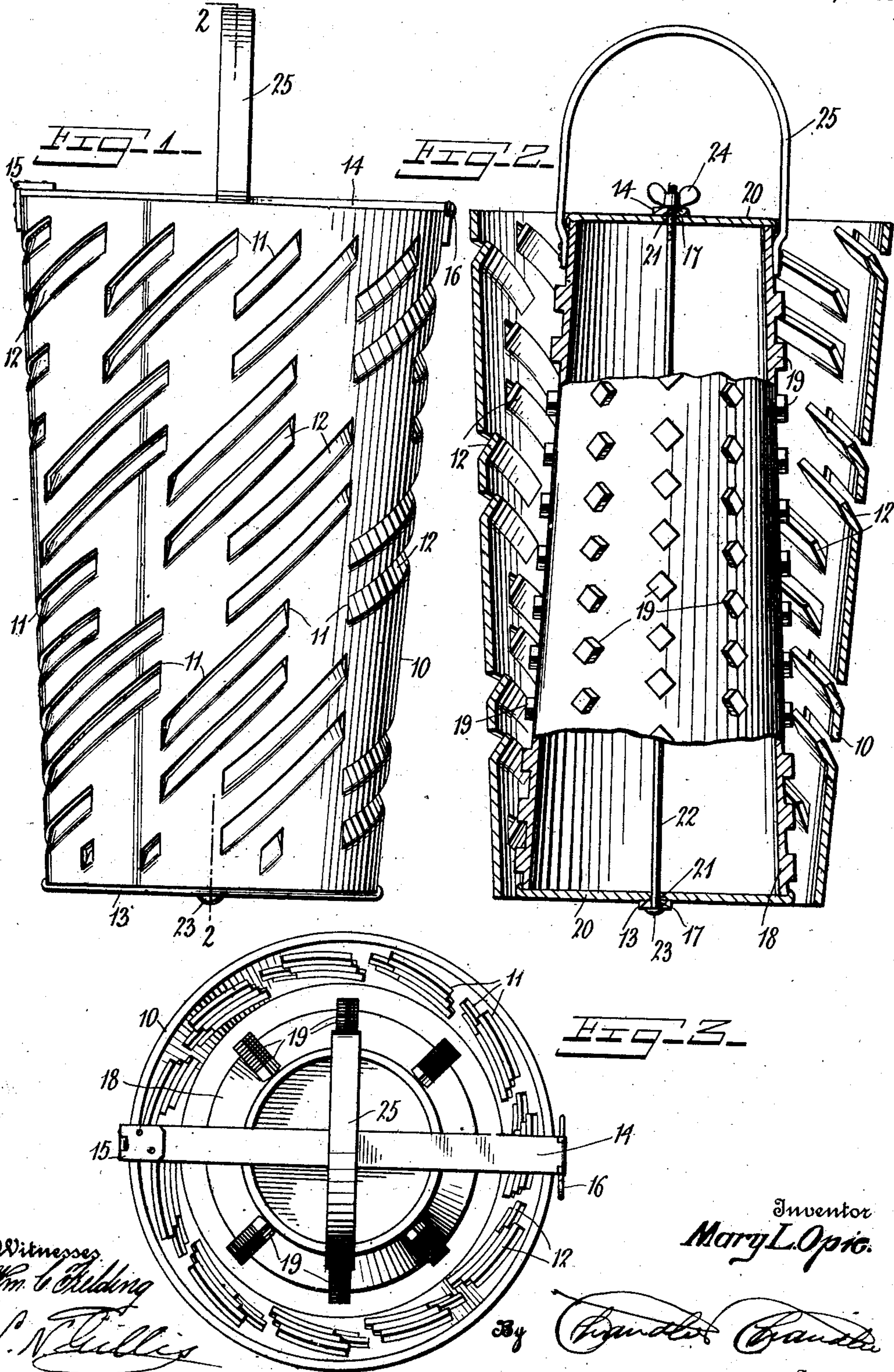


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GRATER.

APPLICATION FILED AUG. 15, 1910.

973,693.

Patented Oct. 25, 1910.



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GRATER.

973,693.

Specification of Letters Patent.

Patented Oct. 25, 1910.

Application filed August 15, 1910. Serial No. 577,130.

To all whom it may concern:

Be it known that I, MARY LOUISE OPIE, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia, State of Pennsylvania, have invented certain new and useful Improvements in Graters; 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.

This invention relates to culinary implements and has special reference to a fruit and vegetable grater.

The principal object of the invention is to improve and simplify the general construction of devices of this character.

A second object of the invention is to provide a novel arrangement of oscillating grater wherein the grater is equipped with means to hold the parts in place, said means acting in conjunction with a handle to form a stop whereby the relative movements of the parts are limited.

