

No. 654,839.

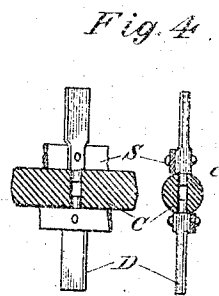
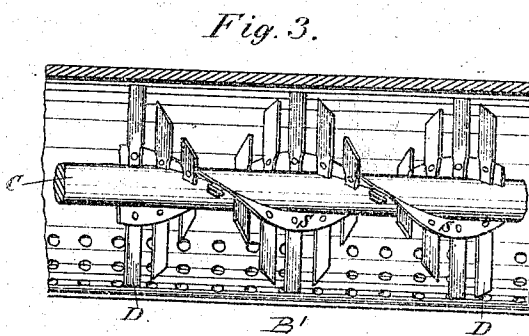
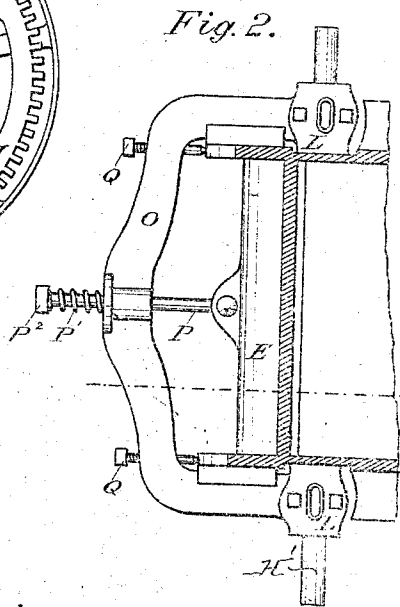
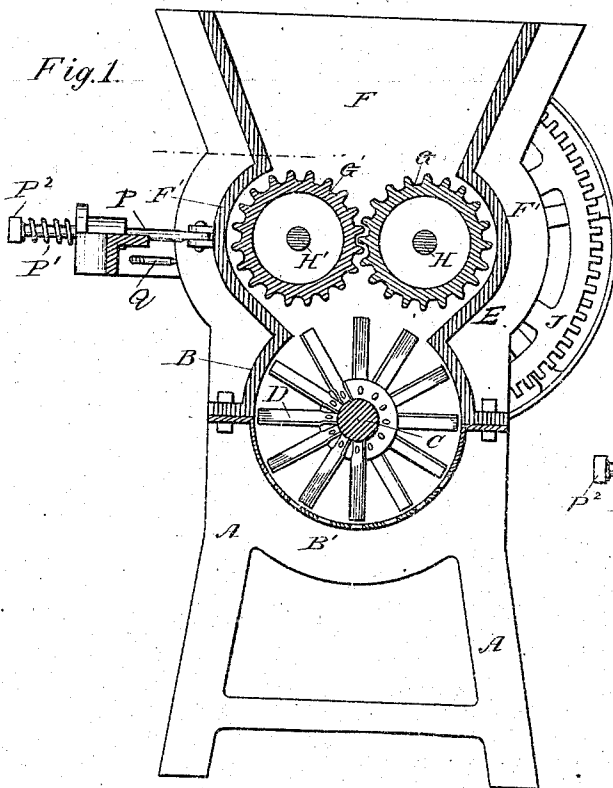
J. S. PHILPOTT.
GRAPE CRUSHER AND STEMMER.

Patented July 31, 1900.

(No Model.)

(Application filed July 24, 1899.)

2 Sheets—Sheet 1.



Witnesses,

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No. 654,839.

