No. 850,531. PATENTED APR. 16, 1907.

F. M. HUTCHINSON.

COTTON CHOPPER.

APPLICATION FILED JULY 25, 1906.

2 SHEETS—SHEET 1.

Fig. 3

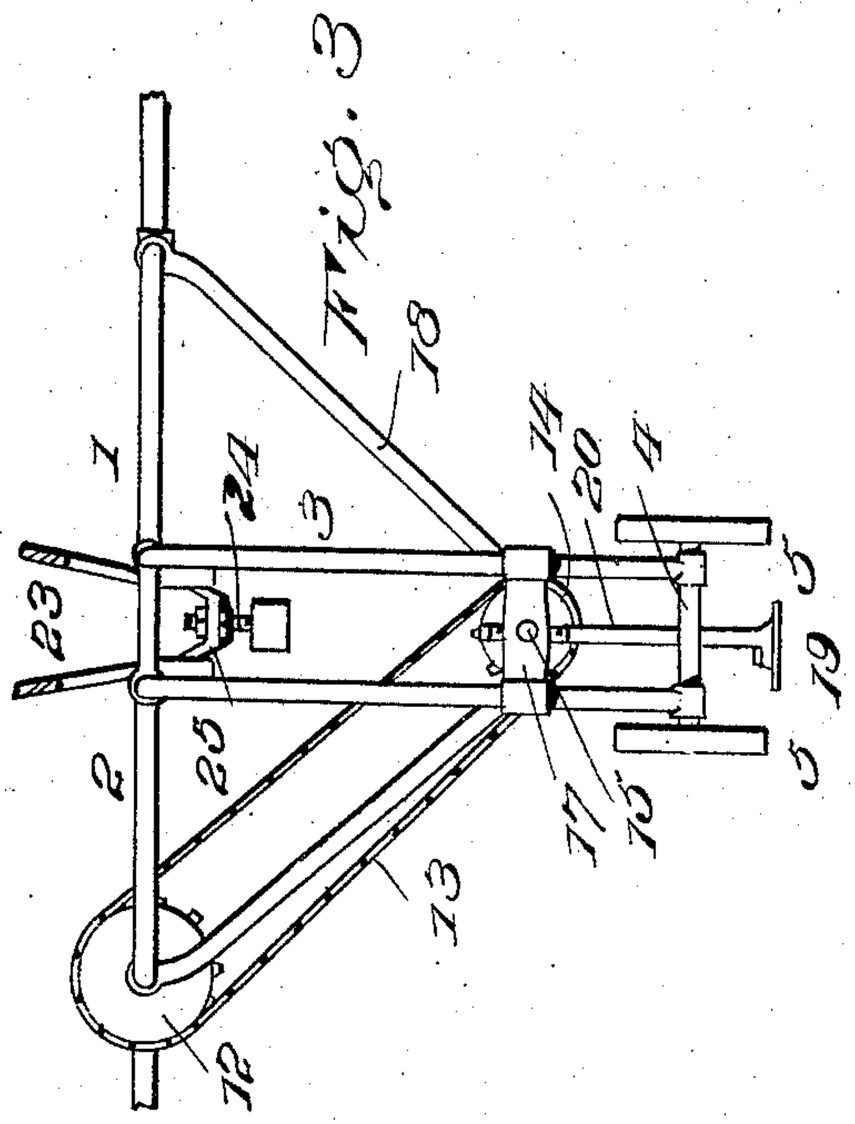
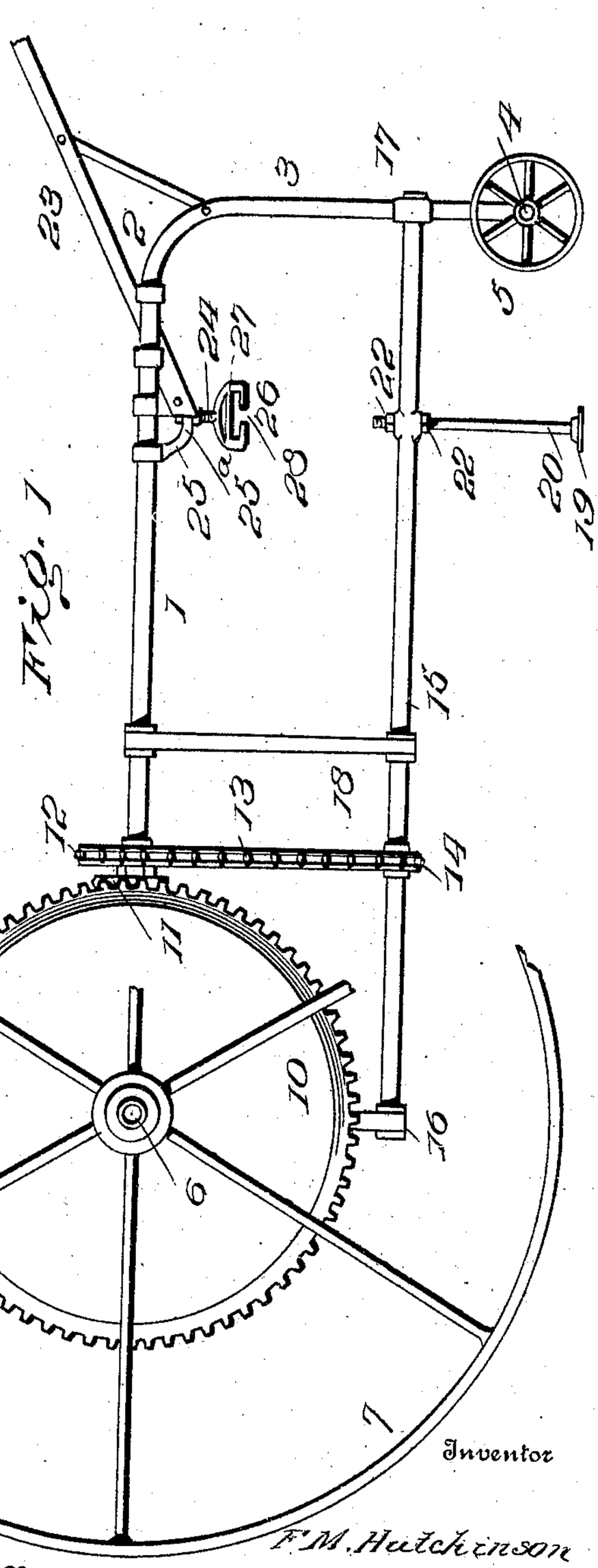


