

H. J. PINKERTON.
APPLE QUARTERING AND TRIMMING MACHINE.
APPLICATION FILED NOV. 13, 1907.

900,949.

Patented Oct. 13, 1908.

2 SHEETS—SHEET 1.

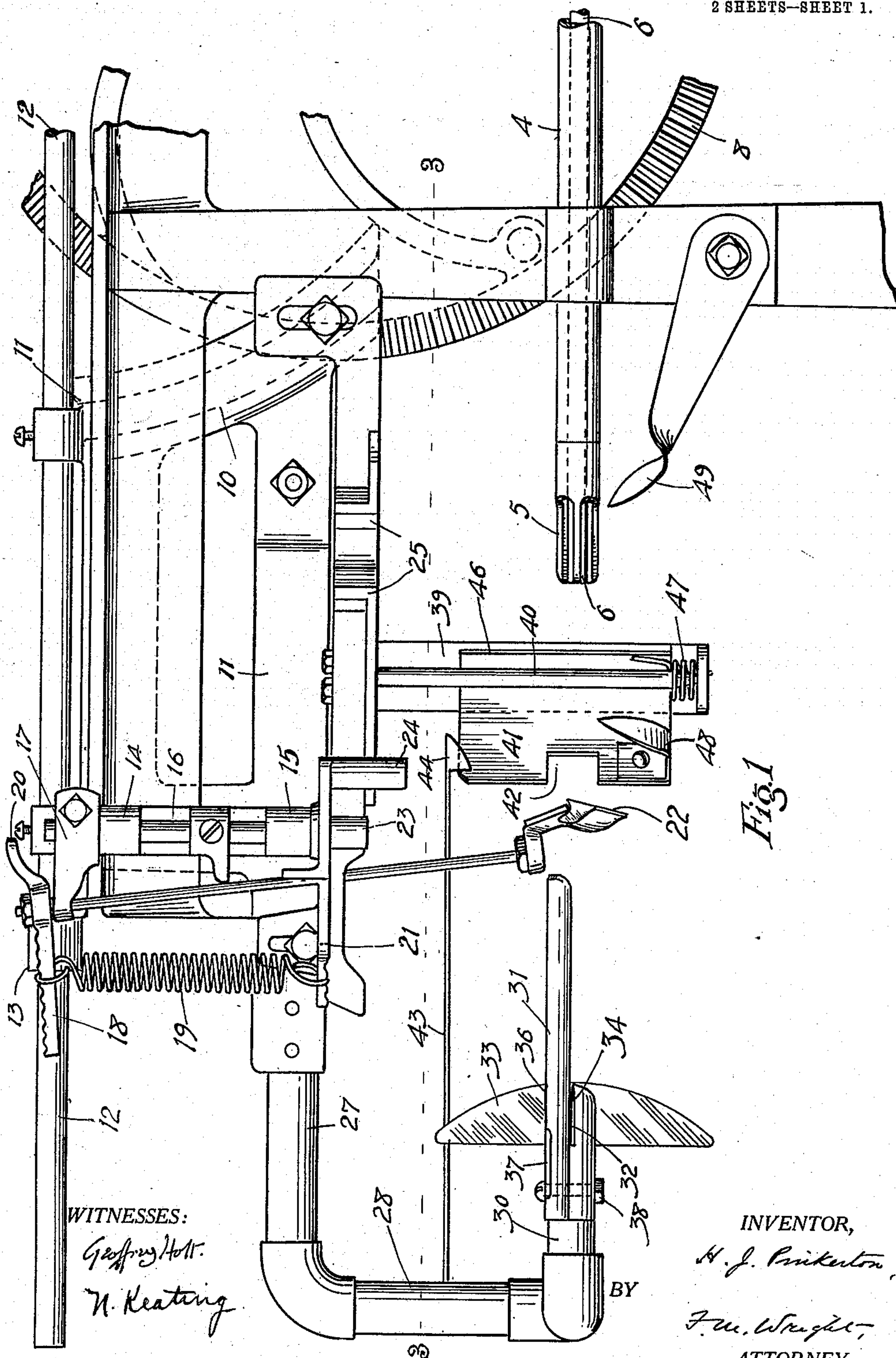


Fig. 1

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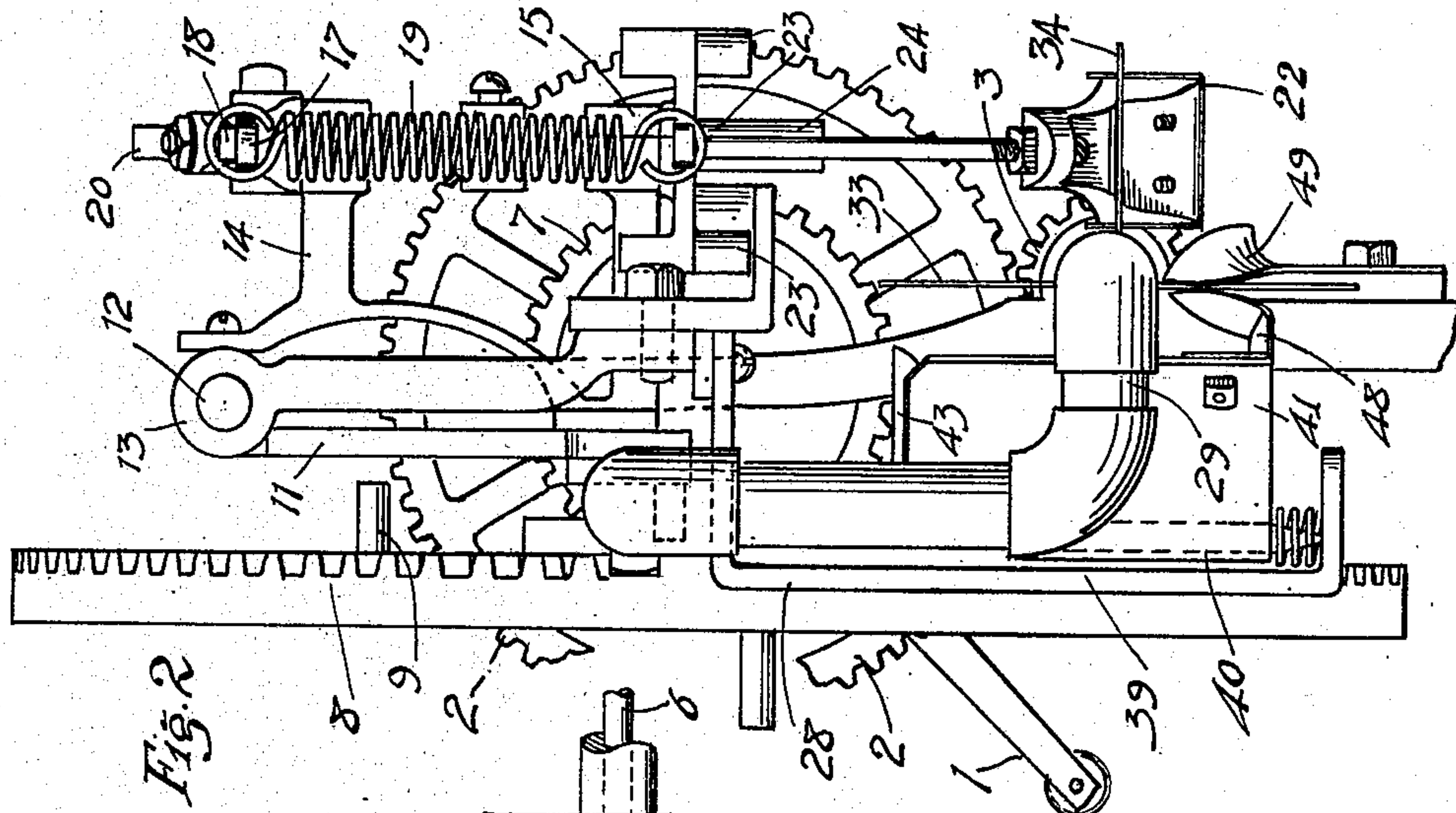


