W. A. SHOTTS.

COTTON CHOPPER.

APPLICATION FILED MAR. 2, 1912.

1,046,876.

Patented Dec. 10, 1912.

2 SHEETS—SHEET 1.

Fig. 1.

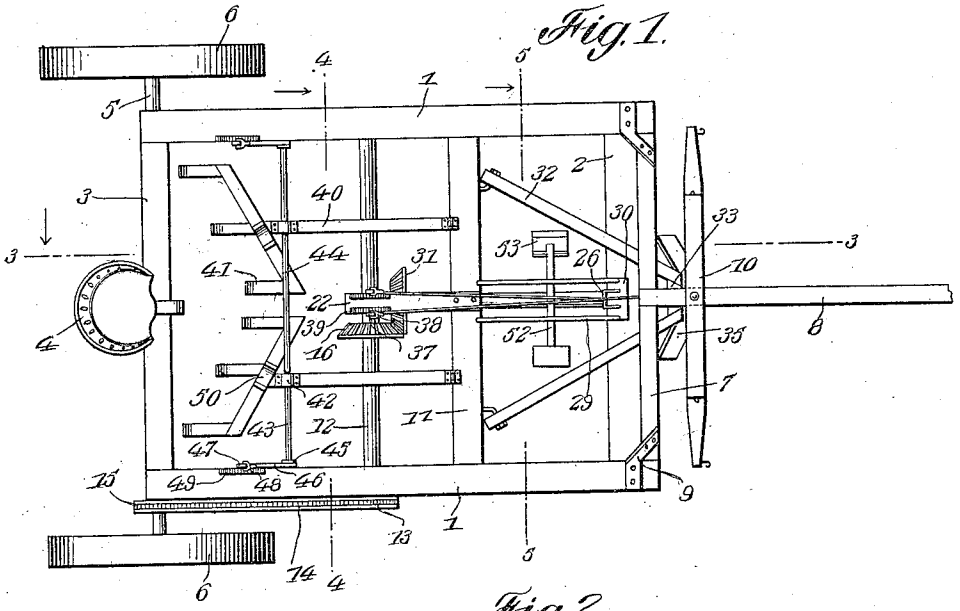
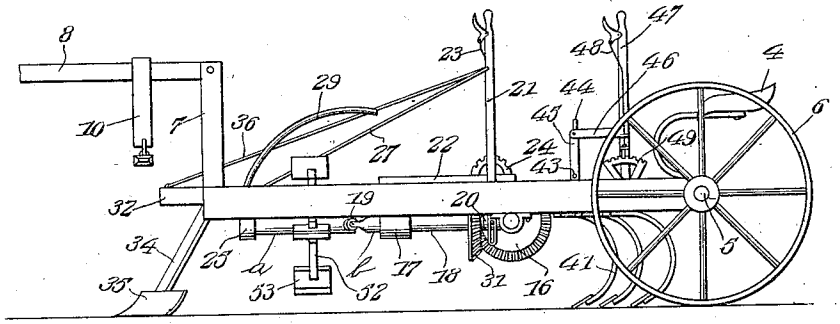


Fig. 2.



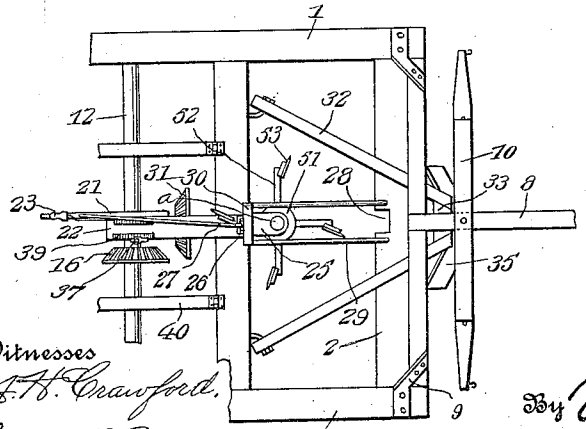


Fig. 6.

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2 SHEETS—SHEET 2.

Fig. 3.

