No. 878,537.

PATENTED FEB. 11, 1908.

J. H. KENNEBREW.

COTTON CHOPPER.

APPLICATION FILED MAY 3, 1907.

2 SHEETS—SHEET 1.

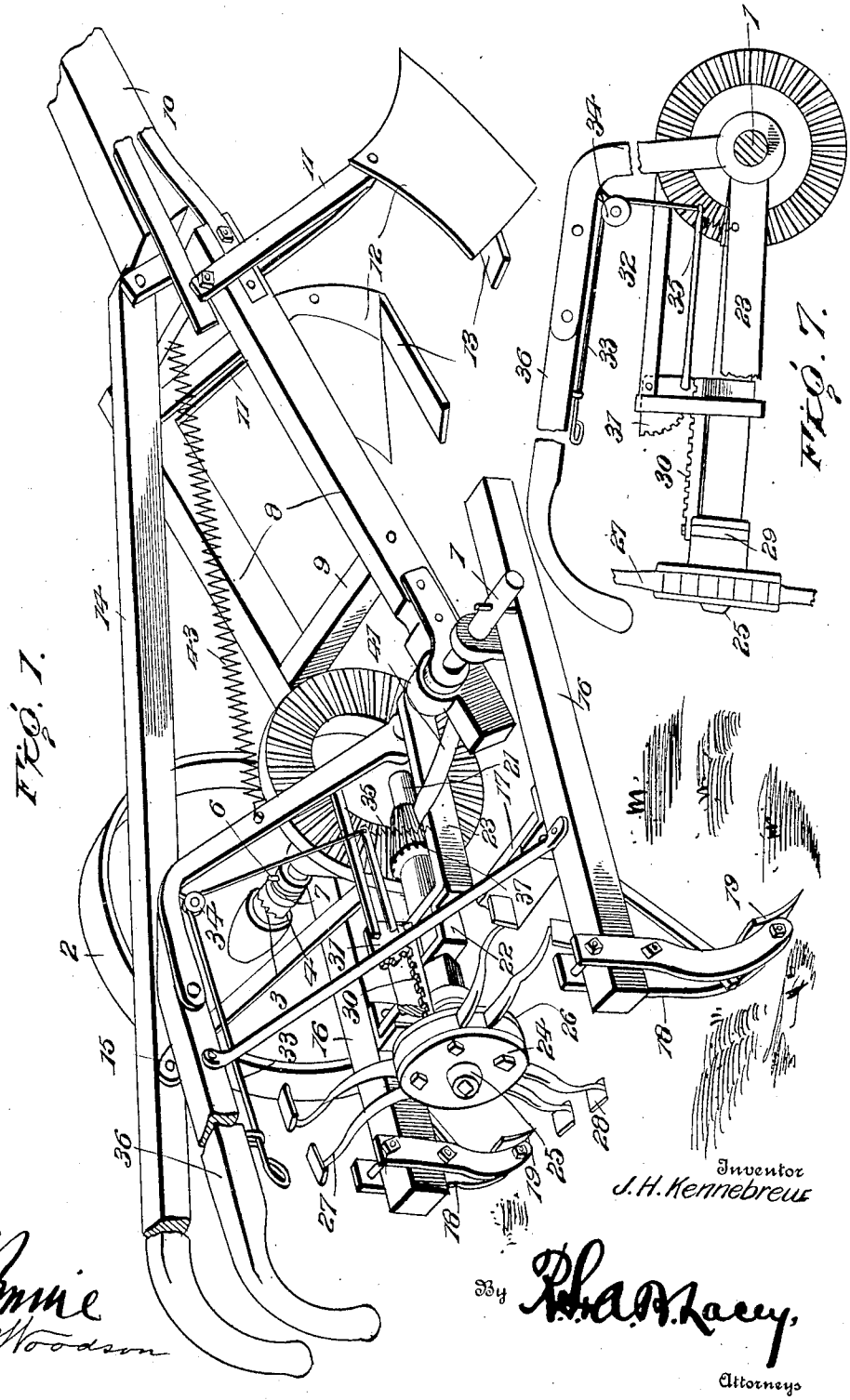

Fig. 1.

Fig. 2.

Witnesses

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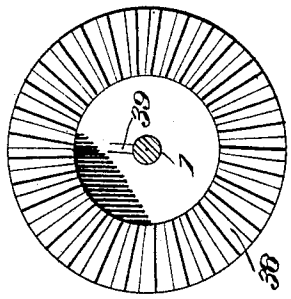

FIG. 3.

