

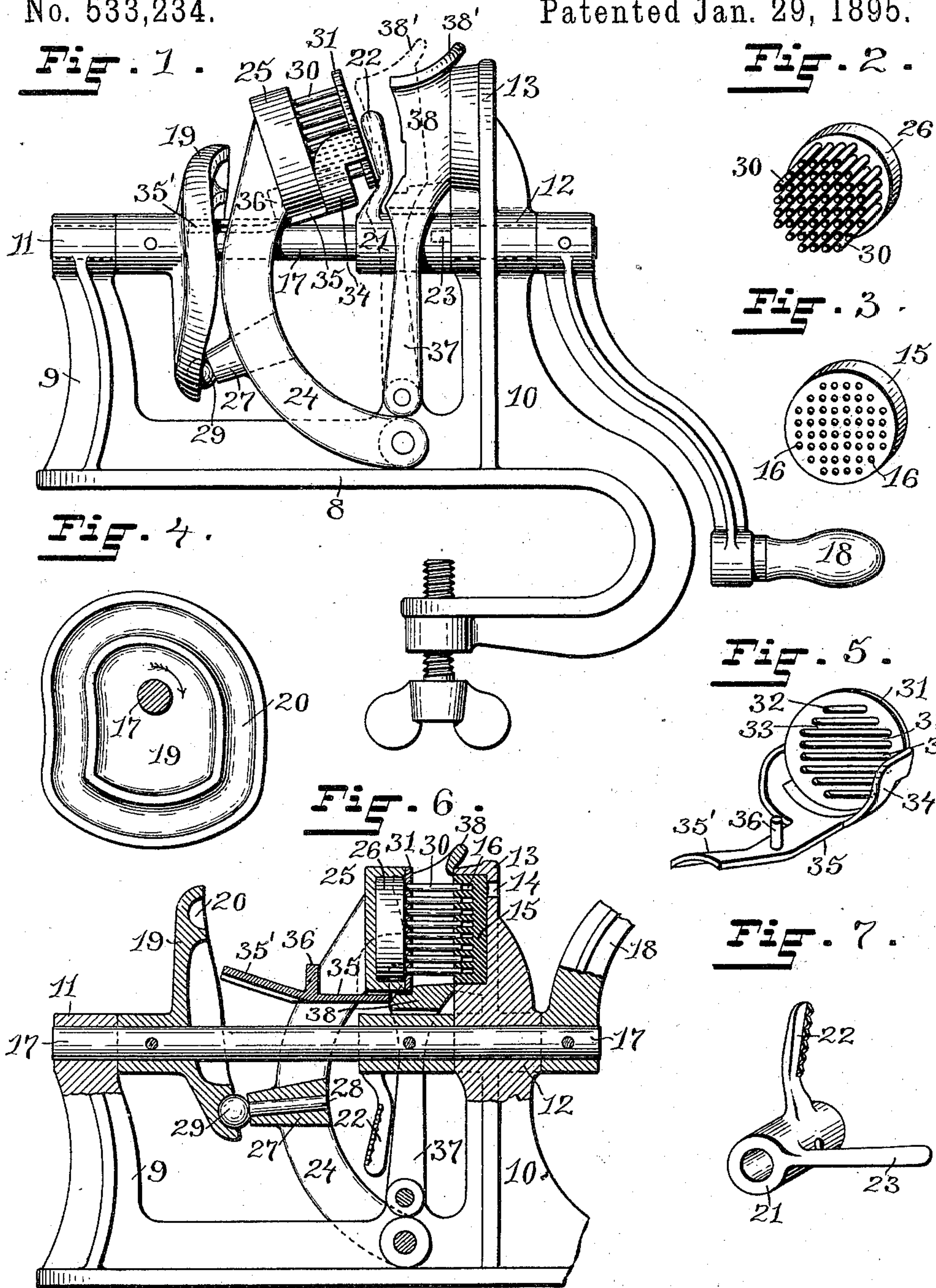
(No Model.)

2 Sheets—Sheet 1.

F. RICHARDSON.
RAISIN SEEDER.

No. 533,234.

Patented Jan. 29, 1895.



WITNESSES:

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INVENTOR:

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(No Model.)

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Fig. 8.

