R. FOURCHY.

FRUIT PITTING MACHINE.

APPLICATION FILED OCT. 27, 1920.

1,407,524.

Patented Feb. 21, 1922.

2 SHEETS—SHEET 1.

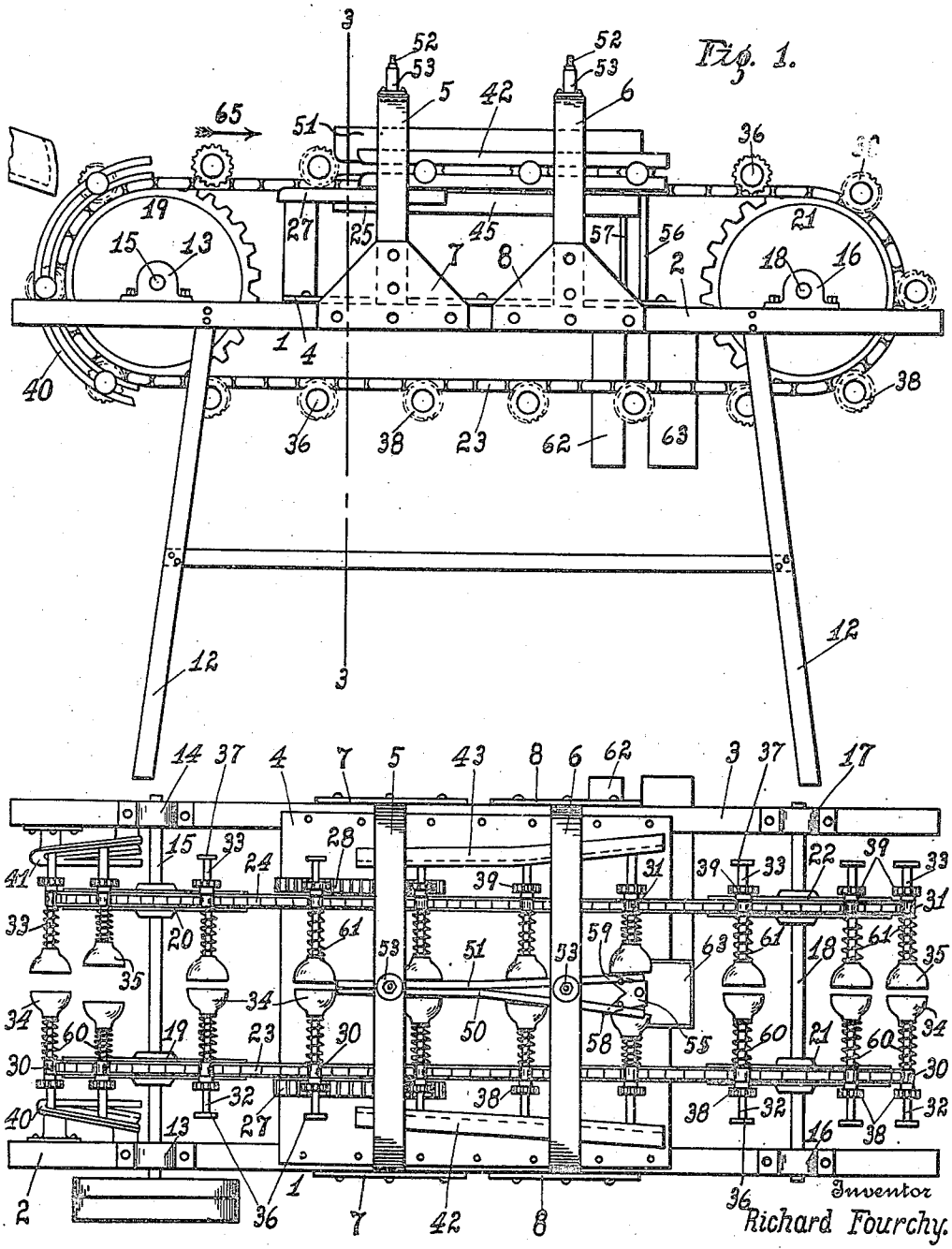


Fig. 1.

Fig. 2.

Inventor

Richard Fourchy.

By Henry C. Schroeder

Attorney

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2 SHEETS—SHEET 2.

Fig. 3.

