J. M. STELMACH.

ROTARY SLICER AND GRATER.

APPLICATION FILED AUG. 12, 1920.

1,418,178.

Patented May 30, 1922.

3 SHEETS—SHEET 1.

Fig. 1.

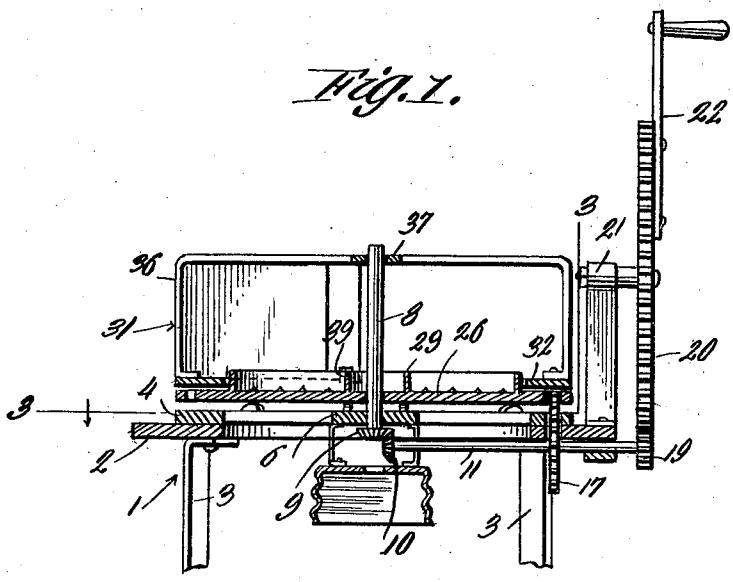


Fig. 11.

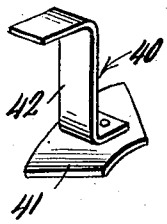
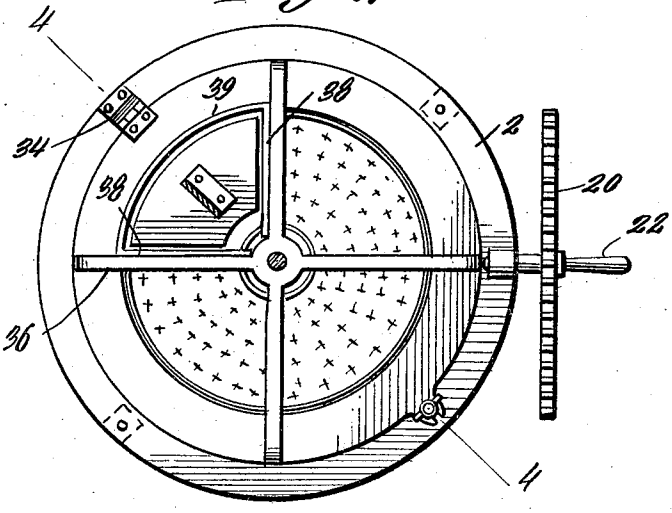


Fig. 2.



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3 SHEETS—SHEET 2.

Fig. 3.

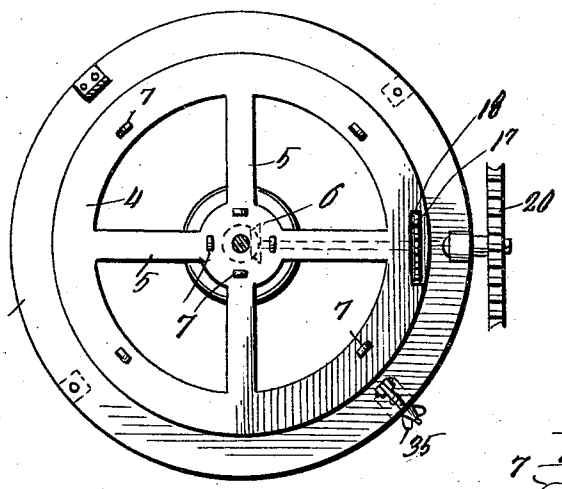


Fig. 10.

