

Aug. 28, 1923.

1,466,337

L. HIRSCH

PINEAPPLE SLICER

Filed March 26, 1923

3 Sheets-Sheet 1

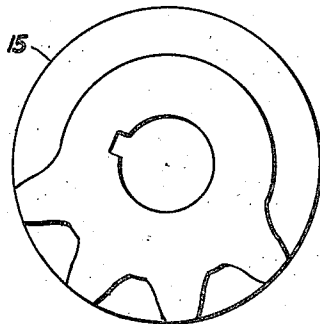
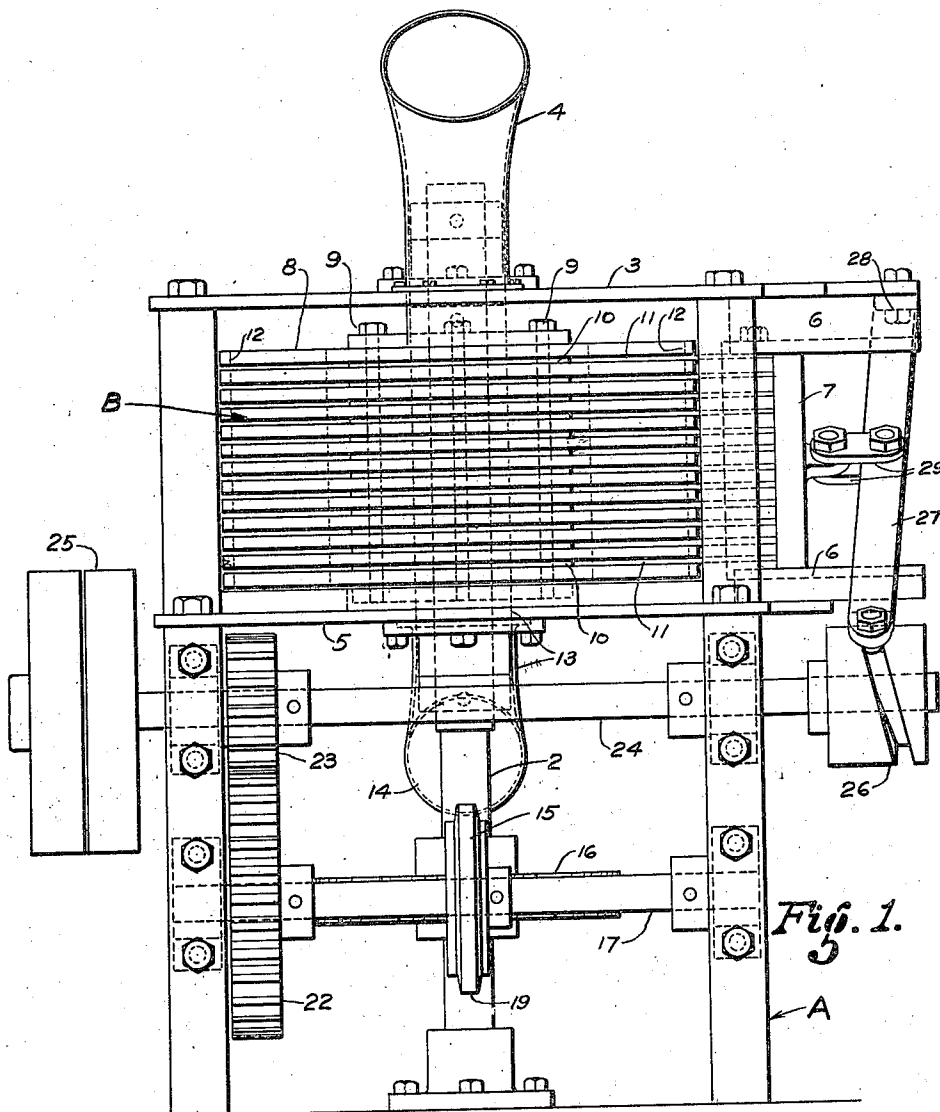


Fig. 6.

Fig. 1.

INVENTOR.
LOUIS HIRSCH.

BY *Delroy Strong*
Truend and Loftis

ATTORNEYS.

Aug. 28, 1923.

