

J. W. HOWELL.
COTTON CHOPPER.
APPLICATION FILED JULY 19, 1909.

946,673.

Patented Jan. 18, 1910.

2 SHEETS—SHEET 1.

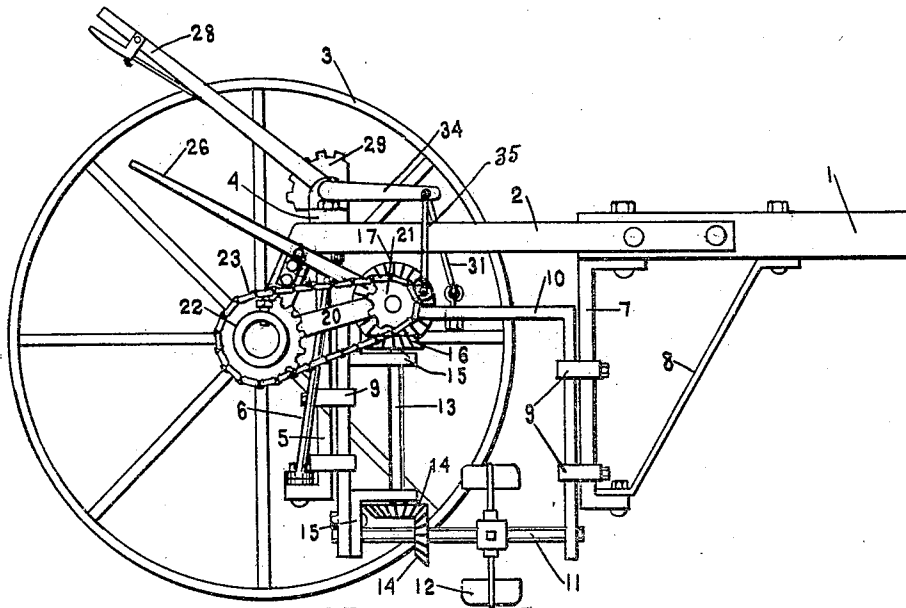


Fig. 1.

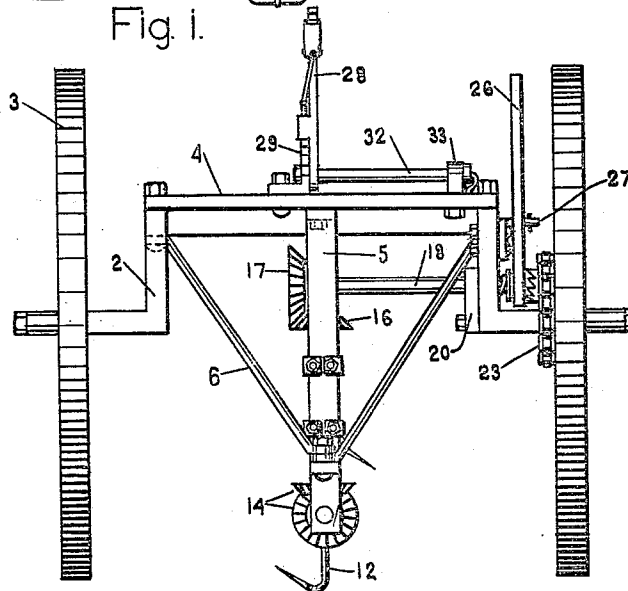


Fig. 2.