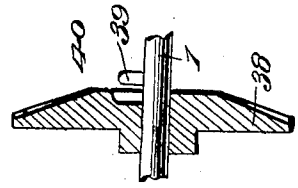

FIG. 4.

FIG. 6.

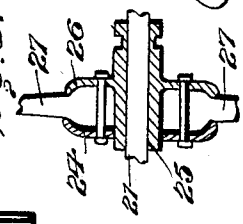

FIG. 8.

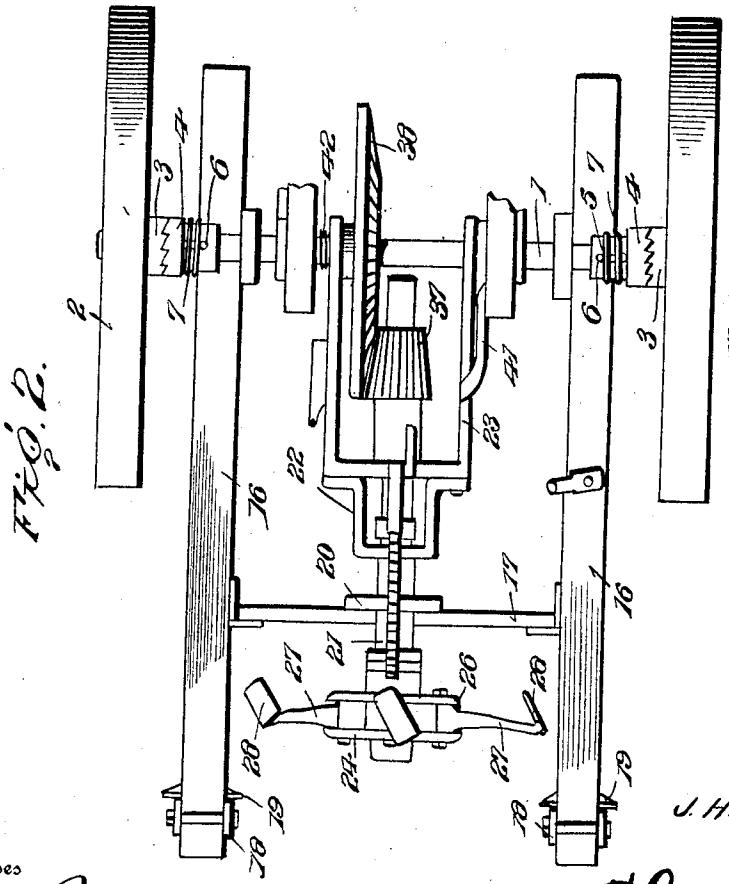

FIG. 2.

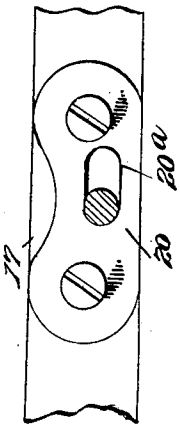

FIG. 5.

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UNITED STATES PATENT OFFICE.

JOHN H. KENNEBREW, OF COLUMBUS, MISSISSIPPI.

COTTON-CHOPPER.

No. 878,537. Specification of Letters Patent. Patented Feb. 11, 1908.

Application filed May 3, 1907. Serial No. 371,646.

To all whom it may concern:

Be it known that I, JOHN H. KENNEBREW, citizen of the United States, residing at Columbus, in the county of Lowndes and State of Mississippi, have invented certain new and useful Improvements in Cotton-Choppers, of which the following is a specification.

This invention contemplates certain new and useful improvements in cotton choppers and cultivators, and the invention has for its object a simple, durable and efficient construction of cultivator implement of this character, the parts of which are so arranged as to render them susceptible to easy regulation.

With this and other objects in view which will appear as the description proceeds, the invention consists in certain constructions, arrangements and combinations of parts which I shall hereinafter fully describe and then point out the novel features in the appended claims.

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

Figure 1 is a perspective view of my improved cotton chopper and cultivator. Fig. 2 is a top plan view of the rear portion thereof. Fig. 3 is a detail side elevation of the main gear wheel. Fig. 4 is a sectional view thereof. Fig. 5 is a detail view of a bearing for the shaft that carries the chopper wheel. Fig. 6 is a detail view of a rake that may be substituted for the hoes. Fig. 7 is a side elevation of a portion of the apparatus, illustrating particularly the means for adjusting the cotton chopper wheel. Fig. 8 is a detail sectional view of a portion of the chopper wheel.

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.