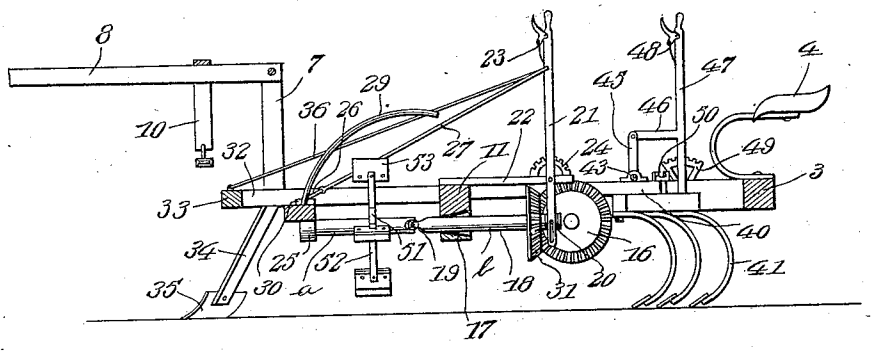


Fig. 4.

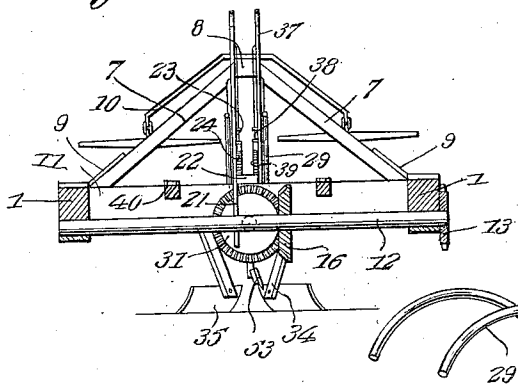


Fig. 5.

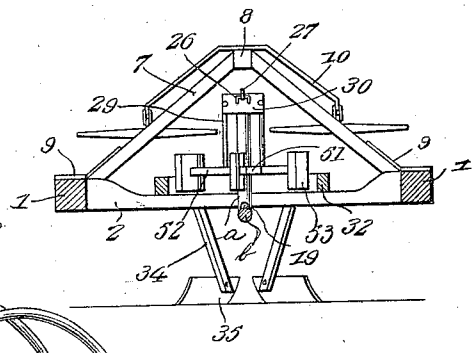
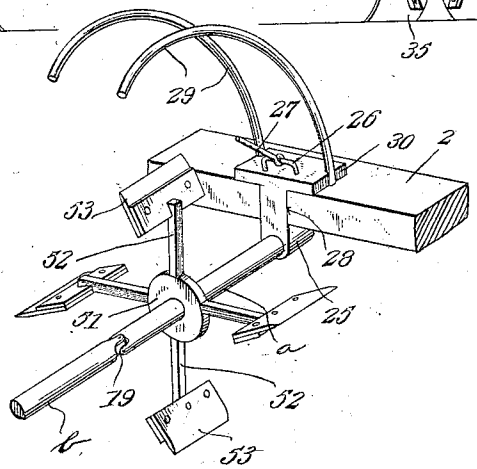


Fig. 7.



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UNITED STATES PATENT OFFICE.

WILLIAM A. SHOTTS, OF HODGES, ALABAMA.

COTTON-CHOPPER.

1,046,876. Specification of Letters Patent. Patented Dec. 10, 1912.

Application filed March 2, 1912. Serial No. 681,090.

To all whom it may concern:

Be it known that I, WILLIAM A. SHOTTS, a citizen of the United States, residing at Hodges, in the county of Franklin and State of Alabama, have invented new and useful Improvements in Cotton-Choppers, of which the following is a specification.

This invention relates to cotton choppers, and it has for its object to produce a machine of simple and convenient construction which may be effectively used for the purpose of chopping out cotton in order to leave stands at suitable distances apart for subsequent cultivation.

A further object of the invention is to produce a machine of this class which is provided with simple and efficient means for throwing the chopping mechanism into and out of gear, as may be required.

A further object of the invention is to produce a machine of this class which is equipped with simple and efficient means for barring off the cotton and for cultivating the same simultaneously with the chopping operation.

With these and other ends in view which will readily appear as the nature of the invention is better understood, the same consists in the improved construction and novel arrangement and combination of parts which will be hereinafter fully described and particularly pointed out in the claims.

