Oct. 10, 1950 J. C. STROEVE 2,525,245

APRICOT SPLITTER USING ROTATING HOLDER AND YIELDABLE KNIFE

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FIG. 1.

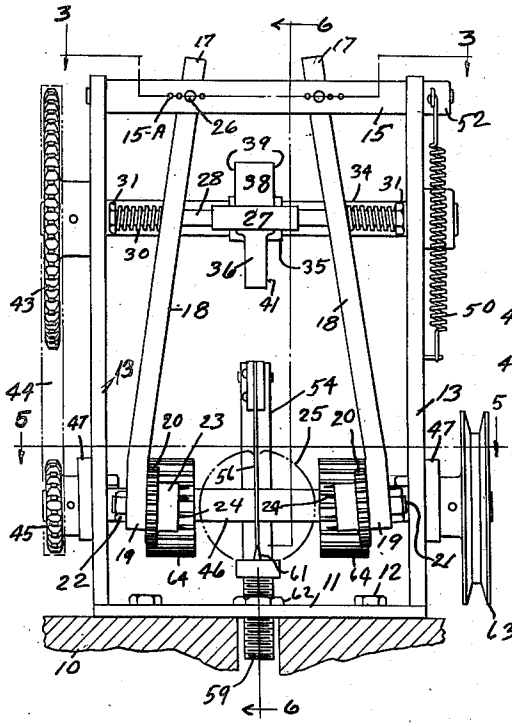


FIG. 2.

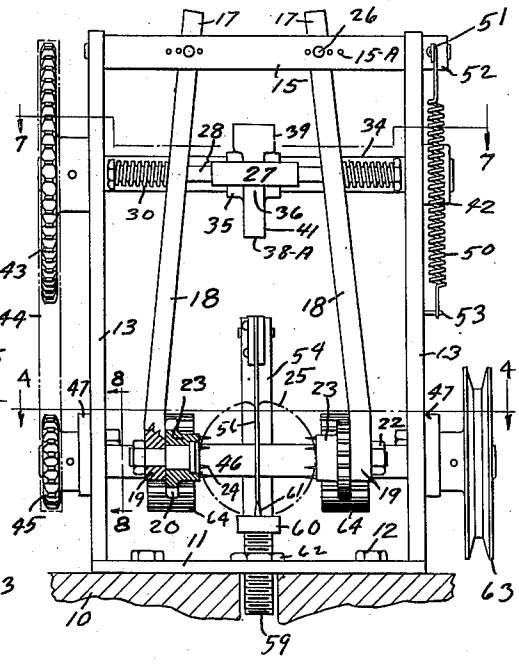


FIG. 4.

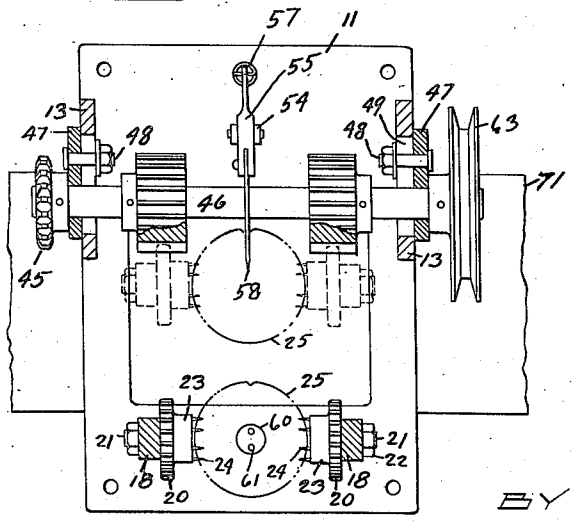
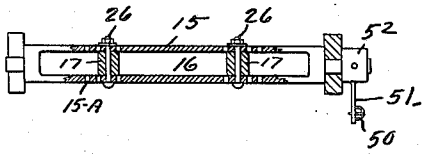


FIG. 3.



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FIG. 7.

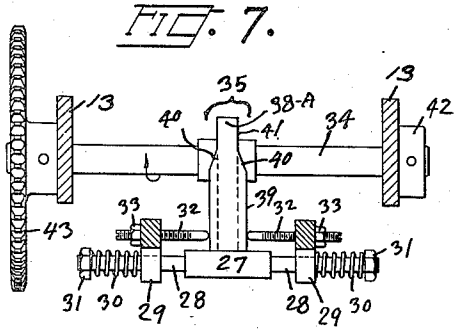


FIG. 6.

