

No. 717,245.

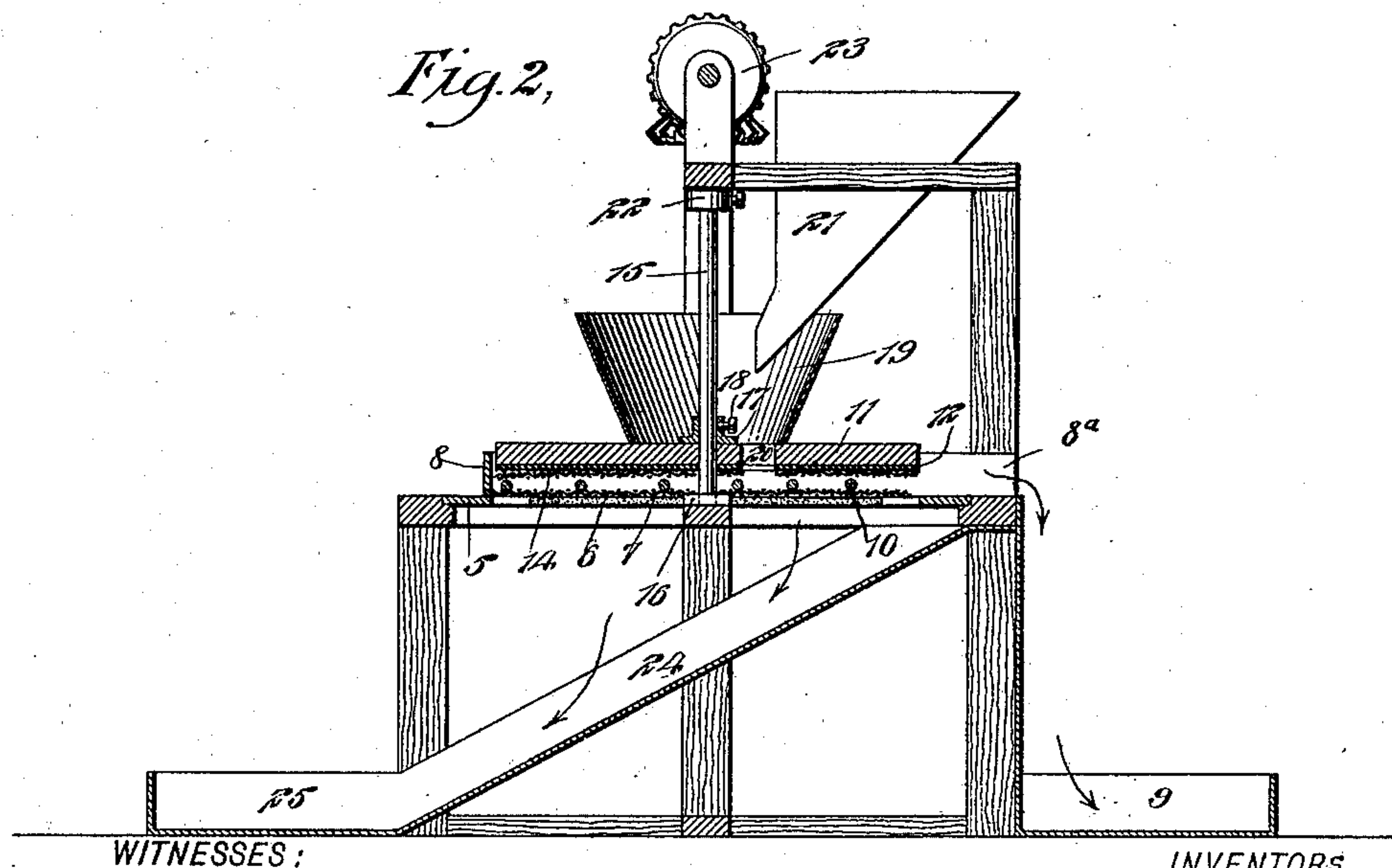
