No. 641,830. Patented Jan. 23, 1900.

G. H. BRUSH.

MACHINE FOR PULLING COTTON STALKS.

(Application filed Nov. 2, 1899.)

(No Model.) 2 Sheets—Sheet 1.

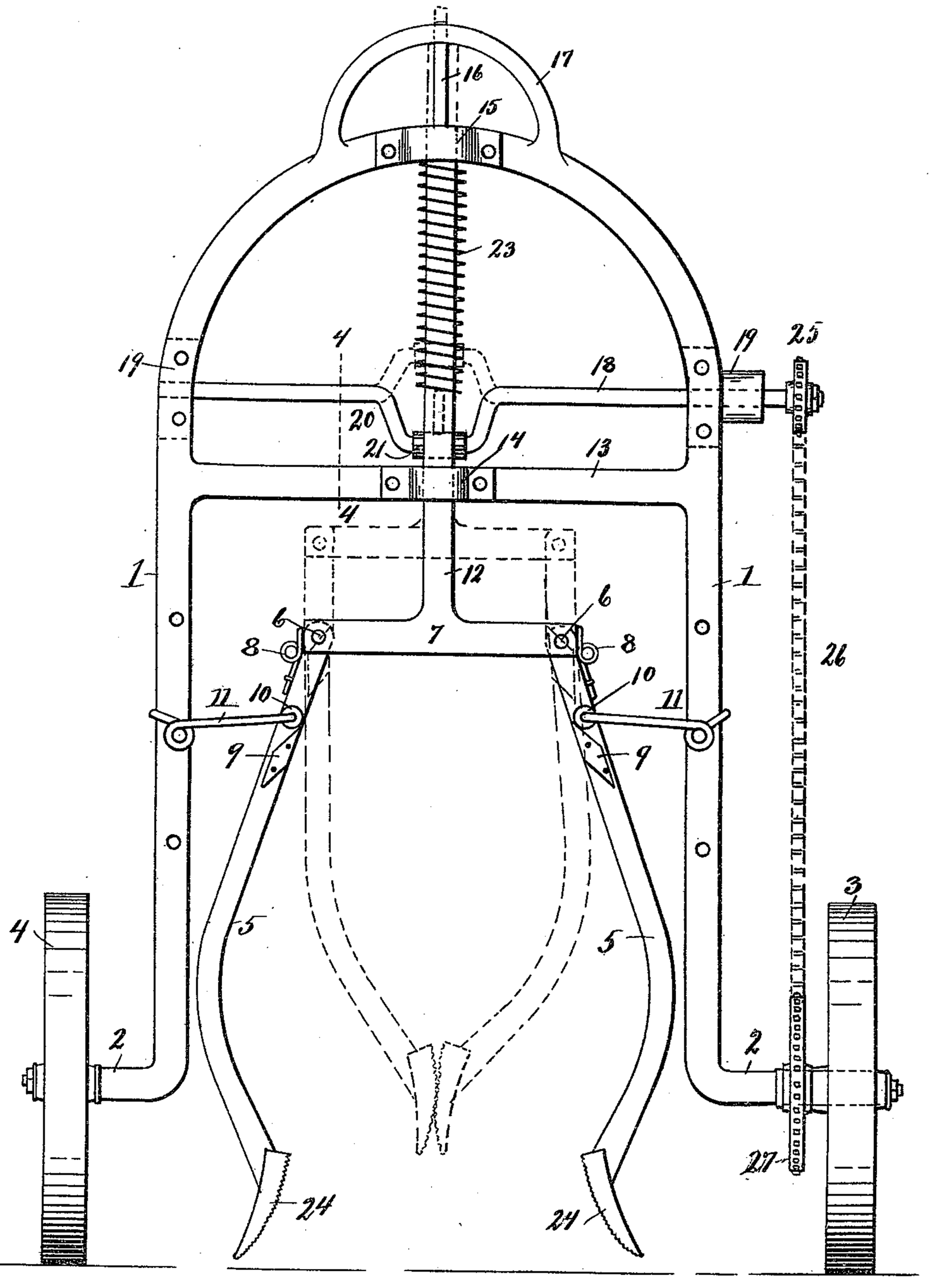

Fig. 1.