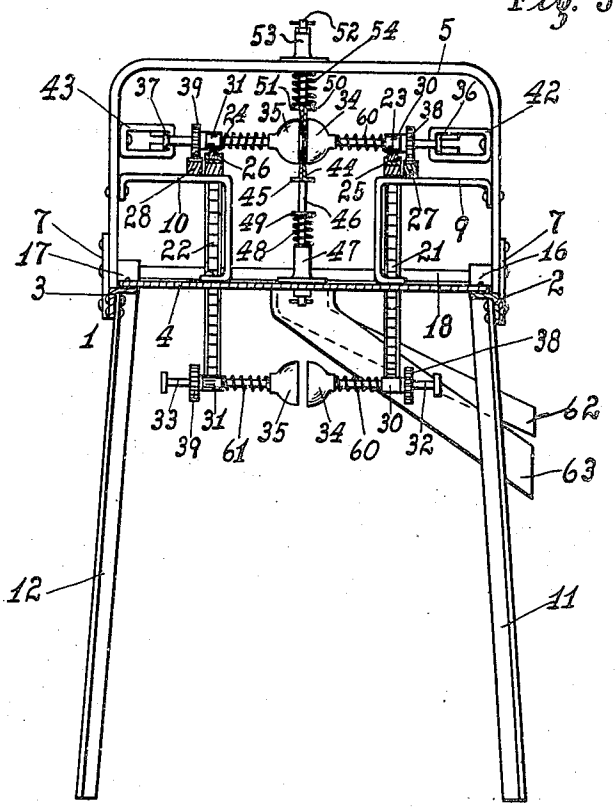


Fig. 4.

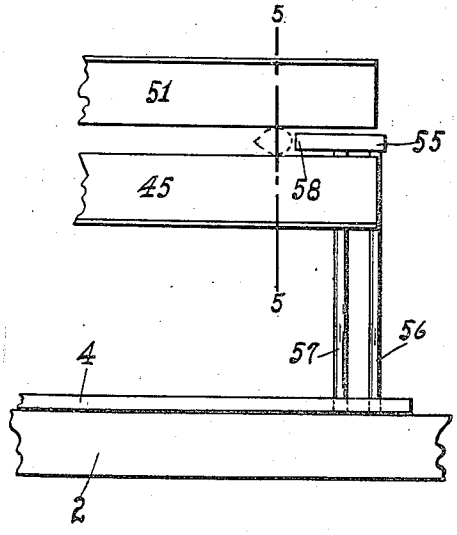
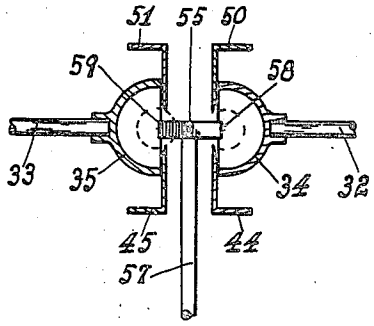


Fig. 5.



Inventor

Richard Fourchy.

By Harry C. Schroeder

Attorney

UNITED STATES PATENT OFFICE.

RICHARD FOURCHY, OF ALAMEDA, CALIFORNIA.

FRUIT-PITTING MACHINE.

1,407,524. Specification of Letters Patent. Patented Feb. 21, 1922.

Application filed October 27, 1920. Serial No. 420,007.

To all whom it may concern:

Be it known that I, RICHARD FOURCHY, a citizen of the United States, residing at Alameda, in the county of Alameda and State of California, have invented certain new and useful Improvements in Fruit-Pitting Machines, of which the following is a specification.

My invention is a fruit pitting machine, particularly useful for pitting apricots.

Referring to the annexed drawings in which my invention is illustrated and which forms a part of this specification,

Figure 1 is a side elevation of my invention.

Figure 2 is a plan view of my invention.

Figure 3 is a cross section of the machine taken on line 3—3 of Fig. 1.

Figure 4 is a fragmentary side view of the cutting knives and gouging knife.

Figure 5 is a cross sectional view taken on line 5—5 of Fig. 4.

