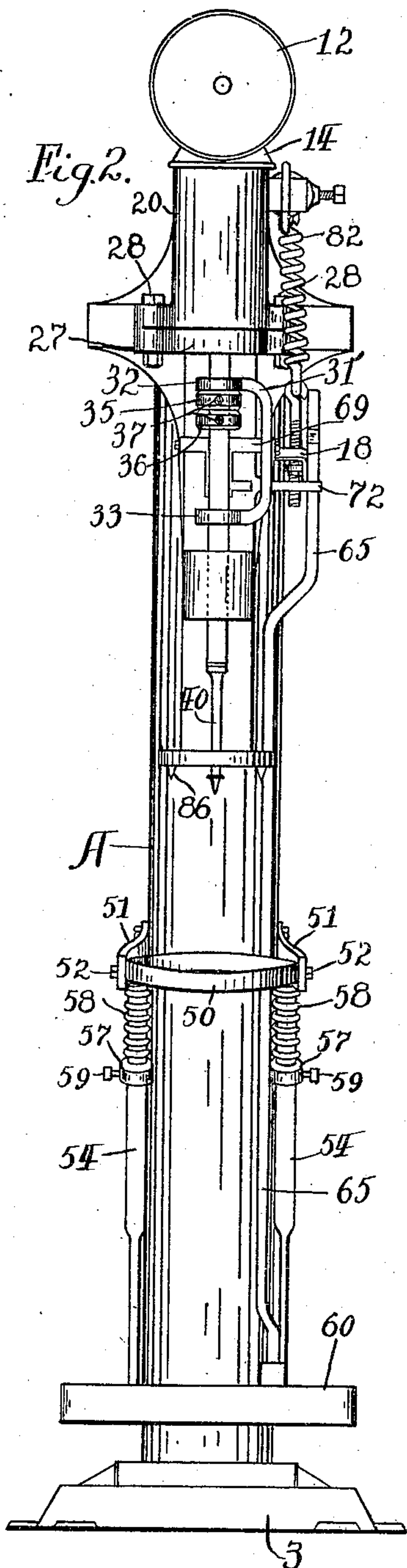


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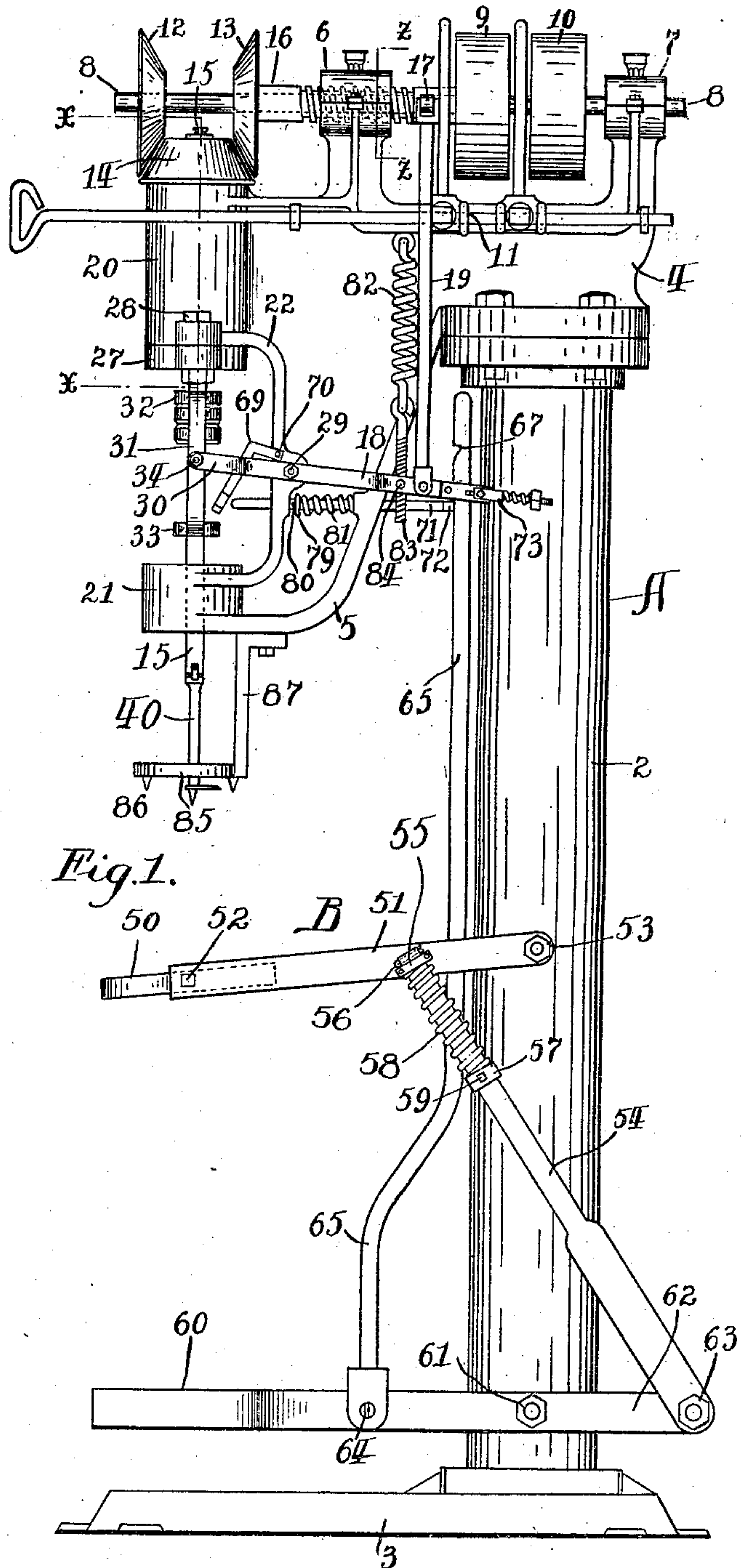
C. B. GEDNEY.
CABBAGE CORING MACHINE.
APPLICATION FILED JAN. 13, 1908.