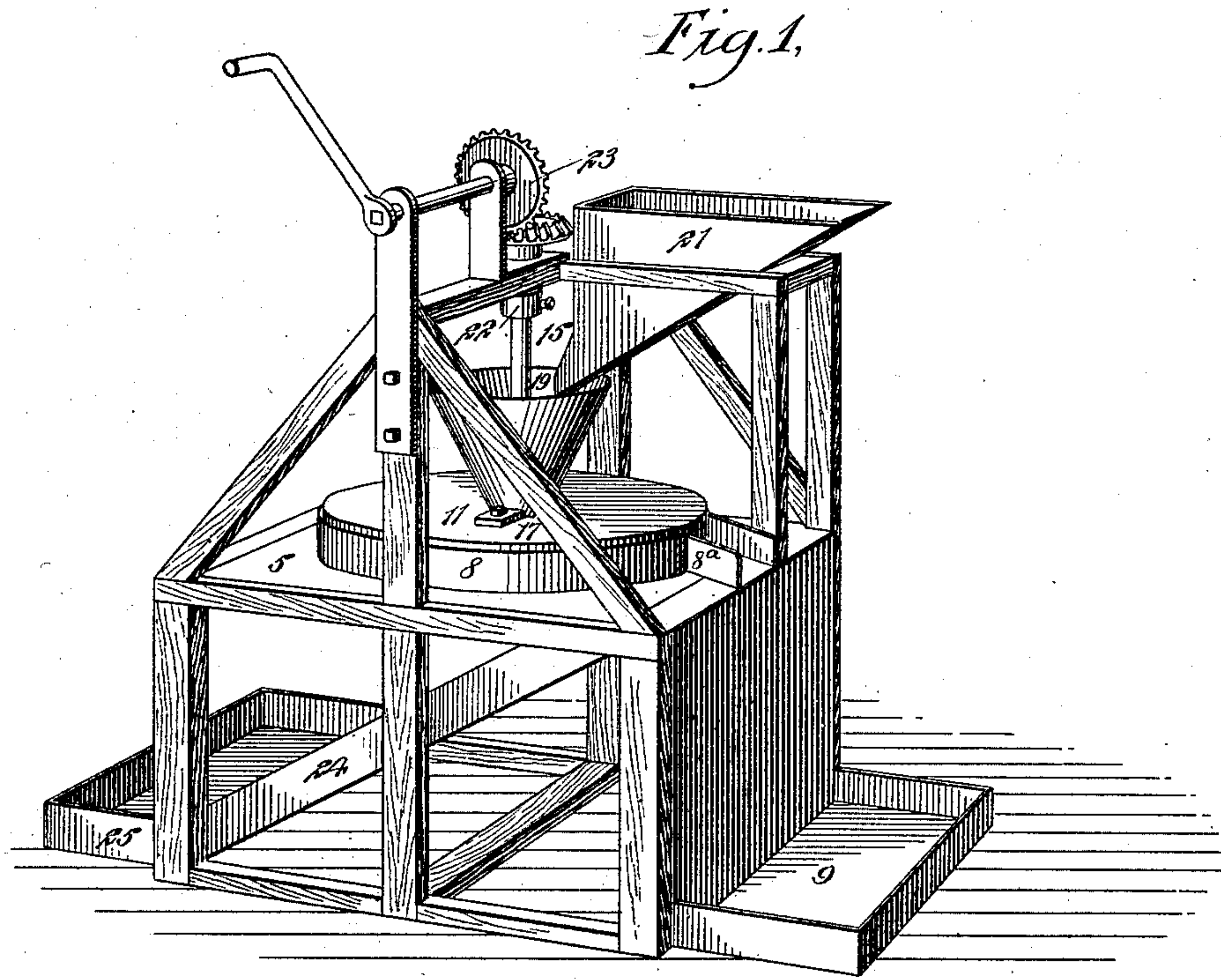
Patented Dec. 30, 1902.

