J. H. VARIAN.

VEGETABLE SLICING AND COOKING MACHINE.

APPLICATION FILED JAN. 8, 1913.

1,086,248. Patented Feb. 3, 1914.

Fig. 1.

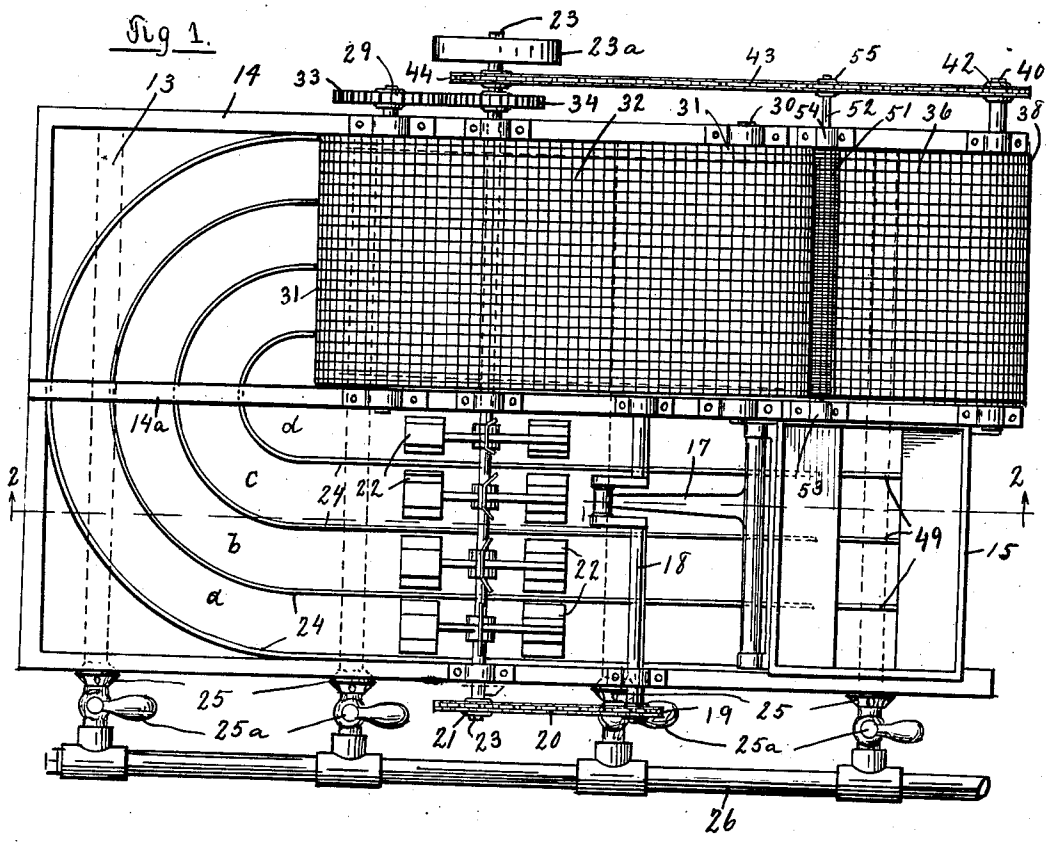
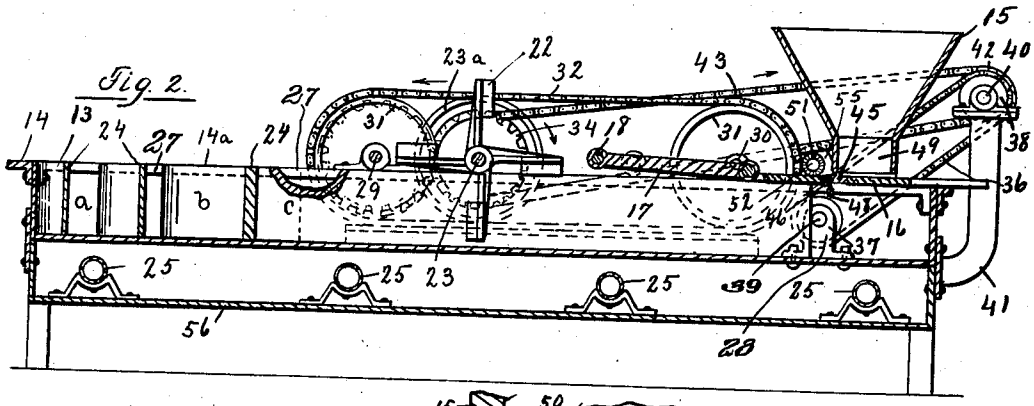


