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DEVICE IN MACHINES FOR CUTTING FOODSTUFF

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Fig 1

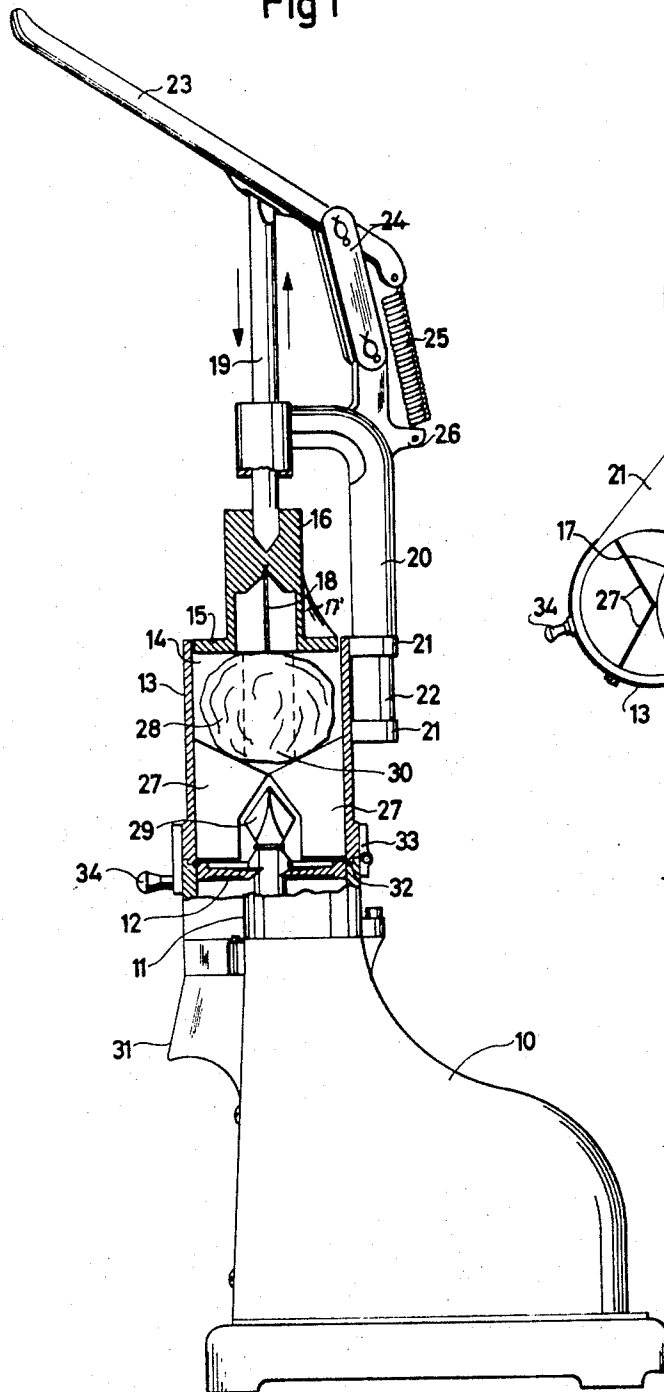
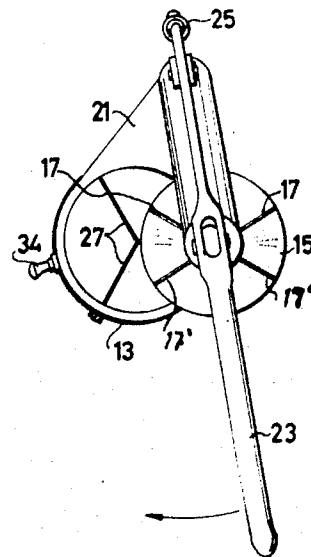


Fig 2



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DEVICE IN MACHINES FOR CUTTING FOODSTUFF

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1 Claim

ABSTRACT OF THE DISCLOSURE

A device for cutting up vegetables and the like, which comprises a housing having angular radially extending knives. A shaft carries a cutter located in the lower portion of the housing while a piston is movably mounted in the top of the housing and is used to press downwardly the vegetable being cut. A manual lever is used to operate the piston and also to turn the housing.

This invention relates to a device in food cutting machines of the type comprising a frame structure shaped as a casing in which is journaled a motor-driven, rotary, vertical shaft near the upper end of which a cutting member is mounted, said frame structure being adapted to carry a pressing member for feeding foodstuff into the structure.

The object of the invention is to provide a machine of the type defined above with a pressing member by means of which whole white-cabbage heads and other similar vegetables can be converted into fine strips or into some other cut form in one operation.

According to the invention, this problem is solved by using a pressing member consisting of a housing of substantially circular cross-section and provided with a channel in which a feeding piston is slidably mounted. The internal side walls of the casing are provided with a number of stationary, radially directed knives. In a preferred embodiment the housing of the pressing member is provided with two outwardly directed projections in which an angular arm is pivoted by means of an axle which is rigidly connected with the upward part of said arm, and the substantially horizontally directed part of the arm is provided with an aperture in which an upward rod connected with the feeding piston can slide by means of a spring-loaded lever which is hinged to the rod. Another feature of the invention is that the lever connected with said rod is pivoted to an upward part of the angular arm by means of a link.

