

(No Model.)

J. E. HOVENDICK.

MACHINE FOR DISTRIBUTING AND REELING FENCE WIRE.

No. 488,563.

Patented Dec. 27, 1892.

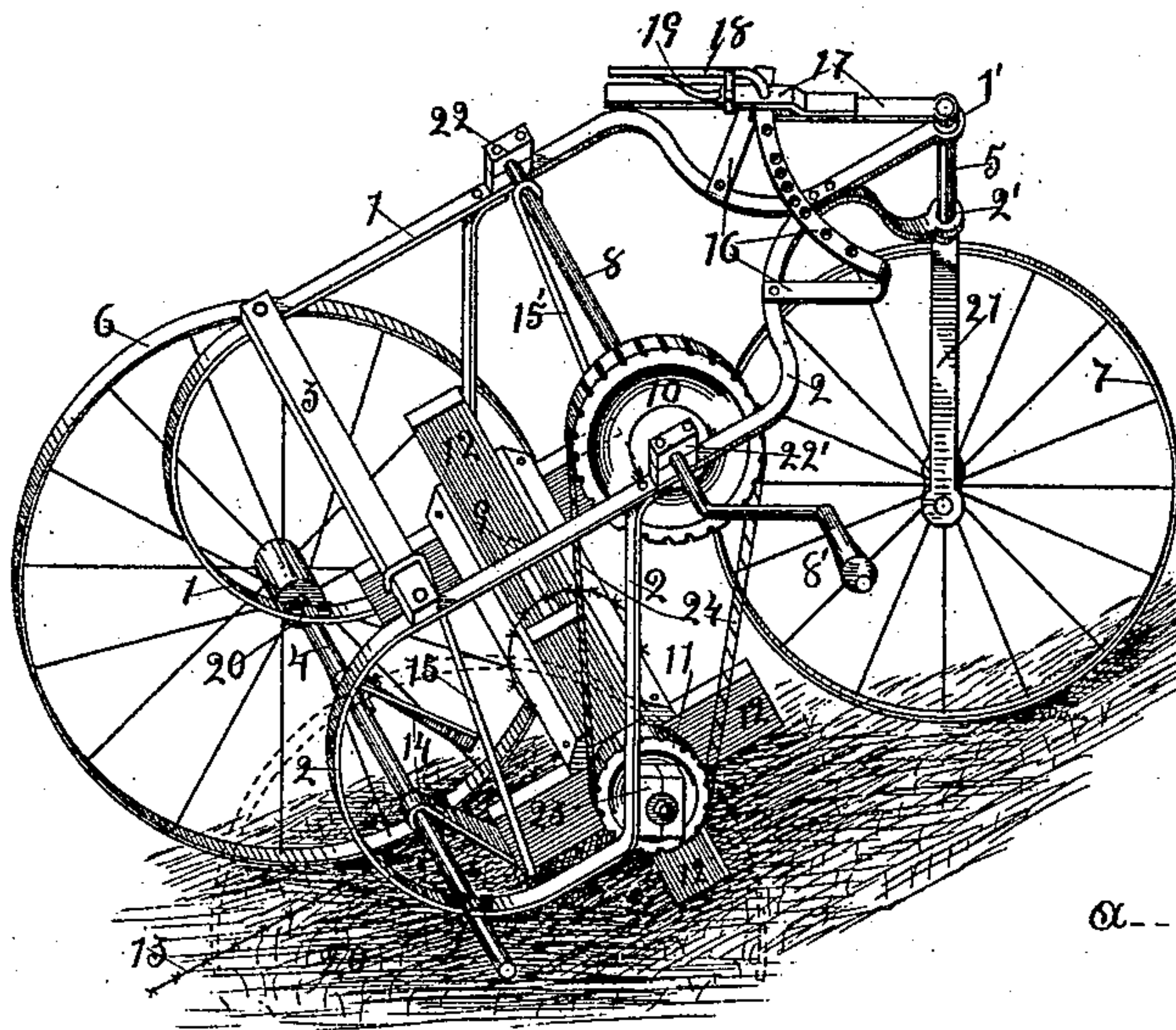


Fig. 1.