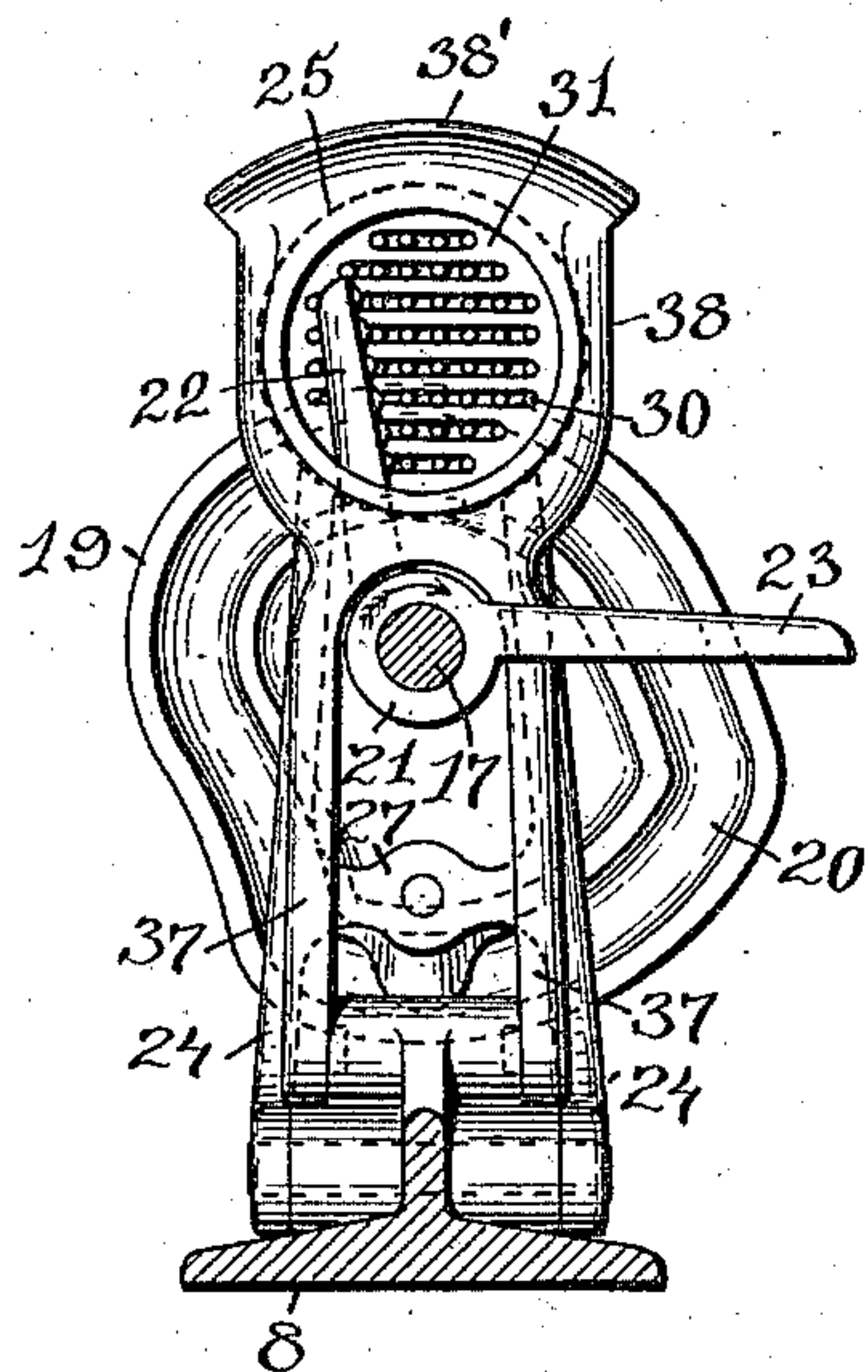
