

(No Model.)

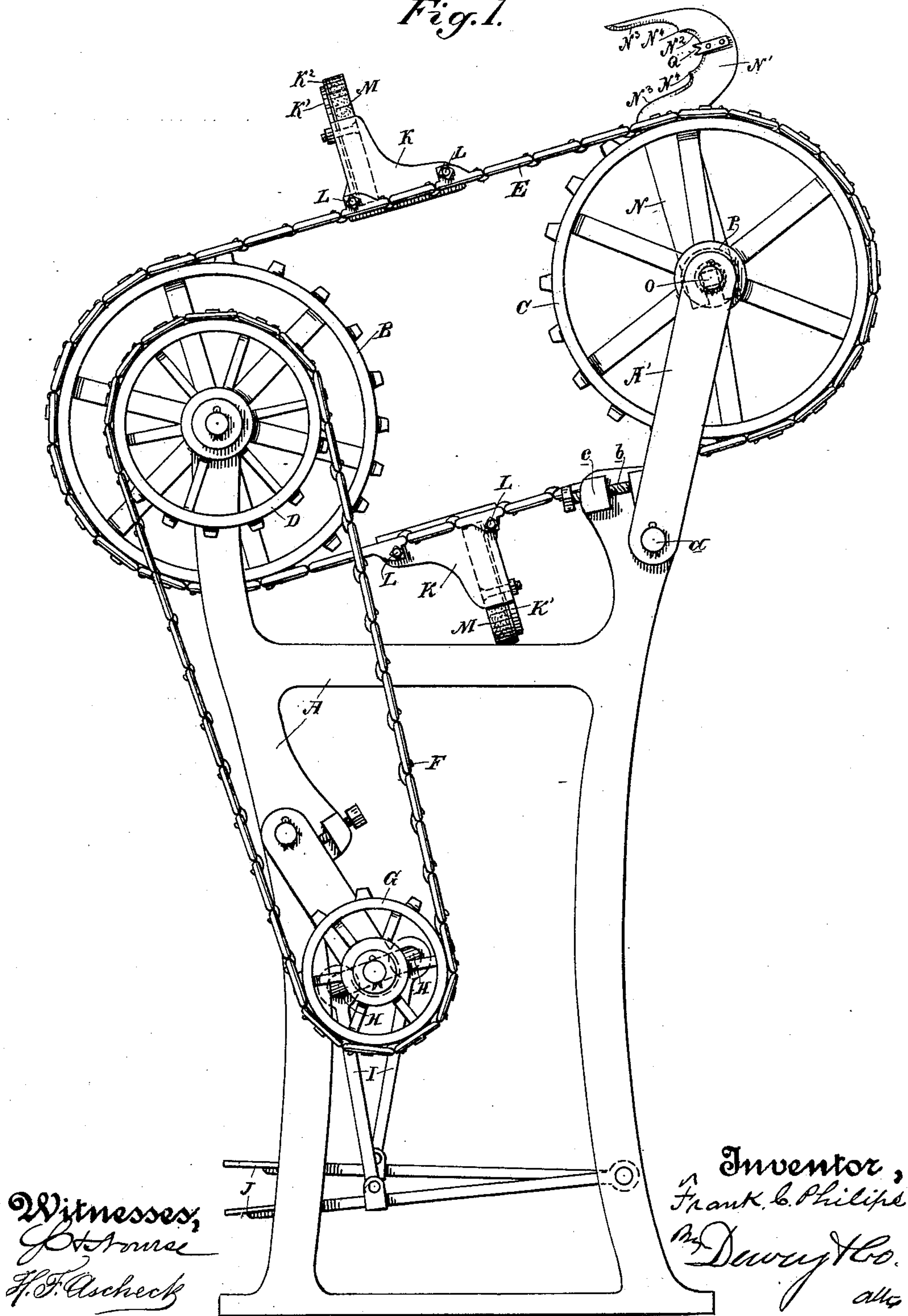
2 Sheets—Sheet 1.

F. C. PHILIPS.
FRUIT PITTING MACHINE.

No. 482,272.

Patented Sept. 6, 1892.

Fig. 1.



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Fig. 2.

