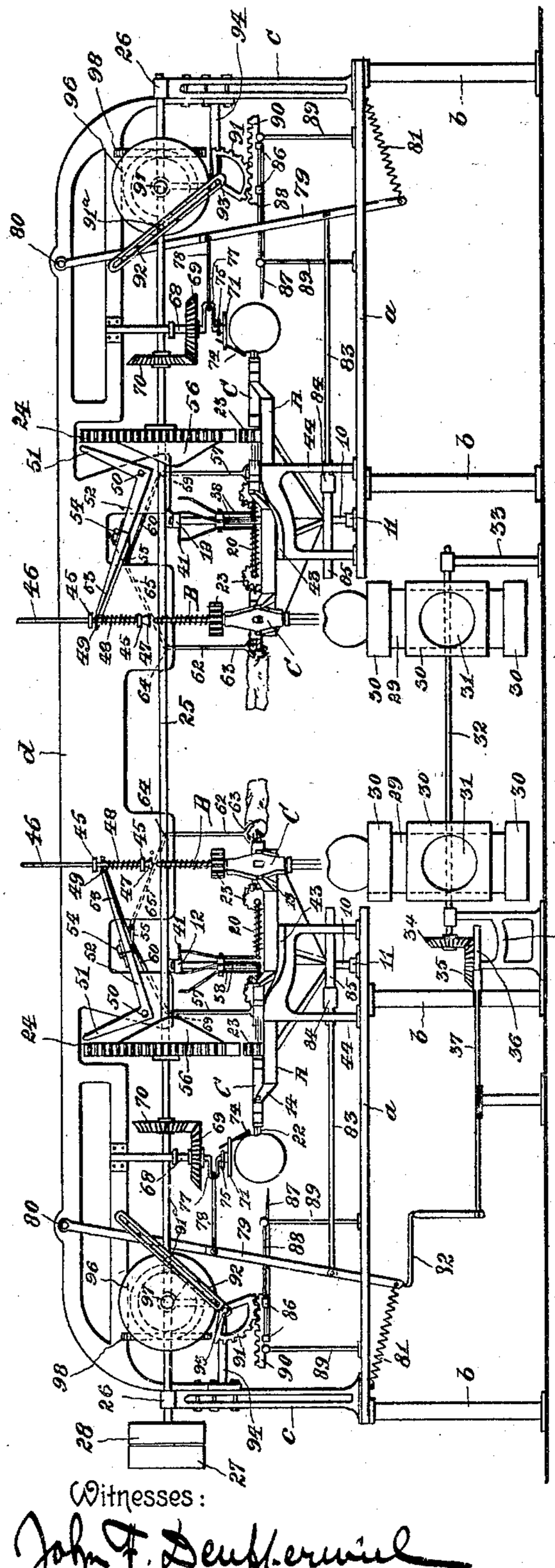
No. 688,909. Patented Dec. 17, 1901.

H. WARNER.

APPLE PEELER AND CORER.

(Application filed Oct. 6, 1900.)

(No Model.) 4 Sheets—Sheet 1.



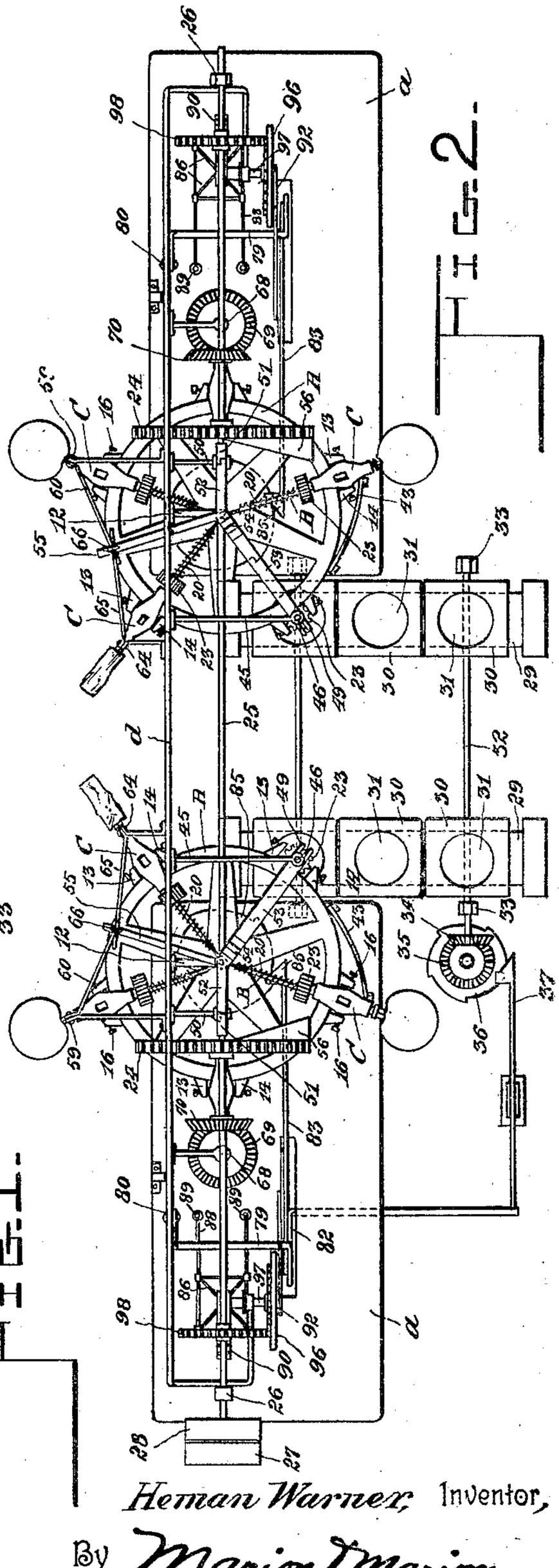


FIG. 2.

Witnesses:

John F. Deufferwiel

J. Ed. Page.

Heman Warner, Inventor,

By Marion & Marion

Attorneys

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H. WARNER.