Fig. 1



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2 SHEETS—SHEET 2.

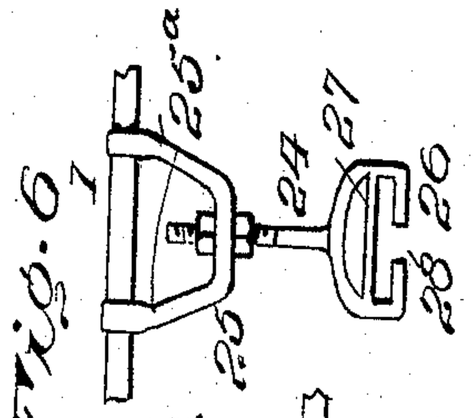

Fig. 6.

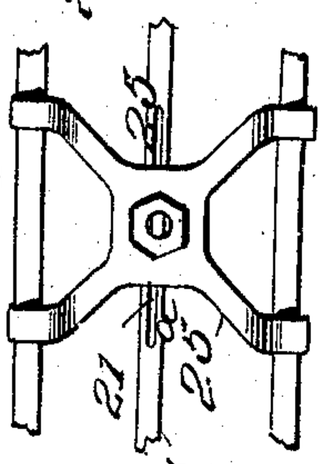

Fig. 5.

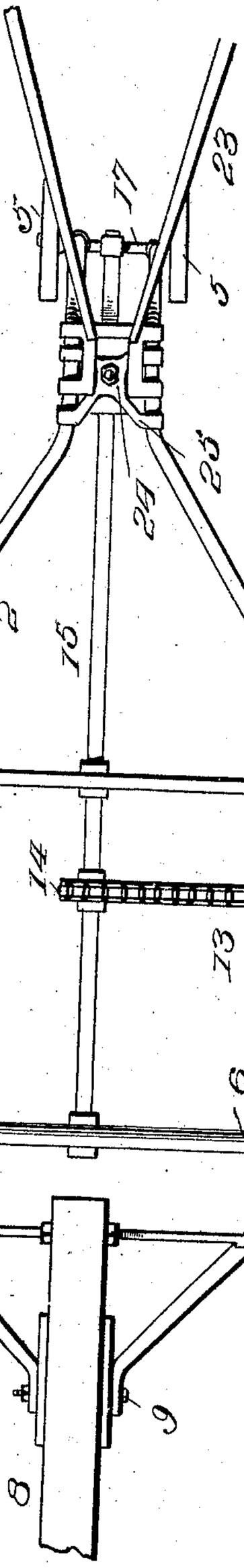

Fig. 2.