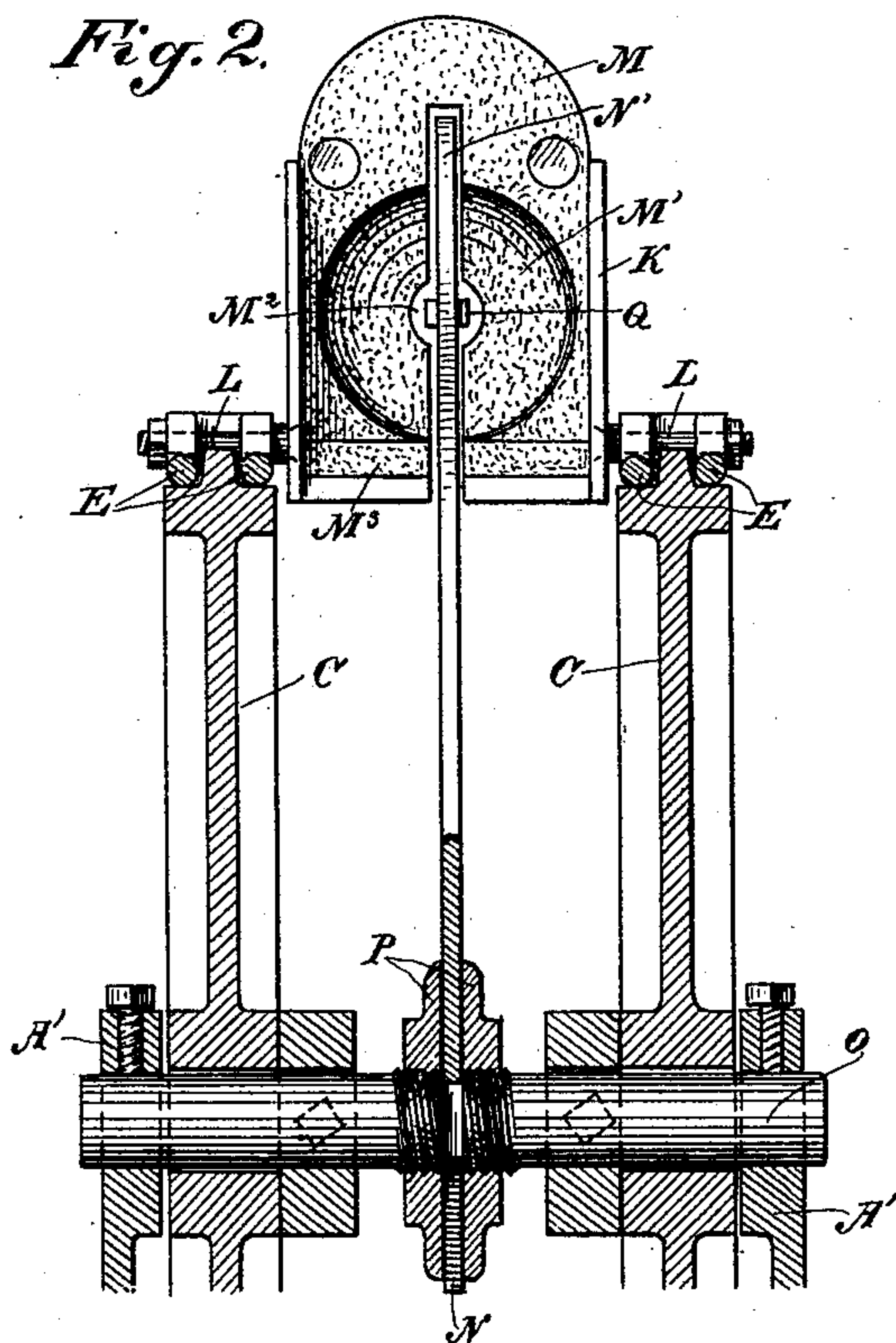


Fig. 3.