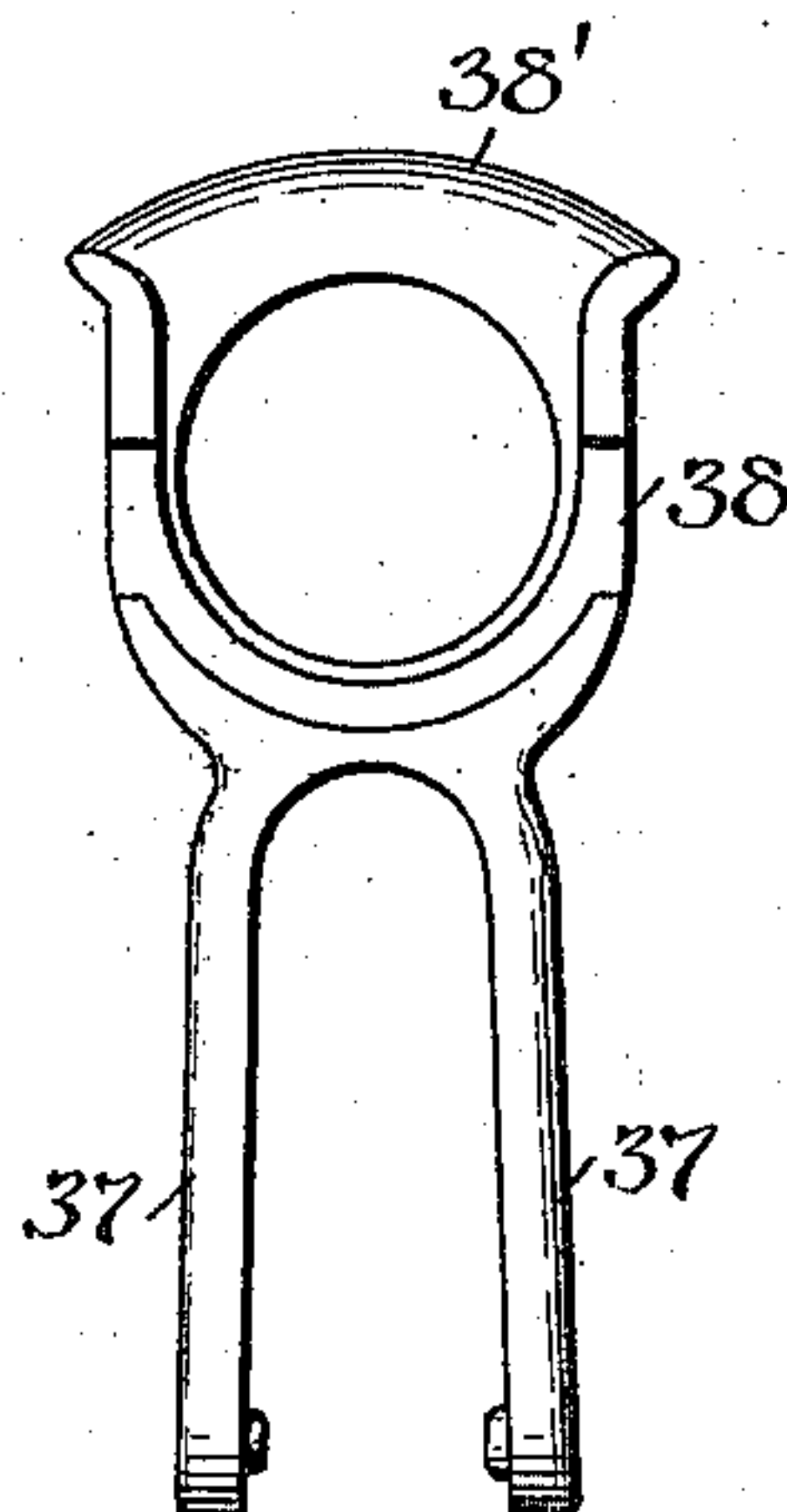