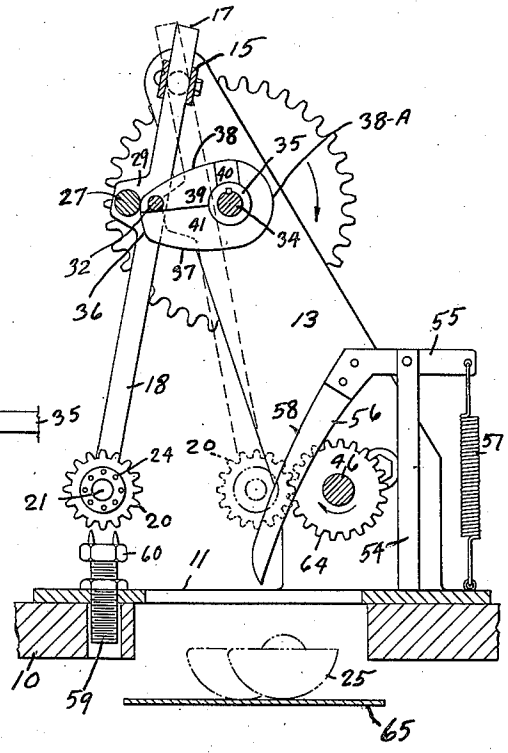


FIG. 9.

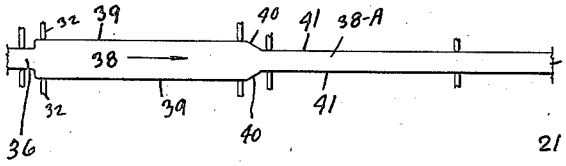


FIG. 5.

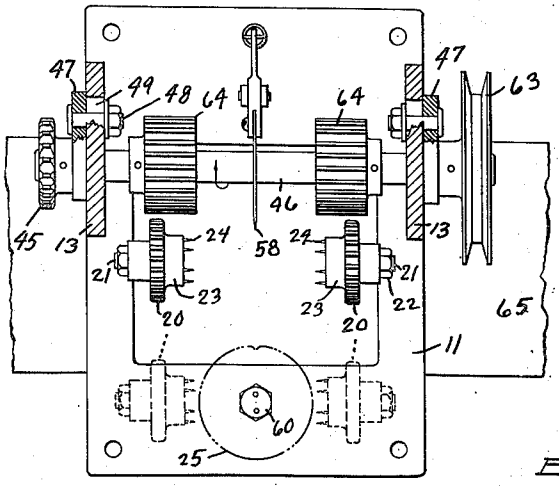
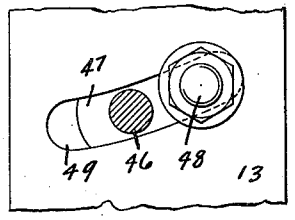


FIG. 8.



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APRICOT SPLITTER USING ROTATING HOLDER AND YIELDABLE KNIFE

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Application October 21, 1947, Serial No. 781,236

4 Claims. (Cl. 146—72)

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This invention relates generally to the fruit packing industry and particularly to a machine for splitting apricots and other fruit.

The main object is to construct a splitting machine by means of which fruit may be quickly and accurately cut in the most desirable plane in order to obtain a high grade therefrom.

I accomplish these and other objects in the manner set forth in the following specification as illustrated in the accompanying drawings in which

Fig. 1 is a front elevation of the machine showing the grippers ready to engage an apricot.

Fig. 2 is a view similar to Fig. 1 but showing the grippers engaging the apricot.

Fig. 3 is a section taken along the line 3—3 of Fig. 1.

Fig. 4 is a horizontal section taken along the line 4—4 in Fig. 2, showing in full lines the gripping position and in dotted lines the splitting position.

Fig. 5 is a horizontal section taken along the line 5—5 in Fig. 1 showing in full lines the grippers as they have moved apart to permit the apricot halves to drop out, and showing in dotted lines the grippers ready to pick up the next apricot.

Fig. 6 is a vertical section taken along the line 6—6 in Fig. 1 showing the gripper arms swung toward and away from the splitting knife in dotted and full lines.

Fig. 7 is a section along the line 7—7 in Fig. 2.

Fig. 8 is a section along the line 8—8 in Fig. 2.

Fig. 9 is a development of the cam.

Like numbers of reference refer to the same or similar parts throughout the several views.

Referring in detail to the drawing, there is shown a table 10 upon which is secured a base 11. By means of the bolts 12 formed on the base 11 are the upright standards 13, across the upper ends of which journals a rock shaft 15, in whose slot 16 are disposed the upper ends 17 of the arms 18, on whose lower ends 19 are the gears 20 on whose shafts 21 are placed the retaining nuts 22.

On the hub 23 of each gear 20 are mounted the inwardly pointing spikes or pins 24 which are sharpened to permit easy engagement with the fruit 25.

The shaft 15 is provided with a series of perforations 15—A for the bolts 26 which support the arms 18 and provide an adjustment for the arm pivots 26.

Mounted across the arms 18 is a roller 27 whose ends 26 journal in the lugs 29 formed on the arms

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18. Each roller portion 27 has a compression spring 30 mounted on the outerside of the lug 29 and held in place by a nut 31.

Also extending through the arms 18 are the screws 32 which are locked in position by the nuts 33.

Journaling in the standards 13 is a cam shaft 34 on the middle of which is secured a cam 35 which is somewhat pear-shaped in its side elevation, having its end 36 curved at radius struck from the cam axis. The cam sides 37 and 38 are slightly convex, while the side 38—A is substantially a semi-circle. The cam 35 has two raised lands 39 on opposite sides thereof, each of which has an approach 40 which connects the thinner part 41 of the cam 35 with the thicker raised portion 39.