Patented July 20, 1909.

2 SHEETS—SHEET 1.



Witnesses:
R. A. Fischer.
H. Fischer



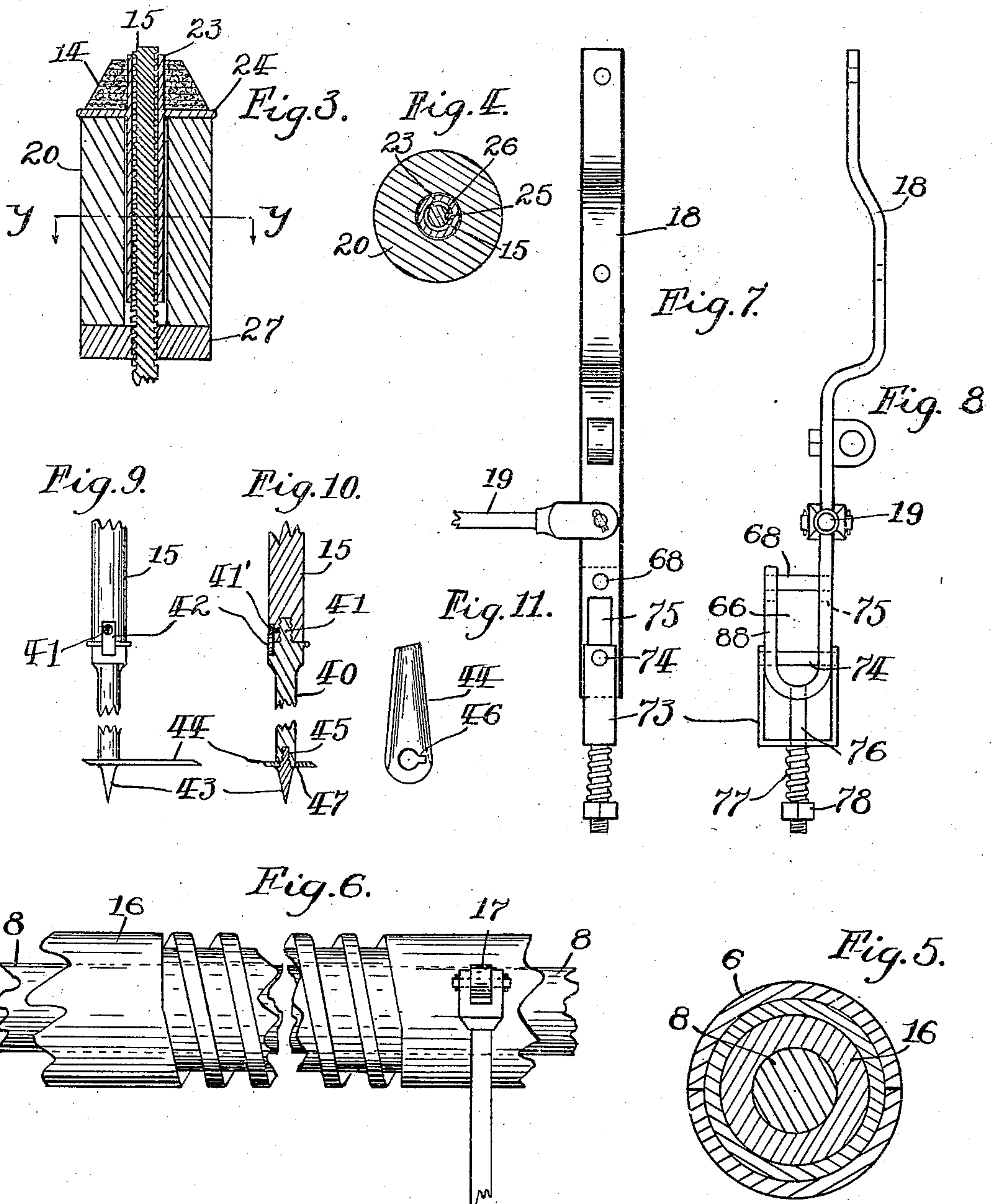
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Charles B. Gedney,
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Witnesses:
A. Fischer.
R. A. Fischer.

