

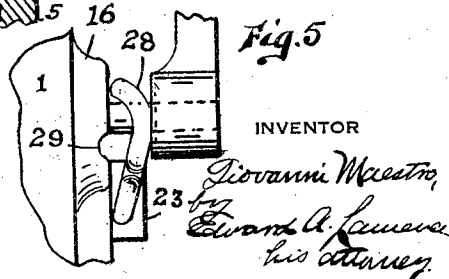
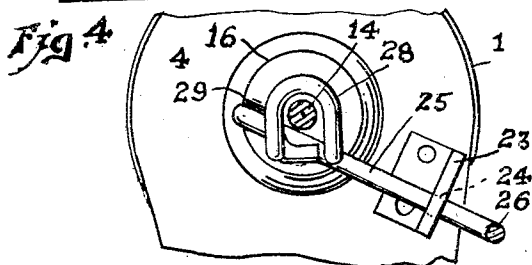
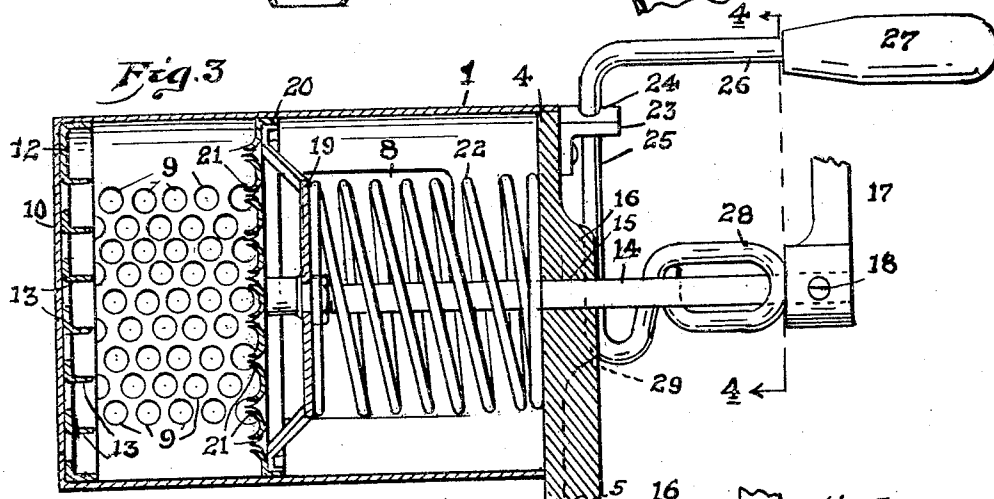
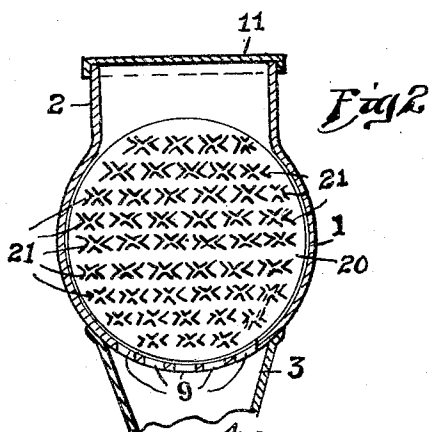
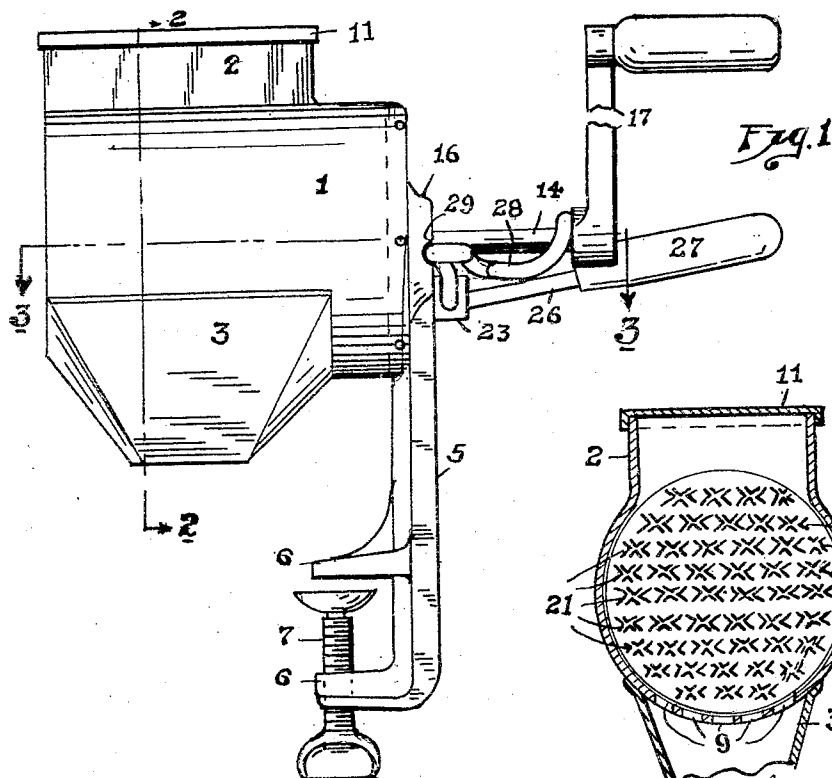
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G. MAESTRO