1,466,337

L. HIRSCH

PINEAPPLE SLICER

Filed March 26, 1923

3 Sheets-Sheet 2

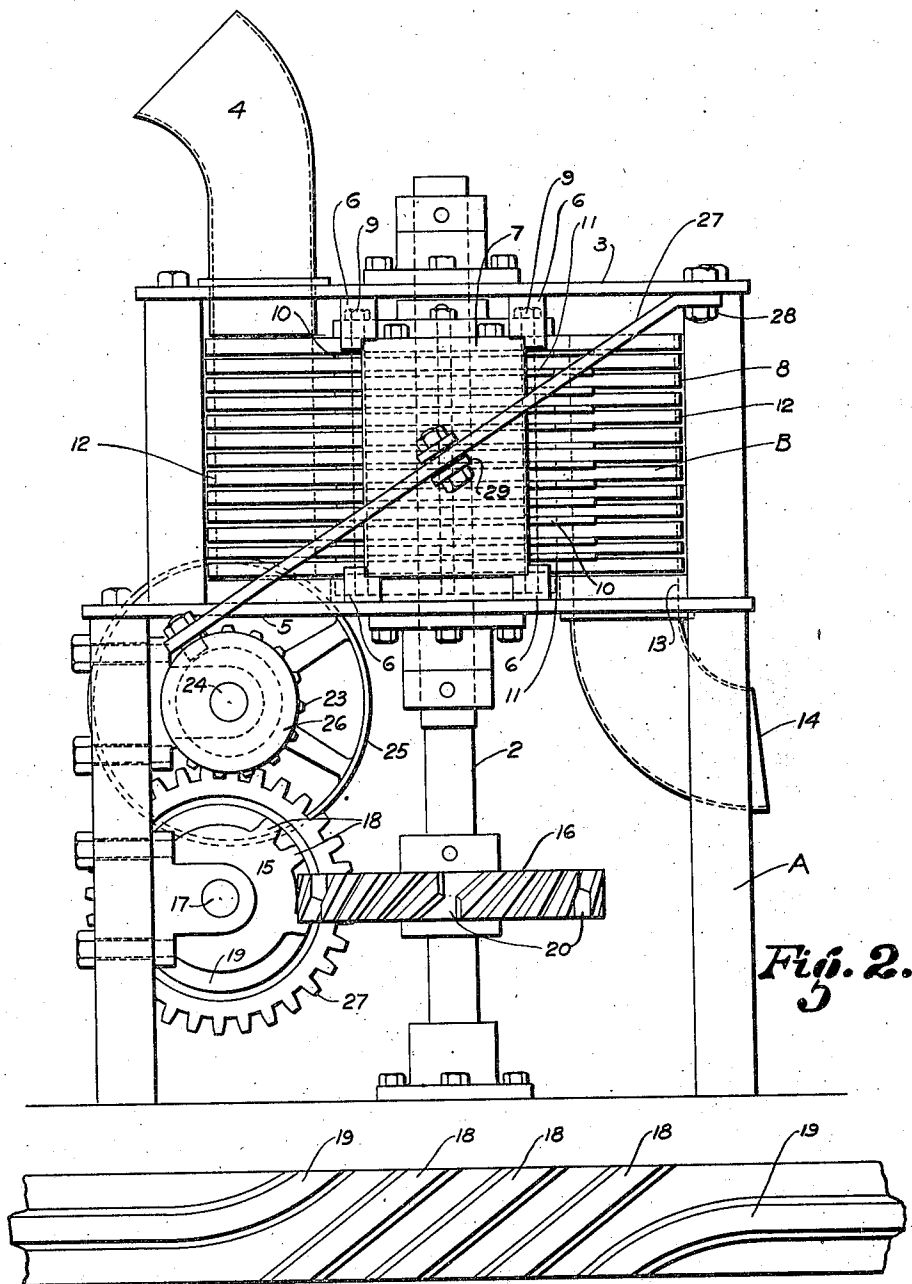


Fig. 7.

INVENTOR.

LOUIS HIRSCH.

BY *Dewey, Strong,*
Innes and Loftis.

ATTORNEYS.

Aug. 28, 1923.