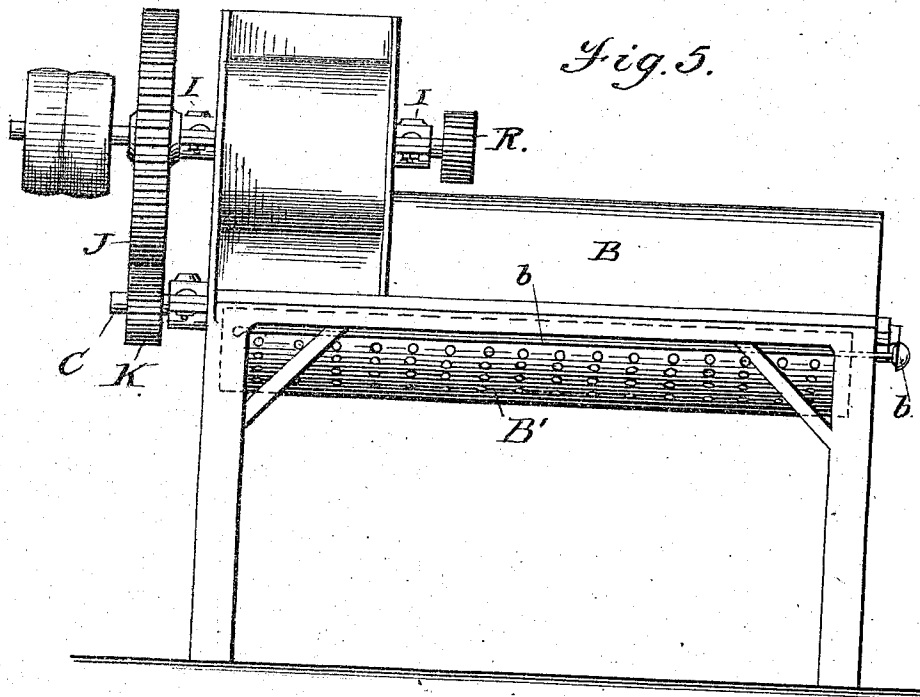
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2. Sheets—Sheet 2.



WITNESSES

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UNITED STATES PATENT OFFICE.

JAMES S. PHILPOTT, OF WINDSOR, CALIFORNIA, ASSIGNOR OF ONE-HALF
TO GEORGE A. NALLEY, OF SAME PLACE.

GRAPE CRUSHER AND STEMMER.

SPECIFICATION forming part of Letters Patent No. 654,839, dated July 31, 1900.

Application filed July 24, 1899. Serial No. 724,850. (No model.)

To all whom it may concern:

Be it known that I, JAMES S. PHILPOTT, a citizen of the United States, residing at Windsor, county of Sonoma, State of California, have invented an Improvement in Grape Crushers and Stemmers; and I hereby declare the following to be a full, clear, and exact description of the same.

This invention relates to machines for crushing and stemming grapes; and it consists of the parts and the constructions and combinations of parts, which I will hereinafter describe and claim.

Figure 1 is section through the hopper, roller, and stemmer. Fig. 2 is a plan view, partially in section, of the means for adjusting the roller G'. Fig. 3 is a sectional view of the stemmer and casing. Fig. 4 represents details of stemmer-teeth. Fig. 5 is a side elevation of the machine.

A is a suitable frame or support for the apparatus, having mounted upon it a cylindrical casing composed of a semicircular closed top portion B and the lower screen portion B', which forms a continuation thereof. Axially within this cylinder is journaled the shaft C, which extends from end to end through the cylinder and carries the teeth D of the stemming portion of the apparatus, to be hereinafter described. The intermeshing teeth by which the rollers G G' are driven are made sufficiently long to allow for the separation of the rollers to as great an extent as required without disengaging these teeth, and as the pressure is always in one direction the separation of the teeth will not sufficiently change the relative position of the teeth of the driving-gears and those of the crushing-rollers to affect their action. Above this cylinder, near one end, are a casing E and hopper F, into which the grapes are first placed. The walls of the hopper F incline toward each other from the top downward and at a point where the crushing-rollers G are journaled in a horizontal plane these walls curve outwardly, as shown at F', so as to provide an open channel exterior to the peripheries of the crushing-rollers, converging again toward the bottom where the discharge into the stemming-cylinder takes place. The roller G is mounted upon a shaft H, turning in fixed

journal-boxes I at either side of the casing E, and by means of a gear-wheel J, fixed upon its shaft, power is transmitted through a pinion K from any suitable power apparatus to rotate the gear and the roller G. The other roller G' is mounted upon a shaft H', turnable in boxes L, which are connected by a yoke O and which are independent of the bearings of the shaft H, so that the roller G' may be adjusted to and from the roller G. The yoke O has a hole made centrally through it, through which extends a stem P, the inner end of which is suitably attached to the exterior of the casing E or other suitable part. This stem extends through the hole in the yoke and is surrounded by a spring P', the tension of which is adjusted by means of a head or nut P², which may be screwed down to compress the spring against the yoke. This allows for any automatic movement of the roller G' with relation to the roller G when the thickness of the mass of material passing is so great that such adjustment is necessary.