In the drawings, 1 indicates the frame of the machine which includes longitudinal horizontal angle beams 2 and 3; a plate 4 secured to the top of said angle irons midway of their ends; yokes 5 and 6 extending above the plate 4 and secured at their lower ends to plates 7 and 8 which plates are secured to the outside of angle beams 2 and 3; angle members 9 and 10 secured at one end to the plate 4 and at their other end to the inside of the side arms of the yokes 5 and 6; and legs 11 and 12 on which the angle irons 2 and 3 are mounted. Bearings 13 and 14 are secured to the angle beams 2 and 3 near one end thereof in which bearings is journaled a shaft 15 extending transversely of the frame 1. Bearings 16 and 17 are secured to the angle beams 2 and 3 near the other end thereof in which bearings is journaled a transversely extending shaft 18. On the shaft 15 are secured two sprockets 19 and 20. On the shaft 18 are secured two sprockets 21 and 22. A chain 23 travels around sprockets 19 and 21 and a chain 24 travels around sprockets 19 and 21. A track 25 is mounted on the frame members 9 on which track the upper reach of the chain 23 travels. A track 26 is mounted on the frame members 10 over which the upper reach of the chain 24 travels. A rack 27 is mounted on the member 9 under the yoke 5. A rack 28 is mounted on the member 10 under the yoke 5. Bearings 30 and 31 are mounted respectively on the chains 23 and 24 at a suitable distance apart. Plungers 32 are mounted in the bearings 30 transversely of the chain 23 and plungers 33 are mounted in the bearings 31 in alignment with plungers 32. Semi-spherical cups 34 are mounted on the inner end of plungers 32 facing cups 35 mounted on the inner end of plungers 33. Heads 36 are secured on the outer end of plungers 32 and heads 37 are secured on the outer end of plungers 33. Pinions 38 are secured on the plungers 32 in alignment with racks 27 so as to mesh with said rack. Pinions 39 are secured on the plungers 33 in alignment with rack 28 so as to mesh with said rack. Cams 40 and 41 are secured to the inside of the angle beams 2 and 3 respectively at the end of said beams beyond the shaft 15 and in position to be engaged by the heads 36 and 37 respectively, said cams diverging toward said shaft. Cams 42 and 43 are mounted on the inside of the side members of the yokes 5 and 6 in position to be engaged by the plunger heads 36 and 37 respectively, said cams diverging toward shaft 18. A pair of longitudinal cutting knives 44 and 45 are mounted between the upper reach of the chains 23 and 24 on plungers 46 which are mounted in bearings 47 secured to the plate 4. Springs 48 surround the plungers 46, bearing upon the upper end of bearings 47 and against shoulders 49 on the plungers, which springs maintain the upper cutting edges of the knives 44 and 45 between the cups 34 and 35 from the under side thereof as said cups pass the knives. The knives 44 and 45 are together at their end nearest the shaft 15 and diverge from said end to their other end. A pair of longitudinal cutting knives 50 and 51 are mounted above the knives 44 and 45, on the lower end of plungers 52, which are mounted in bearings 53 on the upper cross members of the yokes 5 and 6. Springs 54 surround the plungers 52, bearing against the under side of the yoke cross members and against the knives 50 and 51, which springs maintain the lower cutting edges of the knives between the cups 34 and 35 from the top thereof at a short distance above the upper edge of the lower knives 44 and 45 as said cups pass the knives. A gouging knife 55 is mounted between the rear end of knives 44 and 45 and knives 50 and 51 on the upper end of standards 56 and 57 secured to the plate 4. The knife 55 has a pair of diverging pointed horizontal knife

members 58 and 59. Springs 60 surround the plungers 32, bearing against the bearings 30 and cups 34, and springs 61 surround the plungers 33 bearing against the bearings 31 and the cups 35, which springs normally hold the cups close together. A pit chute 62 is mounted in the plate 4 under the gouging knife 55. A fruit chute 63 is mounted in the plate 4 below and at the rear of the knives 44, 45, 50 and 51 and the cams 42 and 43.