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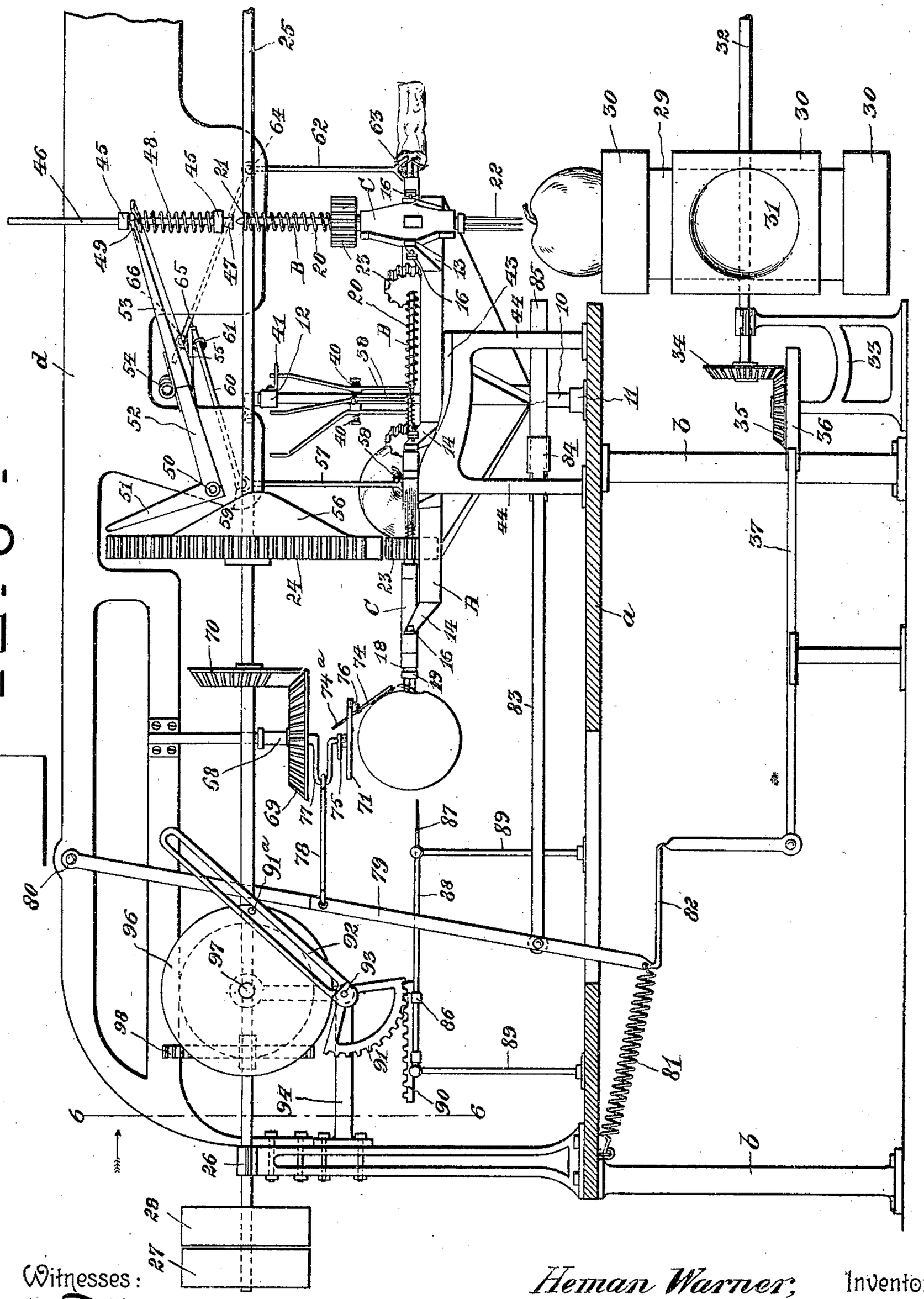
(No Model.) 4 Sheets—Sheet 2.

FIG. 3.



Witnesses:
John T. Dewberwill
J. Ed. Page.

Heman Warner, Inventor
By Marion & Marion
Attorneys

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H. WARNER.

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(No Model.) 4 Sheets—Sheet 3.

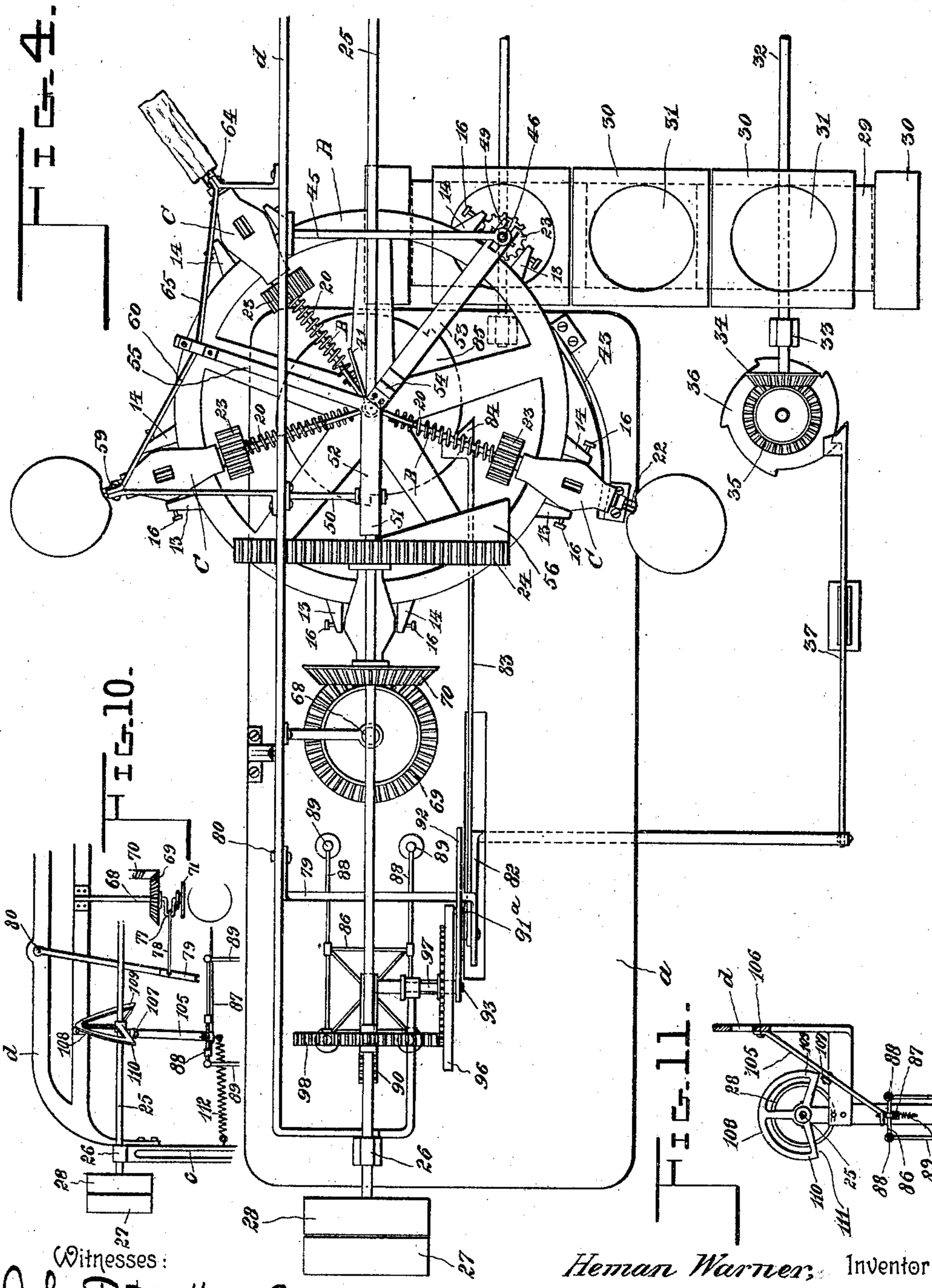

FIG. 10.

