

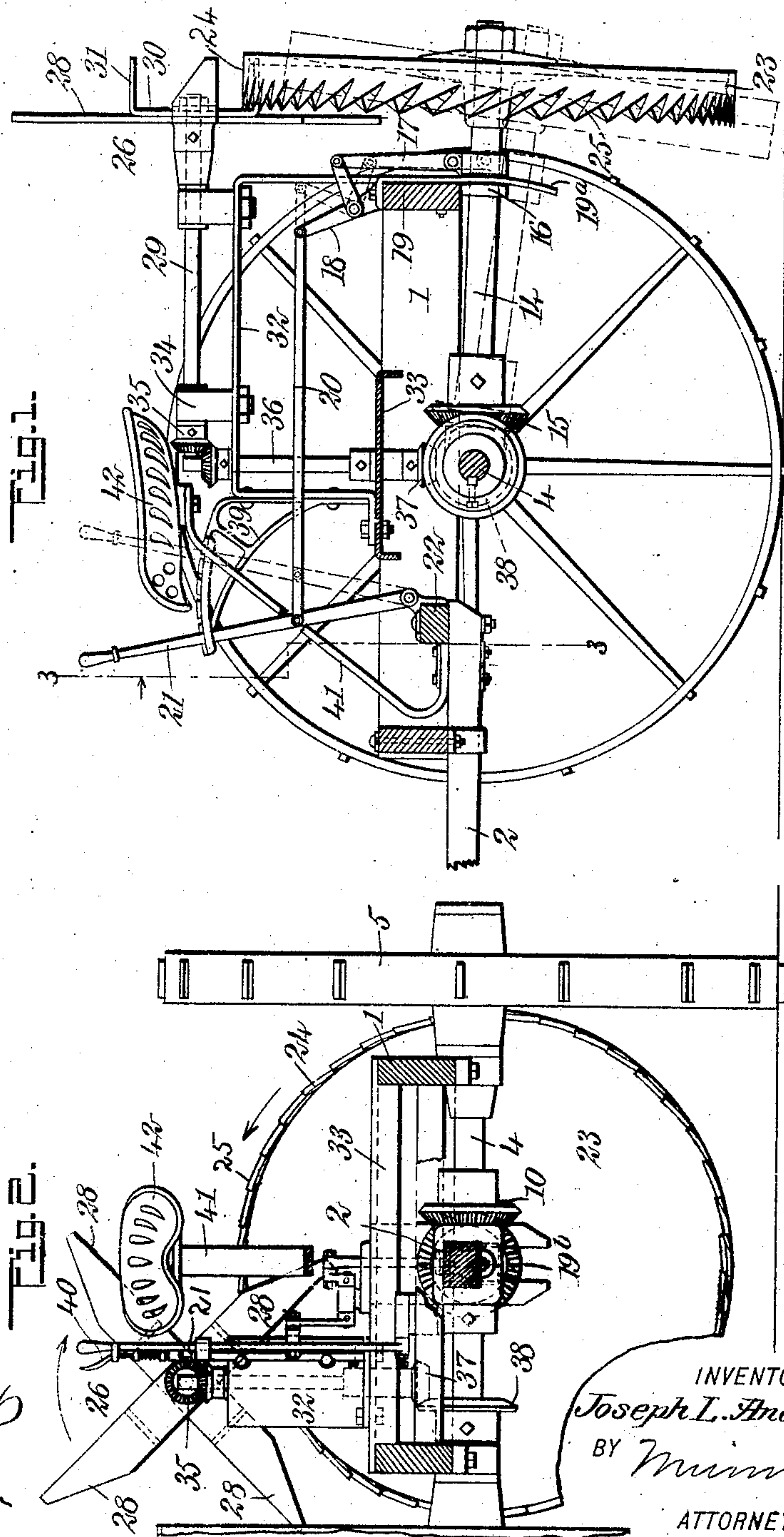
No. 850,715.

PATENTED APR. 16, 1907.

J. L. ANDERS.
ROOT AND STALK PULLING MACHINE.

APPLICATION FILED AUG. 28, 1906.