Fig. 2

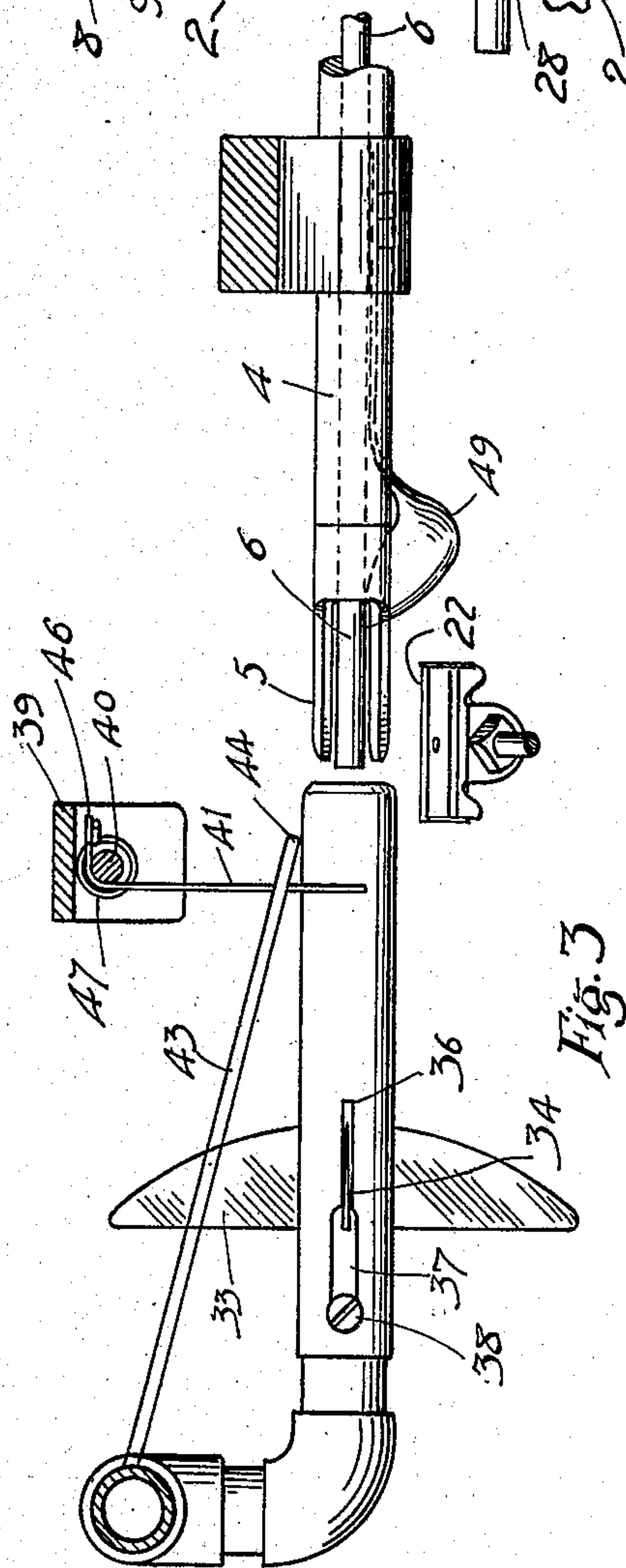


Fig. 3

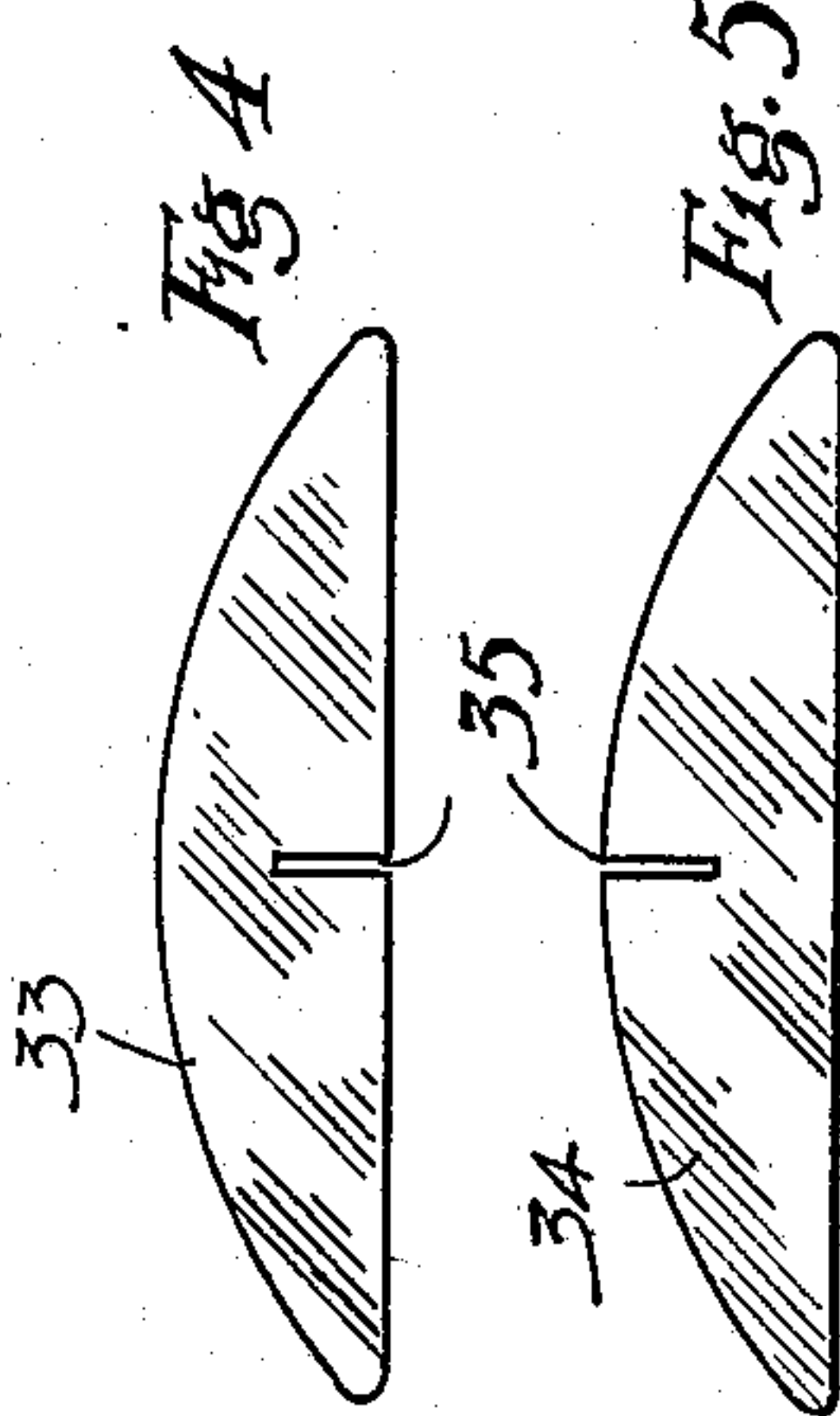


Fig. 4

Fig. 5

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UNITED STATES PATENT OFFICE.

HENRY J. PINKERTON, OF WATSONVILLE, CALIFORNIA, ASSIGNOR OF ONE-HALF TO W. H. BENTEEN, OF WATSONVILLE, CALIFORNIA.

APPLE QUARTERING AND TRIMMING MACHINE.

No. 900,949.

Specification of Letters Patent.

Patented Oct. 13, 1908.