FIG. 11.

Witnesses:
John T. Dewhirst
J. Ed. Page.

Heman Warner, Inventor
By Marion & Marion
Attorneys

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H. WARNER.

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(No Model.) 4 Sheets—Sheet 4.

FIG. 9.

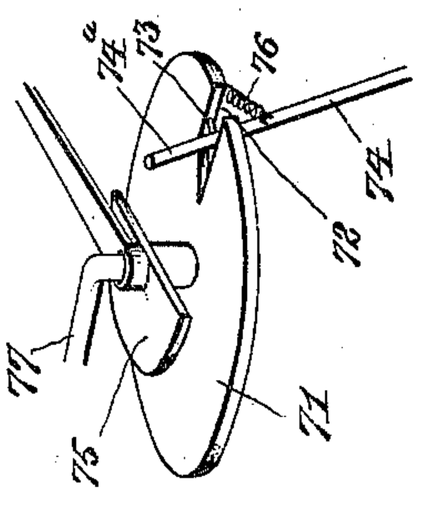


FIG. 6.

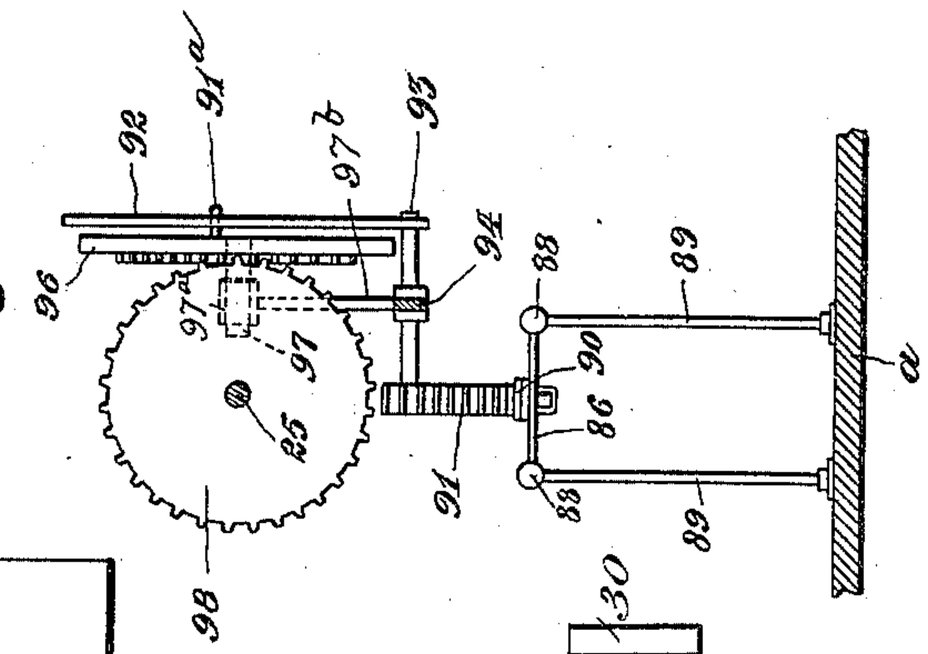


FIG. 8.

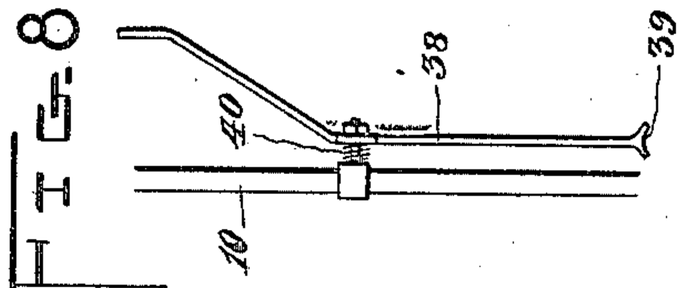


Fig. 12.

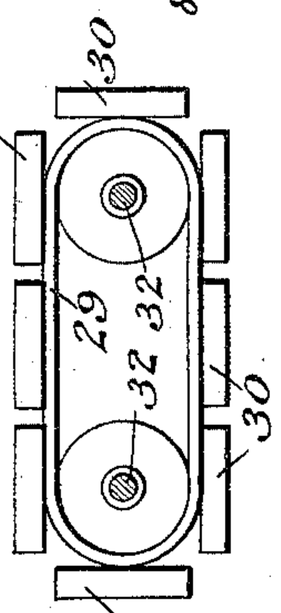


FIG. 5.

