

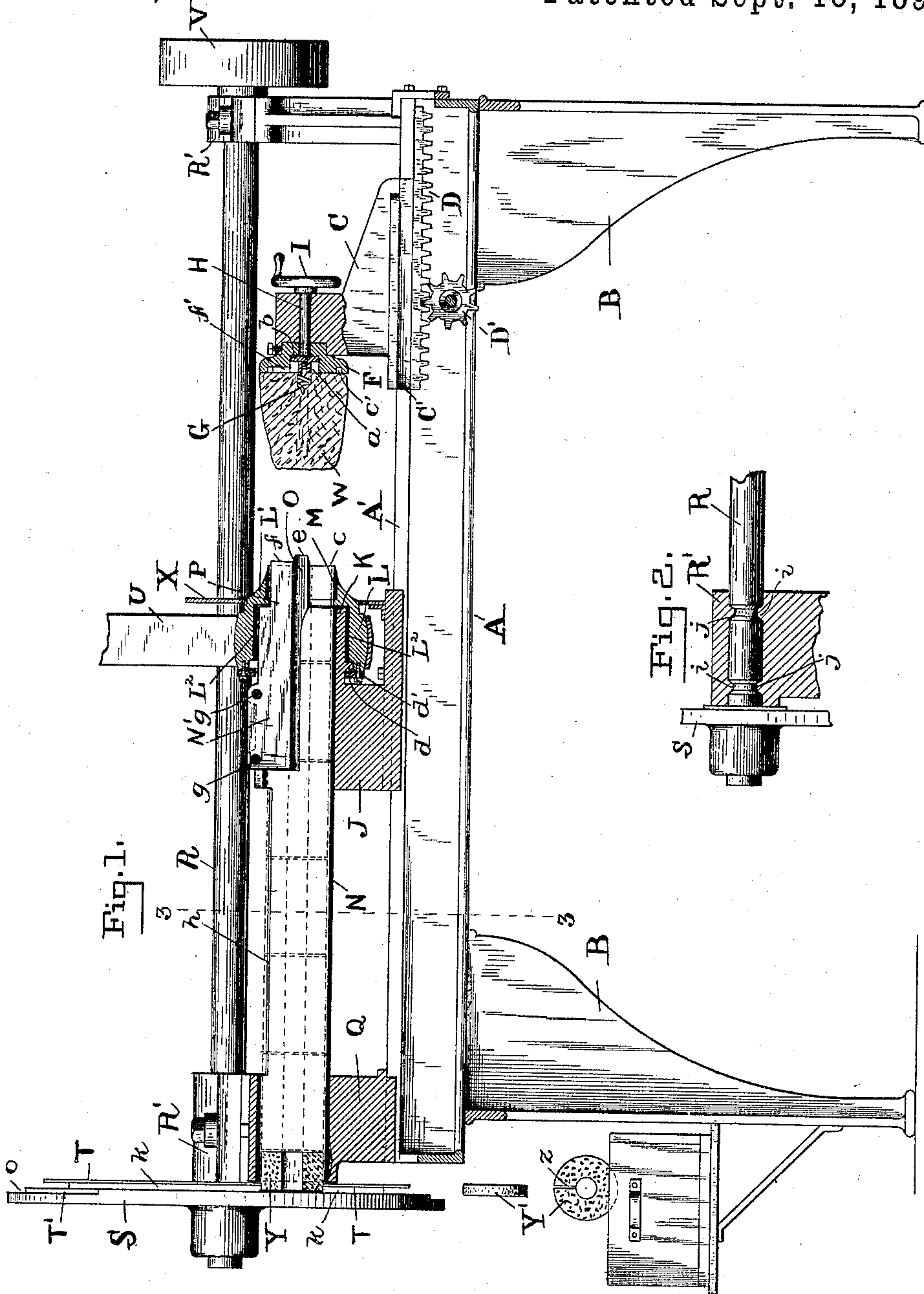
(No Model.)

2 Sheets—Sheet 1.

G. W. ZASTROW.
MACHINE FOR TREATING PINEAPPLES.

No. 482,493.

Patented Sept. 13, 1892.