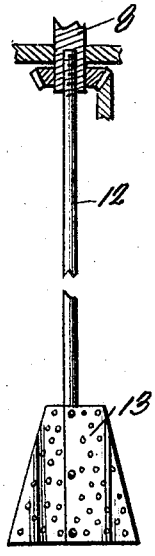


Fig. 9.

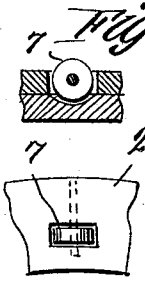
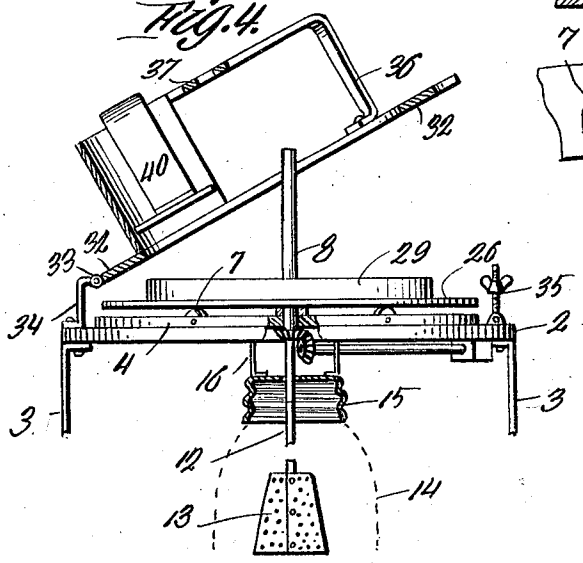


Fig. 4.



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3 SHEETS—SHEET 3.

Fig. 5.

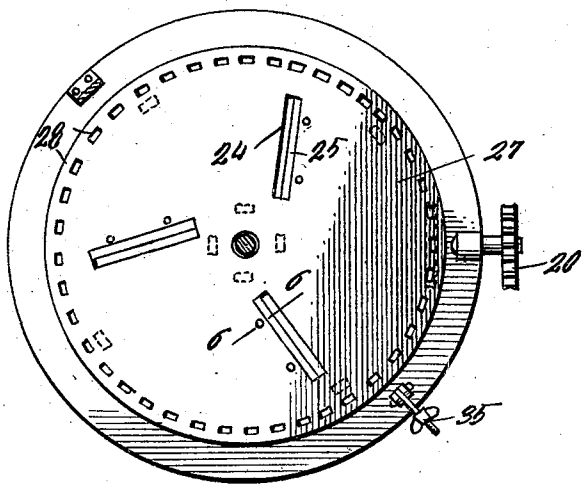


Fig. 6.

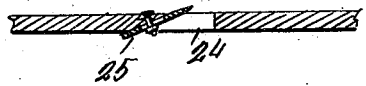


Fig. 7.

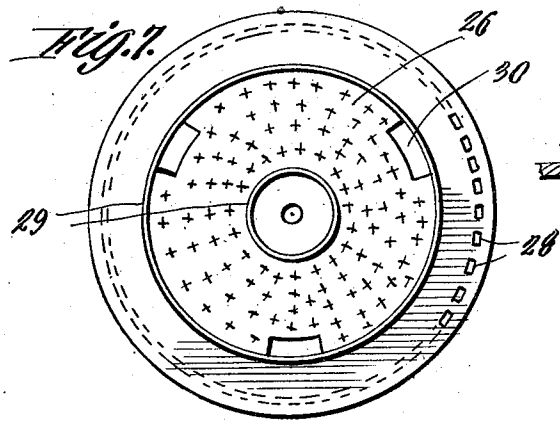


Fig. 8.



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ROTARY SLICER AND GRATER.

1,418,178. Specification of Letters Patent. **Patented May 30, 1922.**

Application filed August 12, 1920. Serial No. 402,958.

To all whom it may concern:

Be it known that I, JOSEPH M. STELMACH, a citizen of the United States, residing at St. Paul, in the county of Ramsey and State of Minnesota, have invented certain new and useful Improvements in Rotary Slicers and Graters, of which the following is a specification.