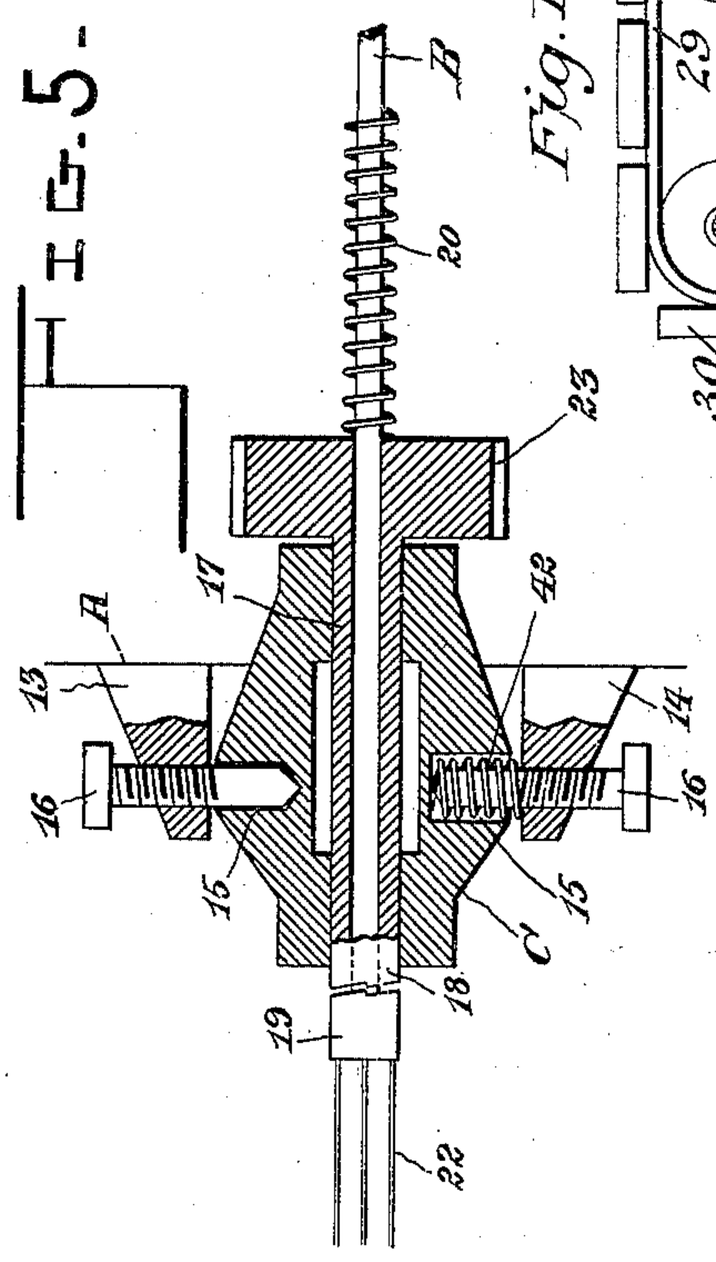
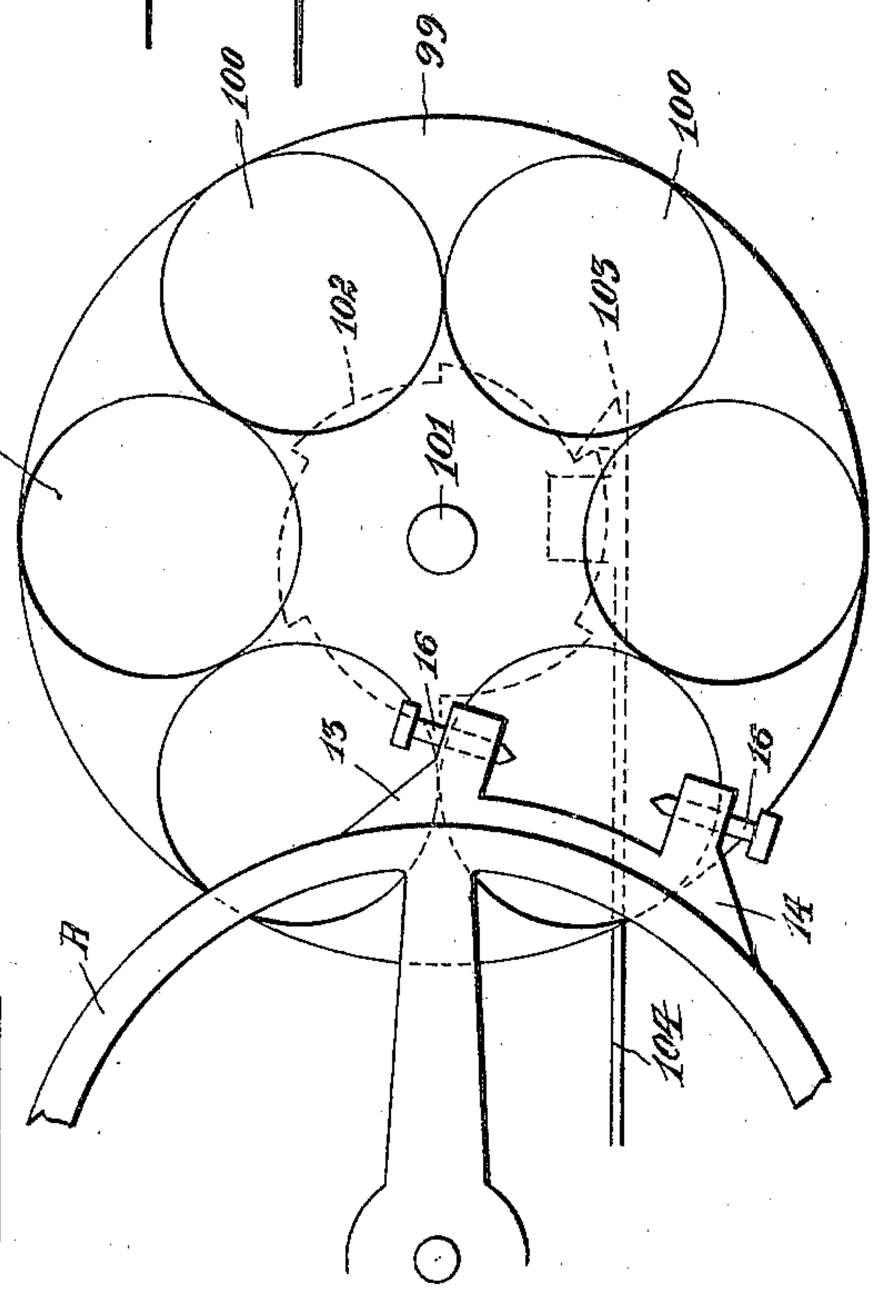


FIG. 7.



Witnesses:
John T. Dewhirst
J. Ed. Page.

Heman Warner, Inventor
By Marion & Marion
Attorneys

UNITED STATES PATENT OFFICE.

HEMAN WARNER, OF WHEATLEY, CANADA, ASSIGNOR OF ONE-HALF TO EDGAR McCLATCHEY, OF LEAMINGTON, CANADA.

APPLE PEELER AND CORER.

SPECIFICATION forming part of Letters Patent No. 688,909, dated December 17, 1901.

Application filed October 6, 1900. Serial No. 32,237. (No model.)

To all whom it may concern:

Be it known that I, HEMAN WARNER, a subject of Her Majesty the Queen of Great Britain, residing at Wheatley, county of Essex, Province of Ontario, Canada, have invented certain new and useful Improvements in Apple Peelers and Corers; and I do hereby declare that the following is a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention is an apple peeler and corer; and the object in view is to provide a rapidly-operating machine of large capacity in which is combined for automatic operation the several mechanisms necessary for performing the work of peeling an apple and cutting the core of the apple loose from the pulp thereof, ejecting the cored apple from the machine, removing the core from the fork-spindle, returning said fork-spindle to a spearing position, and feeding a number of apples, one after the other, into position to be speared.

Further objects and advantages of the invention will appear in the course of the subjoined description, and the novelty in the combination of mechanisms and construction and arrangement of parts will be hereinafter defined by the claims.

The machine represented by the accompanying drawings is in duplicate, each part of said machine being complete and operative in itself; but both parts of the machine have their operating devices mounted on a common framework and are driven from a single prime shaft. It is to be understood, however, that the number of parts comprising the entire machine may be increased to three or more or diminished to one without departing from the spirit of my invention.

In the drawings, Figure 1 is a side elevation of a duplicate machine for peeling and coring apples embodying my invention. Fig. 2 is a plan view of the machine shown by Fig. 1. Fig. 3 is a view, on an enlarged scale, partly in elevation and partly in section, illustrating one complete operative part of the improved peeling and coring machine. Fig. 4 is a plan view on the same scale as Fig. 3. Fig. 5 is an enlarged detail view through one of the fork-spindles and the tilting support therefor. Fig. 6 is an enlarged detail cross-section taken in the plane of the dotted line 6 6 on Fig. 3. Fig. 7 is an enlarged fragmentary detail of a part of one intermittently-revoluble table and representing the feed-table, which may be used in lieu of the endless feed-carrier shown by the remaining figures of the drawings. Figs. 8 and 9 are enlarged views in detail of certain parts of the machine to be hereinafter described. Figs. 10 and 11 are views in side and end elevation, with certain parts in section, of another embodiment of means for operating the coring-knife carriage by motion derived from the prime shaft. Fig. 12 is a detail side view of the endless feed-carrier.