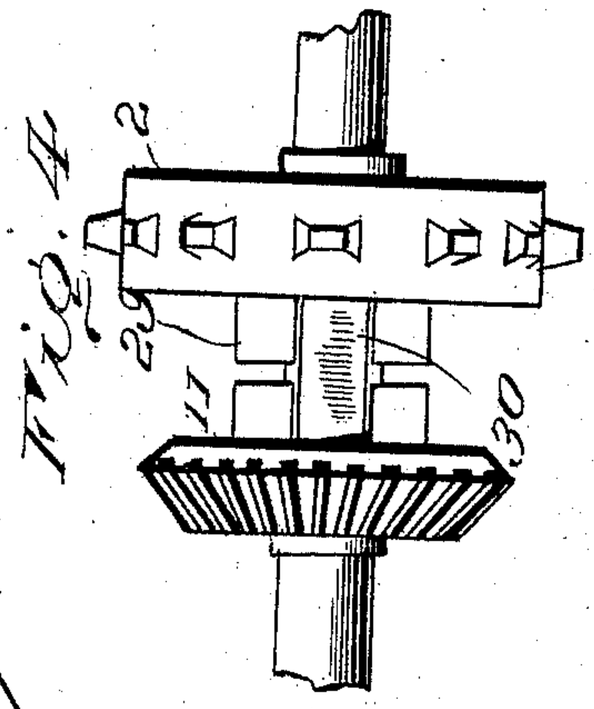

Fig. 4.

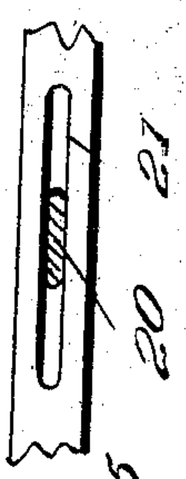

Fig. 7.

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UNITED STATES PATENT OFFICE.

FREDERICK M. HUTCHINSON, OF NASHVILLE, ARKANSAS.

COTTON-CHOPPER.

No. 850,531. Specification of Letters Patent. Patented April 16, 1907.

Application filed July 25, 1906. Serial No. 327,756.

To all whom it may concern:

Be it known that I, FREDERICK M. HUTCHINSON, a citizen of the United States, residing at Nashville, in the county of Howard and State of Arkansas, have invented certain new and useful Improvements in Cotton-Choppers, of which the following is a specification.

This invention embodies novel improvements in cotton-choppers; and the essential features of the invention reside in the special construction of the implement, relating more particularly to the general frame structure, mounting of the hoe-shaft, provision of a peculiar cleaner for the hoe blade or blades, and general operating mechanism employed.

The invention resides, further, in details of construction, the advantages for which will appear more fully hereinafter.

For a full understanding of the invention and the merits thereof and also to acquire a knowledge of the details of construction of the means for effecting the result reference is to be had to the following description and accompanying drawings, in which—

Figure 1 is a side elevation of a cotton-chopper embodying the invention. Fig. 2 is a top plan view. Fig. 3 is a rear elevation. Fig. 4 is a detail view of the clutch, whereby the hoe-shaft is thrown into and out of action. Fig. 5 is a top plan view, parts broken away, showing the arrangement of the cleaning device upon the frame of the chopper. Fig. 6 is a side elevation of the parts shown in Fig. 5. Fig. 7 is a sectional view bringing out clearly the manner of attaching the arms by which the blades are attached to the shaft of the hoe.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The frame 1 of the implement is composed of suitable side bars, the rear end portions of which converge, as shown at 2, and thence extend downwardly, as shown at 3, to form spaced vertical standards, having bearings at the lower end portions to receive a short transverse shaft 4, on which are mounted spaced guide-wheels 5. The side bars of the frame 1 are connected adjacent to the front end portions thereof with the axle 6 or ground-wheels 7, the frame 1 having bearings in its side bars admitting of rotation of the axle 6 with the ground-wheels 7 as the implement is advanced over the field. A suitable tongue 8 is pivotally connected at 9 with the front extremities of the sides of the frame 1, and the draft-animals will be hitched to the tongue 8 in the customary manner.

At one side of the frame 1 of the implement a large bevel-gear 10 is keyed or otherwise attached to the axle 6 and is normally in mesh with a bevel-pinion 11, loosely mounted upon a side of the frame 1 and adapted to coöperate with a sprocket or gear 12, which is likewise loosely mounted on the same side of the frame 1 and which is adapted to be clutched with the pinion 11 for simultaneous revolution therewith. The sprocket-gear 12 is connected by a sprocket-chain or similar endless connection 13 with a similar gear 14, applied to a longitudinal shaft 15, mounted on the frame 1 some distance below the side bars of the latter. The shaft 15 carries the hoe blade or blades, and one end of the shaft 15 is mounted in a suitable bearing in a bracket 16, attached to the front end portion of the frame, the opposite end of the shaft 15 being journaled in a bearing provided in a bar 17, connecting the spaced standards 3 at the rear end of the frame 1. An intermediate bearing-bracket 18 may be employed to support the shaft 15 and is pendent from the frame 1 at a point between the ends of the latter.