Fig. 2.



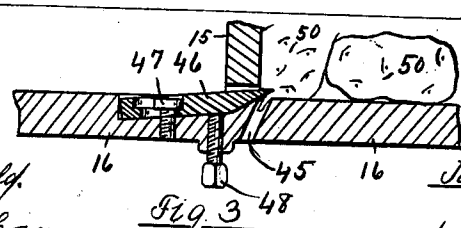


Fig. 3

Witnesses.
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UNITED STATES PATENT OFFICE.

JOSEPH H. VARIAN, OF LOS ANGELES, CALIFORNIA.

VEGETABLE SLICING AND COOKING MACHINE.

1,086,248. Specification of Letters Patent. Patented Feb. 3, 1914.

Application filed January 8, 1913. Serial No. 740,765.

To all whom it may concern:

Be it known that I, JOSEPH H. VARIAN, a citizen of the United States, residing at the city of Los Angeles, in the county of Los Angeles and State of California, have invented new and useful Improvements in Vegetable Slicing and Cooking Machines, of which the following is a specification.

My invention relates primarily to a machine for making Saratoga chips from potatoes and will be illustrated and described as for that purpose but it may be used for other purposes, and the object thereof is to produce an efficient machine for making Saratoga chips.

I accomplish this object by the machine described herein and illustrated in the accompanying drawings forming a part hereof, in which:

Figure 1 is a plan of my machine. Fig. 2 is a longitudinal vertical section on the line 2—2 of Fig. 1. Fig. 3 is an enlarged sectional detail of the cutter.

As applied to making Saratoga chips my machine consists of a rectangular shallow cooking tank 13 of sheet metal which is reinforced at the top by a rim 14 of angle iron. At one end of one side of the tank is a feed hopper 15 which has a longitudinally reciprocating bottom 16. This bottom is pivotally connected to and moved by a pitman rod 17 mounted on crank shaft 18. Shaft 18 is mounted at one end in bearings secured upon rim 14 and at the other end in bearings secured upon a bearing bar 14ª which extends longitudinally the tank near the center and is secured at its ends to rim 14. On one end of shaft 18 is a sprocket 19 which is connected by chain 20 with sprocket 21 mounted on shaft 23, which shaft is the main power shaft and is driven in any suitable manner. I have shown a power pulley 23ª on the other end of shaft 23 which is driven by any suitable power (not shown). One side and one end of tank 13 is divided into channels by the vertical sheet metal partitions 24 which are curved at the end of the tank as best shown in Fig. 1. These channels are marked *a*, *b*, *c*, and *d*. On shaft 23 are mounted paddle wheels 22, there being one paddle wheel for each channel. For the outside or longest channel *a*, the face of the paddle wheel is at right angles to the side walls of the channel. The next paddle wheel has its face at an acute angle to the side walls of channel *b*. The next paddle wheel has its face at a still greater angle to the side walls of channel *c*, and the paddle wheel for the shortest channel has its face at a still greater angle to the side walls of channel *d*. The purpose of changing the angle of the faces of the different paddle wheels is to cause the chips in the different channels to complete the travel in the several channels at the same time notwithstanding the unequal lengths of the same. Below tank 13 are a plurality of gas burners 25 each of which is controlled by a cock 25ª. These burners are connected to a common supply pipe 26 which secures its supply from the gas mains (not shown).