2 SHEETS—SHEET 1.



WITNESSES
L. Almquist
F. D. Ammer

INVENTOR
Joseph L. Anders
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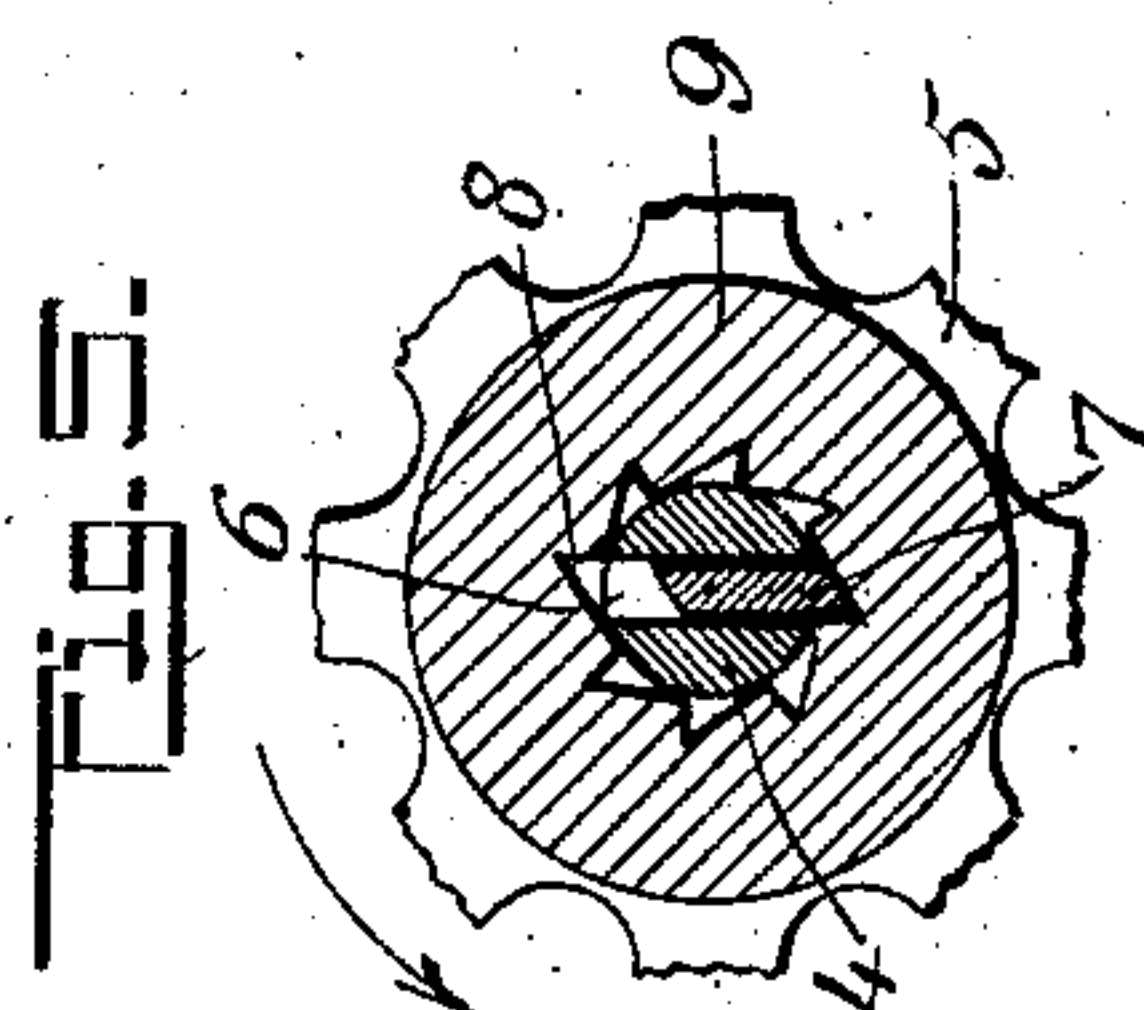