The shaft has secured on one end a collar 42 and at the other end a sprocket wheel 43 whose chain 44 passes around the sprocket pinion 45 secured on the revolvable shaft 46 which journals in the plates 47 whose bolts 48 are disposed within the slots 49 formed in the standards 13.

A spring secured to a pin 51 in the collar 52 and to a pin 53 urges the arms 18 toward the standards 13, that is, urges the roller 27 towards the cam 35.

The slots 49 are arcuate on the axis of the shaft 15, thereby making the axis of the shaft 46 adjustable.

A post 54 is mounted on the base 11 and has pivotally mounted thereon a handle 55 of a splitting blade 56 whose spring 57 urges the cutting edge 58 towards the apricot 25.

On the base 11 is mounted a screw 59 whose head 60 is provided with a pair of upturned points 61 upon which the apricot 25 is placed by the operator so that the crease or groove in the apricot is in line with the knife edge 58. A lock nut 62 is provided to hold the screw 59 at the desired elevation.

On the shaft 46 is secured a driving pulley 63 and also a pair of gears 64 which are wide enough to mesh with the gears 20 in any lateral position. Power may be supplied to the pulley 63 from any convenient source.

The operation of the machine is as follows:

An apricot 25 is placed on the head 60 and the pulley 63 made to revolve. Assuming that the parts were in the position shown in Figs. 1 and 6, that is, with the gears 20 in line with the head 60 and spaced apart, it follows that further rotation of the cam 35 will allow the screws 32 to drop from the lands 39 and permit the springs 30 to force the points 24 into the apricot 25 and

suspend it. As the roller **27** drops off of the supporting surface **36**, the arms **18** are swung toward the shaft **46** until the gears **20** come into mesh with the gears **64**. As the cam **35** continues to revolve on the surface **38**—A the splitting cut continues, after which the cam surface **38** moves the gears out of mesh and separates the gears **20**, permitting the apricot halves and pits to fall onto a conveyor **65** or to be otherwise disposed of.

I claim:

1. An apricot splitter having in combination a base having an aperture therein, upright standards mounted on said base, a horizontal rock shaft at the top of said standards, pendant arms hinged to said rock shaft capable of limited movement in the plane of said rock shaft and also movement normal to the shaft axis, a horizontal drive shaft journalling in the lower portion of said standards behind the center of said aperture, a cam shaft on said standards above the center of said aperture, gearing for driving said cam shaft from said drive shaft, a roller carried by said pendant arms, a radial cam on said cam shaft engaging said roller, a spring for urging said roller toward said cam, springs for urging the lower ends of said arms together, said radial cam having lateral cam surfaces formed thereon, screws mounted in said arms engaging said lateral cam surfaces, a fruit rotating gear mounted on the lower end of each pendant arm, inwardly pointing fruit engaging spikes mounted on said gears, broad-faced driving gears on said drive shaft adapted to engage said fruit rotating gears and a tiltable knife over said aperture having a spring for urging its cutting edge toward the fruit held between the fruit rotating gears.

2. An apricot splitter having in combination a pair of upright standards, a pair of spaced pendant arms hinged at the upper ends of said standards, a spring for urging said arms in one direction, a cam for swinging said arms in opposition to said spring, a second cam for changing the spacings of the lower ends of said arms, a geared apricot engaging center mounted on the lower end of each arm adapted to hold an apricot therebetween, a supporting head mounted below and between said centers when in an outermost position on said standards adapted to mesh with said center gears when moved together by said first mentioned cam, and a yieldable knife mounted in the median plane between said centers having a spring for urging said knife against the pit of an apricot held between said centers.

3. An apricot splitter having in combination a pair of spaced upright standards, a horizontal rock shaft mounted across the upper end of said standards, a pair of pendant arms supported by said shaft, the lower ends of said arms having rotatable geared apricot engaging centers facing each other, an apricot supporting head disposed in the median plane between said centers, a yieldable knife disposed in said median plane, drive gears on said frame adapted to engage the gears on said centers when said centers are moved away from said supporting head, springs urging said arms together away from said supporting head and cams opposed to said springs for moving said arms apart and away from said knife.

4. An apricot splitter having in combination a base, a pair of upright standards mounted on said base, a rock shaft journalling in the upper ends of said standards, a pair of arms hinged to said shaft capable of swinging in a plane passing through the axis of said shaft, springs for urging said arms together, a geared apricot turning center on the lower end of each arm, a drive shaft journalling in the lower ends of said standards, elongated drive gears on said drive shaft in the paths of said center turning gears, a spring for urging said turning gears to mesh with said drive gears, a cam shaft journalling in said standards, driven from said drive shaft, a cam on said cam shaft opposed to said spring, a second cam on said cam shaft for urging said arms apart, a supporting head between said arms and under said turning centers when at their maximum distance from said drive gears and a yieldable slitting knife in the plane of said supporting head at the opposite end of the arm swing adapted to engage an apricot held between said centers while being rotated by said drive gears.

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