This invention relates to new and useful improvements in vegetable slicers and graters also egg beaters, the primary object of the invention being to provide a device wherein eggs, cream or the like may be whipped at the same time vegetables, fruit or the like are being sliced, grated or otherwise divided.

Another important object of the invention is to provide interchangeable grater and cutter plates and a hopper structure associated with the device whereby it may be moved out of the path of movement of said plates when they are being removed or assembled with the device.

Another object of the invention is to provide a device of the above nature which will efficiently accomplish the above functions with a structure which is strong, durable and which may be manufactured at a minimum cost.

The invention also consists in the construction, arrangement and cooperation of elements as will be more fully set forth in the following description.

In the accompanying drawings forming a part of this application and wherein like numerals are employed to designate like parts throughout the several views—

Figure 1 is a vertical section through the invention.

Figure 2 is a top plan of the invention.

Figure 3 is a transverse section taken on the line 3—3 of Figure 1.

Figure 4 is a side elevation of the invention, parts thereof being broken away.

Figure 5 is a top plan of a portion of the device illustrating the slicer plate.

Figure 6 is a transverse section through the slicer plate taken on the line 6—6 of Figure 5.

Figure 7 is a top plan of the grater plate.

Figure 8 is a fragmentary transverse section of a portion of the grater plate.

Figure 9 are details illustrating the mounting of the anti friction rollers carried by the frame.

Figure 10 is an elevation of a dasher used in conjunction with the invention, and

Figure 11 is a perspective view of a follower device.

Referring now more particularly to the drawings wherein for the purpose of illustration is shown the preferred embodiment of the invention, the numeral 1 designates a supporting frame which in the present instance consists of a circular platform 2 retained in spaced relation to a table top or the like by supporting legs 3. The platform 2 is provided with an enlarged central opening, and secured concentrically to the platform 2 is a ring like member 4, the opening of which coincides with the opening in the platform. The ring like member is provided with spider legs 5, the inner ends of which merge into a central bearing plate 6 having a central aperture therein. This ring like plate 4 and central plate 6 are provided with anti friction rollers which project a distance beyond the upper face of the ring like plate and central plate for a purpose which will presently appear.

A post or shaft 8 is journaled in the aperture of the central plate 6 and projects slightly below the same to have secured thereto a beveled gear 9 which meshes with a similar gear 10 carried by an operating shaft 11. As most clearly seen in Figure 10 the lower end of the post or shaft 8 is provided with a threaded axially extending opening to receive therein the upper threaded end of a dasher shank 12. The lower end of the shank is equipped with suitable dasher blades 13 which are adapted to rotate within a receptacle 14, shown in Fig. 4, when the dasher is associated with the post 8. The receptacle 14 in the present instance is preferably a Mason fruit jar so that the same may be readily associated with the usual screw fruit jar cap or closure 15 secured by depending brackets 16 to the central plate 6 of the frame. The jar cap 15 is provided with a central aperture whereby the dasher shank may extend therethrough.

The operating shaft 11 is journaled in any suitable manner beneath the platform 2 and has keyed thereto a pinion 17 which is adapted to project through slots 18 in both the platform 2 and the ring like plate 4. The outer end of the operating shaft extends beyond the frame and is there provided with a pinion 19 which is adapted for mesh with

a relatively large gear 20 rotatably mounted upon an upstanding bracket or bearing 21 carried by the platform 2. This gear 20 is provided with a crank 22 whereby rotary movement may be manually imparted thereto.