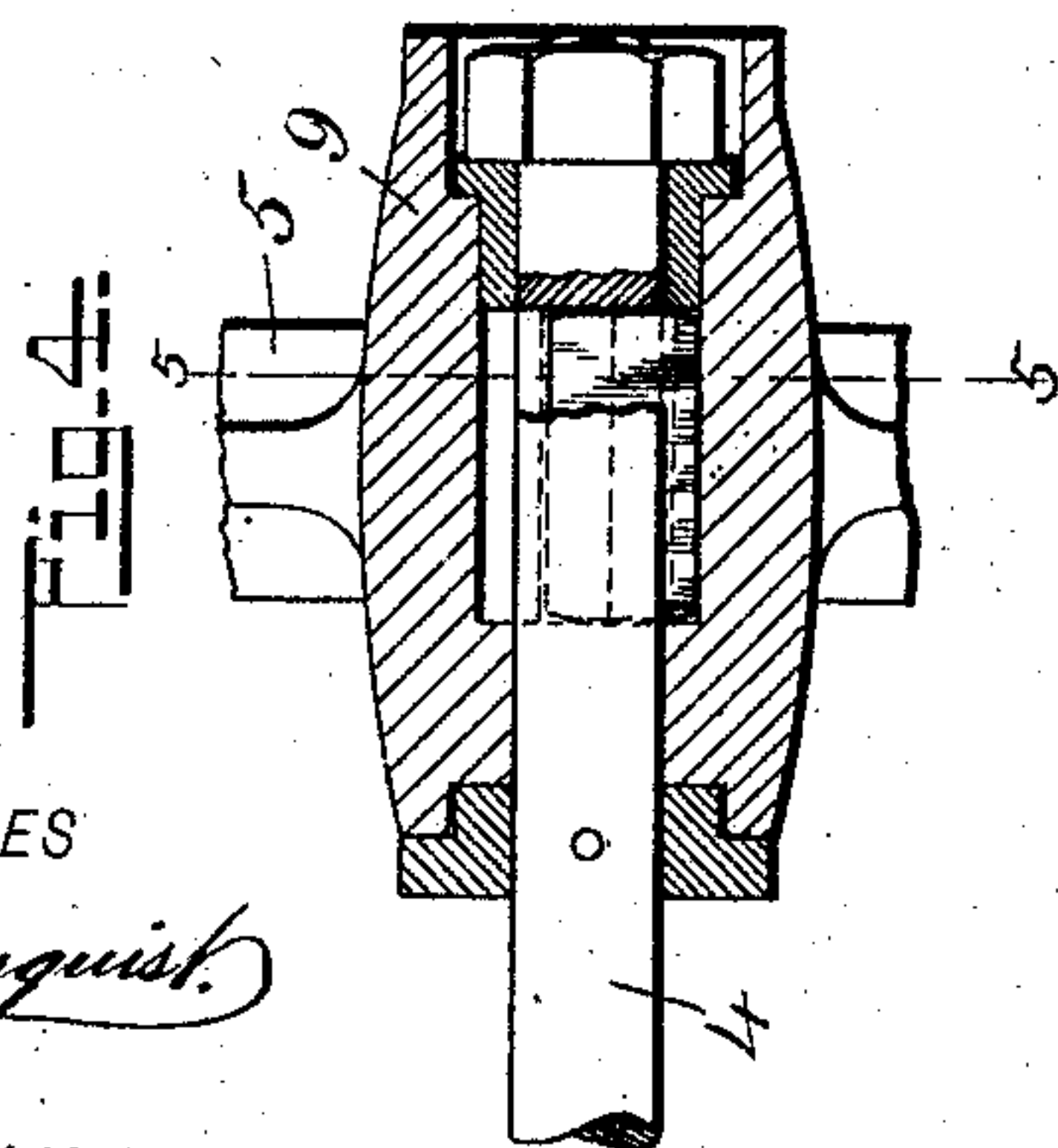
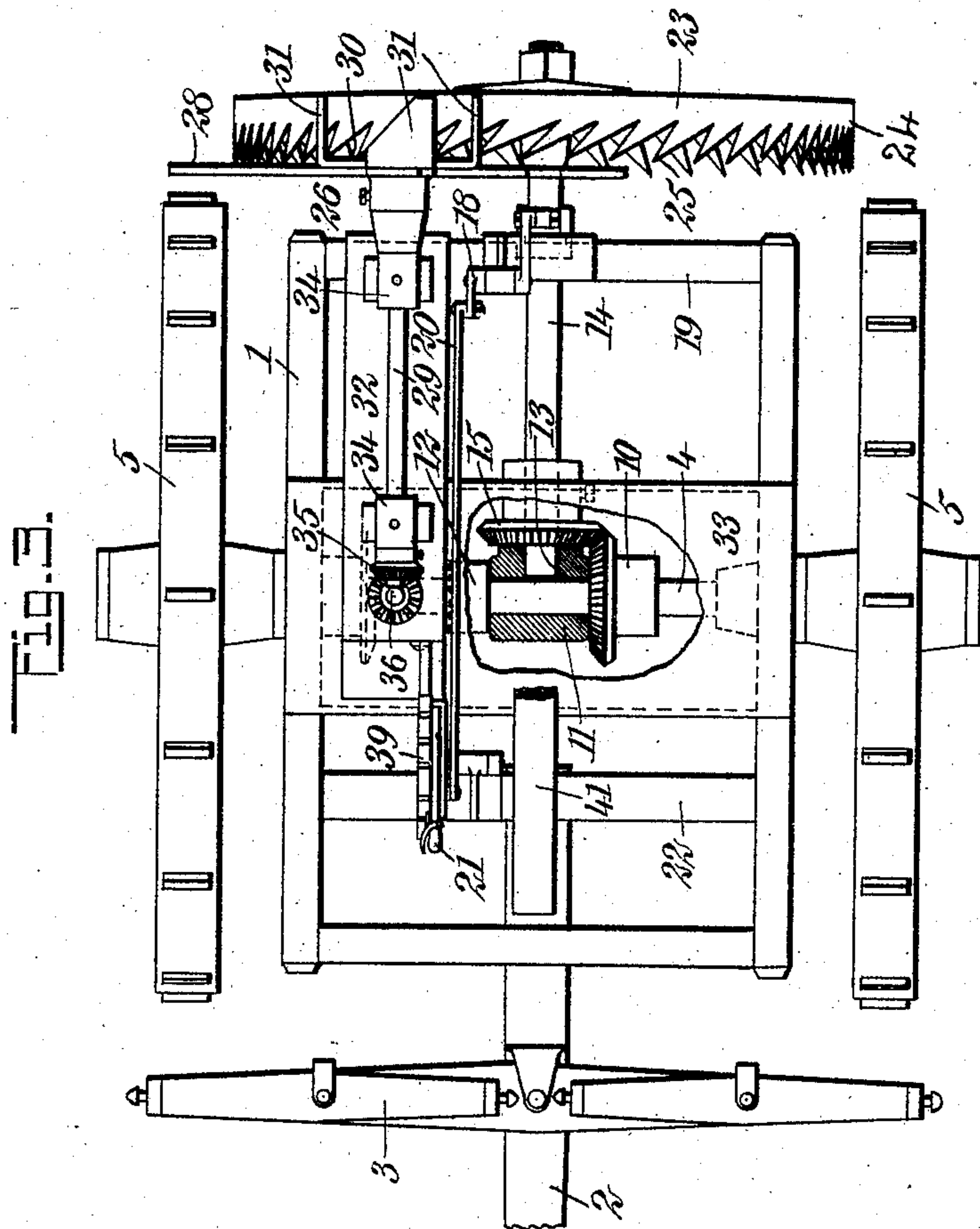
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2 SHEETS—SHEET 2.