Application filed November 13, 1907. Serial No. 401,906.

To all whom it may concern:

Be it known that I, HENRY J. PINKERTON, a citizen of the United States, residing at Watsonville, in the county of Santa Cruz and State of California, have invented new and useful Improvements in Apple Quartering and Trimming Machines, of which the following is a specification.

The object of the present invention is to provide an attachment to the apple paring and coring machine disclosed in the U. S. Patent granted June 25, 1889, to Boutell, No. 405,825, which will also divide the apple into quarters, or other parts, and will also trim the blossom and stem ends of the apple.

In the accompanying drawings, Figure 1 is a side elevation of my attachment, showing a portion of the machine to which it is attached; Fig. 2 is an end view of the same; Fig. 3 is a horizontal section on the line 3—3 of Fig. 1; Figs. 4 and 5 are detail side views of the quartering knives detached.

For a detailed description of the machine to which this invention is an attachment, reference is made to said patent, above recited, it being sufficient to state herein that the power is applied to operate the machine by means of a handle 1 or pulley connected to a gear wheel, which drives a pinion on a hollow shaft 4, the end of which carries impaling prongs 5, in which hollow shaft 4 is a pusher rod 6 for discharging the core from said prongs. Said gear wheel has secured on its side a smaller gear wheel which meshes with a crown gear wheel 8, which carries a lug or pin adapted to travel in a slot formed in a carrier 11, to which is secured a slide rod 12, sliding in bearings 13 on the frame of the machine. The motion of the carrier is obtained from the movement of the pin in the slot. Mounted in arms 14, 15, of said carriage is a vertical shaft 16 carrying an arm 17 on which is pivoted a lever 18 one arm of which is depressed by a spring 19, said lever having a depending arm 20, which passes through a guide slot 21, and carries at its lower end the paring knife 22. The apple having been inserted on the prongs 5 of the shaft and rotating about its horizontal axis, as the carrier travels towards the apple, the paring knife engages the surface of the apple and is caused to rotate about the vertical axis through the apple, this movement of the knife being caused by two short depending pins 23 and a

central long depending pin 24 engaging the sides and the recess of two fixed gear teeth 25.

All of the above is fully described in said Letters Patent and forms no part of the present invention. In the machine described in said patent, the corer is arranged to swing from a horizontal to a vertical position, the object being to discharge the apple therefrom. In my present improvement this part of the patented machine is not used, and, in place thereof, I secure to the traveling carrier 11, an attachment 27, which extends first away from the machine, horizontally, in the line of motion of said carriage, then downwardly, as shown at 28, then laterally, as shown at 29, and then again horizontally but in the direction towards the machine as shown at 30, forming a corer holder, and on this holder 30, is attached the corer 31, which is of the same general form as in said patented machine. The end of the part 30 to which the corer is secured, is formed at its end with four slots 32 at right angles to each other, in which slots are received two knives 33, 34, each knife being slotted at the middle, as shown at 35, one from the edge half way to the back, and the other from the back half way to the edge, so that each knife can pass into the slot formed in the other knife. The two knives, when thus arranged crossing each other, form four cutting blades at right angles to each other, which are received respectively within the four slots 32 in the corer holder 30. Said corer is formed with an elongated opening 36 adapted to be passed over one of said blades, and also a slot 37 extending longitudinally from said opening, adapted to fit closely around said blade, and is secured on said holder 30 by means of a nut and a bolt 38 passing through the holder and through said elongated slot.