W. L. MORRIS & E. D. SMITH.
OLIVE CRUSHER AND PITTER.

(Application filed Sept. 25, 1900.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES:

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UNITED STATES PATENT OFFICE.

WARREN L. MORRIS AND EMERY DAVID SMITH, OF WOODLAND,
CALIFORNIA.

OLIVE CRUSHER AND PITTER.

SPECIFICATION forming part of Letters Patent No. 717,245, dated December 30, 1902.

Application filed September 25, 1900. Serial No. 31,121. (No model.)

To all whom it may concern:

Be it known that we, WARREN L. MORRIS and EMERY DAVID SMITH, citizens of the United States, and residents of Woodland, in the county of Yolo and State of California, have invented a new and useful Improvement in Olive Crushers and Pitters, of which the following is a full, clear, and exact description.

10 The purpose of this invention is to provide means for separating the stones or pits from olives, so that oil may be made from the pure olive pulp and, if desired, a second class of oil may be made from the pits and from such
15 pulp as may cling thereto after the separation. This end we attain by a peculiarly-constructed machine which grates or grinds the olives and presses the pulp through a sieve, causing the pits to be expelled from
20 the machine at a different point, and thus effect the desired separation.

This specification is the disclosure of one form of the invention, while the claims define the actual scope thereof.

25 Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

30 Figure 1 is a perspective view of the invention. Fig. 2 is a vertical section thereof. Fig. 3 is a plan of the bed of the machine, and Fig. 4 is an inverted plan of the rotating macerator or bur.

35 The machine is constructed on a suitable framing and has a bed-plate 5, with a circular opening therein occupying the major portion of the plate, as indicated best in Fig. 3. Over this opening is arranged a woven-wire fabric 6, which may be of any preferred construction and provided on its under side with
40 bars 7 for sustaining it and lending a certain degree of rigidity thereto. Around the opening in the bed-plate 5 is erected a perpendicular wall or flange 8, provided at one side
45 of the machine with extensions 8^a, forming a discharge-chute for the pits. This chute delivers the pits into a pan or vat 9 at the bottom of the machine, at one side thereof, as shown in Figs. 1 and 2. On the screen or
50 wire fabric 6 is arranged a helical bar 10, the outermost convolution of which reaches to

the wall or flange 8, so that a helical way is produced on the screen 6, through which way the olives are caused to travel during the process of maceration and separation, as will
55 be fully described hereinafter, the pits reaching the outer convolution of said helical way to be discharged between the extensions 8^a of the flange 8.

60 Arranged over the screen 6 and working inside of the flange 8 is a macerator or bur, which is circular in form and comprises an upper or body disk 11, to the under side of which is fastened a metallic plate 12, and to the under side of this plate a wire screen
65 14 is fastened, this screen being arranged to work on the olives to macerate the same, and the macerator or bur serves to press the pulp or fruit through the screen 6. The macerator revolves over the bed of the machine and
70 causes the olives to travel through the spiral way formed by the rod 10. The rod or bar 10 is provided (see Fig. 3) with a number of spring-fingers 10^a, which are attached at one end to the bar 10 and which have the other
75 ends free, the fingers projecting toward the origin of the helix and serving to concentrate the olives, so that they may be effectively crushed, the fingers also yielding under superior pressure, thus avoiding clogging
80 the machine. The macerator is mounted on a vertical drive-shaft 15, the lower end of which is stepped in a suitable bearing 16, just below the screen 6. For the purpose of attaching the macerator to the shaft 15 a box
85 17 is attached to the macerator and provided with a set-screw 18, engaging the shaft 15, so as to adjustably hold the macerator, and by means of this set-screw the macerator may be placed at any desired elevation, so as to adapt
90 the machine for work in connection with olives of various sizes. The macerator carries on the body-plate 11 thereof a hopper 19, and this hopper discharges upon the screen 6 through an opening 20 in the macerator. The
95 olives are fed to the hopper 19 from a stationary hopper 21. The shaft 15 is provided with a collar 22, fast thereto, this collar bearing against the stationary part of the framing to prevent the shaft 15 and the attached
100 macerator from yielding upwardly. The shaft 15 may be driven manually or by other

power through the medium of gearing 23 of any desired form. The olives to be treated are placed in the hopper 21 and from thence discharged into the hopper 19, which revolves 5 continuously with the macerator. The olives then pass through the opening 20 onto the bed-screen 6, then being discharged at approximately the center of this screen, and therefore in the immediate vicinity of the vortex of the helical way thereon. As the macerator revolves the olives are rolled throughout this way and are crushed by the action of the parts between which they bear, the pulp being pressed through the screen 6 and falling 15 on a chute 24, mounted below the screen, the chute 24 delivering to a pan or vat 25, situated at the base of the machine. The seeds or pits, with the small particles of the fruit which may yet cling thereto, are discharged 20 into the vat 9. Therefore the two products are separated from each other and may be treated separately according to the desire of the operator.

25 Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. A crushing and separating apparatus, having a perforated bed, a helical bar arranged thereon to form a helical way, a macerator or bur turning on the bed, and a feed member 30 carried by the macerator and turning therewith and discharging through the macerator into the bed in the vicinity of the vortex of the said helical way.

2. A crushing and macerating apparatus, 35 having a perforated bed with a helical way thereon, a spring finger or fingers projecting into said way, and a bur or macerator turning on the bed.

In testimony whereof we have signed our 40 names to this specification in the presence of two subscribing witnesses.

WARREN L. MORRIS.
EMERY DAVID SMITH.

Witnesses to signature of Warren L. Morris:

CHARLES W. THOMAS,
HARRY L. HUSTON.

Witnesses to signature of Emery D. Smith:

ALBERT CROWELL,
GEO. E. REMMEL.