WITNESSES
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UNITED STATES PATENT OFFICE.

JOSEPH LEE ANDERS, OF PITTSBRIDGE, TEXAS.

ROOT AND STALK PULLING MACHINE.

No. 850,715.

Specification of Letters Patent.

Patented April 16, 1907.

Application filed August 28, 1906. Serial No. 332,334.

To all whom it may concern:

Be it known that I, JOSEPH LEE ANDERS, a citizen of the United States, and a resident of Pittsbridge, in the county of Burleson and State of Texas, have invented a new and Improved Root and Stalk Pulling Machine, of which the following is a full, clear, and exact description.

This invention relates to implements for clearing the earth of stalks, roots, vines, &c.

The object of the invention is to produce an implement of simple construction which may be drawn along by horses and which may be easily operated by the driver, so as to dig roots or stalks from the ground.

The invention consists in the construction and combination of parts to be more fully described hereinafter and particularly set forth in the claim.

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 figures.

Figure 1 is substantially a side elevation of the machine, certain parts being shown in cross-section, the pole of the implement being represented as broken away. Fig. 2 is substantially a front elevation of the machine, the pole and portions of the framing being shown in cross-section and other parts being broken away. Fig. 3 is a plan, certain parts being broken away. Fig. 4 is a longitudinal section through a hub of one of the wheels, and Fig. 5 is a cross-section on the line 5 5 of Fig. 4.

Referring more particularly to the parts, 1 represents the frame of the implement, which may be of substantially rectangular form, as shown, and provided with a pole 2, having swingletrees 3, to which draft-animals may be attached. This frame 1 is supported upon a transverse axle 4, mounted on wheels 5, as indicated. The construction of the hubs of these wheels and the manner of mounting the same upon the axle is very clearly shown in Figs. 4 and 5. This construction is substantially the same as that used in attaching the wheels of mowing-machines to the axles. The extremity of the axle 4 is provided with a transverse slot 6, in which a key 7 is slidably mounted, the said key presenting beveled edges, either of which may project from the slot 6, so as to engage the teeth of a ratchet 8, formed on the inner face of the hub 9, as indicated in Fig. 5. With this arrangement