WITNESSES:—

A. O. Babendreier.
J. Parker Davis.

INVENTOR:—

George W. Zastrow,

By Chas B. Mann
Atty

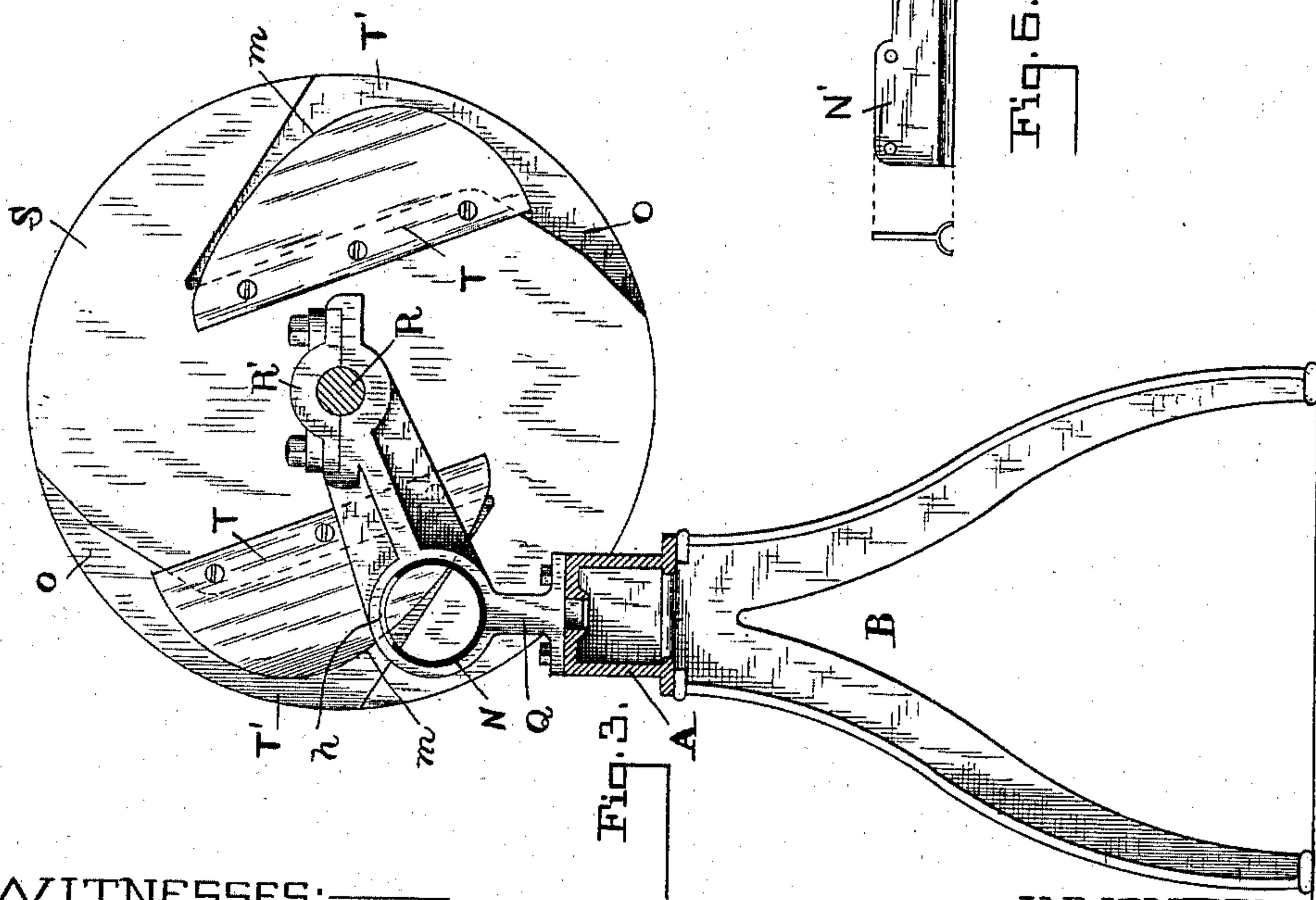
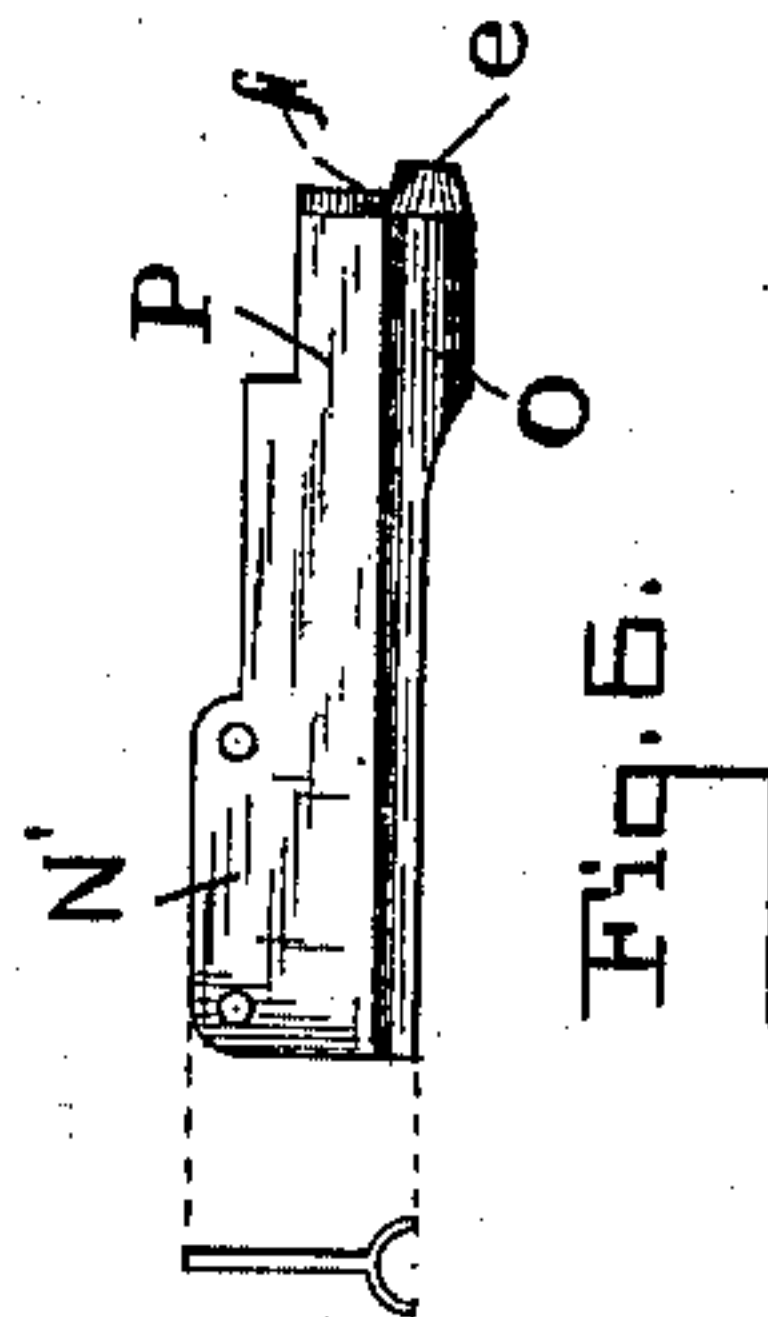
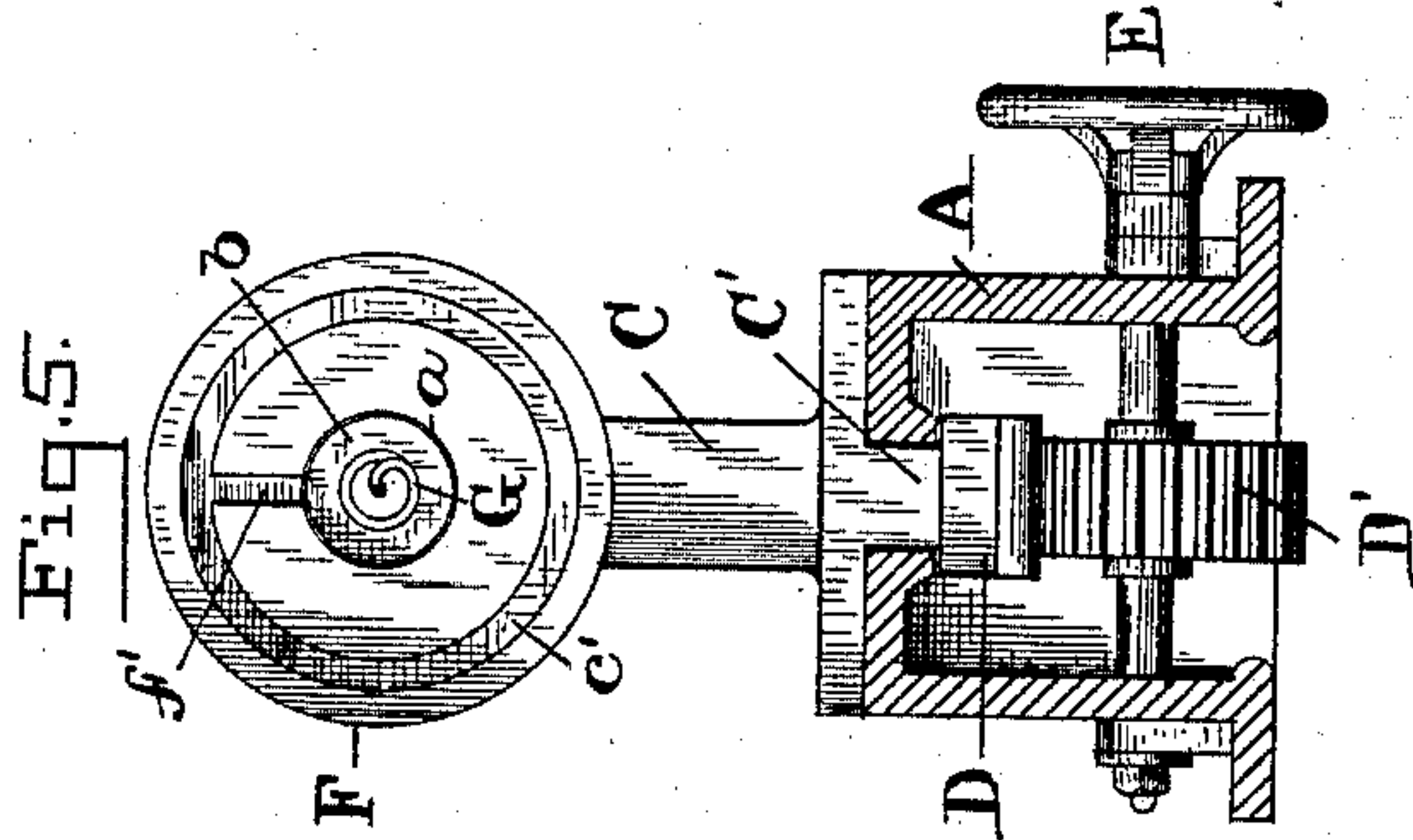