While I have shown gas burners as the means of heating the tank I do not confine myself to the exclusive use of gas as a heating means. Any other heating element may be used. A strip 27 of sheet metal is secured to bar 14ª and to the bottom of the tank and forms one side of channel *d*. In bearings secured to rim 14 and to bar 14ª are shafts 29 and 30 on which shafts are mounted hollow drums 31 over which travel a metal mesh depresser belt 32. On the end of shaft 29 is a gear wheel 33 which is driven, when the machine is operated, by gear 34 mounted on shaft 23. A conveyer mesh belt 36 is mounted on hollow drums 37 and 38. Drum 37 is mounted on shaft 39 which is mounted in bearings secured to the side of the tank and to support 28. Drum 38 is mounted on shaft 40 which shaft is mounted in bearings secured to frame 41 secured to the tank. On shaft 40 is a sprocket wheel 42 which is driven, when the machine is operated, by chain 43 which passes around sprocket wheel 44 mounted on shaft 23. The bottom of hopper 15 has a slot 45 therein which extends across channels *a*, *b*, *c* and *d*. On the side of slot 45 nearest to the pitman rod is a cutter knife 46 which is adjustably secured to the bottom by screws 47 which pass through transverse slots in the cutter, and set screws 48 are preferably placed at the ends of the cutter to adjust the edge of the cutter. Transverse slots are provided to allow of adjustment of the cutter nearer to or farther away from the slot as desired. In the bottom of the hopper are partitions 49 which are in register with partitions 12 to cause the potatoes 50 to retain positions so that the slices cut therefrom will fall into channels *a*, *b*, *c* and *d*. A brush 51 is se-

cured upon a shaft 52 mounted in bearings 53 and 54 which bearings are secured upon rim 14 and bar 14ª at the rear of drum 31. This brush is provided to brush the chips off depresser belt 32 onto conveyer belt 36. On the outer end of shaft 52 is secured a sprocket wheel 55 which is rotated, when the machine is in operation, by chain 43 which passes over the top thereof. To protect the burners a sheet of metal 56 is secured to the tank and extends below the burners.

In the operation of my machine a suitable quantity of oil or lard is placed in the tank and the burners are lighted. As soon as the oil is hot enough pared potatoes are placed in the hopper. Power is applied to rotate shaft 23. The rotation of shaft 23 causes the bottom of the hopper carrying the cutter to reciprocate across the bottom of the walls of the hopper. Each reciprocation of the cutter cuts a slice from each potato in contact therewith which falls into the hot fat. At the same time the paddles are causing the oil to move toward the depresser belt which carries the slices of potatoes to the belt which depresses them beneath the surface of the oil and carries them to the other end of the belt where they are brushed off the depresser belt if they should stick thereto by brush 51 and are caught and carried upward upon conveyer belt 36 to a receptacle (not shown).

Having described my invention what I claim is:

1. A vegetable slicing and cooking machine comprising a tank; means to heat the same; means to cause independent slices of vegetables to fall into the tank; means to cause the circulation of a cooking medium in said tank; means to depress the vegetables in said tank; and means to carry the vegetables out of said tank.

2. In a vegetable slicing and cooking machine the combination of a tank; a fluid cooking medium therein; means to drop independent slices of vegetables therein; in combination with means to cause the submergence of the vegetable in the cooking medium.

3. In a vegetable slicing and cooking machine the combination of a tank; a fluid cooking medium therein; means to drop independent slices of vegetable therein; in combination with means to cause the submergence of the vegetable in the cooking medium; and means to carry the cooked vegetables out of the tank.

In witness that I claim the foregoing I have hereunto subscribed my name this 30th day of December, 1912.

JOSEPH H. VARIAN.

Witnesses:
J. E. HARPHAM,
FRANK WATERFIELD.