WITNESSES.

O. B. Barringer.

M. A. Martin.

INVENTOR.

George H. Brush

By R. B. Wheeler & Co.

Attorneys.

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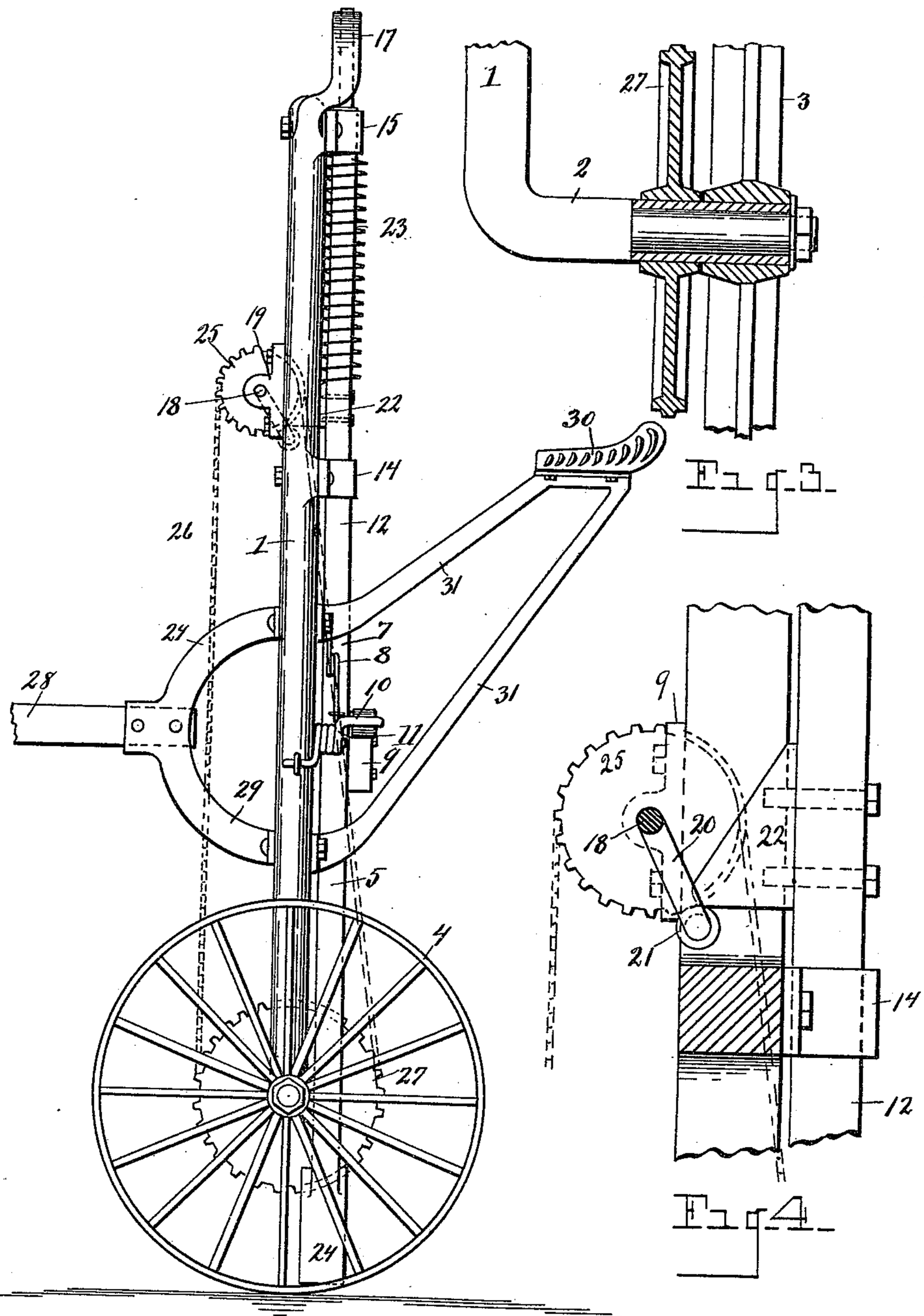

Fig. 2.

