

M. DANKBERG.
MASTICATING MACHINE.
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1,056,153.

Patented Mar. 18, 1913.

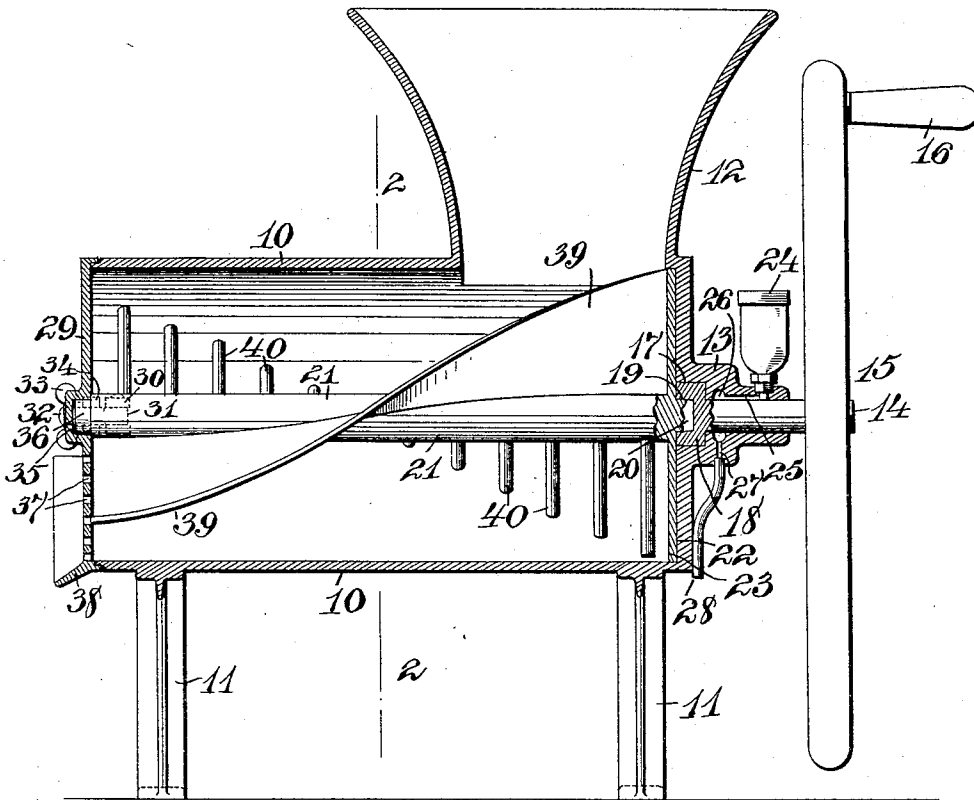


Fig. 1

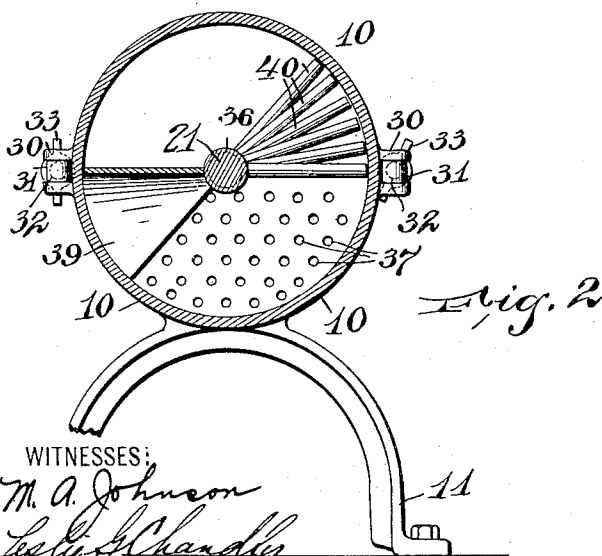


Fig. 2

WITNESSES:
M. A. Johnson
Lester Chandler

INVENTOR
Moses Dankberg,
BY
Wm. A. Campfield,
ATTORNEYS

UNITED STATES PATENT OFFICE.

MOSES DANKBERG, OF NEW YORK, N. Y., ASSIGNOR TO BENJAMIN GLASSNER, OF
NEWARK, NEW JERSEY.

MASTICATING-MACHINE.

1,056,153.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, MOSES DANKBERG, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Masticating-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to figures of reference marked thereon, which form a part of this specification.

This invention relates to a masticating machine which is adapted to mash or beat material so that it becomes a pulp, being particularly adapted for the mashing of potatoes and similar vegetables whereby the operation is quickly done and large quantities can be mashed in a short space of time, the machine being adapted for use in restaurants and similar situations.

The invention is further designed to provide a machine of this type which is smooth running and which is provided with a particular lubricating installation which insures the lubrication of the main driving parts, but prevents any of the lubricant passing into the casing itself so that none of the material being masticated will come in contact with any of the lubricant.

The invention is further designed to provide a machine which is easily cleaned, the masticating parts attached to the main shaft being easily removable and all of the parts being without minute crevices or small projections so that when the machine is taken apart each of the individual portions can be cleaned thoroughly and quickly.

The invention is illustrated in the accompanying drawing, in which—

Figure 1 is a vertical section of the machine with the masticating portion in elevation, and Fig. 2 is a section on line 2, 2, in Fig. 1.