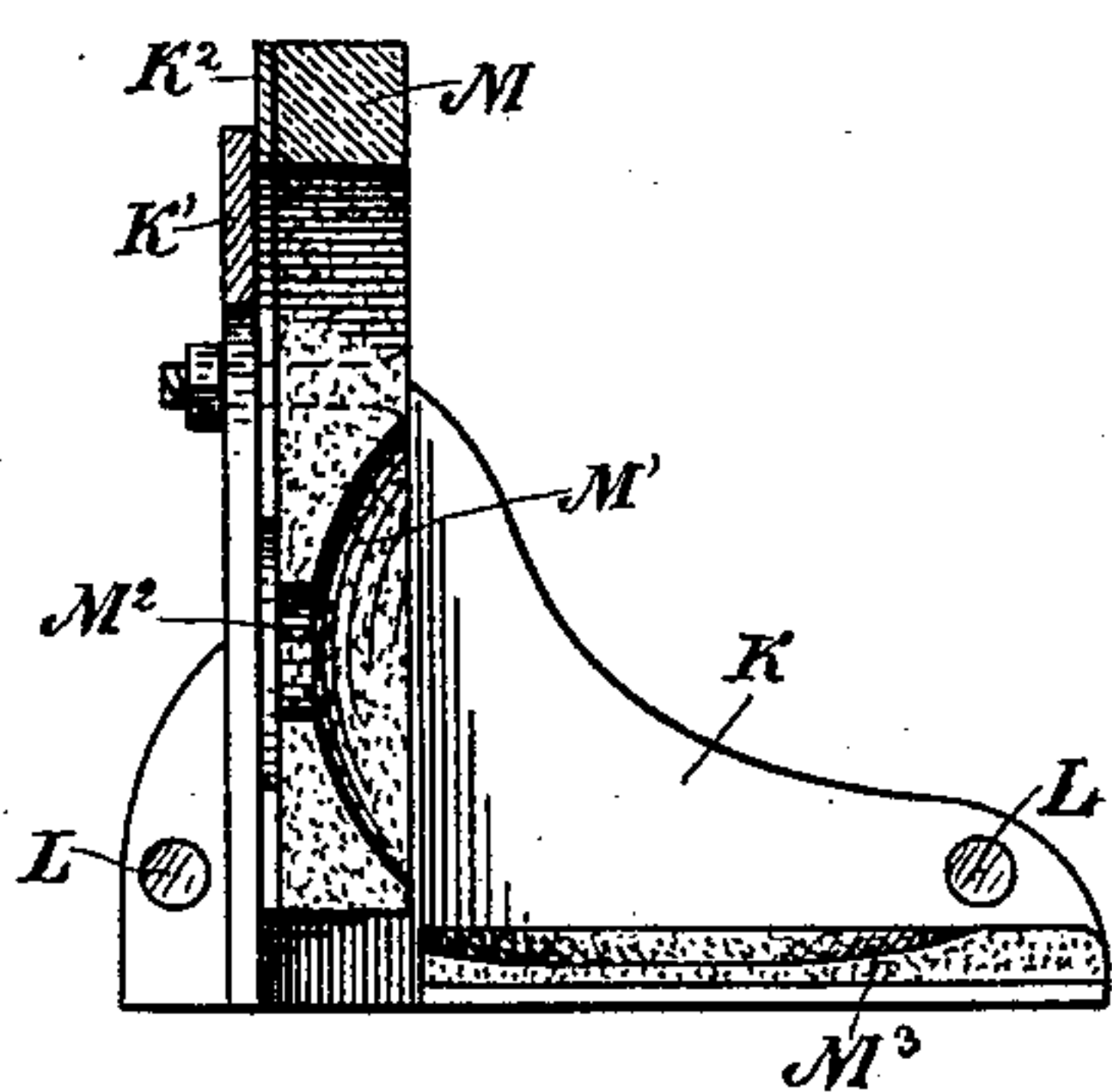