1,466,337

L. HIRSCH

PINEAPPLE SLICER

Filed March 26, 1923

3 Sheets-Sheet 3

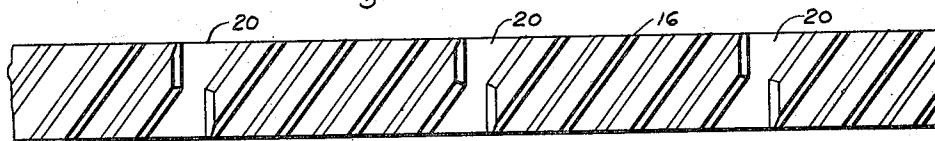
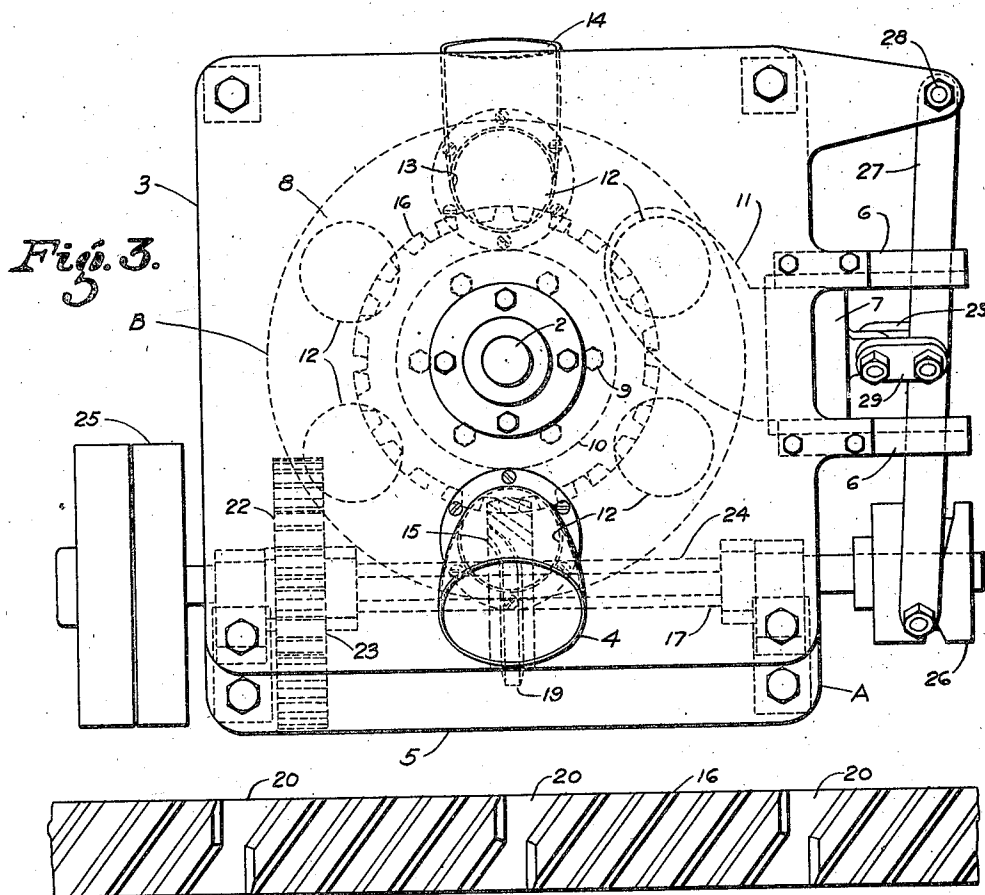


Fig. 5.

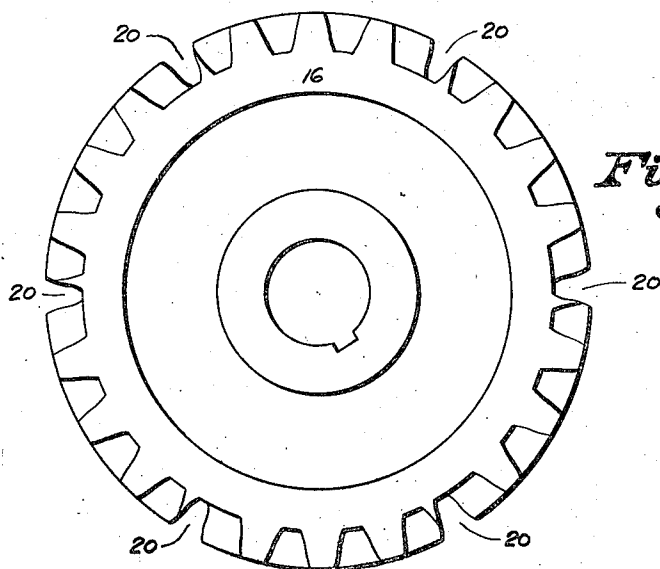


Fig. 4.