The same numerals and letters of reference are used to indicate like parts in each figure of the drawings.

Any suitable form of framework may be employed for the operating devices constituting the improved machine; but in the exemplification of the invention represented by the drawings the stationary table *a* is supported by the posts *b*, and from this table rise the standards *c*, which support the upper section *d* of the framework. It is to be understood that this framework may be varied within wide limits by a skilled constructor in adapting my improvements to practical conditions which may arise.

I will now proceed to describe in detail the several mechanisms which are operatively combined to compose one part or section of the duplicate machine such as represented by Figs. 3 and 4; but it is to be understood that the other part or section of the machine is the same in construction and mode of operation as that part now about to be described.

A vertical spindle or shaft 10 is supported or stepped in a bearing 11, fastened on the stationary table *a*, the upper end of said spindle or shaft being journaled in the stationary bearing 12, which is fast with the upper section *d* of the framework. This vertical shaft or spindle carries an intermittently-revoluble table A, which is arranged in a horizontal position at a suitable elevation above the table *a*, said table A and the spindle being secured firmly together in order that the table may rotate with the spindle. This table car-

ries a plurality of fork-spindles B and a like series of tilting supports C for said fork-spindles. The fork-spindles and their supports, comprising the series provided on each table, are disposed equidistant around the periphery of the table, so as to lie in positions radial to the vertical shaft 10, and each support is so mounted on the table A that it is free to turn on a horizontal axis under conditions to be hereinafter described, while at the same time the fork-spindle B is adapted to slide endwise in the support C and to rotate freely therein. For supporting each support C in its proper position at the rim of the table A, I provide the pairs of bearing-lugs 13 14, between which the supports C are arranged. Said support is provided in its opposite sides with the sockets 15, (see Fig. 5,) adapted to loosely receive the pivot-screws 16, each finding a threaded bearing in the lugs 13 14. These pivot-screws and the lugs are so disposed with relation to the table A that the support C may turn to a vertical position when it is carried by the table over the device which feeds the fruit to the machine, and at the same time the said support C is adapted to be turned in the continued movement of the table A, so as to assume a horizontal position, and thereby bring its longitudinal axis in a position radial to the vertical spindle 10. The fork-spindle B is not mounted directly in the pivoted support C; but said spindle passes through a tubular shaft 17, the latter being loosely journaled in said support C, so as to be free to rotate therein. The fork-spindle is capable of a limited slidable movement in the tubular shaft 17; but said shaft and the fork-spindle are formed with coöperating clutch members 18 19, which are disposed in opposing relation in order that the fork-spindle may be clutched to the tubular shaft, so as to rotate therewith. A coiled spring 20 is loosely fitted on the fork-spindle B, so as to bear at one end against a pin or head 21, provided near one end of the spindle; but the other end of said spindle has the fork or spear 22, adapted to penetrate the apple. A short tubular shaft 17 projects at one end beyond the pivoted support C and is formed with spur gear-pinion 23, which is adapted in one position of the table A to be presented in operative relation to a peripherally-toothed master-gear 24, the latter having a number of teeth in its periphery removed or cut out, as shown by the blank spaces in Figs. 1 and 3, so as to present a plain smooth surface, and said master gear-wheel being furthermore made fast with a prime shaft 25. This prime shaft is journaled in suitable bearings 26 on the standards *c* of the machine-frame, and said shaft extends lengthwise of the complete machine, so as to furnish motive power to the duplicate parts or sections of said complete machine. The fast and loose pulleys 27 28 are provided at the end portion of the prime shaft 25.

The apples are presented successively beneath the fork-spindles as the latter are moved by the rotation of the table A into positions for spearing the apple, whereby the table A is operated in unison with the means for conveying the apples to positions suitable for spearing by the fork-spindles. As one means for presenting the apples in position I may employ an endless feed-carrier 29, (shown in detail by Fig. 12,) which is in the form of an apron, supported by suitable pulleys, said apron being provided with the series of blocks 30, each having a pocket 31, adapted to receive the apples. The delivery end portion of this endless feed-carrier passes below the table, and said feed-carrier is operated intermittently or with a step-by-step movement. One drum or pulley for the endless feed-carrier is supported by a shaft 32, mounted in a bearing on a bracket 33, said shaft having a bevel-gear 34, arranged to have intermeshing engagement with the bevel-gear 35, the latter being fast with a feed-ratchet 36. This feed-ratchet is mounted on a bracket 33 to rotate thereon, and with said ratchet is adapted to engage a feed-pawl 37, the means for operating which pawl will be hereinafter described.

The pivoted supports C, which carry the fork-spindles, are all held in horizontal positions on the table, except that one fork and support which occupy the spearing position over the endless feed-carrier. The supports of the fork-spindles are held in their horizontal positions by means of latches 38, one of which latches is provided for each fork-spindle. Each latch is disposed in an upright position and is pivoted at a point intermediate of its length on the table-shaft 10. The lower end of said latch has a foot 39 arranged to engage with the fork-spindle, and the latch is held in place to lock the fork-spindle in its horizontal position by a suitable spring 40. A releasing-dog 41 is attached to the upper bearing 12 for the table-shaft 10 at a point directly in line with the spearing position, which is assumed successively by the fork-spindles on the rotation of the table, said releasing-dog lying in the path of the outwardly-turned upper ends of the latches, whereby the latches rotate with the table-shaft and are successively engaged with the releasing-dog 41, thus successively releasing the fork-spindles as they approach the spearing position. The fork-spindle and its support C are turned from their horizontal position on the next step in the movement of the table to a vertical position proper to spearing the fruit on the endless feed-carrier by the employment of a coiled spring 42, the latter having one end connected to the lug 14 and its other end connected with the pivoted support C, so as to instantly act on said pivoted support when the fork-spindle is released from the latch-rod by the latter striking against the releasing-dog 41. After the fork-spindle has been forced in a downward direction by the means to be hereinafter described, so as to spear the fruit on the feed-carrier, the table A is moved an an-

gular distance equivalent to the space between two adjacent fork-spindles, and during this period of movement of the table the support C, which occupies temporarily a vertical spearing position, is arranged to ride against the cam-track 43, which operates to positively turn the support and the fork-spindle from said vertical position to a horizontal position. This cam-track 43 is upheld by suitable arms 44, attached to the stationary table *a*, so as to lie adjacent to a portion of the intermittently-revoluble table A and in the path of the vertical support C and the fork-spindle. This cam-track 43 slopes outwardly from the table A for a portion of its length, and it is higher at its heel than at its front end, whereby the support C is adapted to ride upon said cam-track, so to turn from the vertical position to the horizontal position desired, at which time the inner end of the fork-spindle is engaged by the foot on the spring-pressed latch-rod.