With the above and other objects in view, as will be hereinafter apparent, the invention consists in general of an exterior member, an interior member rotatable therein, both of said members being of novel construction, and an improved means for securing said members rotatably together.

The invention further consists in certain novel details of construction and combinations of parts hereinafter fully described, illustrated in the accompanying drawings and specifically set forth in the claims.

In the accompanying drawings, like characters of reference indicate like parts in the several views, and Figure 1 is a side elevation of the device with the parts assembled. Fig. 2 is a section on the line 2—2 of Fig. 1. Fig. 3 is a plan view of the device.

The outer member of this device comprises an inverted frusto-conical sheet metal body 10 provided with inverted U-shaped slits 11, the leg portions of which extend vertically while the bight portions extend spirally around the body 10. These slits are so arranged that they are spaced apart in spiral lines extending around the body. The partially severed metal which lies between the arms of the U-shaped slits is bent inwardly as indicated at 12 to form cutter blades which, of course, also extend spirally around the body. On the bottom of this body there is provided a cross bar 13 which is firmly fixed

at both ends to the body while on the top is a similar cross bar 14 one end of which is hinged to the body as at 15 while the other end is connected to the body in a somewhat similar manner, the pintle of the hinge being, however, provided with a finger grip 16 so that it may be pulled out to release this end of the bar. Both the bar 13 and the bar 14 are provided with suitable openings 17 which are arranged axially of the frusto-conical body. The interior member comprises a frusto-conical body 18 having angular bosses 19 arranged in spiral lines around its exterior. This interior member has its major base slightly smaller than the minor base of the exterior member 10 so that when properly positioned the space between the two members decreases from the top downward. On each end of the member 18 is a spider 20 and the member is of such length that when in position within the member 10 it will fit snugly between the bars 13 and 14. These spiders 20 are also provided with axial openings 21 and through the openings 21 and 17 extends a shaft 22 having a head 23 on its lower end and being threaded at its upper end for the engagement of a wing nut 24. The member 18 is, furthermore, provided with a bail 25 extending upward from the upper end of said member 18 and the legs of this bail are firmly fixed to said member 18. Furthermore, this bail straddles the bar 14.

In the operation of the device the parts are assembled by removing the pintle which is provided with the finger grip 16 and raising the bar 14 on its hinge. The inner member is then dropped into the member 10, the bar 14 being at the same time slipped through the bail 25. The pintle is then replaced and the shaft 22 placed in position after which the wing nut 24 is screwed on, thus holding the parts securely together. The fruit, vegetables or the like cut up into suitable pieces is dropped into the space between the inner and outer members and the bail 25 grasped and oscillated around a vertical axis. This bail 25 contacts at each end of its stroke in either direction with the bar 14 so that the bail and bar act as stops to limit the extent of oscillation. As the bail is rotated in one direction the material is ground between the inner and outer members while the rotation in the opposite direction serves to loosen the material and thus prevents clogging. The purpose of the stop

formed by the bail 25 and bar 14 is to prevent rotation too far in the cutting direction which would result in clogging both blades and bosses as well as to prevent rotation too far in the opposite direction which would simply serve to crush the material to a pulp without properly grating it. After the material is all comminuted the grater may be taken apart for the purpose of cleansing by reversing the operation of assembling it.

There has thus been provided a simple and efficient device of the kind described and for the purpose specified.

Having thus described the invention, what is claimed as new, is:—

1. The combination with an outer member comprising a hollow inverted frusto-cone having spaced slots extending spirally around its sides and cutter blades projecting inwardly from said slots, a bar on the bottom of said member, and a second bar extending diametrically across the top of said member, said second bar being hinged to the member at one end and detachably secured to the member at the other end, said bars being provided with perforations extending axially of said member; of an interior frusto-conical member having projecting bosses on its exterior, spiders on the ends of said interior member having axial openings, a shaft extending through said spiders and bars, a wing nut on said shaft to hold the shaft in position, and a bail fixed to the upper end of the interior member and straddling said second bar, said second bar and bail constituting stop means to limit the movement of the interior member in either direction.

to hold the same in position, and a bail fixed to the upper end of the interior member and straddling the second bar.

2. The combination with an outer member comprising an inverted frusto-conical sheet metal body having inverted U-shaped slits spaced spirally around the body, the partially severed metal between the arms of said U-shaped slits being bent inward to constitute cutter blades, a bar on the bottom of said member, and a second bar extending diametrically across the top of said member, said second bar being hinged to the member at one end and detachably secured to the member at the other end; of an interior frusto-conical member having projecting bosses on its exterior, spiders on the ends of said interior member having axial openings, a shaft extending through said spiders and bars, a wing nut on said shaft to hold the shaft in position, and a bail fixed to the upper end of the interior member and straddling said second bar, said second bar and bail constituting stop means to limit the movement of the interior member in either direction.

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

MARY LOUISE OPIE.

Witnesses:

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