A further feature of the invention is that the feeding piston consists of a substantially circular disc, which is rigidly connected with a tubular part of the upward rod, the feeding piston in this version being provided with slot-shaped apertures through which the knives can penetrate when the feeding piston is in its lowermost feeding position in the channel.

Further features of the invention will appear from the following detailed description of the invention, reference being made therein to the accompanying drawing, in which:

FIGURE 1 is a side view of the frame structure of the machine with pressing member, which is shown partly in section, and

FIGURE 2 is a top plan view of the pressing member, which is here shown as being detached from the frame structure.

Referring now to the drawing, the frame structure, which has the shape of a casing, is indicated by the reference 10. Mounted in this structure is a source of power (not shown) which drives a vertical shaft 11 of which

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only the top part is visible. A cutting member, for instance in the form of rotating knives 12, is mounted on the shaft 11 near its top part.

The pressing member serving to feed the vegetables into the machine consists of a cylindrical or approximately cylindrical housing 13, which is provided with a channel 14 having a circular cross-section. A piston 15 can move in this channel 14. The feeding piston 15 consists of a circular disc and a tubular part 16 connected thereto. The disc 15 is provided with a number of radially extending slots 17, the extension of which into the tubular part 16 is designated by 18. Triangular portions 17' connect the disc 15 with the tubular part 16 and also serve to reinforce the disc. The upper end portion of the part 16 is rigidly connected with an upward rod 19. This rod 19 is displaceable in the vertical direction in an angular arm 20, which is rotatably mounted in an upper projection 21 provided on the housing 13. The vertical part of the arm 20 is rigidly connected with an axle 22, which extends in the longitudinal direction of said part and is journaled in the lower projection 21 of the housing 13. The portion of the rod 19 located above the horizontal part of the arm 20 has its top hinged to a manually operated lever 23, one end of which is hinged to the arm 20 by means of a link 24. By manual operation of the free end of the lever 23 the piston 15, 16 can be pushed downwards in the channel 14. A draw spring 25 fastened to a lug 26 on the arm 20 and to one end of the lever 23 provides for automatic restoration of the piston 15, 16 as soon as the pressure on the free end of the lever ceases.

Fastened to the side walls of the housing 13 is a number of stationary, radially directed knives 27, which can, in their simplest form, consist of thin steel plates and the object of which it is to facilitate the depression of the white-cabbage head etc. by cutting into the latter and dividing it into a number of pieces corresponding to the number of knives. The knives 27 extend from the lower edge of the housing 13 approximately to half the height of the housing, and their upper cutting edges are directed downward-inward toward each other in the centre of the housing, so that the points are touching each other or nearly so.

In order to further facilitate the cutting of the vegetables the upper end of the drive shaft 11 is provided with a detachable, cutter-like member 29. To provide detachability the member 29 may, by way of example, be screwed onto the shaft 11. The member 29 will be positioned in the centre of the channel 14 below the points of the knives 27. The portions of the knives facing each other are shaped so as to allow the rotation of the member 29.

By turning the arm 20 by a certain angle of rotation, the channel 14 is made accessible for feed of foodstuffs, for instance the white-cabbage head 28 indicated in FIGURE 1. Then the arm 20 with piston 15, 16 is restored to an operative position which is intended for depression of the foodstuff 28. By continued depression the knives 27 will cut into the white-cabbage head, the member 29 simultaneously cutting into the rootstock 30 of the cabbage head and cutting up the latter to a certain degree. The feeding continues and the cabbage head, which has by now been divided into several parts, is engaged by the rotating knives 12 and finally cut into strips which are discharged through an aperture 31 in the frame structure 10. At that time the member 29 will be situated partly in the tubular part 16, whereas the knives 27 at least partly penetrate through the slots 17 of the disc 15. The number and the positions of the knives 27 correspond to number and positions of the slots 17 in the disc 15.

In the embodiment shown in the drawing the housing 13 with pertinent parts of the pressing member is adapted

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to rest detachably on the top rim of the frame structure 10, and in order to hold the housing to the shoulder 32 during operation the structure 10 is provided with a hinge joint 33 co-operating with a lug on the housing 13 so as to make the latter swingable around said joint. A hook 34 co-operates for locking purposes with a recess (not shown) in the frame structure 10.

Modification of the invention is possible within the scope of the following claim.

I claim:

1. In food cutting machines of the type comprising a frame structure in the form of a casing, a motor-driven, vertical rotary shaft journaled in said casing, a cutting member mounted near the upper end of said rotary shaft, and a pressing member provided on the top of said frame structure for feeding foodstuff into the latter, said pressing member consisting of a housing having a substantially circular cross-section and provided with a channel, a feeding piston slidably fitted in said channel, and stationary, radially directed knives upon the inner side walls of

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said housing, and a cutting member in the form of a reamer-like element connected with the upper end of said shaft, said element being adapted to penetrate rotatably into the rootstock of the foodstuff and partake efficiently in the cutting of this portion of the foodstuff after the foodstuff has come into contact with said knives.

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U.S. Cl. X.R.

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