Referring to the drawings, the numeral 1 designates the axle of the machine and 2 the traveling wheels thereof, which are journaled loose on the ends of the axle and which are provided with ratchet hubs. The ratchet clutches 4 co-act with the ratchet hubs 3 of the wheels and are provided with slots 5 through which pins 6 extend so as to spline the clutches on the axle. Springs 7 exert an expansive force against the pins 6 at one end and against collars on the ratchet clutches so as to normally slide the clutches into operative engagement with the hubs. By this arrangement it will be seen that the axle 1 is rotated only when the wheels are traveling forwardly, and will remain inert when the machine is backed. It will also be seen that this arrangement affords the proper operation of the parts when going around curves, for in such event one wheel will turn backwardly while the other continues its forwardly turning movement and so maintains the operation of the chopper. A pair of forwardly extending beams 8 are pivotally secured at their rear ends on the axle 1 and are connected by means of a cross beam 9, and the draft pole or tongue 10 is secured to the framework thus formed, preferably at one side of the middle so that the horse may travel at one side of the row and not injure the growing plants. The forwardly extending beams 8 support plow standards 11, and the scrapers 12 (right and left) are secured to the respective standards, as are also land sides 13 adapted to travel on the ground and regulate the depth of cut. The single handle 14 is connected at its front end to the framework composed of the beams 8 and 9, and a fulcrum brace 15 is connected at its upper end to the handle intermediate of the end of the latter and is secured at its lower end on the axle 1. Hence the entire front framework, which is pivotally mounted on the axle, may be raised or lowered by means of the said handle 14.

Beams 16 extend rearwardly from the axle 1, to which they are pivotally connected to swing about a horizontal axis, and a cross beam 17 connects the rearwardly extending beams 16 intermediate of the ends of the latter so as to insure the necessary rigidity of the framework thus formed. Standards 18 are adjustably secured to the beams 16 near the rear ends thereof and carry covering plows 19 that are adapted to throw the dirt back to the cotton after it has been chopped. The cross beam 17 of this rear framework carries a journal box 20 which is formed with a transversely elongated bearing 20^a for the actuating shaft 21. This shaft 21 is also journaled in a bearing bracket 22 secured to the rear cross bar of a forwardly extending yoke 23, the members of which are pivotally mounted upon the axle 1 at the middle thereof to swing in a vertical plane.

The chopper wheel is supported on the shaft 21 to turn therewith, and in the present

instance said wheel comprises a disk 24 which is formed with a central opening by which it may be slipped on the elongated hub 25 of a complemental disk 26. Both of said disks are flanged at their edges, as shown, said flanges extending towards each other, and they are adapted to be bolted together to embrace the radial arms 27 that carry the chopping hoes 28. The hoes 28 preferably extend at an angle of about forty-five degrees to the row and it is to be understood that they are comparatively small or narrow, it being manifestly better to have two cuts of four inches each than one of eight inches, as the work is thus performed more gradually with less consumption of power. Preferably the hub is marked in inches and fractions thereof, (not shown) so that the hoes may be placed at equal distances apart. In the preferred construction, the hub of the chopper wheel thus formed is splined on the shaft 21 so that it will turn with the shaft and at the same time will be susceptible to movement along the shaft at the will of the operator. Accordingly I have provided a fork 29 which embraces said hub and is adapted to move the same, and said fork is formed on one end of a longitudinally extending rack 30 adapted to be engaged by a toothed segment 31 pivotally supported by the bearing bracket 22 on the rear cross bar of the yoke 23. A lever 32 is secured at one end to the said segment and extends forwardly therefrom, and an actuating cable 33 is connected to the free end of said lever and is adapted to pass upwardly and rearwardly over a guide 34 so that the operator, by pulling rearwardly on said cable may raise the lever, and through the instrumentality of the segment 31 and rack 30, move the entire chopper wheel forwardly along the shaft 21. As soon as the cable 33 has been released, the parts are returned to their rear position by means of a spring 35 secured to one member of the yoke 23 and to the free end of the lever 32.