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INVENTOR
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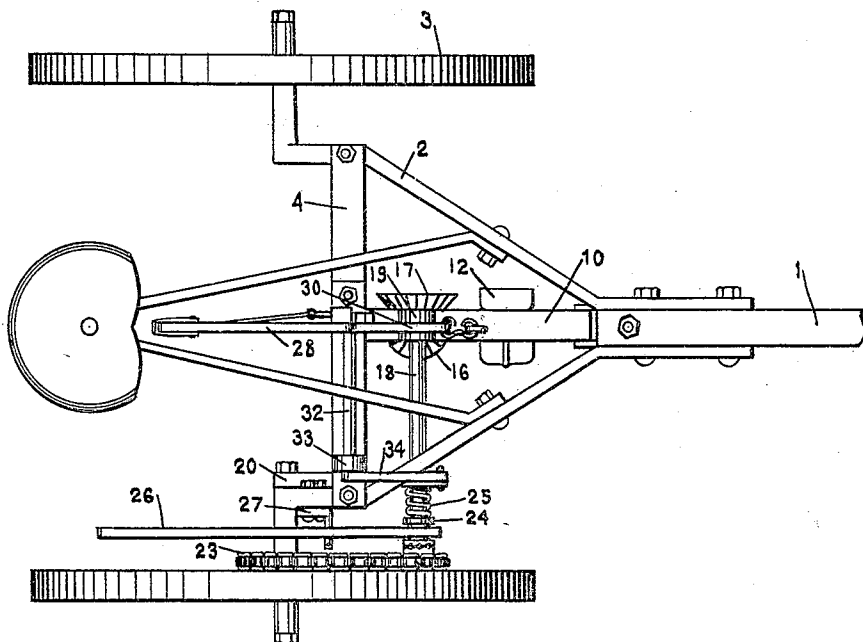


Fig. 3.

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UNITED STATES PATENT OFFICE.

JAMES W. HOWELL, OF FORT WORTH, TEXAS.

COTTON-CHOPPER.

946,673.

Specification of Letters Patent.

Patented Jan. 18, 1910.

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To all whom it may concern:

Be it known that I, JAMES W. HOWELL, a citizen of the United States, residing at Fort Worth, in the county of Tarrant and State of Texas, have invented certain new and useful Improvements in Cotton-Choppers, of which the following is a specification.

My invention relates to new and useful improvements in cotton choppers. Its object is to provide a cotton chopper which will mechanically perform the work of "blocking out" the cotton, or of reducing a cotton-row to a series of equidistant hills.

Another object is to provide a cotton chopper, having means whereby the hoes may be adjusted vertically, and also having suitable means to discontinue the operation of the hoes.

Finally the object of my invention is to provide a device of the character described, that will be strong, durable, simple and efficient, comparatively easy to produce, and also one in which the various parts will not be likely to get out of working order.

With these and various other objects in view, my invention has relation to certain novel features of construction and operation, an example of which is described in the following specification, and illustrated in the accompanying drawing wherein:

Figure 1. is a side elevation of the cotton chopper one wheel being removed to make clear the mechanism therebehind. Fig. 2. is a rear view of the same, as Fig. 3. is a top view.

Referring now more particularly to the drawings, wherein like numerals of reference designate similar parts in all the figures, the numeral 1 denotes the tongue of the cotton chopper, to each side of which are attached the beams 2 of irregular shape, whose outwardly projecting lower extremities form axles to receive the transporting wheels 3. Across the rear portion of the beams 2, there extends a bar 4, transversely of the machine. To the center of this bar, is bolted the hanger 5, which is further supported by braces 6, extending from its lower extremity to the beams 2. A similar hanger 7 extends downwardly from the tongue, and is further supported by a brace 8, extending from its lower extremity to the tongue. To each of the hangers 5 and 7, two guides 9 are attached, restricting the motion of a vertically adjustable frame 10. This frame has

an inverted U-shape, its vertical arms being received by the guides 9.