Fig. 4.

WITNESSES.

O. B. Baruziger.

M. A. Martin.

INVENTOR.

George H. Brush.

By D. B. Wheeler & Co

Attorneys.

UNITED STATES PATENT OFFICE.

GEORGE H. BRUSH, OF RIDGELY, TENNESSEE, ASSIGNOR OF ONE-HALF TO ROBERT L. KEATING, OF SAME PLACE.

MACHINE FOR PULLING COTTON-STALKS.

SPECIFICATION forming part of Letters Patent No. 641,830, dated January 23, 1900.

Application filed November 2, 1899. Serial No. 735,598. (No model.)

To all whom it may concern:

Be it known that I, GEORGE H. BRUSH, a citizen of the United States, residing at Ridgely, in the county of Lake, State of Tennessee, have invented certain new and useful Improvements in Machines for Pulling Cotton-Stalks; and I do declare the following to be 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, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

This invention relates to a machine for pulling cotton-stalks; and it consists in the construction and arrangement of parts hereinfter fully set forth, and pointed out particularly in the claims.

The object of the invention is to provide simple and efficient means for pulling cotton-stalks, in which the arrangement is such as to enable the stalks to be pulled and deposited upon the ground as the machine is driven over the field. This object is attained by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a rear elevation of my improved machine. Fig. 2 is a side elevation thereof. Fig. 3 is a detail, partly in section, through the hub of one of the transporting-wheels, showing the driving sprocket-wheel mounted on a sleeve to turn with the transporting-wheels. Fig. 4 is a detail of the crank-shaft and a portion of the driving mechanism.

Referring to the figures of reference, 1 designates the main axle, which is substantially U-shaped and is provided with right-angled end portions 2, to which the transporting-wheels 3 and 4 are journaled.

The pulling apparatus consists of two curved arms 5, pivoted at 6 to opposite ends of a cross-head 7, each provided with a spring 8, whose force is exerted to throw said arms outwardly. Mounted on the face of each of said arms is a cam-plate 9, adapted to be engaged by antifriction-rollers 10, carried by the spring-brackets 11, mounted upon the vertical portions of the axle at each side of the machine. The stem 12 of the cross-head 7 passes upwardly through a transverse cross-bar 13 and is adapted to slide vertically in a guide 14, the upper end of said stem being in like manner supported in a guide 15 at the arc of the U-shaped axle, from which point on said stem projects a vertical rod 16, guided in a yoke 17, mounted on the U-shaped portion of the axle, whereby the upper end of the stem 12 is supported when said stem is raised.

Crossing from side to side of the vertical portion of the axle above the cross-bar 13 is a shaft 18, journaled at opposite ends in suitable boxes 19 and having in the center thereof a crank 20, carrying an antifriction-roller 21. Projecting from the stem 12 is a lug 22, adapted to be engaged by the roller on said crank-shaft as said shaft revolves, whereby said stem is raised and the pivoted arms 5, attached to the cross-head thereof, are drawn upwardly.

Mounted on the stem 12 between the arc of the axle and the lug 22 is a coiled spring 23, whose force is exerted to carry the stem downward after being raised by the operation of the crank-shaft 18.