The chains 23 and 24 travel in the direction of the arrow 65 (see Fig. 1). The heads 36 and 37, as the chain travels in said direction, first engage the cams 40 and 41 and spread the cups 34 and 35 apart. An apricot is placed between each pair of spread cups which close under the influence of their springs 60 and 61 when the heads 36 and 37 pass the cams 40 and 41 and enclose the apricot. The gears 38 and 39 next engage the racks 27 and 28 and rotate the cups and the apricot therein while the knives 44 and 45 and the knives 50 and 51 pass between the cups under and over the pit of the apricot and cut the apricot in half. The heads 36 and 37 then engage the cams 42 and 43 and spread the cups 34 and 35 apart, but the sides of the knives 44 and 45 and the knives 50 and 51 on account of their divergence hold the cut halves of the apricot in the cups while the pit is held in one half of the apricot and drawn out of the other half. The pit is then engaged by the gouging knife 55 and gouged out of the apricot and then drops through chute 62. The cups 34 and 35 then pass the knives 44, 45, 50 and 51 and the pitted apricot drops out of the cups through the chute 63. The heads 36 and 37 then pass the cams 42 and 43 and the cups 34 and 35 are brought together under the influence of the springs 60 and 61 in which position they remain until the heads again engage the cams 40 and 41 and the above described operations are repeated.

Having described my invention, I claim:

1. In a fruit pitting machine, a pair of cups, means for advancing said cups, means for spreading said cups apart to receive the fruit, means for closing said cups upon the fruit, cutting knives for cutting the fruit in half around the pit as the cups are advanced, means for spreading the cups and the halves of the fruit therein, and a gouging knife at the rear end of said cutting knives in the path of travel of fruit in said cups for gouging the pit out of the spread fruit.

2. In a fruit pitting machine, a pair of cups, means for advancing said cups, means for spreading said cups apart to receive the fruit, means for closing said cups upon the fruit, two oppositely disposed and spaced pairs of cutting knives for cutting the fruit in half around the pit as the cups are advanced, the knives of each pair of cutting knives diverging rearwardly, means for spreading the cups and the halves of the fruit therein as the cups are advanced, and a gouging knife between the rear ends of said oppositely disposed cutting knives in the path of travel of the fruit in said cups for gouging the pit out of the fruit.

3. In a fruit pitting machine, a pair of chains, a pair of plungers mounted transversely on said chains, cups on the adjacent ends of said plungers, springs for normally forcing said plungers inwardly and said cups together, heads on said plungers, cams for engaging said heads and drawing said plungers outwardly and said cups apart to receive the fruit, means for cutting the fruit and holding it in said cups after said heads have passed said cams and said cups have been closed upon the fruit by said springs, other cams for engaging said heads and spreading said cups with the fruit cut therein, means for removing the pit from the cut fruit, and means for removing the cut fruit from said cups.

4. In a fruit pitting machine, a pair of chains, a pair of plungers mounted transversely on said chains, cups on the adjacent ends of said plungers, springs for normally forcing said plungers inwardly and said cups together, heads on said plungers, cams for engaging said heads and drawing said plungers outwardly and said cups apart to receive the fruit, a pair of longitudinal diverging knives adapted to cut the fruit above the pit, and a pair of diverging knives adapted to cut the fruit below the pit as the cups pass between the knives with the fruit held between the closed cups, other cams for engaging said heads and spreading said cups with the fruit cut therein, means for removing the pit from the fruit, and means for removing the cut fruit from said cups.

5. In a fruit pitting machine, a pair of chains, a pair of plungers mounted transversely on said chains, cups on the adjacent ends of said plungers, springs for normally forcing said plungers inwardly and said cups together, heads on said plungers, cams for engaging said heads and drawing said plungers outwardly and said cups apart to receive the fruit, and means for rotating the cups after said heads have been passed said cams and said heads have closed upon the fruit, means for cutting the fruit around the pit while the fruit is rotating in said cups, other cams for engaging said heads and spreading said cups, means for removing the pits from the fruit, and means for removing the fruit from the cups.

6. In a fruit pitting machine, a pair of chains, a pair of plungers mounted transversely on said chains, cups on the adjacent ends of said plungers, springs for normally forcing said plungers inwardly and said

cups together, heads on said plungers, cams for engaging said heads and drawing said plungers outwardly and said cups apart to receive the fruit, pinions on said plungers, racks for engaging said pinions and rotating said cups when said heads have passed said cams and said cups have closed upon the fruit under the influence of said springs, means for cutting the fruit around the pit while the fruit is rotating in said cups, other cams for engaging said heads and spreading said cups, means for removing the pits from the fruit, and means for removing the fruit from the cups.

In testimony whereof I affix my signature.

RICHARD FOURCHY.