Inventor:
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UNITED STATES PATENT OFFICE.

CHARLES B. GEDNEY, OF ST. PAUL, MINNESOTA.

CABBAGE-CORING MACHINE.

No. 928,748.

Specification of Letters Patent.

Patented July 20, 1909.

Application filed January 13, 1908. Serial No. 410,561.

To all whom it may concern:

Be it known that I, CHARLES B. GEDNEY, a citizen of the United States, residing at St. Paul, in the county of Ramsey and State of Minnesota, have invented a new and useful Improvement in Cabbage-Coring Machines, of which the following is a specification.

My invention relates to an improved cabbage coring machine and has for its primary object a machine of its kind which is simple in construction and effective in operation.

This machine is adapted to assist in cutting the cores of cabbages in long strips or shreds for making sauer kraut or other purposes so that when the cabbage is ultimately sliced transversely the core is not wasted.

This invention will operate quickly by a minimum amount of hand labor.

In the accompanying drawings forming part of this specification, Figure 1 is a side view of my improved cabbage coring machine, the parts being shown in normal position; Fig. 2 is a front elevation; Fig. 3 is a detail sectional view taken on the line X—X of Fig. 1 showing the upper portion of the spindle; Fig. 4 is a section of Fig. 3 taken on the line Y—Y; Fig. 5 is a detail sectional view of Fig. 1 taken on the line Z—Z; Fig. 6 is a partial side elevation of a portion of the drive shaft, parts thereof being broken away; Fig. 7 is a detail side view of the rocker arm; Fig. 8 is a view looking at another side of the rocker arm; Fig. 9 is an enlarged side view of a detail portion of the spindle and cutter; Fig. 10 is a longitudinal section of a portion of the spindle and cutter shown in Fig. 9, and Fig. 11 is a plan view of the cutting blade removed from the cutter.

In the drawings A represents a suitable frame having a standard 2, base 3 and support 4 on the upper end of said standard provided with a hanger 5. Journaled across the support 4 in bearing supports 6 and 7 is a drive shaft 8 which is provided with tight and loose pulleys 9 and 10 adjoining which is a sheave 11 of ordinary construction for throwing a belt from one pulley to the other in order to throw the power on and off. Upon one end of the drive shaft are a pair of cone pulleys 12 and 13 which are mounted thereon with their friction engaging surfaces directed toward each other and between which is a driven friction cone 14 mounted upon a vertical spindle 15.

Between the bearing support 6 and the shaft 8 with its ends impinging against the

cone pulley 13 and the end of the hub of the tight pulley 9 is a threaded sleeve 16 in which the shaft 8 revolves. This sleeve is threaded in the bearing 6 and is adapted to be turned by a crank arm 17, the free end of which is connected with a rocker arm 18 by means of a connecting rod 19. When the sleeve 16 is turned in one direction the drive cone pulley 12 is thrown into frictional contact with the drive surface of the driven cone 14 and when reversed, is thrown out of contact and the friction cone pulley 13 thrown into contact with the surface of the driven cone 14, thus reversing the motion of the spindle 15 on which the driven cone is mounted. The spindle 15 is journaled in bearings 20 and 21, the former being carried upon the support 4 and the latter upon the hanger 5, both bearings being connected by means of a yoke frame 22 to reinforce their strength and form a rigid support for the spindle to revolve in. Ordinarily the spindle is driven at about twenty-five hundred revolutions a minute and requires a rigid support as shown to keep it from vibrating. The upper portion of the spindle is threaded in a sleeve 23 on which sections of the driven cone are mounted, said sleeve having a flange 24 which runs upon the bearing 20 and being connected with the spindle by means of a feather 25 which is adapted to slide vertically and freely in a groove 26 in said spindle. At the lower end of the bearing 20 is a block 27 which is secured thereto by means of the bolts 28. The spindle 15 is threaded in this block and as it revolves is simultaneously caused by said threads to move either up or down.