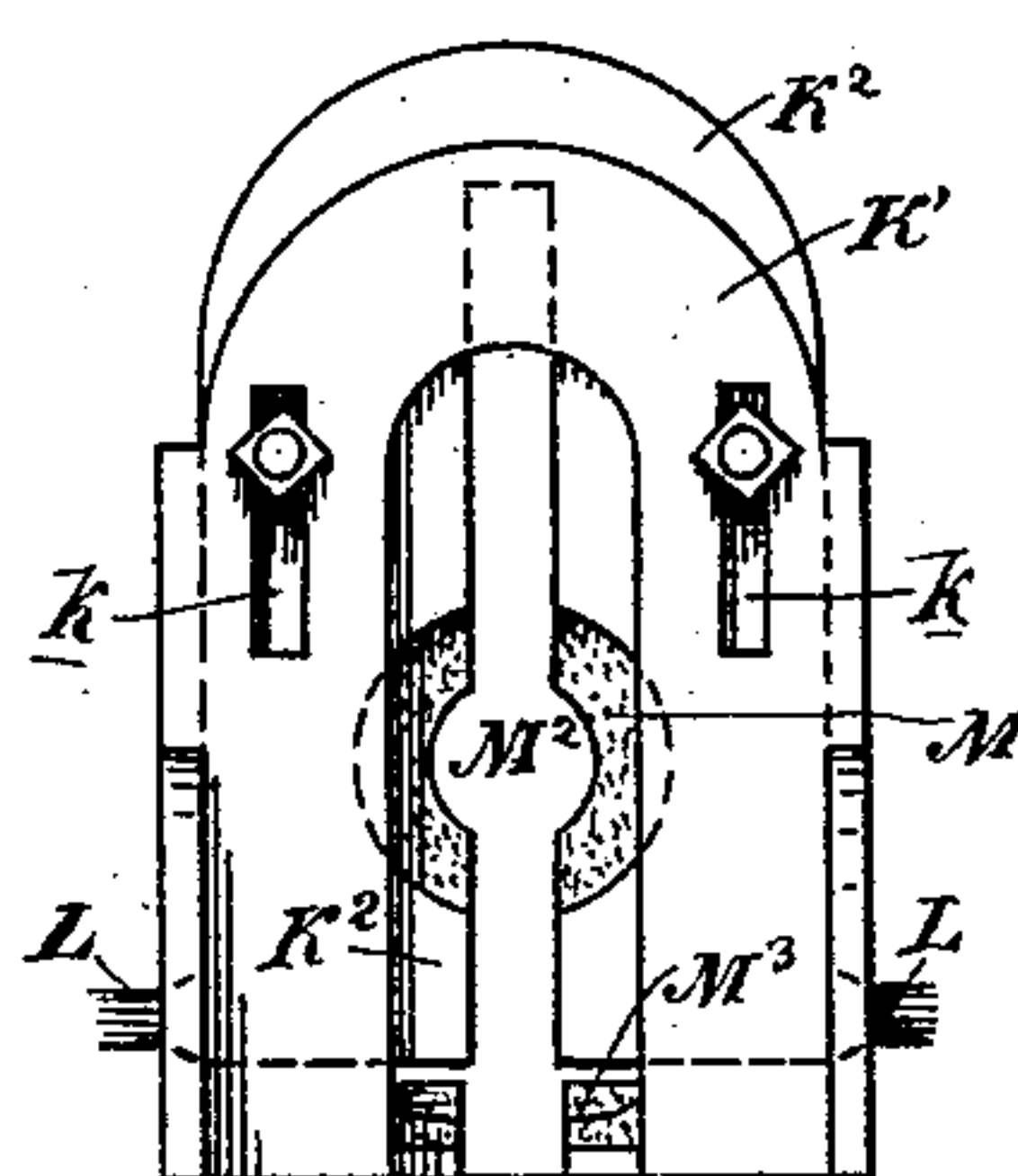