In order to adapt the device for cutting fruit or vegetables into slices, flakes or otherwise, grater, slicer and similar plates are provided and are interchangeable. In Figure 1, I have illustrated a grater plate or disk resting upon the anti-friction rollers 7 and which is provided a central aperture whereby the plates may be passed over the post or shaft 8. The only difference between the grater and slicer plates is that the grater plate is provided with the usual grater teeth 23 as shown in Figure 8, while the slicer plate is provided with the usual slots 24 and adjustable knives 25. The grater plate 26, as well as the slicer plate 27, is provided with circumferentially arranged spaced openings 28 whereby the teeth of the pinion 17 may cooperate therewith for rotating the plates. It will of course be obvious that rack teeth may be provided upon these plates for intermeshing with the pinion 17. These grater plates are also provided with a pair of spaced, concentrically arranged confining walls 29 in the form of upstanding flanges, and as clearly seen in Figures 5 and 7 confine the grater portion of the grater plate. It will be noted that the portion of the grater plate containing the grater teeth 23 is also provided with openings 30 which are relatively large so that the grated material collecting upon the top of the plate may be discharged through the openings and will drop through the plate and frame into a suitable receptacle arranged beneath the frame.

In order that vegetables and fruit may be held relatively stationary upon the grater or slicer plates during rotation of the latter, a hopper structure indicated in general by the numeral 31 is connected to the frame or platform 2 so that the hopper structure may be swung from above the plate being used in the device to facilitate removal or replacement thereof. This hopper structure, as most clearly seen in Figures 1, 2 and 4 consists of a ring like member 32 hinged at one point as at 33 to an upstanding bracket 34 fastened to the platform 2. At a point diametrically opposite the connection of the ring with the bracket retaining means 35 are provided for releasably retaining the hopper structure in cooperative relation with the grater plate.

Rising from the ring 32 and fastened thereto are bridging arms 36, the upper ends thereof being directed toward the center of the device to merge into an apertured bearing portion 37. The aperture in this portion is adapted to encircle the upper portion of the post or shaft 8 for steadying the same. The hopper in the present instance is one consisting of two walls as most clearly seen in Figures 1 and 2, the two end walls 38 having their marginal edges secured to the adjacent bridging arms 36, while the outside wall 39 of the hopper is fastened to the two end walls. The latter have their lower edges notched as at 39′ and operating through these notches are the two confining walls of the grater plate, whereby either one end or the other, depending upon the direction in which the grater plate rotates, is adapted to impede the movement of vegetables or fruit placed in the hopper and upon the grater plate. As shown in Figure 11, a follower device 40 is illustrated, the arcuate plate 41 thereof being adapted to be received in the hopper for preventing displacement of the vegetables or fruit being sliced. Secured to this arcuate plate 41 is an upstanding handle portion 42, the upper end of which is bent outwardly so that follower device may be hung upon one wall of the hopper.

From the foregoing description, it will be seen that eggs, milk or the like may be whipped while vegetables, fruit and the like are being grated and sliced. Upon turning movement of the gear 20, rotary movement is transmitted to the operating shaft 11 and to the beveled gear 9 carried by the post or shaft 8. In the event that the dasher is associated with the post in the manner heretofore set forth, it will be apparent that rotary movement will be imparted to the dasher. As the pinion 17 meshes with the openings 28 in either the grater plate or the slicer plate, rotary movement will be imparted thereto and when vegetables are placed within the hopper and the plate turned, it will be apparent that the vegetables will be sliced in a manner well understood. When it is desired to change from the slicer plate to the grater plate, the hopper structure is swung from above the slicer plate, as shown in Fig. 2, whereupon the plate may be readily removed and another replaced. The hopper structure is then swung over the new plate and is retained in cooperation thereto by the retaining means 35.

The foregoing description and the accompanying drawings have reference to the preferred or approved embodiment of my invention. It is to be understood however that such changes may be made in the construction and arrangement of parts, materials, dimensions, etc., as may prove expedient and fall within the scope of the appended claim.

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

A rotary slicer comprising a supporting structure, a cutting disk rotatably mounted thereon and provided with a plurality of circumferentially arranged apertures adja-

cent its edge, a driven pinion arranged thereunder and having its teeth cooperating with said apertures, said disk being provided with an upstanding annular flange, a hopper structure hinged to said supporting structure and embodying the ring like plate adapted to encircle the upstanding flange of the cutting disk and to be arranged over the apertures of the disk, and means whereby the ring like plate is spaced above the cutting disk.

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

JOSEPH M. STELMACH.

Witnesses:
F. A. WARCHAM,
AMANDA WARCHAM.