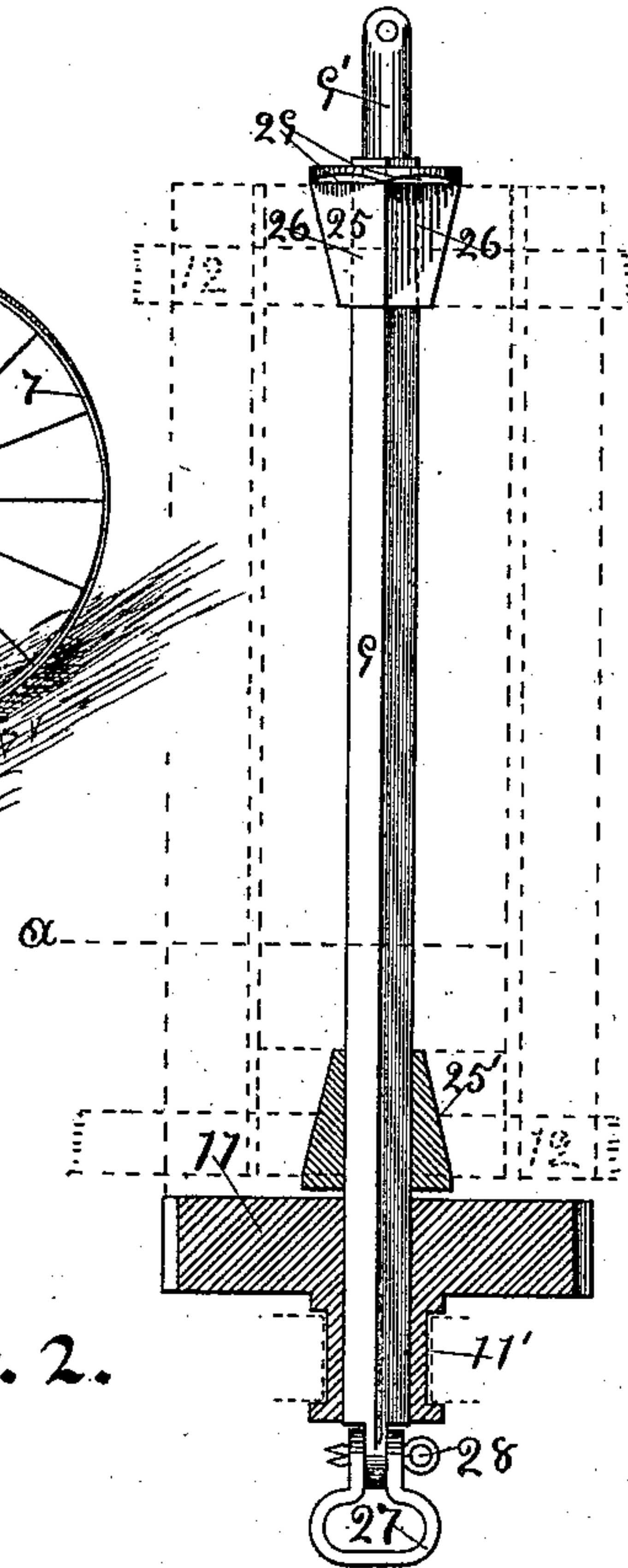


Fig. 2.