The rocker arm 18 is fulcrumed upon the yoke frame 22 by means of the pivot bolt 29 between its ends, and its power end 30 is pivotally connected by means of a bolt 34 to the stop 31 having upper and lower shoulders 32 and 33 through which the spindle is adapted to move freely. Upon the spindle are secured upper and lower stop rings 35 and 36 by means of set screws 37. The upper ring is adapted to impinge against the upper stop shoulder 32 as the spindle moves upward and causes the friction cones 12 and 13 to be drawn out of engagement with the driven cone 14 and the spindle to stop while the lower stop ring 36 is adapted to impinge against the lower stop shoulder 33 when the spindle descends and causes the friction cone 12 to be thrown out of contact and the fric-

tion cone 13 into contact with the driven cone 14. This action, which is automatic, causes the spindle to reverse in motion at the end of each down stroke of the machine. Upon the lower end of the spindle is a cutter 40 in the form of a shank, the upper end of which is threaded at 41 into the spindle and locked by means of a key 42 and the lower end provided with a point 43 and a substantially horizontal wing blade 44, the latter being secured to the shank by threading the point at 45 into the end of the shank. The key is fastened to the shank by a screw 41' which impinges against the threaded end of the shank and assists in holding it in place. In addition to securing the horizontal blade to the shank by means of the point 43 it is brazed and a key way 46 is also provided which admits a detent 47 on the shank and prevents the blade from turning. The wing blade is shaped substantially as shown in the drawings and bent slightly so as when reversed to follow the cut back which is made in the cabbage during the first half or down stroke of the cutter.

Upon the standard 2 is a chair B for holding each cabbage to be cut with its core directed upwardly and into which the cutter is inserted. This chair consists of a ring 50, which is secured to a pair of arms 51 by means of bolts 52. The inner ends of these arms are pivoted by bolts 53 upon the standard and are adapted to swing up and down to permit large and small cabbages to be operated upon by the cutting mechanism by means of supporting arms 54, the upper ends of which pass freely through guides 55 and are prevented from becoming detached therefrom by means of cotter pins 56. Between the guides 55 and rings 57 are expansion helical springs 58 which permit the chair to be slightly depressed to accommodate large sized cabbages. The tension of these springs may be varied by changing the positions of the rings 57, which may be set in various positions upon the supporting arms 54 by set bolts 59.

Near the base of the machine is a foot lever 60 which is pivoted at 61 upon the standard and its work end 62 connected with the supporting arms 54 by means of the bolt 63. The power end of the foot lever 60 is pivotally connected at 64 with a substantially vertical draw rod 65, the upper end of which passes upwardly through an opening 66 in the rocker arm 18. The rocker arm has a loop 88 forming the opening 66. The draw rod has a shoulder 67 which is adapted to engage a pin 68 on the rocker arm 18 when the foot lever 60 is depressed, thus raising the work end 30 of the rocker arm 18 and carrying with it the stop 31. The same movement draws the connecting rod 19 and crank arm 17 down and turns the sleeve 16, throwing the friction cone 12 into contact with the drive cone 14 and revolving and

causing the spindle to move downwardly in the bearings 20 and 21 and the cutting mechanism to pass into the core of the cabbage. When the lower stop 36 during the downward descent of the spindle impinges against the trip 69 which is pivoted upon the yoke frame 22 by means of the bolt 70, the horizontal trip rod 71 is depressed by the trip 69 impinging against it. The trip rod has a shoulder 72 which is (when the trip rod is depressed) caused to impinge against the vertical draw rod 65 and disengage its shoulder 67 from the pin 68 on the rocker arm 18. Embracing the end of the loop 88 on the rocker arm is a yoke frame 73, between the ends of which is a bar 74, passing through slots 75 in sides of the loop 88 which presses against the back of the draw rod 65, causing it to engage the pin 68 when moved downwardly by the foot lever 60.

The free end of the rocker arm has a bolt 76 carrying a pressure spring 77 which is adjusted by means of the nut 78, causing the spring to impinge against the yoke 73 and force the bar 74 inwardly. The bar 74 presses against the back of the draw rod 65 and at all times tends to force the draw rod forward. The horizontal trip rod 71 passes freely through the hanger 5 and the yoke frame 22 and is provided with a ring 79 which is held on the shank of the trip 71 by means of the pin 80. Between the ring 79 and the hanger 5 is an expansion spring 81 which at all times tends to hold the trip rod with its shoulder 72 out of engagement with the vertical draw rod 65. The power end of the rocker arm 18 is drawn upwardly to turn the sleeve 16 back into normal position by means of a draw spring 82 which is secured to the support 4 and to the rocker arm 18 by means of a bolt 83 which is threaded into said rocker arm and held from turning by means of a set screw 84.