In the accompanying drawings has been illustrated a simple and preferred form of the invention, it being, however, understood that no limitation is necessarily made to the precise structural details therein exhibited, but that changes, alterations and modifications within the scope of the claims may be resorted to when desired.

In the drawings,—Figure 1 is a top plan view of a machine constructed in accordance with the invention. Fig. 2 is a side elevation of the same. Fig. 3 is a longitudinal sectional view taken on the line 3—3 in Fig. 1. Fig. 4 is a transverse sectional view taken on the line 4—4 in Fig. 1. Fig. 5 is a transverse sectional view taken on the line 5—5 in Fig. 1 with the chopping device turned out of operation. Fig. 6 is a detail top plan view of a portion of the device with the chopping mechanism thrown out of operation. Fig. 7 is a perspective detail view of the chopping device and related parts.

Corresponding parts in the several figures are denoted by like characters of reference.

The frame of the improved machine which is mainly rectangular in shape comprises the side beams 1, 1 and front and rear cross bars 2, 3, which latter support a seat 4 for the driver or operator. The rear cross bar 3 is also provided at the ends thereof with spindles 5 carrying the transporting wheels 6. Upwardly converging bars 7, the lower ends of which are connected with the front ends of the side beams are connected at their upper ends with the tongue 8 which is thus supported a suitable distance above the level of the main frame. The bars 7 are reinforced by means of braces 9, and the tongue 8 carries an evener 10 to which the draft animals may be attached.

The side beams 1 are connected intermediate their front and rear ends by a cross bar 11, and said side bars are provided a suitable distance in rear of the cross bar 11 with bearings for a shaft 12 having a sprocket wheel 13 which is connected by means of a chain 14 with a sprocket wheel 15 associated with one of the transporting wheels from which motion will thus be transmitted to the shaft 12. The latter is equipped with a bevel gear 16 from which motion is transmitted to the chopping mechanism, as will be presently described. The cross bar 11 is provided on its underside with a bearing 17 in which a shaft 18 is supported for rotation, said shaft being also capable of sliding longitudinally in the box or bearing 17. The inner engaging face of the latter is made slightly flaring in a rearward direction, so that the shaft 18, in addition to its rotary and sliding movements, may have a rocking movement therein. The shaft 18 is composed of two sections or members, namely, a front section *a* and a rear section *b*, said front and rear sections being united together by a universal joint or coupling 19.

The rear end of the rear shaft section *b* has a bearing in a box 20 carried by the lower end of a lever 21 which is fulcrumed upon an arm or bracket 22 that extends rearwardly from the cross bar 11 of the frame, said lever being provided with a spring actuated stop member 23 adapted to engage a quadrant 24 for the purpose of re-

taining said lever and related parts in adjusted position. The front section *a* of the shaft 18 has a bearing in a box 25 which is equipped with a yoke or keeper 26 connected by means of a rod 27 with the lever 21 at a suitable distance above the fulcrum of the latter, it being understood that the box 20 is connected with said lever at a suitable distance below the fulcrum. The box 25 is adapted to be seated in a recess 28 in the front cross bar 2 of the frame, and said cross bar is provided with upwardly extending arcuate guides 29 that extend through side flanges 30 of the box 25, which latter is thus capable of moving along the guides in an upward direction when the upper end of the lever 21 is moved in a rearward direction, while when the upper end of the lever 21 is moved in a forward direction, the box 25 will settle by gravity in the recess 28 with the flanges 30 engaging the upper face of the cross bar 2.

The rear section *b* of the shaft 18 carries a bevel gear 31 which is adapted to mesh with the bevel gear 16 on the shaft 12.

Hingedly connected with and extending forwardly from the cross bar 11 are forwardly converging bars 32, the front ends of which are spaced by a block 33 with which they are suitably connected. The bars or beams 32 are equipped with standards 34 carrying the barring-off plows 35, which, when the beams 33 are supported upon the front cross bar 2 of the frame are in ground engaging position. The block 33 is connected by a rod 36 with an adjusting lever 37 which is fulcrumed on the bracket 22, said lever being provided with a stop member 38 adapted to engage a quadrant 39 whereby the said lever and related parts may be retained in adjusted position.