The position of the cam-plates 9 on the pivoted arms 5 is such that when said arms are drawn upwardly through the operation of the crank-shaft said cam-plates engage the antifriction-rollers 10, whereby said arms are thrown inwardly, as shown by dotted lines in Fig. 1, so as to bring the roughened faces of the feet 24 on the lower ends of said arms together upon the cotton-stalk which is grasped between said feet. A further upward movement of the stem 12 will carry said arms upwardly with their feet pressed together, thereby drawing from the earth the cotton-stalks which are grasped between said feet. When the arms shall have reached such an elevation as to have drawn the stalks from the ground, the cam-plates 9 will have passed the antifriction-rollers 10, when the springs 8 will throw the pivoted arms outwardly such distance as to cause said rollers to engage the under bevel of said plates, whereby said arms 5 in their descent are separated, so as to spread their feet 24 such distance apart as to straddle the cotton-stalk, so that said stalk

will be in a position to be grasped by said feet upon the next upward movement of said arms.

The operation of the pulling-arms 5 is accomplished through the rotation of the crank-shaft 18, upon the end of which is a sprocket-wheel 25, connected by a sprocket-chain 26 with a driving sprocket-wheel 27, mounted upon the hub of the transporting-wheel 3, so as to rotate therewith, as shown in Fig. 3, whereby as the wheel 3 is rotated the shaft 18 is revolved, so as to carry the roller 21 on the crank 20 thereof into contact with the lug 22 on the stem 12 of the cross-head carrying the arms 5, so that as said crank moves upwardly in its rotation the arms 5 are raised against the action of the spring 23, and when said roller shall have passed said lug said spring forces the stem 12 downwardly, carrying said parts into position for a succeeding operation. By varying the size of the sprocket-wheels the machine may be geared as high as desired.

The tongue 28, through the medium of which the machine, is drawn is attached by suitable braces 29 to the vertical portions of the axle by means of bolts passing through said parts, while the seat 30 is mounted upon the rear face of said axle and supported by suitable braces 31.

It will now be understood that by means of this improved device cotton-stalks may be readily pulled from the ground by simply driving the machine across the field, so as to straddle the stalks, enabling the operator to ride upon the machine and greatly facilitating the work.

Having thus fully set forth this invention, what is claimed is—

1. In a machine for pulling cotton-stalks, the combination with the transporting-wheels, the arched frame or axle connecting said wheels, the vertically-reciprocatory pulling-arms having serrated feet, said arms being pivoted so as to allow their feet to close together upon the cotton-stalk, and means for reciprocating said arms vertically and bringing together and separating the feet of said arms concurrent with said vertical movement.

2. In a machine for pulling cotton-stalks, the combination of the transporting-wheels, the U-shaped axle connecting said wheels, a vertically-reciprocatory stem, curved pulling-arms pivoted to said stem and having roughened feet adapted to be brought together during their upward movement and separated during their downward movement, a crank-shaft having engagement with said reciprocatory stem, and the sprocket-wheels and chain for driving said shaft.

3. In a machine for pulling cotton-stalks, the combination of a U-shaped axle, transporting-wheels journaled on said axle, vertically-reciprocatory arms hung within the arc of said axle and pivoted to swing toward and from each other at their lower ends, means for reciprocating said arms, cams upon the face of said arms, and antifriction-rollers suitably mounted adapted to engage said cams to swing said arms upon their pivots.

4. In a machine for the purpose set forth, the combination of the transporting-wheels, the U-shaped axle connecting said wheels, a cross-bar connecting the upper portions of said axle, the vertically-reciprocatory stem adapted to slide in said cross-bar, a cross-head on the lower end of said stem, the depending arms pivoted at their upper ends in said cross-head and having roughened feet at their lower ends, springs for normally throwing said arms outwardly, cams upon the faces of said arms, antifriction-rollers adapted to engage said cams, and a coiled spring interposed between a stop on said stem and the arc of the axle whose force is exerted to carry said stem downwardly.

In testimony whereof I sign this specification in the presence of two witnesses.

GEORGE H. BRUSH.

Witnesses:
C. B. GHOLDSON,
W. W. FAIN.