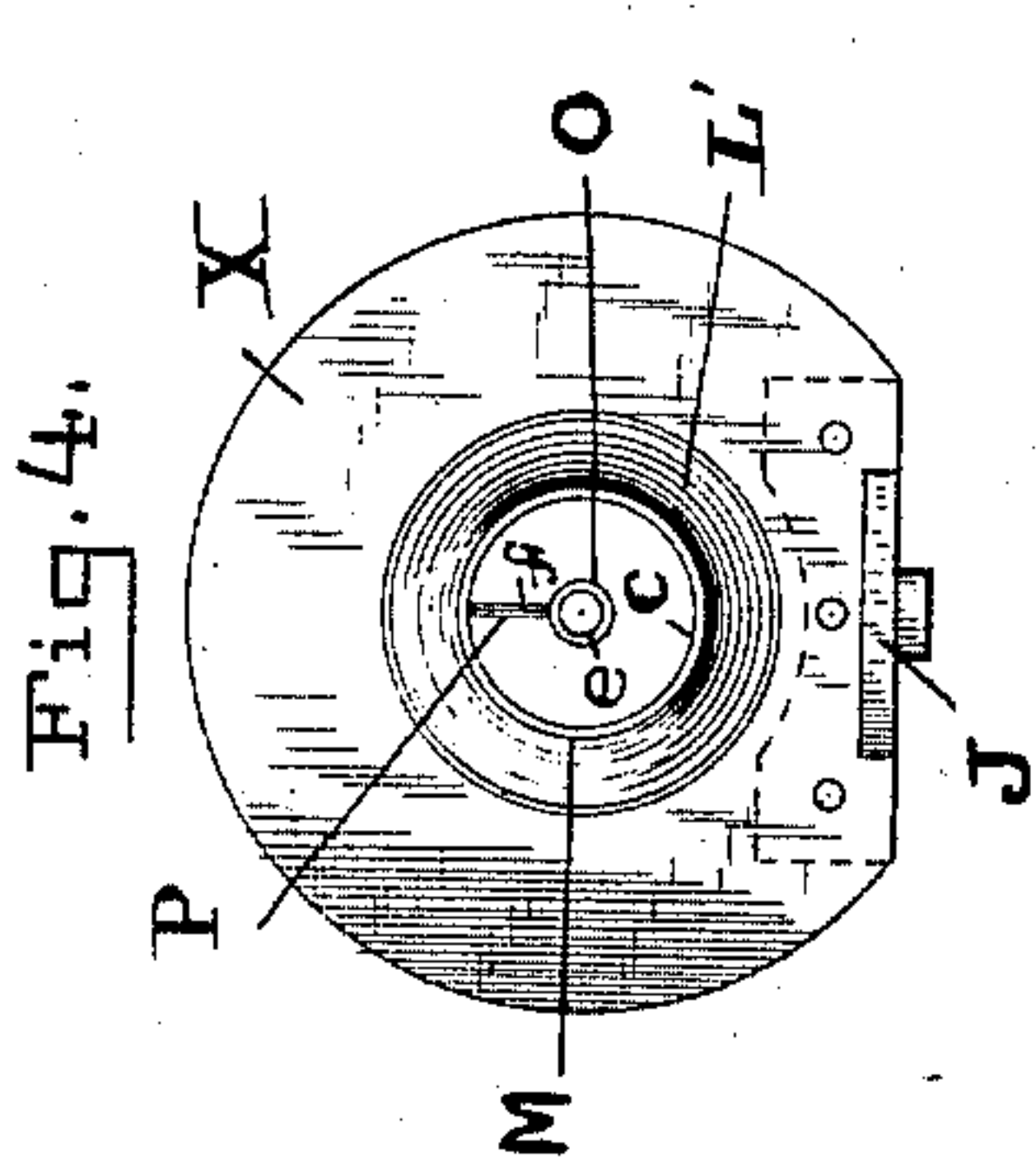
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UNITED STATES PATENT OFFICE.