Fig. 4.



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UNITED STATES PATENT OFFICE.

FRANK CUTTER PHILIPS, OF HEALDSBURG, CALIFORNIA.

FRUIT-PITTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 482,272, dated September 6, 1892.

Application filed May 6, 1892. Serial No. 432,053. (No model.)

To all whom it may concern:

Be it known that I, FRANK CUTTER PHILIPS, a citizen of the United States, residing at Healdsburg, Sonoma county, State of California, have invented an Improvement in Fruit-Pitting Machines; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to a machine for pitting fruit.

It consists in certain details of construction, which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is a side elevation of my machine.

Fig. 2 is a vertical section through that set of pulleys between which the knife is placed. Fig. 3 is a longitudinal cross-section through the carrier. Fig. 4 shows the back of the carrier.

A is a frame standing upon the floor and having journaled in the upper ends two pairs of sprocket-wheels B and C, around which the chains E pass parallel to each other. The frame is of such shape that the wheels C are slightly above the wheels B, so that the chains travel at an incline. Upon the shaft of the wheels B, which are fixed thereto, is a sprocket-wheel D, and upon the lower part of the framework A is another sprocket-wheel G. Around these two sprocket-wheels passes a chain F, by which motion is communicated from the sprocket-wheel G to the sprocket-wheels D and B and the carrying-chain E. The shaft of the sprocket-wheel G has cranks H upon it, and by means of pitmen I, these cranks are connected with the vibrating treadles J, by which power is applied to operate the machine by an operator sitting in front of it.

Between the two parallel chains E are fixed peculiar adjustable carriers, which consist of an exterior metallic box or casing K, having sides, a bottom, and a back K', but open at the opposite end, as shown. By means of pins L, projecting from the sides at the front and rear of this box, it is supported between the links of the chains E, one of which is situated upon each side of the carrier. The back and the bottom of the outer box are slotted, as shown, the slot extending upwardly in the back to near the top, but leaving sufficient metal in the arched top of the

back to hold the parts firmly and rigidly together. The back K' has vertical slots *k* made in it to receive bolts, which pass through these slots and through the rubber block M and the metal plate K², to which it is secured, and which is fitted into the carrier and against the interior of its back. The bottom of the carrier does not extend beneath this rubber block, and thus allows it to be moved up and down, as desired. Bolts pass through it and through the slots *k*, and by means of nuts on the outside the block M may be held at any desired point within the carrier, and thus adjusted to suit different sizes of fruit. The central portion of this block is slotted from the bottom up to correspond with the central slot in the back K', and the interior portion is made concave, as shown at M', so as to receive a peach or other fruit from which the pit is to be extracted. The central portion of this concavity has an enlarged opening made, as shown at M², to allow the pit to pass out through this opening when forced out of the fruit. By raising or lowering the block M within the case the concavity is adjusted to receive any size of fruit which it is desired to put through the machine, the fruit being usually graded into sizes before this operation. As many of the carriers may be attached to the chains as is found desirable and as many as the distance between the wheels B and C will profitably accommodate. The speed of the chain E will be such as will allow the attendant to place a single fruit in each of the cups as they pass, the rotation being such as to bring the cups back beneath the chain and carry them forward above the top of the chain. The bottom or floor of each carrier is also provided with a rubber lining M³, with an oval concavity to receive the fruit, and slotted through the center to correspond with the slots in the bottom and back.

The knife consists of a shank N and the sickle-shaped cutting-blade N'.

The shaft O, about which the sprocket-wheels C revolve, is fixed and non-rotating, and the wheels turn loosely upon it. The central portion of this shaft is made rectangular, as shown in the section, and the inner end of the shank N of the knife is slotted, so as to fit over the square portion of the shaft. Only a

sufficient portion of this shaft is made square to receive the knife, and the exterior to it at each end is made cylindrical and has screw-threads cut upon it, over which fit the clamping-nuts P. These nuts are screwed up tightly against the sides of the shank of the knife N, and thus hold it firmly in place, projecting up midway between the two sprocket-wheels C and in line with the slots which are made in the bottom and back of the carrier.

The concave face of the knife is peculiarly formed, having the central segmental portion N^2 and the exterior reverse curves N^3 , one vanishing into the point of the knife where it meets the back and the other running into the front edge of the shank N. Between the curved portions N^2 and N^3 are formed the sharp points N^4 , separating the cutting-edges into three sections, the outer ones of which cut the sides of the fruit around the stone, and the center section cuts that portion directly in line with it. In the center of the concavity N^2 , upon each side, are fixed plates having the spur-points Q, which are intended to push the pit out from the fruit after the latter has been cut. This knife being fixed to the stationary shaft projects radially therefrom, and, extending upwardly into the line of travel of the fruit, it will be manifest that when each fruit is brought into contact with the knife by the travel of the chain the peculiar shape of the knife is such that it will cut the fruit with the drawing cut, practically dividing it for nearly the whole circumference, and when the fruit is pressed against the concavity M' in the elastic back the points Q will then enter the cut and, pressing against the edge of the stone or pit, will force it out through the opening M^2 in the back and allow it to drop to the ground or any convenient receptacle. The two halves of the fruit will then be carried over the front end of the machine by the continued travel of the chains and the carriers and will be delivered into any receptacle at the front.