Fig. 9.



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UNITED STATES PATENT OFFICE

FREDERICK RICHARDSON, OF PROVIDENCE, RHODE ISLAND.

RAISIN-SEEDER.

SPECIFICATION forming part of Letters Patent No. 533,234, dated January 29, 1895.

Application filed May 16, 1894. Serial No. 511,407. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK RICHARDSON, of Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Raisin-Seeder; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification.

This invention has reference to improvements in devices for removing the seeds from raisins.

The object of the invention is to so construct a raisin-seeder that only a small amount of the meat is wasted.

Another object of the invention is to provide a raisin-seeder with a peculiar cushion whereby the seeds are received and presented in a position to be wiped from the cushion.

Still another object of the invention is to provide a raisin-seeder in which the seeds may be pushed from the meat and received by a device which presents them to a wiper in a more effective manner than heretofore, while the main portion of the meat is received by a clearer-frame and is held in a position for removal.

The invention consists in the peculiar seed-cushion.

The invention also consists in the combination with a stationary elastic seed-cushion having a series of recesses of smaller diameter than the raisin seeds, of a movable plunger block the plungers of which are adapted to partially enter the recesses of the cushion, and a movable clearer-plate through openings in which the plungers are free to reciprocate.

The invention also consists in the mechanism for supporting the plunger block and the means for operating the same, together with the clearer-frame co-operating therewith.

The invention likewise consists in such other novel features of construction and combinations of parts as may hereinafter be more fully described and pointed out in the claims.

Figure 1 represents a front elevation of the improved raisin-seeder. Fig. 2 represents a view of the plunger-block removed from the machine. Fig. 3 represents a view of the

seed-cushion, Fig. 4 being a face view of the cam for operating the plunger-frame. Fig. 5 represents a detail view of the clearer or stripper plate with its supporting-frame and stop-arm, Fig. 6 representing a vertical sectional view of the mechanism in the closed position; and Fig. 7 a perspective view of the wiping blades and the sleeve on which they are mounted. Fig. 8 is a transverse vertical section in a plane between the standard and receiver looking toward the plunger. Fig. 9 is a face view of the receiver.

Similar numbers of reference designate corresponding parts throughout.

In the drawings 8 indicates the base of the machine which may be provided with any usual form of securing device. From this base extend the standards 9 and 10. In the upper portion of the standard 9 is formed the bearing 11, the standard 10 being furnished with the bearing 12 and above this bearing is located the transverse socket 13 having a perforation 14 in its back and being shaped to receive and hold the seed-cushion 15 which is formed of rubber, or other elastic material of similar nature, and has a series of circular recesses 16—16 of smaller diameter than the raisin seed and separated by elastic partitions.

In the bearings 11 and 12 is journaled the shaft 17 provided with a crank-handle 18 or other usual means for rotating the same. On the shaft, at its rear end, is mounted the cam-plate 19 having a cam-groove 20 the contours of which are such as that, starting from the position shown in Fig. 1 of the drawings,—the face of the cam first has a dwell for about one-half of its circumference, then a rise for a third of the same and finally a gradual return to the dwell, the lips of the cam-groove being sufficiently raised to provide side bearings as well as a thrust bearing. On the shaft, adjacent to the bearing 12, is mounted the sleeve 21 from which extend the lateral wipers 22 and 23, that marked 22 being termed the meat-wiper and that marked 23 the seed-wiper, these being disposed at right angles to each other on the sleeve which is so mounted on the shaft that the rotation thereof will first cause the wiper 23 to be elevated and to pass over the face of the seed-cushion 15.

Pivoted to the base 8 are the curving arms 24—24 which converge toward their upper

ends and are united by the socket 25 in which the plunger-block 26 is secured. Extending from a cross-bar between these arms is a bearing 27 carrying the shaft 28 with the bearing-ball 29 which bears in the cam-groove 20, the bearing-ball 29 being acted on in the forward direction by the contour of the cam-groove 20 while on the return the raised lips or edges of the cam bear downward on the ball 29 to throw the arms 24 and the plunger block positively backward.

The plunger-block 26 is formed by a base in which a series of plungers 30 correspond in arrangement to that of the recesses 16 in the seed-cushion, 15 so that when the two are brought together the plungers will enter the recesses 16 of the seed-cushion. In front of the plungers 30 is supported the clearer-plate 31 having openings 32 through which the plungers may pass and separated by bars 33 which clear the spaces between the plungers, it being obvious that instead of the openings 32 a series of perforations may be formed through the clearer-plate. This plate 31 is supported on the frame 34 formed in part with the arm 35 the rear portion 35' of which is bent upward out of line with the front portion extending to bear against the central portion of the cam 19. This portion of the arm is slightly concaved to lie on the shaft 17 and on the straight portion of the arm is the stop-pin 36 against which the socket 25 strikes on its rearward movement to depress the rear end of the arm 35 whereby the front portion and the plate 31 are supported before the plungers.

To the base 8, immediately above the pivot of the arm 24, are pivoted the arms 37—37 having at their upper ends the forwardly-extending receiver 38 through which the plungers may pass. This receiver has an open top 38' and is adapted to hold the raisin in a position for the plungers to act thereon.