A hoe shaft 11, longitudinal with the machine, and having a pair of hoes 12 rigidly attached thereupon, has its extremities rotatably mounted in the lower portion of the frame 10. Rotation is communicated to the hoe shaft from a vertical shaft 13 by a pair of beveled gears 14, the vertical shaft being mounted in brackets 15 attached to the rear arm of the frame 10. Upon the upper extremity of the vertical shaft, a beveled pinion 16 is rigidly mounted, to which rotation is imparted by a beveled gear 17 fast upon one extremity of the counter-shaft 18. The extremity of the counter-shaft, adjacent to the gear 17, is rotatably supported in a bearing 19, attached to the upper portion of frame 10, and from the other extremity of the counter-shaft, there extends a rigid swinging link 20 to the axle. This link serves only to preserve a constant distance between the outer extremity of the counter-shaft and the axle, means being described hereinafter for supporting said extremity. Upon the other extremity of the counter-shaft the sprocket pinion 21 is loosely mounted, rotation being communicated to this pinion from a sprocket gear 22 rigid with one of the transporting wheels, by means of the chain 23. The sprocket pinion 21 is provided with clutch teeth upon its inner surface, which engage with the teeth of a clutch 24, slidable upon the counter shaft but restricted from rotation thereupon. A spring 25 coiled upon the counter-shaft, acts upon the clutch 24, normally holding it contiguous with the sprocket pinion 21. To release the clutch and make the hoes inoperative, the lever 26 is provided, pivoted upon an arm 27 attached to one of the beams 2. This lever is to be manipulated transversely of the machine, but it is also free to rotate vertically about its pivot when the sliding frame 10 is adjusted vertically.

To raise or lower the frame 10, and thus secure vertical adjustment of the hoes, a lever 28 is provided pivoted upon the quadrant 29, which is mounted upon the cross-bar 4. The usual spring-pressed rod is provided on the lever to engage the teeth of the quadrant and maintain the adjustment. This lever has upon its lower extremity a forwardly extending arm 30, which is attached by the swinging link 31, to the upper

portion of the frame 10. From the pivotal point of the lever 28, a rod 32, rigid with the lever, extends transversely of the machine. A bearing 33 rotatably supports the
 5 outer extremity of this rod. From this outer extremity there extends forwardly an arm 34, rigid with the rod 32 and similar to the arm 30. A swinging link 35, similar to the link 31, extends downwardly from the
 10 arm 30, and is attached to that extremity of the link 20 which receives the countershaft. Thus when the lever 28 is manipulated, both extremities of the countershaft are effected, preserving the same in a horizontal position; also the link 35 furnishes a
 15 support for the outer extremity of the countershaft. By means of the lever 28, the operator will be able to adapt the hoes to any inequalities of the ground, and to regulate the depth of the stroke.

While the hoe shaft is shown as carrying only a set of two hoes, it is to be understood that the number of hoes used may be varied.

I am aware that changes may be made in
 25 the form and proportion of parts and details of construction of the device herein described as a preferable embodiment of my invention without departing from the spirit or sacrificing the advantages thereof, and I
 30 therefore reserve the right to make such changes and alterations in said device as fairly come within its scope.

What I claim is:

35 1. In a cotton chopper, the combination with a frame and transporting wheels, of a vertically slidable frame supported in the main frame, a hoe shaft rotatably mounted in the slidable frame in the lower part thereof, and longitudinal of the machine, hoes

rigidly mounted thereupon, a vertical shaft
 40 rotatably mounted in the sliding frame gearing imparting rotation to the hoe shaft from the vertical shaft, a countershaft rotatably mounted in the sliding frame, gear-
 45 ing imparting rotation to the vertical shaft from the countershaft, mechanism imparting rotation to the countershaft from a transporting wheel, means whereby the operation of the hoe may be discontinued, and means of elevating the sliding frame. 50

2. In a cotton chopper, the combination with a frame and transporting wheels, of a supplementary frame, vertically slidable in the main frame, a counter shaft rotatably mounted on said supplementary frame, 55 chain and sprocket wheel mechanism communicating rotation to the countershaft from a transporting wheel, a spring-pressed clutch slidable upon the countershaft normally holding the last named mechanism in an operative position, a lever controlling
 60 said clutch, a vertical shaft rotatably mounted in said sliding frame, gearing imparting rotation from the countershaft to the vertical shaft, a hoe shaft longitudinal with
 65 the machine, rotatably mounted in the lower portion of the sliding frame, hoes rigid upon said hoe shaft, and means whereby the sliding frame may be adjusted vertically and held in adjustment. 70

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

JAMES W. HOWELL.

Witnesses:

JESSIE KIRK,
 JOHN S. MURRAY.