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CHEESE GRATING MACHINE

Filed Oct. 6, 1931



INVENTOR

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UNITED STATES PATENT OFFICE

GIOVANNI MAESTRO, OF NEW KENSINGTON, PENNSYLVANIA

CHEESE GRATING MACHINE

Application filed October 6, 1931. Serial No. 567,179.

One of the objects which I have in view is the provision of a simplified form of cheese grater which will be inexpensive to manufacture, efficient in operation, of durable character and which will be easy to cleanse and keep clean. These objects I accomplish by the improved construction hereinafter described.

Another object which I have in view is the provision of improved means for moving the spring-follower into and holding it in its retracted position, thus permitting easy loading of the grater with a supply of cheese to be grated and greatly facilitating the operation of and also the cleansing of the machine.

Other novel and improved features of construction, and also of arrangement of parts will appear from the following description.

In the accompanying drawing wherein I have illustrated a practical embodiment of the principles of my invention, Fig. 1 is a side elevation of the machine with the retractor lever in its operative position and the follower retracted.

Fig. 2 is a vertical section taken along the line 2—2 in Fig. 1 and looking toward the right and showing the follower plate.

Fig. 3 is a horizontal section taken along the line 3—3 in Fig. 1 and looking downwardly.

Fig. 4 is an end view looking toward the left in Fig. 1 with the retractor handle shown in section along the line 4—4 in Fig. 3.

Fig. 5 is an incomplete side elevation of the machine showing the retractor lever in its inoperative position to permit the follower spring to expand.

Referring to the drawing, the casing of the machine which may be formed of suitable sheet metal comprises a horizontally disposed barrel or cylinder 1, an open boxing 2 above said cylinder and opening into the top of the same and a delivery spout 3 at the bottom of the cylinder.

The barrel 1 adjacent to its right hand end in Figs. 1 and 3, which end for convenience is termed the "rear" end, is perimetally complete and is closed at its right extremity by the substantial metal plate 4 which may be a casting and which is provided with

the depending support or post 5 having at its lower end the parallel lugs 6 and clamping screw 7 so that the machine may be mounted on a table or other support.

The floor of the barrel 1 is cut away adjacent to its longitudinal center providing the opening 8 into the spout 3 and in front of said opening, toward the left in Fig. 3, the wall of the barrel above the spout 3 is provided with the discharge perforations 9.

The front end of the cylinder is closed by the wall 10 which is extended downwardly and inwardly to form the front wall of the spout 3, the side and rear walls of said spout also converging downwardly, and the lower end of the spout being open for the discharge of the grated cheese into a dish placed below the spout.

The sheet metal is bent vertically at the top to form the open-top boxing 2 through which the cheese is loaded into the barrel, the bottom of the boxing opening into the barrel as is best shown in Fig. 2.

By constructing the casing of sheet metal a light and strong structure is provided and one which is readily cleansed after use. A lid 11 may be provided as a closure for the boxing 2.

Attached to the inner face of the front wall 10 of the barrel is a circular grating plate 12 having inwardly projecting teeth 13 which teeth may be conveniently formed by cutting angular or pointed tongues in the metal and striking them out.

14 represents a horizontally disposed shaft extending forwardly into the barrel and journaled in a bearing 15 in the end plate 4, the plate being provided with a central circular boss 16 on its outer surface which lengthens the bearing for the shaft 14.

The outer end of the shaft 14 is provided with a hand crank 17 whose hub is held on the shaft in any convenient manner as by the set screw 18.

On the inner end of the shaft 14 is rigidly mounted the spider 19 upon the front of which is mounted and fixed a circular follower plate 20 of proper diameter to rotate and to slide in the barrel 1.

The follower plate is provided at its front

face with a plurality of spurs or sharp projections 21 which may be made by punching and striking out the metal of the plate.

22 represents a relatively strong helical spring coiled about the shaft 14 and having its rear end bearing against the end plate 4 of the barrel and having its front end bearing against the spider 19, thus tending to move and force the follower plate 20 toward and against the grater plate 12.