INVENTOR.
LOUIS HIRSCH.
BY *Dewey Strong,*
Jensen & Loftis
ATTORNEYS

UNITED STATES PATENT OFFICE.

LOUIS HIRSCH, OF HONOLULU, TERRITORY OF HAWAII, ASSIGNOR TO CALIFORNIA PACKING CORPORATION, OF SAN FRANCISCO, CALIFORNIA, A CORPORATION OF NEW YORK.

PINEAPPLE SLICER.

Application filed March 26, 1923. Serial No. 627,871.

To all whom it may concern:

Be it known that I, LOUIS HIRSCH, a citizen of the United States, residing at the city of Honolulu, Territory of Hawaii, and
5 United States of America, have invented new and useful Improvements in a Pineapple Slicer, of which the following is a specification.

This invention relates to a slicing machine
10 and especially to that type which is employed for slicing pineapples and the like.

The object of the present invention is to generally improve and simplify the construction and operation of machines of this
15 character. I accomplish this object by providing a series of interspaced, superposed, reciprocating knives whereby clean-cut slices of uniform thickness are obtained, and in conjunction therewith a turret, consisting
20 of a series of interspaced, superposed plates between which the knives operate and in which are formed pockets for the reception of the pineapples to be sliced. I further employ means for intermittently rotating
25 the turret to move the pineapples from a feeding position to a cutting position and finally to a discharge position, and in conjunction therewith I provide means for imparting a reciprocal movement to the knives
30 when they engage the pineapples to be sliced.

One form which my invention may assume is exemplified in the following description and illustrated in the accompanying drawings, in which—

Fig. 1 is a front view of the machine.

Fig. 2 is a side elevation of the same.

Fig. 3 is a plan view.

Fig. 4 is a side elevation of one of the
40 intermittent motion spiral gears.

Fig. 5 is a developed detail plan or edge view thereof.

Fig. 6 is a side elevation of the continuously rotating spiral driving gear.

45 Fig. 7 is a developed plan or edge view thereof.

Referring to the drawings in detail, and particularly to Figs. 1, 2 and 3, A indicates a main frame in which is supported a cen-

trally disposed vertical shaft 2. Secured 50 on the upper end of the shaft is a turret generally indicated at B and arranged above the turret is a frame plate 3 on which is supported a receiving hopper 4. Disposed below the turret is a second horizontally positioned frame plate 5 and supported by the
55 frame plates 3 and 5 is a pair of opposed guide members 6 between which is slidably mounted a vertically disposed cross-head 7. The turret proper consists of a series of
60 interspaced, superposed, annular disks or plates 8, which are secured together by means of bolts 9, and which are provided with hub members 10 to maintain the desired spacing. The cross-head 7 supports a series
65 of superposed knives or cutting blades 11 (see Figs. 1 and 3) which enter the spaces between the plates of the turret and which serve the function of slicing the pineapples as will hereinafter be described. The disks
70 are provided with a series of pockets, such as indicated at 12, which first serve the function of receiving the pineapples, secondly that of carrying the pineapples and securing
75 the same when acted upon by the slicing knives, and third, that of transferring the pineapples when sliced to a discharge opening 13 and a connected chute 14. The turret proper, which is carried by the shaft 2, is
80 intermittently rotated and this is accomplished by means of a pair of intermittent motion spiral gears generally indicated at 15 and 16. The spiral gear 15 is continuously rotated and is secured upon a shaft 17. The spiral gear 16 is intermittently rotated
85 and is secured upon the main shaft 2. The gear 16 is in reality nothing more or less than a mutilated spiral gear such as clearly illustrated in Figs. 4 and 5.

The driving pinion 15 contains three or
90 dinary spiral teeth as shown at 18, in Fig. 7, and has a continuous tooth as indicated at 19. The gear 15 is disposed at right angles to the gear 16 and the tooth 19 therefore enters one or another of the spaces in-
95 dicated at 20 formed between the teeth of the gear 16 when this is at rest, but rotation is imparted to the gear 16 when the teeth 18

of the driving pinion engage the same. In this manner an intermittent movement similar to that obtained by an ordinary Geneva movement is secured.