In operation, a cabbage (with its head down and its core immediately below the cutter) is placed in the ring 50 of the chair B and the foot lever 60 pressed down. This movement causes the chair to move upwardly into contact with the cutting mechanism and simultaneously causes the shoulder 67 on the vertical draw rod 65 to engage the pin 68 on the rocker arm 18, move the stop 31 upwardly and draw the crank arm 17 down, thus turning the sleeve 16, moving the shaft 8 and throwing the friction cone 12 into contact with the driven cone 14. In this manner power is communicated from the drive shaft 8 to the spindle which in turn revolves the cutter on the lower end thereof. As the cutter revolves the spindle turns in the threaded block 27 and screws downwardly, carrying with it the cutting blade 44 into the core of the cabbage. When the stop ring 36 impinges against the trip 69 in its path the shoulder 72 of the horizontal

trip rod 71 impinges against the vertical draw rod 65 and disengages the shoulder 67 from the pin 68. This movement releases the rocker arm, the power end of which is raised by means of the spring 82, and the crank arm 17 and sleeve 16 reverse, thus causing the friction cone 12 to disengage and the friction cone 13 to engage with the driven cone 14. In this manner the motion of the spindle is reversed and the blade drawn up out of the cabbage core while it revolves by means of the threads on the spindle turning in the block 27. When the upper stop ring 35 impinges against the upper stop shoulder 32 on the stop the rocker arm 18 is again thrown down until the sleeve 16 turns sufficiently to throw the cone 13 out of engagement with the driven cone 14. In this latter position both drive cones 12 and 13 are out of contact with the driven cone and the spindle is stationary. The cabbage is then removed from the chair and the machine is in readiness to repeat the operation. To hold the cabbage from turning as the cutter revolves a stop or crown 85 having depending spikes 86 is supported upon the hanger 5 by means of the bracket 87 to engage and hold the cabbage when pressed up by the chair and as the cutter revolves.

In accordance with the patent statutes, I have described the principle of operation of my invention, together with the apparatus which I now consider to represent the best embodiment thereof, but I desire to have it understood that the apparatus shown is only illustrative and that the invention can be carried out by other means and applied to uses other than those above set forth, within the scope of the following claims.

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

1. The combination with a shredding machine having suitable gearing and a vertically disposed rotary spindle carrying a knife, of a rigid arm adjoining the spindle and supporting a plurality of spikes and a chair for holding the cabbage disposed to move up and down in proximity to said spindle and to hold the cabbage impinged upon said spikes.

2. The combination with a shredding machine having suitable gearing and a rotary spindle carrying a knife, of means for imparting a thrust movement to said spindle,

means for reversing the thrust movement of said spindle automatically at the end of each down stroke, a rigid arm supporting a stop which surrounds the spindle and a chair for holding the cabbage disposed to move in proximity to said spindle.

3. The combination with a shredding machine having suitable gearing and a rotary spindle carrying a knife, of means for simultaneously revolving and imparting a thrust movement to said spindle, means for reversing the thrust movement of said spindle automatically, a stop adjoining said spindle and a chair for holding a cabbage impinged against said stop within active range of said spindle.

4. The combination with a shredding machine having suitable gearing and a rotary spindle carrying a knife, of a rigid arm supporting a stop which surrounds the spindle and provided with depending spikes and a chair disposed to move in proximity to said spindle and to hold the cabbage impinged upon said spikes.

5. The combination with a shredding machine having suitable gearing and a rotary spindle carrying a knife, of actuating mechanism for revolving and thrusting said spindle forwardly and backwardly, means for moving said actuating mechanism into and out of operation to reverse the thrust movement at the end of each downward stroke, a rigid arm supporting a stop which surrounds the spindle and a chair for holding a cabbage disposed to swing and move said cabbage against said stop and into position to be acted on by said spindle.

6. The combination with a shredding machine having suitable gearing and a rotary spindle carrying a knife, of means for simultaneously revolving and thrusting said spindle forwardly and backwardly, means for starting said spindle, means for stopping said spindle, a rigid arm supporting a stop which surrounds said spindle and a chair for holding a cabbage in position to be acted on by said spindle, said chair being adapted to thrust the cabbage against said stop.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

CHARLES B. GEDNEY.

Witnesses:

H. L. FISCHER,
R. A. FISCHER.