evidently either of the wheels in rotating forwardly will rotate the axle, but either of the wheels may rotate rearwardly while the other wheel is rotating forwardly. Near the middle point of the axle 4 there is rigidly attached a bevel gear-wheel 10, and abutting against the inner face of this bevel gear-wheel there is provided a loose hub 11, mounted on the axle, as shown. This hub is held against the face of the bevel gear-wheel 10 by a collar 12, fixed on the axle, as will be readily understood. At one side this hub 11 is provided with a bore or opening 13, in which is rotatably mounted the inner extremity of a shaft 14, the said shaft being provided with a bevel gear-wheel 15, which meshes with the aforesaid bevel gear-wheel 10. This shaft 14 extends rearwardly, as indicated, and near its rear extremity is provided with a loose collar 16, to which there is attached a link 17. This link is attached at its upper extremity to a bell-crank lever 18, which is seated on the rear beam 19 of the frame 1. From the bell-crank lever a link 20 extends forwardly and is attached to an adjusting-lever 21, which is attached at its lower extremity to a forward cross-bar 22 on the implement. This lever 21 affords means for raising and lowering the rear extremity of the shaft 14.

Upon the rear extremity of the shaft 14 there is rigidly attached a root-puller 23, the same consisting of a wheel formed with a forwardly-projecting flange 24. The forward edge of this flange is provided with regularly-arranged teeth 25, which project forwardly with respect to the direction of rotation of this wheel. In this connection it should be understood that as the implement is advanced the shaft 14 may be rotated through the bevel-gears 10 and 15. By means of the lever 21 the wheel 23 will be lowered, so that its lower edge digs through the earth as the implement advances. Evidently the teeth 25 will operate to dig up and pull out any roots or stalks with which they come in contact.

In order to clear the teeth 25 of the roots or undergrowth which may cling to them, I provide a wiper 26. This wiper consists substantially of a frame having substantially the form of a Greek cross, as indicated in Fig. 2. It presents arms 28, projecting in a plane at right angles to the wiper-shaft 29, upon which the frame is rigidly attached. The arrangement is such that these arms 28 pass near the points of the teeth 25 and move

in the same direction in which the teeth project. In this way the arms engage with any projecting roots carried by the teeth and remove the same. In this connection it should
 5 be understood that the peripheral speed of the arms 28 is greater than that of the teeth. Beyond the arms 28 the wiper-frame comprises finger-brackets 30, having rearwardly-projecting fingers 31, the axes of which are
 10 substantially parallel with the axis of the wiper-shaft 29. These fingers pass close to the outer or side face of the flange 24, so that they operate to assist in removing roots clinging to the teeth. These brackets are of
 15 course rigid with the arms 28 and rotate with them. The wiper-shaft 29 is conveniently mounted upon a bracket 32, attached to the frame at its rear extremity and at its forward extremity to a transverse frame-plate
 20 33. Upon the bracket 32 bearings 34 are mounted, in which the shaft 29 turns, as indicated. The shaft 29 is driven through the medium of bevel gear-wheels 35, which connect with a driving-shaft 36, the said driv-
 25 ing-shaft being disposed in a substantially vertical position and rotatably mounted in the bracket 32 and the plate 33. The lower extremity of the driving-shaft 36 is provided with a bevel gear-wheel 37, which meshes
 30 with a corresponding bevel gear-wheel 38, rigidly mounted on the axle 4.

To the forward portion of the bracket 32 a quadrant 39 is attached, which projects forwardly and which coöperates with the lever
 35 21 aforesaid, so as to enable the said lever to be locked in any position desired. In this way the root-puller wheel may be held in any desired position. In order to enable the lever 21 to be locked to the quadrant, I pro-
 40 vide locking mechanism 40 of any common construction. At a convenient point, such as on the rear extremity of the pole 2, a seat-

post 41 is attached, which carries a seat 42 for the driver, and the lever 21 is within convenient reach of this seat.

The shaft 14 near its rear extremity passes through a slot 19^b, formed in the curved guide-bracket 19^a, attached to the rear beam 19. This bracket tends to prevent lateral movement of the rear end of the shaft, as will
 50 be readily understood.

In using the implement evidently the wheel 23 can be raised above the ground-level when the machine is being driven to or from the field where it is to operate.

It should be understood that when the rear extremity of the shaft 14 is lowered or raised the hub 11 rotates upon the axle 4.

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

In an implement of the class described, in combination, a frame having a transverse axle, wheels mounted on said axle and affording means for rotating the same, a hub rota-
 65 tably mounted on said axle, a shaft rotatably mounted in said hub, bevel-gears carried by said axle and said shaft for rotating said shaft, means for raising and lowering the ex-
 70 tremity of said shaft remote from said hub, a toothed wheel carried by said shaft and adapted to dig into the ground, a wiper-shaft, means for driving the same from said axle, and a wiper-frame carried by said
 75 wiper-shaft and having arms adapted to clear the teeth of said wheel.

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

JOSEPH LEE ANDERS.

Witnesses:

THOS. M. EWING,
 JOHN GREGG.