I will now proceed to describe the means by which the fork-spindles are successively forced downwardly in a positive manner and when temporarily in the spearing position. The upper section *d* of the framework is provided immediately over the feed-carrier with the guides 45, in which is slidably mounted a plunger-rod 46, the latter having a socket 47 on its lower extremity, and said plunger-rod is arranged in a vertical position, so that the fork-spindles may aline vertically therewith when said fork-spindles are turned to the vertical position. (See Fig. 3.) This plunger-rod is sustained normally in an elevated position by the lifting-spring 48, and with said plunger-rod loosely engages the forked end 49 of the three-armed depressing-lever. Said three-armed lever is fulcrumed at 50 on the upper section *d* of the framework. One arm 51 of this lever stands in an inclined upward direction from the fulcrum 50, so as to lie in the path of the cam 56 on the master-wheel 24. The second arm 52 of this lever has a yieldable length 53 connected thereto by a spring-hinge joint 54, (see Fig. 3,) which yieldable length 53 of the second arm of said lever is formed with the fork 49, that loosely engages with the plunger-rod 46, and the third arm 55 of this three-armed lever extends outwardly from the fulcrum 50 and at an angle to the jointed flexible arm 52 53. By reference to Fig. 4 it will be seen that the jointed second arm 52 53 and the cam-actuated arm 51 of the three-armed lever are disposed at obtuse angles one to the other, while the third arm 55 is at a similar angle to the arms 51, 52, and 53. This arm 55 operates the ejector devices by which the cored apple and the apple-core are removed from two of the spindles in a manner which will presently appear. The cam-actuated arm 51 of the three-armed lever is acted on at suitable intervals by a double cam 56, which extends from one face of the master-wheel 24, and as one part of this double cam 56 rides on said arm 51 of the lever the latter is moved to a position for its jointed arm 52 53 to be depressed, so as to force the plunger-rod 46 positively in a downward direction, whereby the plunger-rod engages with that fork-spindle which may be temporarily in the vertical spearing position, and thus the latter is depressed so as to make its fork spear the apple. As the low part of the cam 56 clears the arm 51 the spring 48 lifts the plunger-rod and disengages the socket 47 from the fork-spindle, thus returning the lever to a raised position. The utility of jointing the second arm 52 53 and providing the spring-hinge connection between the members of said arm resides in the adaptability of the fork-spindle to spear fruit of different sizes, because with fruit of large size the spindle will be forced downwardly a less distance than with fruit of small size, in which event the member 53 of the second arm will yield or give in an upward direction, the movement of said arm member 53 taking place at the spring-hinge joint 54.

The short arm 55 of the three-armed lever operates the ejector devices by which the cored apple is removed from one fork-spindle and the apple-core is thrown off an adjacent fork-spindle. The ejector for removing the cored apple is indicated at 57 in the form of an upright rod having the forked foot 58, arranged to engage either of the fork-spindles when presented below the same by the rotation of the table A. This ejector-rod is pivoted at 59 to the upper section *d* of the framework, and said rod has an inclined arm 60, which is connected loosely at 61 with the arm 55 of the three-armed lever. The ejector-rod 62 for the apple-core has a forked foot 63, which is pivoted at 64, and is formed with an arm 65, which is connected loosely at 66 to the third arm 55 of the three-armed lever. (See Fig. 3.) The two ejector-rods 57 62 are similarly arranged for the forked feet thereof to engage with the two fork-spindles which carry the apple and the apple-core, respectively, as graphically represented in Figs. 3 and 4, and the two arms 60 65 of these two ejector-rods are inclined toward each other, so that they may cross and be connected to the arm 55 practically at a common point, said arms of the ejector-rods being capable of a limited loose play on the lever-arm 55. When the table is at rest, the master-wheel 24 is rotated so that the gear-teeth thereon will mesh with the gear-pinion 23 on the short shaft 17 of the fork-spindle which may lie immediately below the gear, thus rotating one fork-spindle and an apple thereon, so that the apple may be pared; but at the same turn of the master-wheel the cam 56 operates on the arm 51 of the three-armed lever so as to move said lever on its fulcrum. This movement of the lever makes the arm 52 53 depress the plunger-rod so as to force one fork-spindle in a downward direction to spear an apple, and at the same time the lever-arm 55 is depressed so as to simultaneously move the ejector-rods 57 62 and force from two of the

spindles the cored apple and the apple-core, respectively.

In the embodiment shown by the drawings the table A is equipped with five fork-spindles and their complementary devices. With this table is associated a step-by-step feed mechanism, which gives to the table five successive movements. Assuming that the spearing position is the starting-point for each of the five spindles, the rotation of the table makes each spindle operate as follows: The support C being in a raised position it sustains the fork-spindle below the plunger-rod 46. The downward movement of this plunger-rod forces the tines of the fork-spindle into the apple. The spring 48 and the spring 20 lift the fork-spindle and the apple, thus moving the clutch member 19 into engagement with the clutch member 18, so as to couple the fork-spindle and the tubular shaft 17. On the first step in the movement of the table A the support C rides against the cam-track 43, and this support, together with the fork-spindle, is turned to a horizontal position for engagement by the proper latch-rod 38. On the second movement of the table A the fork-spindle is carried below the master-wheel 24, so that the gear 23 will have intermeshing engagement with the teeth on the master-wheel, whereby the fork-spindle and the apple will be given the proper number of turns through the medium of the tubular shaft 17 and the gear 23 for the paring-knife to peel the apple; but on the third step in the rotation of the table the fork-spindle, with the apple thereon, will be carried to a position where the apple is engaged by the ejector-rod 57, the apple being cored while the fork-spindle was under rotation for the purpose of peeling said apple, whereby at the desired stage in the operation of the machine the cored apple will be ejected by the rod 57, while the core itself will remain on the fork-spindle. On the next step in the rotation of the table the fork-spindle will be brought to a position for engagement by the ejector-rod 62, the operation of which removes the core from the fork-spindle, and, finally, in the last period of movement of the table the latch-rod 38 engages with the releasing-dog 41, so as to permit the spring 42 to turn the support C and the fork-spindle B to the raised positions.

I will now proceed to describe the means for operating the paring-knife. 68 designates the short vertical shaft, journaled in suitable bearings on the upper section *d* of the framework, said shaft having a bevel-gear 69, which meshes with the mutilated bevel-gear 70 on the prime shaft 25, said bevel-gear 70 having certain teeth removed therefrom, as shown by Figs. 1 and 3, whereby the gear 69 on the shaft 68 may be free from intermeshing engagement from the gear 70 at a certain period in each rotation of said gear 70 for the purpose of permitting the shaft 68 and the paring-knife to be snapped back to their initial positions. Said shaft 68 carries a disk 71, which is provided with the slot 72, in which slot is pivoted at 73 a knife-arm 74. This knife-arm is provided at one end with a suitable blade fashioned and arranged to pare the apple on the rotation of the disk 71 with the shaft 68. The knife is held away from its work by the extension 74^a of the knife-arm riding against a stationary cam-track 75, which is fixed in the path of said knife-arm, so as to press the same into an inoperative position against the tension of the retracting-spring 76, the latter holding the knife-arm to the working position, so as to peel the apple during the time when the extension 74^a does not ride upon the cam-track. The operation of paring the apple is effected during one period of rest of the table A and when the gear 23 is in mesh with the master-wheel, whereby the fork-spindle is rotated on its axis and the knife-arm is given an orbital movement by the disk 71 on the shaft 68 traveling around the apple, which is rotating with the spindle. This shaft 68 is furthermore provided with a crank 77, to which is connected a link 78, the other end of which link is attached to the vibratory feed-lever 79. This lever is fulcrumed at 80 on the upper section *d* of the frame, and to its lower end is connected a strong retracting-spring 81, the latter drawing the lever to one position and snapping back the crank 77 of the shaft 68 when the gear 69 is free from the gear 70, so as to return the knife-arm to its initial position for operation. The lever 79 has a crank connection 82 with the rod 37, that operates the step-by-step feed mechanism for the endless feed-carrier. Said lever 79 furthermore operates the pawl-rod 83, one end of which is formed with a beak 84, that engages with a feed-ratchet 85, which is fast with the table-shaft 10. It will be understood that the operation of the lever 79 sets in motion the two sets of step-by-step feed devices by which the endless feed-carrier 29 and the table A are operated, so as to feed the apples to the machine and to change the position of the fork-spindles on the table.