23 represents an angular bracket secured to the outer face of the end plate 4 above the boss 16 and provided with a circular hole 24 through which extends the straight intermediate portion 25 of the retractor lever. The outer end portion 26 of the lever is angularly disposed to the portion 25 and is disposed at substantially right angles to the end plate 4, as illustrated in Figs. 1 and 3. The outer extremity of the portion 26 is provided with a handle 27. The inner end portion of the lever is disposed at substantially right angles to the intermediate portion 25 and is formed as a closed loop 28 which straddles the shaft 14. The loop is curved as shown in Figs. 1 and 5 so that when the lever is in its inoperative position, as illustrated in Fig. 5 it extends over the boss 16 and bears against plate 4. When the lever is moved toward and into its operative position, illustrated in Figs. 1, 3 and 4, the curved end of the loop bears against the hub of the hand crank 17 and forces said hub outwardly, drawing the shaft with it so that the spring 22 is compressed and the follower plate 20 is forced rearwardly away from the grater plate and past the open throat of the boxing 2. When the lever has been thrown into its full operative position, the intermediate portion 25 of the lever slips into a groove 29 formed in and transversely of the boss 16, thus by the power of the spring 22 locking the lever against accidental release.

When the barrel is to be loaded with the cheese which is to be grated the retractor lever is thrown into its operative position and the cheese loaded in between the follower plate and the grater plate. The lever is then released by a tug on its handle sufficient to disengage the lever from the groove 29 and the spring 22 being then released presses the follower plate 20 forwardly, thus feeding the cheese to the grater 12. The crank handle 27 is then rotated, causing the follower plate 20 to be revolved as it advances. The cheese is then grated and delivered through the spout to the waiting plate. Particles of cheese escaping rearwardly through the follower plate will drop down through the opening 8.

When the cheese has all been grated and delivered the retractor lever is then thrown into its operative position, retracting the follower plate and permitting the barrel to be reloaded.

What I claim is:—

1. In a cheese grater, the combination with a horizontally disposed barrel, a grater at one end of the barrel, a shaft extending into the other end of said barrel, a follower mounted on said shaft and a spring urging said follower toward the grater, of means comprising a bent lever straddling said shaft without said casing and arranged when moved into its operative position to retract said shaft and follower away from the grater and against the force of said spring to permit the cheese to be loaded into the barrel between the grater and the follower.

2. In a cheese grater, the combination with a horizontally disposed barrel, a grater at one end of the barrel, a shaft extending into the other end of said barrel, a follower mounted on said shaft and a spring urging said follower toward the grater, of means comprising a bent lever straddling said shaft without said casing and arranged when moved into its operative position to retract said shaft and follower away from the grater and against the force of said spring to permit the cheese to be loaded into the barrel between the grater and the follower, and means for retaining said lever in its operative position against accidental release.

3. In a cheese grater, the combination with a horizontally disposed cylindrical casing having a feed opening in its top wall, a circular follower slidable therein, the casing and the follower being provided with opposed grating surfaces and the bottom wall of the casing being perforated for the discharge of the grated material, a shaft protruding through one end of the casing and upon the inner end of which the follower is fixed, a spring interposed between the follower and the end of the casing to cause the follower to approach the grating surface of the cylinder and a handle on the outer end of the shaft, of means to retract the follower within the cylinder to permit material to be loaded into the latter, said means comprising a bent lever journaled at the end of the casing and having a portion arranged to be forced between the casing and the handle to move the handle away from the casing whereby to compress the spring and retract the follower.

4. In a cheese grater, the combination with a horizontally disposed cylindrical casing having a feed opening in its top wall, a circular follower slidable therein, the casing and the follower being provided with opposed grating surfaces and the bottom wall of the casing being perforated for the discharge of the grated material, a shaft protruding through one end of the casing and upon the inner end of which the follower is fixed, a spring interposed between the follower and the end of the casing to cause the follower to approach the grating surface of the cylinder and a handle on the outer end of the

shaft, of means to retract the follower within the cylinder to permit material to be loaded into the latter, said means comprising a bent lever journaled at the end of the casing and having an arcuate portion bearing
5 against the handle, whereby when the lever is swung the handle is wedged away from the casing.

5. In a cheese grater, the combination with
10 a horizontally disposed cylindrical casing having a feed opening in its top wall, a circular follower slidable therein, the casing and the follower being provided with opposed grating surfaces and the bottom wall of the casing being perforated for the discharge of
15 the grated material, a shaft protruding through one end of the casing and upon the inner end of which the follower is fixed, a spring interposed between the follower and the end of the casing to cause the follower
20 to approach the grating surface of the cylinder and a handle on the outer end of the shaft, of means to retract the follower within the cylinder to permit material to be loaded into the latter, said means comprising
25 a bent lever journaled at the end of the casing and having an arcuate portion bearing against the handle whereby when the lever is swung the handle is wedged away from the casing, the end of the lever being
30 shaped to lock the parts against accidental movement when the follower is retracted.

Signed at New Kensington, Pa., this 26th day of Sept., 1931.

GIOVANNI MAESTRO.