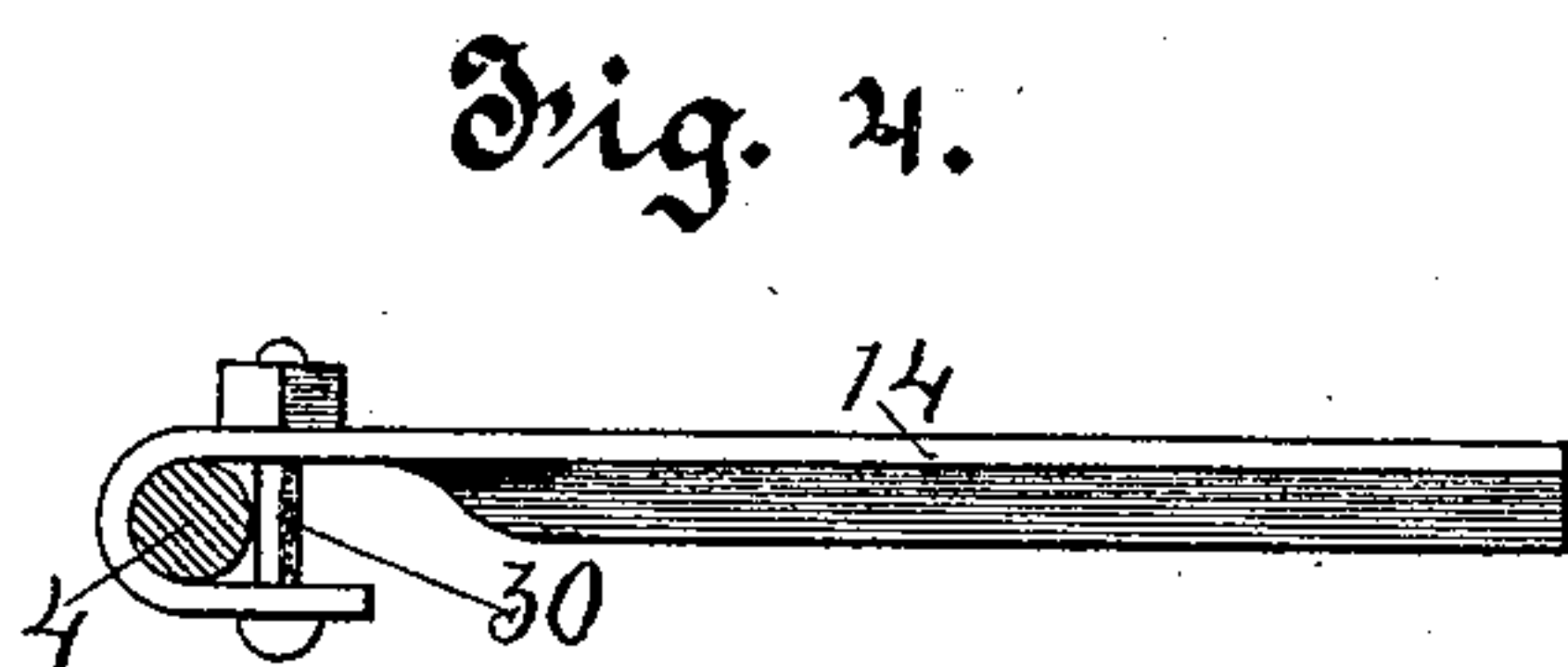


Fig. 3.

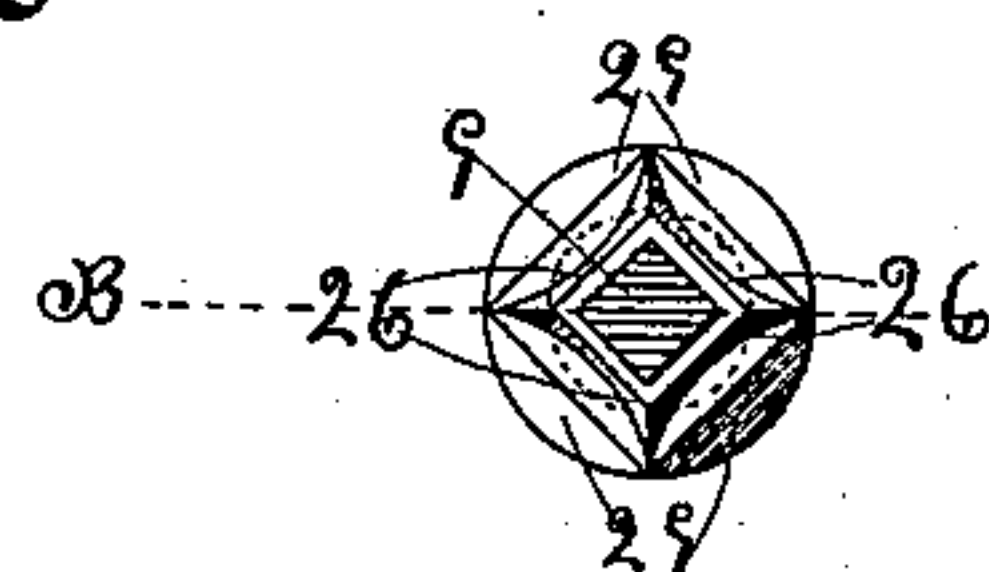


Fig. 4.

Witnesses: John E. Hovendick Inventor.
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UNITED STATES PATENT OFFICE.