GEORGE W. ZASTROW, OF BALTIMORE, MARYLAND.

MACHINE FOR TREATING PINEAPPLES.

SPECIFICATION forming part of Letters Patent No. 482,493, dated September 13, 1892.

Application filed April 11, 1892. Serial No. 428,582. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. ZASTROW, a citizen of the United States, residing at Baltimore city, in the State of Maryland, have invented certain new and useful Improvements in Machines for Treating Pineapples, of which the following is a specification.

This invention relates to a machine for treating pineapples to prepare them for canning.

The object is to take the roughly-pared fruit and run it through a machine which will size, core, split, and slice it.

To this end the invention consists in the novel features of construction and combinations of parts hereinafter described and claimed.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 shows a longitudinal section of the machine; Fig. 2, a section of a journal-bearing for the shaft of the rotary slicer; Fig. 3, a cross-section of the machine on the line 3 3 of Fig. 1. Fig. 4 shows a front view of the cylindrical cutter, the corer, and the splitter with guard-plate attached. Fig. 5 shows a front view of the sliding carriage with a cross-section of the bed-piece of the machine. Fig. 6 shows a detail side view of the corer and splitter with a projected end view thereof.

The letter A designates the bed-piece of the machine, which consists of a hollow casting with a longitudinal slot A' in its top and is supported on suitable legs B. A carriage C rests on top of the bed-piece A and has a guide-rib C' fitting the slot A', which forms a slideway for it, and said carriage has a rack D fastened to said rib and contained within the bed-piece A. A pinion D' engages said rack and is worked by a hand-wheel E on its shaft. By this means the carriage may be reciprocated.

A circular head F is fastened on the front side of the carriage and has a circular depression a at the middle, and a cork screw G is fastened in a suitable stem H, which journals through the said head F and the carriage and has a shoulder b fitting against the base of the depression a. The corkscrew G projects from the face of the head F, and the stem H carries on the rear side of the carriage a crank-wheel I, by which it may be revolved.

