearing 29, which is locked in the bearing holder 28 by means of a thumb screw 30, as is clearly shown in Fig. 1 of the drawings. The sleeve bearing is provided with an annular flange 29', which rests upon the upper end of the bearing holder 28 and whereby the bearing is supported so that the scraping and forcing blades carried by the lower end are slightly above the plate 11. Passing

through the removable sleeve bearing 29 is a shaft 31, which is provided with a collar 32, adjustably fixed to the shaft so that when the removable sleeve bearing 29 is released by the thumb-screw 30, the said sleeve bearing cannot move downwardly upon the shaft 21, but will be moved with the shaft.

The outer end of the horizontally arranged shaft 21 on the outside of the yoke 18, has rigidly secured thereto the beveled gear 33, which meshes with the beveled pinion 34, locked upon the shaft 31 by means of the set-screw 35. The upper end of the shaft 31, above the beveled pinion 34, is provided with a reduced portion 36, upon which is secured the handle 37 by the set-screw 38. The lower end of the shaft, as will be hereinafter more fully described, carries the grating and forcing blades and when it is desired to remove the blades for cleaning purposes, the thumb-screw 30 is released, which releases the sleeve bearing 29, and when the said shaft is raised vertically, the collar 32 carries the bearing vertically through the bearing holder 28 and, therefore, at all times keeps the sleeve bearing 29 from being clogged with any of the mashed potatoes, as will be readily seen. The upward movement of the shaft 31 disengages the pinion 34 from the beveled gear 33 and the sleeve bearing 29 being held in between the beveled pinion 34 and the collar 32, it will be seen that when the sleeve bearing 29 is locked by the set-screw 30, the pinion 34 meshes with the gear 33 and cannot have any vertical movement in respect thereto.

The lower end of the shaft 31 has a reduced portion 39, which enters an opening 40 in the solid central portion 41 of the grating and forcing blades. The solid central portion 41 has four outwardly grating arms 42, 43, 44 and 45, which are preferably curved and have their outer ends extending close to the cylindrical receptacle 8, as clearly shown in Fig. 2 of the drawings. These grating and forcing arms have their lower edges 46 horizontally arranged and adapted to revolve close to the upper face of the perforated plate 11. These arms have inclined faces 47, terminating at their upper ends with the teeth 48, which will be presently more fully described. The central solid portion 41 of the grating and forcing blades is provided with a hooked member 49, under which the pin 50 passes and whereby the grating blades are locked to the shaft 31 and supported thereby so that they will turn with the shaft in one direction. By reversing the direction of the rotation of the shaft 31, the pin 50 is brought from under the member 49 and the shaft may be uncoupled from the forcing and grating arms. The shaft 31 can be adjusted vertically within the sleeve bearing 29 by adjusting the collar 32, the pinion 34 and the handle 37, so that

the scraping and forcing blades may be the desired distance from the perforated plate. The teeth 48 are arranged at an angle to the arms 45, so that none of the teeth is cutting into the surface presented to it, but the whole surface which lies on top of the teeth is all being scraped. In operation it will be seen that the potatoes are placed in the hopper and dropped within the cylindrical body-portion. The shaft 31 is rotated through the medium of the handle and the gears, heretofore described, which causes the grating and forcing arms to rotate within the cylindrical body-portion above the perforated plate 11. The rotation of these arms causes the teeth 48 to scrape the potatoes as they fall by gravity downwardly within the receptacle 8, and such scraped portion of the potatoes travels downwardly by the inclined faces 47 of the blades and are forced through the perforated plate 11. The flat face 46 of the blades absolutely forces all of the potatoes upon the plate through the perforated plate. By this structure it will be seen that there is no necessity for a follower, as the teeth 48 on the blades are constantly scraping the potatoes as they fall by gravity and thoroughly disintegrate the potatoes before they are received by the inclined faces 47 of the blades.

It will be seen that the hopper 13 can be readily removed and the shaft 31 moved vertically and the grating and forcing blades removed from the shaft and the receptacle for cleaning. The receptacle can be readily removed from the base 1, as heretofore described, and whereby all the parts coming in contact with the potatoes can be readily cleaned.

I desire it to be understood that variations may be made in certain details of the construction, among which variations is providing additional arms with or without teeth or serrations, and the omission of teeth or serrations in one or more, or all of the said arms, though the preferred construction is to have one or more of these arms provided with teeth or serrations.

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

1. A masher of the character described comprising a receptacle having a perforated bottom, combined grating and downwardly forcing blades within the receptacle and rotating slightly above the perforated bottom, and grating teeth carried by the upper edge of the blades.

2. A masher of the character described comprising a receptacle having a perforated bottom and radially arranged rotating combined grating and downwardly forcing blades within the receptacle slightly above the perforated bottom, and grating teeth carried by the upper edge of the blades.

3. A masher of the character described comprising a receptacle, a perforated bottom within the receptacle, radially arranged combined grating and downwardly forcing blades within the receptacle above the perforated bottom, grating teeth carried by the upper edge of the said blades, and means for rotating said blades.

4. A masher of the character described comprising a receptacle, a perforated bottom within the receptacle, combined grating and downwardly forcing blades within the receptacle slightly above the perforated bottom, grating teeth carried by the upper edges of the blades, a shaft removably secured to said blades, and means for rotating said shaft.

5. A masher of the character described, comprising a receptacle having a perforated bottom, a rotary member within the receptacle and having outwardly extending blades having inclined downwardly forcing faces terminating at their upper ends in

grating teeth, substantially as shown and described.

6. A masher of the character described, comprising a receptacle, a perforated bottom carried by the receptacle, a masher comprising a central body-portion having radially extending blades having their lower edges flat and above the perforated plate and having inclined faces terminating at their upper edges in grater teeth.

7. A masher of the character described, comprising a receptacle, a perforated bottom within the receptacle, a rotary member within the receptacle and having radially arranged blades having inclined faces, said blades having teeth on their upper edges arranged at an angle to the blades.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

EDWARD F. SMITH.

Witnesses:

CHAS. LITTLE,
JAMES M. KOWN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."