JOHN E. HOVENDICK, NEAR BLAIR, NEBRASKA.

MACHINE FOR DISTRIBUTING AND REELING FENCE-WIRE.

SPECIFICATION forming part of Letters Patent No. 488,563, dated December 27, 1892.

Application filed July 21, 1892. Serial No. 440,839. (No model.)

To all whom it may concern:

Be it known that I, JOHN E. HOVENDICK, a citizen of the United States, residing near Blair, in the county of Washington and State of Nebraska, have invented a new and useful Machine for Distributing and Reeling Fence-Wire, of which the following is a specification.

My invention relates to improvements in machines used to distribute fence wire along the line of fence when constructing wire fences, and to wind or reel up the wire when such fences are removed; and the objects of my improvements are, first, to provide a light, simple contrivance for rapidly winding on or distributing fence wire from the spools on which it is generally shipped; second, to provide facilities for guiding said machine as well as the line of wire to the spool, especially when working on hill-sides and uneven ground; third, to provide simple and efficient means for attaching and detaching the ordinary shipping spool in the machine. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of the machine one of the main wheels being removed, its position indicated by broken lines; Fig. 2, is a view of the square shaft 9 carrying the chucks 25 and 25' also giving a sectional view of the combined sprocket-wheel and journal 11. Fig. 3 is a sectional view on the broken line *a* of Fig. 2 looking toward the end 9'. Fig. 4 is a detailed view of one of the guides 14 showing the manner of attaching to the axle 4.

Similar numerals refer to similar parts throughout the several views.

The frame-work of my machine consists of a pair of horizontal side bars of strap iron 1 and 2 of the required strength placed parallel with each other, each at its forward end bent downward in a semicircular curve then extending rearward a short distance parallel with the top portion then diagonally upward and rearward to the under side of the upper portion to which this end is securely fastened. At the rear end these bars are bent edgewise toward each other and to the rear, and at their point of intersection, bar 1 overlaps bar 2 they being firmly riveted together at this point. From their junction bar 1 extends

horizontally rearward on a line central between and parallel with the side portions, its end being enlarged and perforated to form a perpendicular journal-box 1'; but the rear end of bar 2 extends downward and rearward directly beneath the rear end of bar 1, and is provided at its end with a similar journal-box 2' to receive the same perpendicular shaft 5; the forward ends at the top of the semicircular curves are tied together by the cross-bar 3; while at the lower portions is rigidly attached the axle 4, its ends extending to receive the pair of fore wheels 6.

At the lower end of the diagonal portion of bar 2 is attached the journal box 23 in which the sprocket-wheel 11, having the integral journal 11', is seated: a similar journal-box is located at a like point on bar 1 adapted to receive the journal 9' at the end of the square shaft 9 which is passed loosely through a square aperture in the sprocket-wheel 11. The sprocket-wheel 11 is actuated by the drive chain 24 by which it is connected with the larger sprocket-wheel 10 attached to the shaft 8 having the crank 8' at one end and seated in the journal boxes 22 and 22' on top and toward the rear of the upper portion of the side bars 1 and 2 as shown in Fig. 1.

The square shaft 9, which carries the spool 12 is flattened at its ends to receive the bifurcated loop 27 which with the ends has lateral apertures to receive the split-spring-key 28; this loop serves as a handle to withdraw the shaft when removing a spool, and to insert the shaft in placing a spool in the machine, when the loop is removed from the square end of the shaft and keyed to the journal end 9' to prevent the shaft from slipping endwise.

The ordinary spools on which fence wire is wound have axial round apertures about one and one half inches in diameter and to insure that the spool shall revolve with the shaft, a pair of chucks 25 and 25' having square apertures fitting loosely around the shaft are otherwise constructed as follows: The main portion of the chuck is the frustrum of a pyramid quadratic in section with its four faces 26, concaved making acute edges to engage and cut into the walls of the axial aperture of the spool when driven into the same: the small end is about the size of the aper-

ture in the spool which is represented by the broken circular line in Fig. 3; the large end, or base, is seated on an integral disk provided with four chamfers 29, 29, &c., adjacent to the four concaved faces of the pyramid to facilitate the removal of the chuck from the spool by inserting the claws of a hammer in the chamfers between the disk and spool.