A standard J is stationed at a suitable place on the bed-piece A, and this standard is formed with a stud K, which constitutes a bearing for a rotary cutter-head L, having the form of a pulley where it surrounds the stud K and provided with a part L', projecting beyond the said stud and shouldered to fit against the end of the same. This projecting part has a cylindrical bore and receives a tube-section M, having a projecting circular cutting-edge c. The head L is fitted over the stud K, against a shoulder d, formed thereon, and is held on by means of a ring d', fitted against the opposite side of said shoulder and screwed to the head. A brass bushing L² is interposed between the rotary head L and the stud K to take the wear. The standard J has a cylindrical bore extending through it and lined with a bushing in the form of a tube N, whose bore is in line with that of the tube-section M.

A coring-tube O is located concentrically within the tube-section M and has a cutting-edge e projecting a little beyond the circular cutting-edge c, and a radial blade P is fastened to the upper side of the coring-tube O and extends to the interior surface of the tube-section M. This blade presents a radial cutting-edge f, projected beyond the circular edge c, and the said blade extends back through the tube N and has a widened part N', by which it is secured by bolts g to the standard J, engaging a slot provided therein. The coring-tube O is cut away on the under side a short distance back of its cutting-edge, so that from this point to its rear end it is only partly tubular, as seen in Fig. 6.

The tube N extends to the rear end of the machine, where it is mounted in another standard Q, fixed upon the bed-piece A, and between the two standards J and Q a longitudinal slot h is made in the upper side of the tube to give access thereto.

A shaft R is mounted at one side of the machine in suitable bearings R' and carries a circular disk S on one end, said disk extending over the end of the tube N, with a suitable space between it and said tube. The bearing at this end of the shaft is made with ribs i, which engage in annular grooves j in the shaft to prevent longitudinal movement of the same.

The disk S carries slanting knife-blades T

on its inner side. In the present instance two of such blades are secured to the disk diametrically opposite each other. Each blade has a strip or block *k* interposed between it and the disk where it is fastened thereto, so that the blade will stand off from the face of the disk. The blade tapers in width, increasing toward the periphery of the disk, and has a rounded cutting-edge *m*. The blade is so set that said edge extends on an incline toward the periphery of the disk, as seen in Fig. 3, and will cross the tube N in such inclined position. Behind each blade a recess T' is made in the disk, and this recess extends a little beyond the cutting-edge *m* and out to the periphery of the disk. At this periphery of the disk it also extends back of the rear edge of the blade, as seen at *o*.

Power is applied to the rotary head L by a belt U, passing around the same, and to the disk S by applying a belt to a pulley V on the end of the shaft R.

The operation is as follows: A pineapple W, which has been roughly pared, is held in the hand against the corkscrew G and the crank-wheel I revolved to enter said corkscrew into the core of the apple, and thus hold the latter tightly up against the head F. Now the hand-wheel E will be turned to move the carriage C toward the rotary cutter. The apple thus moved upon the cutting-edges *e f c* has an outside shell cut from it by the revolving cutter M, while at the same time the tube O advances through the center and cuts the core out and the blade P splits the apple radially from the cored-out center to one edge. The stationary splitting-blade P holds the apple from turning. The circular head F has a circular groove *c'* in its face, into which the edge *c* may enter to cut the apple clear and prevent dulling the said edge, and also a radial groove *f'* to receive the edge *f*. The coring-edge *e* enters the central depression *a*. The sized apple in cylindrical form enters the tube N, which forms a guideway for it, while the shell cut from the exterior by the circular edge *c* drops into a suitable receptacle below. A circular guard-plate X extends around the rotary head L and is bolted to the base of the standard J. This plate prevents the outside shell cut by the edge *c* from going past the projecting part L' of the rotary head. The carriage C is moved back by turning the hand-wheel E in the opposite direction, and the core remains on the corkscrew G and may be removed therefrom in any suitable manner. Another apple is placed on the carriage and treated like the first one, and as this continues one apple shoves another along in the tube N, as illustrated in dotted lines in Fig. 1. The farthest-advanced apple Y is pushed against the surface of the disk S, and as the latter revolves the knife-edge *m* cuts a slice Y' off the apple. The action of the knife by reason of its peculiar shape and inclined position is to give a "draw cut" in slicing, as the