The chopping mechanism employed and forming a part of this invention comprises a hoe carried by the shaft 15 and embodying a blade or blades 19, directly attached to the outermost end of an arm 20, secured to said shaft 15. A plurality of the blades 19 may be used, if desired, one only being illustrated, and an arm 20 is applied to the shaft 15 to support each blade provided. The arm 20 is adjustable on the shaft 15 and has its upper portion threaded and passing through an elongated opening in said shaft. To prevent the arm 20 from turning and thereby throwing the blade 19 out of its proper position, it is designed that a portion of the arm 20, which passes through the opening 21 of the shaft 15, shall be of somewhat oblong form in cross-section to obviate likelihood of such turning or rotative movement of the arm when in operative position. Jam-nuts 22 are screwed upon the arm 20 and engage opposite sides of the shaft 15 to firmly hold the arm at a desired adjustment. Adjustment of the arm 20 will admit of variation of the cutting action of the blade or hoe 19 in an obvious manner. The location of the

hoe carried by the shaft 15 is advantageous and important in order that the cutting action of the chopping mechanism may be directed properly to the row of plants operated upon by reason of the location of the guide-wheels 4, which are proximate to the chopping mechanism and which travel between the rows in the usual way. Furthermore, the proximity of the cutting or chopping mechanism to the guide-wheels 4 admits of ready adjustment of the hoe or chopper to cut to the desired depth in the row of plants.

The operator of the implement will walk in the rear thereof and direct the progress of the machine by grasping the handles 23, which are attached to and braced in a substantial way at the rear end portions of the sides of the frame 1.

An essential feature of the invention resides in the provision of a cleaner for the hoe blade or blades which are rotated by the shaft 15. This cleaner consists of a bar 24, the upper end portion of which is adjustably connected with a frame 25, pendent from the frame 1 of the implement at the rear end portion of the latter. The frame 25 embodies a number of radiating-arms 25ª, the upper end portions of which are secured to the sides of the frame 1 at the points where said sides converge, as indicated at 2. The lower portion of the frame 25 has an opening of oblong or elongated form to receive the upper threaded portions of the bar 24, and the fastening means for attaching the bar 24 to the frame 25 is substantially the same as that utilized to attach the arm or arms 20 of the hoe to shaft 15. The lower extremity of the bar 24 is bifurcated, as shown at 26, and the forked or bifurcate portion of the bar is formed with integral cleaning members 27, arranged in spaced relation, the lowermost of said members being divided, as shown at 28, to permit the outer extremity of the arm 20 moving freely past the cleaner as the blade carried by said arm is forced through the space between the cleaning members 27, the latter scraping the dirt or foreign matter adhering to the blade 19 entirely therefrom. The cleaner is adjustably mounted in order to accommodate for the adjustment of the blade or blades of the hoe or chopping mechanism, this being necessary to subserve the practicality of the invention. The effectiveness of the cleaner is obvious, as it will be seen that it will remove all foreign matter adhering to the blade or blades of the chopping mechanism, thereby increasing the effectiveness of the latter.

The clutch which is utilized to connect the gear elements 11 and 12 is comprised of pairs of projections 29, extending from the adjacent faces of said gear elements. These projections 29 when in alinement will form an oblong space adapted to receive a key 30, which will thereupon operatively connect the pinion 11 and the gear or sprocket 12 together for simultaneous rotation. Removal of the key 30 will permit the pinion 11 to rotate freely, while the sprocket 12 will be idle on the part upon which it is mounted.

Having thus described the invention, what is claimed as new is—

1. In a cotton-chopper, the combination of a supporting-frame, ground-wheels applied thereto at the front portion thereof, guide-wheels attached to the frame at the rear portion of the same; and chopping mechanism including a hoe-shaft, means for operating said hoe-shaft, an arm projecting from the shaft in advance of and proximate to the guide-wheels, and a blade attached to the arm; and a cleaner comprising a frame pendent from the frame of the implement and including cleaning members adjustably mounted on said frame and adapted to engage the blade of the chopping mechanism as the latter rotates.

2. In a cotton-chopper, the combination of a supporting-frame, chopping mechanism including a chopping-blade, means for operating the chopping-blade, and a cleaner for removing foreign matter from the chopping-blade as it operates.

3. In a cotton-chopper, the combination of a supporting-frame, chopping mechanism mounted thereon including an adjustable chopping-blade, means for actuating said chopping-blade, and an adjustable cleaner carried by the frame and coöperating with said blade.

4. In a cotton-chopper, the combination of a supporting-frame, a drive-shaft mounted thereon, chopping mechanism including an arm adjustably mounted on said drive-shaft, a blade carried by said arm, a cleaner comprising a frame attached to the frame of the implement, and a bar adjustably mounted on said frame and having cleaning members coacting with the blade as it rotates with the shaft by which it is carried.

In testimony whereof I affix my signature in presence of two witnesses.

FREDERICK M. HUTCHINSON. [L. S.]

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