In order to raise the entire rearwardly extending framework with the chopper wheel and shaft, and in order to simultaneously bring the chopping devices to an inoperative position, I have provided the following instrumentalities: A handle 36 is mounted upon the axle 1 and is adapted to co-act with the handle 14 so far as the guiding of the apparatus is concerned, but in addition to this function, the handle 36 is intended or designed to raise the rearwardly extending framework so as to carry the hoes out of operative relation to the ground. The actuating shaft 21, it will be seen, is provided near its front end with a bevel pinion 37 meshing with a miter gear wheel 38. The gear wheel 38 is movable laterally along the axle 1 and the latter is provided with a pin 39 adapted to be entered into a slot 40 in the said gear wheel so as to couple the gear wheel with the axle. A stationary arm 41 projects upwardly alongside one of the members of the yoke 23 and is provided with a laterally extending or beveled end as shown, hence it will be seen that when the rearwardly extending arm, with the yoke 23, is raised, the said yoke will engage with the end of the arm 41 and the entire yoke and shaft 21 will be moved laterally so as to carry the gear wheel 38 out of engagement with the pin 39 so as to permit the axle to continue its rotation without imparting any movement to said gear wheel. It will be evident that the laterally elongated bearing 20^a of the journal box 20 facilitates this operation. As soon as the said parts have been lowered, the yoke will be moved back again to normal position by means of a spring 42 on the axle 1, whereupon it is manifest that the gear wheel 38 will be coupled to the axle and the chopper wheel will be thereby actuated. 43 designates a spring which is secured to the handle 36 and to a portion of the forwardly extending framework, so as to yieldingly support the said handle in proper position.

Should the ground become hard and the necessity for raking arise, the hoes and plows may be removed and there may be put into the hub of the chopper wheel cultivators 44 that are provided at their outer ends with teeth 44, as shown. Thus the chopper becomes a cultivator solely, and when run over the cotton will break up the crust and permit the plants to come up so as to secure a proper stand.

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

1. In a cotton chopper, the combination of a traveling axle and its wheel, a framework extending rearwardly of said axle and pivotally mounted thereon, an actuating shaft journaled in said framework, a cotton chopper wheel mounted on said shaft, a driving gear wheel mounted on said axle, a gear wheel carried by the shaft and meshing with said first named gear wheel, means for raising and lowering said framework, and means for automatically throwing said gear wheels out of operative connection to the axle upon the raising of the framework.

2. In a cotton chopper, the combination of a traveling axle and its wheels, of a rearwardly extending framework pivotally mounted on the axle, an actuating shaft journaled at its rear end in a beam of the framework, a yoke in which said shaft is also journaled, said yoke being pivotally mounted on the axle, a chopper wheel mounted on said shaft, said shaft being provided with a driving pinion, a gear wheel mounted loose on the axle and meshing with said pinion and adapted to move laterally on the axle for coupling and uncoupling connection therewith, means for raising and lowering the framework with the yoke, and a stationary finger having a

laterally extending end adapted to engage the yoke upon the rising movement thereof whereby to slide the yoke laterally and carry the gear wheel laterally so as to disengage it from the axle.

3. In a cotton chopper, the combination of an axle and its traveling wheels, a rearwardly extending framework mounted on said axle, an actuating shaft journaled in said frame-work, means for driving said shaft, a cotton chopper wheel mounted to turn with said shaft and movable longitudinally thereon, a rack provided with a fork adapted to engage said wheel and move it forwardly or rearwardly on the actuating shaft, a toothed segment meshing with said rack, a support for said segment, a lever secured to said segment, an actuating cable secured to said lever and adapted to actuate the segment so as to move the rack forwardly, guiding supports for said cable, and a spring connected to said lever and to a portion of the framework, whereby to return the parts to normal position.

4. A cotton chopper, comprising an axle and traveling wheels therefor, a frame extending forwardly of the axle and pivotally mounted thereon, another frame extending rearwardly of the axle and pivotally mounted thereon, a chopper wheel supported by said last named frame, means for actuating said wheel, and diverging handles one of which is connected to the forwardly extending frame and is fulcrumed on the axle and the other of which is pivotally mounted on the axle and is operatively connected to the rearwardly extending frame to raise and lower the latter.

5. A cotton chopper, comprising an axle and traveling wheels therefor, a frame-work extending rearwardly from the axle and pivotally mounted thereon, an actuating shaft journaled in said frame-work, a chopper wheel mounted on said shaft, said shaft being provided with a driving pinion, a gear wheel mounted loose on the axle and spring pressed into engagement with said pinion, means for raising and lowering the frame-work on the axle, a stationary finger having a laterally extending end adapted to engage a portion of the frame-work upon the rising movement thereof, whereby to slide said portion laterally, the said portion carrying the shaft and its pinion and adapted to push the gear wheel along the axle against the action of its spring so as to disengage said gear wheel from the axle.

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

JOHN H. KENNEBREW. [L. S.]

Witnesses:
B. H. LINCOLN,
N. W. WHITFIELD, Sr.