I will now proceed to describe the means by which the core is cut from the pulp while the latter is being pared and when in the position shown by Fig. 3. The horizontally-slidable carriage 86 is disposed in the plane of the table A at one side of the latter and in a position to present the coring-knife 87 in a position to one side of the fork-spindle when the latter is in position for its apple to be pared. The carriage is slidably mounted on the guide-rods 88, which are supported by the standards 89, attached to the bed *a*, and this carriage is provided with a gear-rack 90. With said rack meshes a toothed segment 91, which is fast with a slotted lever-arm 92, the latter being fulcrumed at 93 on an arm 94 of the frame. The lever-arm and the segment are vibrated by the action of the wrist-pin 91^a, which is carried by the crank-disk 96, the shaft 97 of said crank-disk being journaled in

a bearing 97^a on a post 97^b, the latter extending upwardly from the arm 94 of the frame. (See full and dotted lines in Figs. 3 and 6.) Said crank-disk 96 has gear-teeth on its face which have intermeshing engagement with a driving-gear 98 on the prime shaft 25. The crank-disk 96 is continuously rotated by the gear 98; but the long slot in the lever-arm 92 permits the segment and the rack to remain comparatively idle, except at periods proper for the advancement and retraction of the coring-knife carriage. This coring-knife is an elongated blade of a proper length to pass through the apple and assume a position at one side of the tines of the spindle, thereby cutting the pulp of the apple free from the core when the apple turns with the fork-spindle around the knife and placing the apple in condition proper for its ejection from the spindle, while the core will remain on said spindle, to be ejected subsequently therefrom.

I have heretofore described the feed-conveyer in the form of an endless carrier; but I do not desire to strictly limit myself to this particular type of feeder. In Fig. 7 I have shown a revoluble feed-table 99, having a series of pockets 100, adapted to receive the fruit. These pockets are disposed in circular order on the top of the table, and the shaft 101 of said table is designed to be supported in such relation to the main table A that the pockets 100 will successively present the fruit therein beneath the fork-spindles. As shown by dotted lines in Fig. 7, the shaft 101 of the feed-table 99 is equipped with a feed-ratchet 102, with which engages the pawl 103 of the rod 104, said rod being operable by the lever 79, so as to rotate the table 99 with a step-by-step feed.

The mechanism shown by Figs. 1, 2, 3, and 6 for operating the coring-knife carriage 86 may reciprocate the carriage too slowly, and to overcome these objections, as well as to simplify the construction, I have devised the improved means represented by Figs. 10 and 11. The coring-knife carriage 86 is slidably mounted in suitable guides, so as to present the coring-knife 87 in the plane of the apple-core when the apple is undergoing the peeling operation. To this carriage is loosely connected the lower part of a vibratory lever 105, the same being disposed in an inclined position, so as to have its upper portion hung or fulcrumed at 106 on the upper section *d* of the framework. Said vibratory lever is provided at a point intermediate of its length with an antifriction-roller 107, that is disposed in the path of a cam 108, the latter being secured in any approved way on the prime shaft 25, so as to rotate with the latter. This cam is provided with a deflection or cam surface 109, which extends in one direction from the plane of the cam, and the cam is furthermore provided with a similar deflected or cam surface 110, that extends in an opposite direction from the plane of the cam, such deflections 109 110 being formed at suitable points in the periphery of the cam. These deflected surfaces are adapted to ride against the antifriction-roller of the lever successively during one complete rotation of the cam with the prime shaft, whereby the lever is positively moved in opposite directions by the rotary cam, so as to reciprocate the coring-knife carriage in order to advance the knife into the apple and withdraw said knife from the apple when the latter has been pared by rotation of the paring-knife and the rotation of the apple itself with the fork-spindle. The cam 108 is cut out or broken away at its periphery, so as to leave a space 111, and when the cam rotates, so that the roller 107 will travel in this space 111, the lever 105 and the coring-knife remain at rest, because the cam does not actuate these parts. To assist the carriage 86 in returning quickly to its normal inoperative position, I employ a coiled spring 112, that is attached at one end to the carriage and at its other end to the framework, the arrangement of the spring being such that its tension is exerted to retract the carriage away from the apple, and thus require the cam 108 and the lever 105 to overcome the resistance of this spring.

Changes within the scope of the appended claims may be made in the form and proportion of some of the parts while their essential features are retained and the spirit of the invention is embodied. Hence I do not desire to limit myself to the precise form of all the parts as shown, reserving the right to vary therefrom.

Having thus described my invention, what I claim as new is—

1. In a machine for peeling and coring apples, the combination of a table, a series of fork-spindles mounted on the table to turn on horizontal axes and having means for making them assume an upright position, means for making each spindle spear the fruit when in an upright position, a feed mechanism to present fruit in the path of the fork-spindles, means for turning each fork-spindle from the described upright position to a substantially horizontal position, means for rotating each fork-spindle successively, ejector devices for doffing the apples and the core successively from the spindles, and a driving mechanism for operating said parts, substantially as described.

2. In a machine for peeling and coring apples, the combination of a table having a feed mechanism for moving the same with a step-by-step movement, a series of fork-spindles mounted on the table to turn on horizontal axes, springs for turning the fork-spindles successively to upright positions at a certain period of rest of the table, a spindle-actuating mechanism disposed close to the path of said fork-spindles and arranged to drive the latter into the fruit while said spindle is in an upright position, means disposed in the path of the fork-spindles for turning the same to a substantially horizontal position, locking de-

vices for holding said fork-spindles in their horizontal positions, means for rotating the fork-spindles successively, and doffer devices in operative relation to certain of the fork-spindles, substantially as described.

3. In a machine for peeling and coring apples, the combination of a horizontally-revoluble table, a series of fork-spindles pivotally mounted thereon, means for successively moving the fork-spindles to an upright position, a plunger device adapted to engage with said upright fork-spindle, means for positively moving the plunger device and the fork-spindle to give a spearing movement to the latter, and a feed mechanism for feeding apples to the fork-spindles, substantially as described.