5 The shaft 17 carries an ordinary spur gear 22 and this meshes with a driving pinion 23 secured on a shaft 24, which in turn is driven from an exterior source by means of a pulley 25 or the like. Secured on the
10 opposite end of shaft 24 is a cam 26 and adapted to be oscillated by the cam is a lever 27 which is pivotally supported at its upper end to the frame plate 3 as indicated at 28. The cross-head 7 is connected with
15 the oscillating arm 27 through means of a link 29 and the knives 11 are therefore intermittently reciprocated, the reciprocal movement being imparted during the turning movement of the turret or, in other
20 words, when a pineapple is being passed through the knives. This reciprocal movement is of considerable importance as it produces a drawing or sliding cut which is exceedingly effective and produces uniform
25 slices with clean-cut edges and a general improved appearance.

In actual operation when power is transmitted to the pulley 25, it will be seen that the shafts 24 and 17 will continuously rotate and that shaft 2 will intermittently
30 rotate. It will further be seen that an intermittent oscillating movement will be transmitted to the lever 27 and as this is connected to the cross-head 7, which carries the slicing knives, a reciprocal movement
35 will be transmitted thereto. The pineapples to be sliced are delivered to the hopper 4 and drop by gravity into the pockets 12 as they one by one register therewith during the intermittent rotation of the turret. This
40 intermittent rotation carries the pineapples delivered to the knives 11 and as the knives are reciprocated during this movement, a drawing or sliding cut is produced with the
45 result that clean-cut edges are obtained without waste, and further that the result insures slices of uniform thickness and attractive appearance. The intermittent rotation finally delivers the sliced pineapples
50 to the discharge opening 13 and when they register therewith the sliced pineapples drop by gravity into the chute 14 and may here be removed as desired.

The disks forming the turret may be cored
55 out between the pockets 12 if desired to lighten the structure as much as possible, but the uppermost plate is preferably left smooth as it forms a bottom for the receiving hopper 4, that is, the fruit dropped into
60 the hopper falls through and rests upon the uppermost plate of the turret, but the fruit immediately drops into the pockets 12 when it registers with the hopper. The reason for employing the smooth surface should,
65 therefore, be obvious.

While certain features of the present invention are more or less specifically illustrated, I wish it understood that various changes in form and proportion may be resorted to within the scope of the appended
70 claims, similarly that the materials and finish of the several parts employed may be such as the experience and judgment of the manufacturer may dictate or various uses
75 may demand.

Having thus described my invention, what I claim and desire to secure by Letters Patent is—

1. In a machine of the character described, a turret, said turret comprising a series of interspaced, superposed disks having fruit receiving pockets formed therein and traversing the spaces between the disks, a series of superposed knives adapted to enter the spaces between the disks and to intersect the
80 fruit receiving pockets, means for imparting a step by step revoluble movement to the turret, and means for imparting a reciprocal movement to the knives during each
85 step by step movement of the turret.

2. In a machine of the character described, a turret, said turret comprising a series of interspaced, superposed, disks having fruit receiving pockets formed therein and traversing the spaces between the disks, a series of superposed knives adapted to enter the spaces between the disks and to intersect the fruit receiving pockets, a cross-head supporting the knives, means for imparting a reciprocal movement to the cross-head and the knives, and means for transmitting a
90 step by step movement to the turret during each reciprocal movement of the knives.

3. In a machine of the character described, a turret, said turret comprising a series of interspaced, superposed disks having fruit receiving pockets formed therein and traversing the spaces between the disks, a series of superposed knives adapted to enter the spaces between the disks and to intersect the fruit receiving pockets, a cross-head supporting the knives, means for imparting a reciprocal movement to the cross-head and the knives, and means for transmitting a
100 step by step movement to the turret during each reciprocal movement of the knives, said means comprising an intermittent motion spiral gear drive.

4. A machine of the character described comprising a frame, a vertically disposed
120 shaft journaled therein, a turret carried by said shaft, said turret comprising a plurality of interspaced, superposed disks, and said disks having fruit receiving pockets formed therein traversing the spaces between the
125 disks, a plurality of knives entering the spaces between the disks and intersecting the fruit receiving pockets, a cross-head supporting said knives, a fruit receiving and feeding hopper, a fruit discharge chute, 130

an intermittent motion spiral gear drive for transmitting a step by step rotary movement to the turret to bring the fruit receiving hopper successively into register with the fruit feeding hopper, the knives and the discharge chute, a cam through which reciprocal movement is transmitted to the knives and a cam drive shaft through which motion is transmitted to the spiral gear drive and to the cam and in such a manner that reciprocal movement is only imparted to the knives during movement of the turret. 10

LOUIS HIRSCH.