To support the spool in position while inserting or removing the shaft 9, a pair of light hooks 15 and 15' are suspended from the cross bar 3 and shaft 8 their lower ends engaging opposite arms of the spool; they are detachable and after the spool and shaft are placed may be removed.

The perpendicular rudder shaft 5 revolving in the journal-boxes 1' and 2' has its downward-extending portion 21 bifurcated and between its extreme lower ends the rudder wheel 7 is journaled; at the top end of shaft 5 is rigidly attached the tiller 17 provided with a latch 18 actuated by the spring 19, the latch set to engage the perforated sector-shaped rack 16 which is riveted to the bars 1 and 2 concentric with shaft 5 as shown in Fig. 1.

A pair of guides 14 as shown in Figs. 1 and 4 are made of strap iron, one end bent U shaped to fit the axle 4, a clamping bolt 30 passed laterally through both branches of the U, by means of which the guide is rigidly clamped at any angle on any part of the shaft; the projecting part of the guides are twisted so as to offer a beveled surface to the wire and thus avoid the catching of the barbs.

It will be observed that in operation, the machine—when taking up and reeling wire that lies along the ground—is drawn forward by the wire being wound on the reel the relative positions of the crank and tiller being such that the operator while turning the crank with one hand may grasp the tiller with the other and guide the machine to the line of wire, or the tiller may be set by the spring latch 18 at any angle, or straight.

In distributing wire where it is being stapled to the posts as you go along it is quite convenient to unwind the wire from the top of the spool paying it out to the rear at either side of the rudder wheel 7 toward the line of posts, in this case letting the wire unwind from the spool without using the crank, as the machine is moved forward.

The machine is designed to be operated by hand; and it is not always convenient or easy to hold the tiller at the desired deflection, especially over soft or uneven ground, or where up-hill work requires both hands at the crank, or through heavy grass or weeds; but it will be observed that the spring latch and tiller are in such positions that they may both be grasped at the same time with the same hand, which disengages the latch from the rack, but, when the operator lets go of the tiller, the spring latch always secures it. When the line of fence is curved, as along the banks

of meandering streams, adjacent to crooked public roads and around the curves of railways, the tiller is given the required deflection, the spring latch retaining it until it is desirable to change the direction; by setting the tiller at a slight deflection, the tendency of the machine to drift sidewise where the lines of fence are along hill-sides is compensated; also when reeling up wire, the wire is started on the spool at one end, and the tiller set so that the coiling gradually approaches the opposite end, when the tiller is set with a reverse deflection, reversing the pitch of the coiling, and so on, filling the spool with even coils and regular courses.

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

1. In a machine for distributing and reeling wire the combination of a frame-work mounted on a pair of forward wheels, a detachable shaft journaled in the frame-work adapted to carry a reel, a rudder-wheel at the rear of the frame, connected with a tiller, a rack on the frame-work, and a spring catch on the tiller set to engage the rack substantially as shown and described.

2. In a machine for distributing and reeling wire the combination of a frame having one end mounted on two wheels the other end mounted on a rudder-wheel controlled by a tiller having a latch set to engage a rack on the frame; a detachable shaft, carrying a reel, journaled in the frame, and a sprocket-wheel mounted on and rotating with the shaft and actuated by a drive-chain running over a sprocket-wheel on a crank-shaft substantially as shown and described.

3. In a machine for distributing and reeling wire the combination of the frame-work consisting of the side-bars 1 and 2 bent as shown; the cross-bar 3; the axle 4; the wheels 6, 6; the rudder wheel 7; shaft 5 with lower bifurcate end 21; the tiller 17 having the spring latch 18 set to engage the sector shaped perforate rack 16; the square shaft 9 having the detachable loop 27; the chucks 25 and 25'; the spool 12; the sprocket-wheel 11 having the integral journal 11'; the drive chain 24; the sprocket wheel 10, and crank shaft 8 having the crank 8', all substantially as shown and described.

4. In a wire reeling machine the combination of a spool 12 with a pair of axially perforated chucks 25 and 25' shaped like a frustum of a pyramid, having all their faces concave, and seated at their bases, on integral disks, having chamfers adjacent to each face, substantially as shown and described.

Signed at Blair, in the county of Washington and State of Nebraska, this 2d day of July, 1892.

JOHN E. HOVENDICK.

Witnesses:

JOHN CRAVEN,
H. H. HOVENDICK.