Fig. 1

Fig. 2

Fig. 3

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The present invention relates to a vegetable slicing machine.

An object of the present invention is to provide a vegetable slicing machine which lends itself to the efficient shredding and slicing of both leafy and root vegetables, one that is assembled and disassembled with ease and facility for cleaning and sterilizing, and one which is highly effective in action.

Another object of the present invention is to provide a vegetable slicing machine which is sturdily constructed, one simple in structure, one economical to manufacture and assemble, and one of optimum utility for home use or commercial use.

These and other objects and advantages of the present invention will be fully apparent from the following description when taken in conjunction with the annexed drawings, in which:

Figure 1 is an isometric view of the machine of the present invention;

Figure 2 is a view on an enlarged scale, with parts in section, taken on the line 2—2 of Figure 1;

Figure 3 is a view with parts in section taken on the line 3—3 of Figure 2;

Figure 4 is a view with parts in section on an enlarged scale, taken on the line 4—4 of Figure 2; and

Figure 5 is an isometric exploded view of the cutter assembly employed in the machine of the present invention.

Referring in greater detail to the drawings in which like numerals indicate like parts throughout the several views, the reference numeral 10 in Figures 1 to 4 designates an upright housing having one end open, as at 12 in Figure 4.

A rotatable cutter assembly, designated generally by the reference numeral 14, is mounted in the housing 10 so as to bridge the open end 12. The assembly 14 includes a pair of blades 16 arranged in end to end spaced relation, each blade 16 being in the form of a flat strip and having a cutting edge 18 extending along one side thereof.

A cutter support 20 is cooperatively disposed inwardly of and adjacent the blade strips or blades 16, the cutter support being formed with a radial slot 22 in which the blades 16 are mounted. The cutter support 20 is fabricated of a pair of half discs 24 and 26 mounted on arms 28 and 30, respectively, projecting from opposed sides of a sleeve member 32, as shown in Figure 5. An S-shaped blade support element 34 supports the blades 16 so that their cutting edges 18 face in opposite directions, the element 34 having a sleeve member 36 at its midpoint.

A motor 38 is supported within the housing 10 on a shelf 40 above the open bottom of the housing 10 and has its drive shaft 42 projecting into a compartment 44 formed in the housing 10 by the open end of the latter and a vertical partition 46. The lower end of the compartment 44 is open and forms a discharge opening for the housing 10. A sleeve 48 fits over the projecting end portion of the drive shaft 42 and carries a key 50 slidably received in keyways provided in the sleeve members 32 and 36. The free end of the drive shaft 42 is spaced inwardly from the open end of the housing 10. The sleeve 48 and key 50 constitute the means connecting the cutter assembly 14 to the shaft 42 for rotation with the shaft 42. A set screw 52 secures the sleeve 48 to the shaft 42 and another set screw 54 secures the sleeve member 36 to the sleeve 48. A thumb screw 56 adjustably secures the sleeve member 32 on the sleeve 48 between the free end thereof and an enlarged portion 58 provided on the end of the sleeve 48 adjacent the motor 38.

A stub shaft 60 is receivable in the sleeve member 36 and sleeve member 32 and has a rounded portion on one end received in a recess 62 provided in an openable and closable door 64 extending over and normally closing the open one end 12 of the housing 10.

The door 64 is connected to the adjacent portion of the housing 10 by means of hinge elements 66 and a trough 68, having one end open and the other end closed, is mounted on and formed integrally with the outer face of the door 64 with the open end thereof in communication with the open one end 12 of the housing 10 when the door 64 is in the closed position.

Cooperatively mounted with respect to each of the blade strips or blades 16 are a plurality of knife elements 70, each knife element including a threaded shank 71 with a flat knife 73 projecting from one end thereof. The knife elements 70 are arranged in a line parallel to and spaced from each of the cutting edges of the blade strips or blades 16, the shanks 71 of the knife elements 70 being each individually threadedly engaged in threaded holes provided in the thickest portion 72 of the half discs 24 and 26, as shown in Figure 5. The knife element 70 is disposed so that the knives extend transversely of and are adjacent the cutting edge of each of the blade strips or blades 16. Each knife element 70 is provided with a lock nut 74 for securing it in any position of its adjusted movement into and out of the associated half disc 24 or 26.

Within the trough 68 is a vertically extending pusher blade 76 mounted upon one end of a push rod 78 having a handle 80 on the other end and exteriorly of the closed end of the trough 68.

A switch 82 in the walls of the housing 10 is in circuit with the motor 38. A latch assembly 84 on the same wall of the housing 10 and on the adjacent portion of the door 64 secures the door 64 in the normal closed position.

In use, the cutter support 20 is adjusted upon the sleeve 48 toward and away from the blade 16 to regulate the thickness of the slice of vegetable to be cut when fed through the face of the cutter support 20 from the trough 68 and by a manually applied pressure to the push rod 78 and to the attached pusher blade 76. The knife elements 70 are individually adjustable so that they project out of the face of the cutter support 20 and extend transversely of and are coplanar with the cutter edge of the blades 16. One or more of the knife elements 70 may be used and when used they serve to shred into strips the vegetable fed through the trough 68 prior to engagement by the adjacent blade 16, with the motor 38 energized and the cutter assembly 14 rotating with the shaft 42 of the motor 38.

What is claimed is:

1. In a vegetable slicing machine, a housing having an open end, and a rotatable cutter assembly mounted in said housing so as to bridge the open end thereof, said cutter assembly including a sleeve element, a support element carried by said sleeve element, a pair of blades arranged in end-to-end spaced relation, each blade being in the
form of a flat strip and having a cutting edge extending along one side thereof, said pair of blades being supported in said support element so that the cutting edges face in opposite directions, a cutter support cooperatively disposed inwardly of and having radial slots receiving said blades, and a plurality of knife elements arranged along a line parallel to and spaced from the cutting edge of each of said blade strips, each knife element including a threaded shank and a flat knife projecting from one end thereof, the shanks of said knife elements being each individually threadedly engaged in said cutter support with the knives disposed so as to extend transversely of and adjacent to the cutting edges of said blade strips.

2. A vegetable slicing machine comprising a housing having an open end and a bottom, a drive shaft in said housing and spaced inwardly from the open end thereof, a cutter assembly mounted in said housing so as to bridge the open end thereof, and means connecting said cutter assembly to said drive shaft for rotation with the latter, there being a discharge opening in the bottom of said housing, said assembly including a sleeve element, a support element carried by said sleeve element, a pair of blades arranged in end-to-end spaced relation, each blade being in the form of a flat strip and having a cutting edge extending along one side thereof, said pair of blades being supported in said support element so that the cutting edges face in opposite directions, a cutter support cooperatively disposed inwardly of and having radial slots receiving said blades, and a plurality of knife elements arranged along a line parallel to and spaced from the cutting edge of each of said blade strips, each knife element including a threaded shank and a flat knife projecting from one end thereof, the shanks of said knife elements being each individually threadedly engaged in said cutter support with the knives disposed so as to extend transversely of and adjacent to the cutting edges of said blade strips.

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