Through the yoke O pass the adjusting screws Q, bearing against the stationary portion of the frame, and by turning these screws the yoke, with its journal-boxes L, and the shaft H' and roller G' may be adjusted with relation to the roller G so as to provide the minimum distance between the rollers, to which point the spring P' ordinarily holds the roller; but, as before stated, the spring will yield if the pressure between the rollers becomes sufficient to make it necessary. The roller G' is driven in unison with the movements of the roller G by means of intermeshing gears R upon the shafts of the two rollers, these gears having a number of teeth corresponding with the corrugations in the rollers, so that the latter will always mesh when the rollers are revolving and at work.

From the crusher the pulp and stems all pass down into the casing B B', in which the shaft C revolves, carrying the teeth D, which serve to separate the stems, while the juice will pass out through the screen-bottom portion B' of the casing. These teeth D are arranged spirally around the shaft C and by their rotation act to separate out the stems and also to carry them toward the open end of the cylinder which is most distant from

the crushing portion, the stems being discharged at this end.

In order to prevent the breakage of the teeth D and to render them easily adjustable, they are attached to the shaft as follows:

S S are stout bars bent to form spirals around the shaft C, standing edgewise with relation thereto. Through the shaft holes are bored at intervals and corresponding with the position of the spiral bars S. The teeth D have shanks which enter the holes c in the shaft C, and exterior to the shaft these teeth are bolted to the spirally-disposed bars S. The outer ends of the teeth are bent or twisted so as to lie approximately parallel with the line of the spirals, so that when revolved they act as propellers to force the stems gradually toward the discharge end of the casing. By this construction the teeth are readily fixed in place or removed when necessary. The spirally-disposed bars serve to strengthen the shaft and prevent its springing by reason of the pressure brought upon it while at work, and they also form supports for that portion of the teeth just exterior to the shaft and will prevent the teeth from breaking off where they enter the shaft. If any pressure is brought upon the teeth greater than they can stand, they will simply be bent at a point outside of the bars and will not be liable to break and fall into the machine.

The screen B' can be removed at any time when desired, being slidable longitudinally and provided with a handle b for the purpose of removing it.

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

1. The horizontally-revoluble journaled shaft of a grape-stemmer having radially-projecting blades, in combination with a spirally-disposed supplemental bar surrounding the shaft from end to end and in contact with

the blades whereby the latter are strengthened.

2. The horizontally-journaled and revoluble shaft of a grape-stemmer, blades fixed spirally around the shaft and extending radially outward therefrom, and a strengthening-bar in contact with the blades and wound spirally around the shaft and in a plane parallel with said blades.

3. The horizontally-journaled and revoluble shaft of a grape-stemmer, blades fixed spirally and radially around the shaft, a spiral bar surrounding the shaft contiguous to the blades, and fastenings by which the blades are secured to the bar exterior to the shaft.

4. In a grape crushing and stemming apparatus, the crushing-rollers, a casing within which they revolve, a second casing situated below and parallel therewith, with passages from one to the other, a shaft journaled in said second casing having bars spirally coiled around it and teeth secured to said bars and having shanks inserted in holes in said shaft whereby they are removably supported upon the shaft and said bars.

5. In a grape-stemming apparatus, a cylindrical casing, a shaft journaled axially therein having holes bored through it in spiral lines from one end to the other, bars spirally coiled around the shaft upon opposite sides coincident with the holes in the shaft, teeth having the inner ends fitted into the holes in the shaft and bolts by which said teeth are secured to the spirally-disposed bars, with the ends projecting radially outward from the shaft within the casing.

In witness whereof I have hereunto set my hand.

JAMES S. PHILPOTT.

Witnesses:

A. H. PARKER,
J. F. PHILPOTT.