4. In a machine for peeling and coring apples, the combination of a horizontally-revoluble table, a series of supports pivoted on the table, a series of fork-spindles journaled in the pivoted supports and movable therewith, means for successively moving each pivoted support and its fork-spindle to an upright position, means for depressing the fork-spindle while in its upright position and independently of the pivoted support, means for returning the pivoted support and the fork-spindle to their horizontal positions, and a feed mechanism, substantially as described.

5. In a machine for peeling and coring apples, the combination of a table carrying a series of pivoted supports each having means for normally holding the same in a horizontal position, means for moving each support from a horizontal to an upright position, a series of fork-spindles mounted individually in said supports, means for depressing the fork-spindles, and a cam-track disposed in the path of the supports for engagement successively therewith and adapted to return each support back to its horizontal position, substantially as described.

6. In a machine for peeling and coring apples, the combination of a horizontally-revoluble table, a series of pivoted supports thereon, a tubular shaft journaled in each support, a fork-spindle slidably mounted in each tubular shaft and arranged to be clutched thereto, and means for rotating the tubular shaft and the fork-spindle, substantially as described.

7. In a machine for peeling and coring apples, the combination of a revoluble table carrying a series of pivoted supports, a tubular shaft journaled in each pivoted support and provided with a gear-pinion, a fork-spindle slidably mounted in each tubular shaft, coacting clutch members between each fork-spindle and its tubular shaft, a retractor to normally hold the clutch members in engagement, and a master-gear adapted to have intermeshing gear with the pinion on each tubular shaft of the series as said shafts are presented successively to the master-gear by the rotation of the table, substantially as described.

8. In a machine for peeling and coring apples, the combination of a revoluble table, a series of fork-spindles, a pivoted support for each fork-spindle, a latch to engage with each fork-spindle and hold the latter in a horizontal position on the table, a releasing device for said latches, means adapted to turn the pivoted support and the fork-spindle into an upright position when released from the latch, means for impelling the fork-spindle into the fruit when in an upright position, a paring mechanism operatively related to the fork-spindle in the horizontal position of the latter, and a feed mechanism for presenting fruit in the path of the temporarily-upright fork-spindle, substantially as described.

9. The combination with a vertically-movable fork-spindle, a plunger-rod adapted to be engaged therewith, a depressing-lever engaging with said plunger-rod, a master-wheel provided with a cam for actuating the depressing-lever, means for holding fruit in the path of the fork-spindle on the descent thereof, and a retracting-spring operatively related to said fork-spindle, substantially as described.

10. In a machine for peeling and coring apples, the combination of a vertically-movable fork-spindle provided with means for retracting the same, a plunger-rod arranged for engagement with said fork-spindle, a master-gear provided with a cam, a depressing-lever arranged to be actuated by said cam of the master-gear and having a yieldable arm connected with said plunger-rod, and means for holding fruit in the path of the fork-spindle on the descent thereof, substantially as described.

11. In a machine for peeling and coring apples, the combination with a vertically-movable fork-spindle, a spring-lifted plunger-rod adapted for engagement with said fork-spindle, a master-wheel having a cam, a depressing-lever having one arm disposed in the path of the cam, and another jointed spring-controlled arm connected with the plunger-rod and means for holding fruit in the path of the fork-spindle on the descent thereof, substantially as described.

12. In a machine for peeling and coring apples, the combination with a rotatable table having a series of fork-spindles, of two ejectors disposed in operative relation to a like number of fork-spindles, and operable simultaneously to doff the apple and the core from the two adjacent fork-spindles, the core-doff ejector being operable on the fork-spindle subsequently to the operation of the apple-doff ejector thereon, a master-wheel, a lever arranged for actuation by the master-wheel, and having connection with said ejectors, and means for imparting to said table a step-by-step movement to present the forks successively in proper relation to the respective ejectors, substantially as described.

13. In a machine for peeling and coring apples, the combination of a revoluble table, a series of fork-spindles thereon, means for ro-

tating the fork-spindles successively and intermittently, a revoluble disk disposed above the fork-spindles when in the position in which rotary motion is given thereto, a knife-arm yieldably mounted on the rotary disk, and a cam-track for holding the knife-arm to an operative position, substantially as described.

14. In a machine for peeling and coring apples, the combination with a rotatable table carrying a series of fork-spindles, and a feed mechanism for imparting a step-by-step movement to said table, of a shaft, a rotary slotted disk secured to said shaft, a prime shaft, intermeshing gear elements on the prime shaft and the first-named shaft, respectively, and one of said gear elements having certain teeth removed therefrom, a spring-actuated knife-arm carried by said slotted disk and pivoted thereto to form a short arm, a stationary cam-track disposed in the path of said short end of the knife-arm, means for impelling said first-named shaft to maintain the paring mechanism in an operative condition, and feed devices, substantially as described.

15. In a machine for peeling and coring apples, the combination of a rotatable table carrying a series of fork-spindles, a feed mechanism for imparting a step-by-step movement to said table, a reciprocatory carriage limited to sliding movement substantially in the plane of the fork-spindles, a coring-knife fixedly mounted on said carriage to travel therewith toward or from the forks, said coring-knife being disposed to assume, at the forward limit of the carriage, a position at one side of and parallel to one of said fork-spindles, a rotary driving element, and means between said driving element and the carriage to give reciprocating movement to the latter each time a fork-spindle and the coring-knife are disposed in operative relation one to the other, said carriage-reciprocating means arranged to allow a limited period of rest to the carriage and to the coring-knife when said parts are advanced to their forward positions and at the period of rotation of the particular fork-spindle alongside of which the coring-knife may be temporarily positioned, substantially as described.

16. In a machine for peeling and coring apples, the combination of a horizontally-revoluble table, carrying a series of fork-spindles, a prime shaft, a paring-knife, means between the paring-knife and the prime shaft to rotate said knife at the same time that one fork-spindle is rotated, means on the prime shaft for rotating the fork-spindle, a feed-lever actuated by the means which rotates the paring-knife, a feed-carrier for presenting fruit successively to the fork-spindles, and step-by-step feed devices actuated by the feed-lever and connected operatively with the rotary table and with the feed-carrier, substantially as described.

17. In an apple peeler and corer, the combination with a fork-spindle, a prime shaft, and suitable means for rotating said fork-spindle, of a carriage equipped with a coring-knife arranged for movement in the plane of the fork-spindle, a lever in operative relation to the carriage for imparting reciprocatory movement thereto, and a cam driven by the prime shaft and arranged to actuate said lever, substantially as described.

18. In an apple peeler and corer, the combination with a fork-spindle and means for rotating the latter, of a slidable carriage equipped with a coring-knife, means for retracting the carriage away from the fork-spindle, a lever connected with said carriage and provided with a roller, and a mutilated cam provided with oppositely-deflected surfaces arranged to ride successively against said roller and the lever, substantially as described.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

HEMAN WARNER.

Witnesses:
A. T. BOLES,
MAUD KENNEY.