Beams 40, which are hingedly connected with the cross bar 11 from which they extend in a rearward direction, carry cultivators 41. The cultivator beams 40 are provided with boxes 42 for the accommodation of a shaft 43 which is provided intermediate the cultivators with an arch 44. The ends of the shaft 43 are connected by means of links 45 with arms 46 extending from levers 47 which are fulcrumed upon the side bars 1 of the frame, said levers being provided with stop members 48 engaging quadrants 49 whereby said levers and related parts may be retained in adjusted position. The cultivator beams are provided with foot rests 50, whereby the operator is enabled to force the cultivator downwardly into engagement with the ground. By means of the levers 47, the cultivator beams may be raised or lowered, as occasion may demand.

Suitably mounted in the forward section *a* of the shaft 18 is a disk 51 having radially extending arms or spokes 52 carrying chopping blades or hoes 53.

It will be seen that when the shaft 18 is moved in a rearward direction by the action of the lever 21, the gear wheel 31 will be placed in mesh with the bevel gear 16, and at the same time the box 25 will be lowered into the recess 28, thus supporting the shaft 18 for rotation. When the shaft 19 is moved forward to place the wheels 31, 16 out of mesh, the shaft section *a* and the box 25 will be lifted, throwing the chopping mechanism out of operation.

From the foregoing description taken in connection with the drawings hereto annexed, the operation and advantages of this invention will be readily understood. The row of plants is straddled by the machine and is first subjected to the operation of the barring-off plows, after which the chopping mechanism serves to chop out the superfluous plants, leaving stands at suitable distances apart. The cultivators serve to move the dirt toward or from the plants, as may be preferred. When desired, the barring-off plows, as well as the cultivators, may be raised for turning the machine at the end of the row or for transportation, and the chopping mechanism may likewise be elevated and thrown out of gear in the manner described.

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

1. In a cotton chopper, a frame having front and intermediate cross bars and a transverse shaft supported for rotation in rear of the intermediate cross bar, a bevel gear on said shaft, a bearing connected by the intermediate cross bar, said bearing having a rearwardly flaring engaging face, a rotary shaft slidably supported and capable of rocking movement in said bearing, said shaft being composed of a front and rear section and a universal joint connecting said sections together, an operating lever, a box carried by said lever below its fulcrum and affording a bearing for a rear end of the rear shaft section, a box affording a bearing for the front end of the front shaft section, a rod connecting the last mentioned box with the operating lever above the fulcrum of the latter, a chopping disk mounted on the front shaft section, a gear wheel mounted on the rear shaft section and adapted to mesh with the bevel gear on the transverse shaft, and driving means for said transverse shaft.

2. In a cotton chopper, a wheel supported frame having a suitably driven transverse shaft carrying a bevel gear, a longitudinal shaft disposed for slidable, rotary and rocking movement, said shaft comprising a front and a rear section and a universal joint connecting the same, a chopping disk carried by the front section of the shaft, a bevel gear carried by the rear section of the shaft and adapted to mesh with the bevel gear on the transversely disposed driven shaft, and

means for sliding the shaft in a forward direction to place the bevel gears out of mesh and for simultaneously lifting the front section of the shaft to place the chopping disk in an inoperative position.

3. In a cotton chopper, a frame including a front cross bar having a recess in the rear side thereof, a transversely disposed driven shaft carrying a bevel gear, a longitudinally disposed shaft supported for slidable, rotary and rocking movement, said shaft being composed of two sections and a universal joint whereby said sections are connected, independent boxes constituting bearings for the front and rear shaft sections, the front box being provided with lateral flanges and adapted to seat in the recess in the rear side of the front cross bar, arcuate guides on said front cross bar extending through the flanges of the box, a suitably supported adjusting lever, said lever supporting at a suitable distance below its fulcrum the box constituting the bearing of the rear shaft section, and a member connecting the box which constitutes the bearing of the front shaft section with the adjusting lever above the fulcrum of the latter; the rear shaft section being provided with a bevel gear adapted to mesh with the bevel gear of the transverse shaft, and the front shaft section being provided with a chopping disk.

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

WILLIAM A. SHOTTS.

Witnesses:
JAMES F. HADLEY,
HENRY L. NORTHINGTON.