The various parts being in the positions indicated in solid lines in Fig. 1, a raisin is dropped into the open end of the collar 38. The handle 18 is now turned to rotate the shaft 17. The cam 19 being rotated therewith causes the cam-groove 20 to act on the ball 29 to advance the upper ends of the arm 24 carrying the plunger block, the clearer-frame 31 being also carried forward while the plungers 30—30 pass through the openings 32 in the clearer plate. As the ends of the plungers strike the raisin they first cause it to be flattened against the seed-cushion 15 and then passing through the raisin force the seeds therefrom partially into the recesses of the seed cushion, the thin walls between the recesses being somewhat spread away from the recesses toward which the movement of the seeds is directed and through their resiliency causing an outward return pressure to be exerted on the seeds. As the shaft 17 continues to rotate the cam 19 allows the arms 24 to fall backward, the meat of the raisin being held between the plungers until the end

of the arm 35 strikes the face of the cam preventing the further movement of the clearer plate 31 the bars 33 of which, as the plunger block moves farther back, clear the raisin meat from between the plungers and by adhesion holding it in position from which the wiper 22 at this point removes it, allowing it to drop into a receptacle at the farther side of the machine.

Coincident with the backward movement of the plungers the wiper 23 is brought to the elevated position by the rotation of the handle passing between the collar 38 and the face of the seed-cushion to remove the seeds adhering to the cushion and which, by the contraction of the walls of the recesses 16, after the pressure of the plunger is removed, are forced outward to the surface of the cushion where they are accessible to the action of the seed-wiper.

My improved raisin-seeder is particularly adapted for family use. It can be secured to a table, shelf, or other suitable fixture and can be made and sold at a low price. I do not wish to confine myself to this exact construction however, as larger machines may be constructed to adapt them for factory or other uses and the frame as well as the mechanism for operating the various parts may be otherwise arranged to accomplish the same ends.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a raisin-seeder, the combination with a reciprocating plunger, of a seed-cushion, formed of elastic material, having a series of recesses, separated by elastic walls, adapted to retain the seed, as described.

2. In a raisin-seeder, the combination with a fixed seed-cushion, formed of elastic material, having a series of recesses, separated by elastic walls, adapted to retain the seed, of a series of plungers adapted to operate toward and from said cushion.

3. In a raisin-seeder, the combination with a fixed elastic cushion, having a series of recesses adapted to retain the seed, of a series of movable plungers, and a clearer-plate through openings in which the plungers are reciprocal.

4. In a raisin-seeder, the combination with a fixed elastic cushion, and a wiper-blade rotatably mounted before the same, of a movable plunger-block having a series of plungers, a clearer-frame through openings in which the plungers are reciprocal, a wiper movable over the clearer-plate, and means for moving the plunger-block toward the cushion.

5. In a raisin-seeder, the combination with the shaft 17 rotatably mounted in bearings, a wiper mounted on the shaft, and the cam-plate 19, having the groove 20, secured to the shaft, of the arms 24 pivoted in the machine below the shaft, the plunger-block 26, having the plungers 30, secured to the upper portion

of said arms, the clearer-plate 31 having the openings 32, the frame 34, the arm 35 having the bent end 35', and the stop-pin 36 supported before the plungers, as described.

5 6. In a raisin-seeder, the combination with the base 8, the standards 9 and 10, the elastic-cushion 15 secured at the upper end of the standard 10, and the arms 37 pivoted to the base and having the receiver 38, of the shaft
10 17 journaled in bearings in the standards, and the sleeve 21, having the wipers 22 and 23, secured on the shaft, as described.

7. In a raisin-seeder, the combination with the frame, the stationary seed-cushion, the re-
15 ciprocating plunger, and the wipers, of a receiver, pivotally connected with the frame at its lower end open at its upper end and located between the plunger and the seed-cushion, adapted to receive the raisin, hold it in
20 position for the action of the plunger and yield to the wipers, as described.

8. In a raisin-seeder, adapted to be secured to a table, the combination of the following instrumentalities,—a horizontal shaft, supported in bearings in the frame, provided 25 with a crank, wiper-arms, and a cam, a plunger, having a series of projecting pins adapted to penetrate the raisin, supported on arms, pivoted near the base of the frame, connected with and operated by the cam on the horizon- 30 tal shaft, a perforated clearer-plate, a fixed seed-cushion of elastic material having recesses of less size than the average size of the raisin seed, and a receiver, intermediate the seed-cushion and the plunger, adapted to 35 yield to the clearer arms, as described.

In witness whereof I have hereunto set my hand.

FREDERICK RICHARDSON.

Witnesses:

HENRY J. MILLER,
JOSEPH A. MILLER, Jr.