Attached to the traveling carrier 11 is a hanger bar 39 in which is pivoted at the top and bottom a gate post 40 to which is attached a gate 41. Said gate has formed in its vertical edge a recess 42 through which the corer is adapted to pass, said recess being in line between said corer and the impaling prongs. Carried by the depending portion 28 of the attachment 27 is the resilient stem 43 of a hook 44, which extends towards said gate, and has an inclined front or advancing lower edge, so that, when the carrier travels

forward to pare the apple, said hook, on account of the resiliency of the stem 43, passes over the top of said gate. The forward movement of the gate is limited by a flange 5 46 thereof abutting against the hanger bar 39, but it is free to move rearwardly with the return movement of the carrier, and this it is compelled to do on account of the engagement of the hook 44 with the upper edge 10 of the gate, until the gate has swung back sufficiently to release the hook. Said gate then under the action of a spring 47, returns to its normal position in which it extends at right angles to the direction of movement of 15 the carrier. Upon the lower portion of the gate is secured a U-shaped trimming knife 48, the free side of which is extended obliquely and is thus adapted to engage the concave portion of the apple at either the 20 stem or the blossom end, outside or beyond the portion which is removed by the corer device. Attached to the frame of the machine is another trimming knife 49 which in like manner engages the concave portion of 25 the apple at the other end.

The following is the operation of the machine. An apple having been first placed on the impaling prongs so that said prongs pass around the core, the machine being operated 30 by hand or by power as desired, the corer advances with the carrier, and the paring knife likewise advances, the apple being also rapidly rotated. The corer cuts out the core and at the same time the paring knife passes 35 over the surface of the apple and pares the same. Also, while the apple is thus rotating the two trimming knives 48, 49 engage the concave portions of the apple at the opposite ends thereof, and trim or pare said por- 40 tions. The apple, having been cored, pared and trimmed now returns, impaled upon the corer, and in the manner explained in said patent, the pusher rod 6 is pushed outwards, discharging from the core the prongs. When 45 the carrier returns, to core, pare, and trim a second apple, the first apple, impaled upon the corer, abuts against the gate 41, which, having been released by the hook 44, has swung to its normal position at right angles 50 to the direction of movement of the corer. The pressure of the second apple against said gate due to the advancing movement of the corer, forces said first apple against the four quartering blades, which thus divide the ap- 55 ple into quarters. If this operation has not been completed with the first succeeding advance of the corer, it will be fully completed when a third apple is placed upon the prongs and upon a second succeeding advance of the 60 corer. The apple is divided into quarters which are pushed back from the quartering

blades, and the same result is successively accomplished upon the other apples fed to the machine.

I have herein spoken of the apparatus as a 65 "quartering" machine, as being an expressive and easily understood description of its function, but this word "quartering" is not to be taken in its literal sense in the specification or claims, as it is evident that, if pre- 70 ferred, the machine could also be used in the same manner for dividing apples into sixths, or any other desired parts, instead of quarters.

I claim:—

1. In combination with a corer, and means 75 for moving the same to core an apple, means for supporting an apple while being so cored, knives arranged at the rear of said corer, and a gate arranged to swing freely in a direction 80 away from said supporting means, but immovable in the opposite direction to hold said apple stationary, while the corer and knives advance relatively to said gate, substantially as described. 85

2. In combination with a corer, and means for advancing the same to core an apple, means for supporting an apple while being so cored, knives moving with the corer to quar- 90 ter the apple, a gate arranged to be interposed in the path of an apple supported upon said corer, and means operated automatically with the reciprocation of the corer, for first withdrawing said gate to permit an ap- 95 ple to be pressed upon the supporting means, and then releasing said gate and moving it into a position to arrest an apple upon the corer when the corer and knives advance, substantially as described.

3. In an apparatus of the character de- 100 scribed, the combination of impaling means, means for rotating said impaling means, a corer, means for reciprocating said corer in alinement with said means, knives arranged behind said corer, a gate adapted to be inter- 105 posed in the path of an apple on said corer to arrest said apple, a trimming knife carried by said gate and arranged to engage a concave portion of an apple on said impaling means, and a spring for normally moving said gate 110 into position to arrest an apple on the corer, and to cause said trimming knife to engage a concave portion of an apple on said impaling means, substantially as described.

In testimony whereof I have hereunto set 115 my hand in the presence of two subscribing witnesses.

HENRY J. PINKERTON.

Witnesses:

E. V. MASLIN,
A. B. PAUL.