The shaft of the sprocket-wheel C is journaled at each end in supplemental extensions A' of the frame. These are pivoted to the part A of the frame, as shown at *a*. A screw *b* passes through a lug *c* upon the main portion of the frame A upon each side, and by means of these screws the parts A' may be moved so as to keep the proper tension upon the chain E. By a similar adjustment the sprocket-wheel G and its shaft are moved so as to maintain the tension upon the chain F.

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

1. In a fruit-pitting machine, the framework having a horizontal stationary shaft fixed at one end of the top with sprocket-wheels revolving loosely thereon and a central radially-fixed sickle-shaped knife projecting from the shaft intermediate between the sprocket-wheels, a rotary shaft journaled at the opposite end of the frame and means for commu-

nicating motion thereto, sprocket-wheels fixed upon said shaft, chains passing around these sprocket-wheels and those upon the fixed shaft, parallel with each other, fruit-carriers with their opposite sides fixed between the two chains, having a concavity and adapted to receive the fruit, and a central slot and opening through which the knife passes when the carrier reaches it and through which the pit is ejected when forced from the fruit, substantially as herein described.

2. In a fruit-pitting machine, a framework having a rotary shaft with sprocket-wheels fixed thereto journaled at one end, a crank-shaft with a sprocket-wheel fixed thereto, a chain passing from said sprocket-wheel to a second sprocket-wheel upon the first-named shaft, treadles and connecting-rods uniting them with the cranks, whereby motion is transmitted to the shafts, a stationary shaft fixed at the opposite end of the top of the machine, having loosely-revolving sprocket-wheels upon it at equal distances apart with those upon the first-mentioned shaft, independent chains passing around said sprocket-wheels, parallel with each other, and carriers consisting of boxes having an open front, closed back and sides, and a central slot passing through the bottom and back, means whereby said carriers are secured between the chains and movable therewith, elastic cup-shaped back pieces and bottom pieces fitted into the carriers to receive the fruit, having slots made therein, and a central opening in the concavity of the back piece for the ejection of the pit, in combination with a knife having a shank fixed centrally to the stationary shaft, extending radially outward therefrom, and having the concave cutting-edge with the centrally-projecting spurs, whereby the fruit is first cut around the pit as it is brought against the knife and the pit is forced out through the back of the carrier, substantially as herein described.

3. In a fruit-pitting machine, the endless traveling chains passing around sprocket-wheels parallel with each other, carriers fixed between the chains and movable therewith, having a slotted bottom and back, the elastic cup-shaped receiving-plates or holders upon the bottoms of the carriers, and the slotted concaved backs having the central opening for the ejection of the pit, said backs being adjustable in the back of the outer case by means of slots and screw-bolts to fit them to different sizes of fruit, substantially as herein described.

4. In a fruit-pitting machine, the rotary and stationary shafts, sprocket-wheels mounted thereon, endless parallel chains passing around the wheels, with carriers secured between and movable with them, a stationary radial knife extending outward from the fixed shaft to intercept and divide the fruit brought to it by the carriers, and a two-part framework on which the sprocket-wheel shafts are mounted, said framework being adjustably

united, so that the tension of the chain is maintained, substantially as herein described.

5 In a fruit-pitting machine, the rotary and stationary shafts, sprocket-wheels mounted thereon, endless parallel chains passing around the wheels, with carriers secured between and movable with them, in combination with a stationary radial knife having the shank secured to the stationary shaft and having
10 the outer sickle-shaped end with the inde-

pendent curved cutting-edges $N^2 N^3$, the intermediate projecting points N^4 , and the central projecting spurs Q , substantially as herein described.

In witness whereof I have hereunto set my hand.

FRANK CUTTER PHILIPS.

Witnesses:

J. T. COFFMAN,

T. L. MONMONIER.