cutting-edge at the same time that it crosses the tube N "draws" downward, as best illustrated in Fig. 3. The other blade acts in the same way, and hence two slices are cut from the apple with each revolution of the disk. After the blade cuts a slice the latter enters the recess T behind said blade, and is thus freed, so that it may readily drop from the disk into a receptacle placed below. The recess extends back, as at *o*, to avoid a wall against which the slice might strike and be thrown laterally from the disk. When the machine is to be stopped, the apples remaining in the tube N are shoved through against the slicer-disk S by means of a suitable specially-prepared block inserted in the front end of the tube and the last one or two by means of another block inserted through the slot *h* in the upper side of the tube. The slices are delivered by the machine each with a radial split *z* in it. This facilitates their introduction into cans having contracted top openings.

It will be seen my machine sizes, cores, splits, and slices the apple, and this greatly expedites the handling of pineapples in preparing them for canning.

The thickness of the slice may be varied by introducing liners behind the knife-blades, so as to have them stand off farther from the disk-face, and setting the disk at the proper corresponding adjustment on the shaft.

It is evident that changes may be made in the construction and arrangement of parts without departing from the spirit and scope of the invention.

Of course the machine may be employed for treating other articles than pineapples.

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

1. In a machine of the character described, the combination of a slicer, a cylindrical sizing-cutter through which the article under treatment passes to said slicer, and a carriage for feeding the said article first through the said cylindrical cutter and then to the slicer, whereby the machine will cut the article into circular slices of equal size.

2. In a machine of the character described, the combination of a rotary slicer-disk having a slicing-knife secured to one face, with a space between it and the said disk-face, a cylindrical sizing-cutter through which the article under treatment passes to the slicer-disk, and a carriage for feeding said article first through the said cylindrical cutter and then against the face of the said rotary disk, whereby the machine cuts the article into circular slices of equal size.

3. In a machine of the character described, the combination of a rotary slicer-disk having a recess in one face and a slicing-knife secured on said face and extending over said recess, a cylindrical sizing-cutter through which the article under treatment passes to the slicer, and a carriage for feeding the said

article first through the said cylindrical cutter and then against the face of the rotary slicer-disk, the slice cut off by the knife on said disk entering the recess in the latter, for the purpose described.

4. In a machine of the character described, a cylindrical sizing-cutter and a concentric coring-tube, both arranged to act simultaneously on the article under treatment.

5. In a machine of the character described, a cylindrical sizing-cutter and a coring-tube having permanent location concentrically therein.

6. In a machine of the character described, a cylindrical sizing-cutter and a coring-tube having permanent location concentrically therein, in combination with a carriage to present the article under treatment to the action of said two cutters.

7. In a machine of the character described, a coring-tube having a radial blade attached on its exterior to split the article under treatment at the same time that it is cored by said tube.

8. In a machine of the character described, the combination of a cylindrical sizing-cutter and a radial splitting-blade therein.

9. In a machine of the character described, the combination of a carriage, a cylindrical sizing-cutter, and a radial splitting-blade located in said cylindrical cutter.

10. In a machine of the character described, the combination of a cylindrical rotary sizing-cutter and a stationary blade located therein, substantially as and for the purpose described.

11. In a machine of the character described, a cylindrical sizing-cutter, a coring-tube located concentrically therein, and a radial splitting-blade also located in said cylindrical cutter.

12. In a machine of the character described, the combination of a cylindrical sizing-cutter, a coring-tube, a radial splitting-blade, and a carriage to present the article under treatment to the action of all three of said cutters, substantially as described.

13. In a machine of the character described, the combination of a cylindrical sizing-cutter, a coring-tube, a slicer, and a carriage to present the article under treatment to the action of all three of said cutters, substantially as described.

14. In a machine of the character described, the combination of a cylindrical sizing-cutter, a coring-tube, a radial splitting-blade, a slicer, and a carriage to present the article under treatment to the action of all four of said cutters.

15. In a machine of the character described, the combination, with a suitable cutter, of a sliding carriage holding a revoluble corkscrew which projects to receive the article under treatment.

In testimony whereof I affix my signature in the presence of two witnesses.

GEO. W. ZASTROW.

Witnesses:

JNO. T. MADDOX,
F. PARKER DAVIS.