The device consists of a casing 10 which is made in the form of a cylinder and is preferably cast in one piece and integral with the supports or legs 11 and the hopper 12, the hopper providing means for feeding material to the machine, the inlet formed by the hopper being located at one end of the machine and preferably at the top thereof.

On one end the casing is formed into a bearing 13 in which is rotatably arranged the operating shaft 14 which can be rotated by any driving means, but I prefer to employ the hand-wheel 15 having the handle 16 thereon. The inner face of the bearing 13 is provided with a circular recess 17 into which is adapted to be rotatably fitted the head 18 of the operating shaft 14. These parts are permanently installed in the machine. The head 18 is provided with a recess 19, this recess being adapted to receive a projection 20 on the end of the main shaft 21. The projection 20 and the recess 19 are so formed that they co-act so that they rotate in unison, this being preferably brought about by making both the recess and the head rectangular in shape, the preferred form being square. The inner face 22 of the end of the casing, exclusive of the recess 17, is made flat and receives the disk 23 which is attached to the main shaft 21, the disk 23 rotating against the face 22 for purposes to be hereinafter described.

The bearing 13 is provided with an oil cup or any other suitable source of lubrication supply 24 which feeds oil into the oil passage 25 so as to lubricate the operating shaft 14 and its bearings, the passage 25 terminating in the lubricating channel 26 which has an outlet 27 passing into the oil pipe 28 so that lubricating material in excess of that required will pass down through the pipe 28. The lubricating material will pass around the head 18 in a sufficient quantity to lubricate it slightly and prevent its working hard, but any further spread of the lubricant is prevented by the fitting of the disk 23 against the face 22 so that the lubricant is insured in its confinement to the bearing 13 and does not pass within the cylinder 10 to come in contact with the material being mashed or masticated.

At the end of the casing opposite the bearing is an outlet plate 29. The casing is provided with lugs 30 in which is adapted to swing an eye 31 of a bolt 32, each bolt being screw-threaded and being provided with a nut 33 so that when the bolt 32 is swung between the lugs 34, which are arranged in pairs on each side of the outlet plate 29, the nut 33 can be screwed up on the bolt 32 against the lugs 34, as shown in Fig. 1, and the outlet plate is locked in position. On its inner face the outlet plate

is provided with a recess 35 which receives the outer end 36 of the main shaft 21, this outer end 36 being preferably slightly reduced in diameter, the outlet plate thus forming a bearing for one end of the main shaft 21. The outlet plate is also provided with a set of perforations 37 through which the material is adapted to be squeezed when it emerges from the machine, these perforations acting to complete the mastication when the material is squeezed through them.

A suitable shelf 38 can be arranged on the outlet plate, said shelf extending part way up on the sides so as to direct the material as it emerges from the outlet openings 37 into a suitable dish or receptacle.

The main shaft is provided with a helical plate 39 which is mounted on the main shaft and extends from one end of the casing to the other, being preferably attached at one end to the disk 23, and on its other end sweeping past the inner ends of the perforations 37, the helical form of the plate insuring the progress of the material from the inlet end to the outlet end of the casing and forcing it through the perforations 37. I also provide the main shaft with fingers 40 which project therefrom and act to engage the material to masticate it, the fingers being arranged in any desired manner, but I prefer to dispose them helically and substantially in line with the helical plate 39. This progressive or staggered disposition of the fingers makes the starting of the machine easy when the material to be masticated first enters the machine, since all the fingers are not brought in contact with the material at the same time, and by engaging the material in succession, when the machine is started, the operation of the machine is made comparatively easy. The helical plate preferably extends to the inside of the cylindrical casing and acts to scrape all the material from the inner wall and deposit it all through the perforations 37 at the end of the machine.

When the machine is to be cleaned, the nuts 33 are unscrewed and the bolts 32 swung from between the lugs 34 and the

outlet plate is removed from the casing. The main shaft with the plate and the fingers can then be slid from the machine, and all the parts to be cleaned, that is, the inside of the casing, the masticating apparatus and the outlet plate are easily cleaned, all points being accessible.

When the machine is to be assembled, the disk 23 guides the main shaft and its masticating elements into the cylinder and insures the seating of the projection 20 within the recess 19, the disk being of about the same diameter as the inside of the casing, thus holding the main shaft central and no time is lost in trying to find the opening or recess for the projection 20. The outlet plate is then put in place and securely fastened, and the machine is ready for use.

Having thus described my invention, what I claim is:—

A masticating machine comprising a casing having a recess of the same diameter for its entire length and having a hopper leading to one end thereof, an outlet plate on the open end of the casing, a bearing on the end of the casing opposite to the outlet plate, an operating shaft in the bearing, a main shaft having a disk on one end of the same diameter as the recess of the casing and fitting against the inner end of the casing, a single helical plate extending from the disk to the outlet plate and secured to the main shaft, a row of fingers arranged in line with the helical plate and on the side of the shaft opposite to the plate, the helical plate being of the same diameter as the recess of the casing, and means for rotating the operating shaft, the operating shaft and the main shaft having detachable co-acting means for securing both of them against independent rotation in respect to the other.

In testimony, that I claim the foregoing, I have hereunto set my hand this 22nd day of August, 1911.

MOSES DANKBERG.

Witnesses:

M. A. JOHNSON,

BENJAMIN GLASSNER.