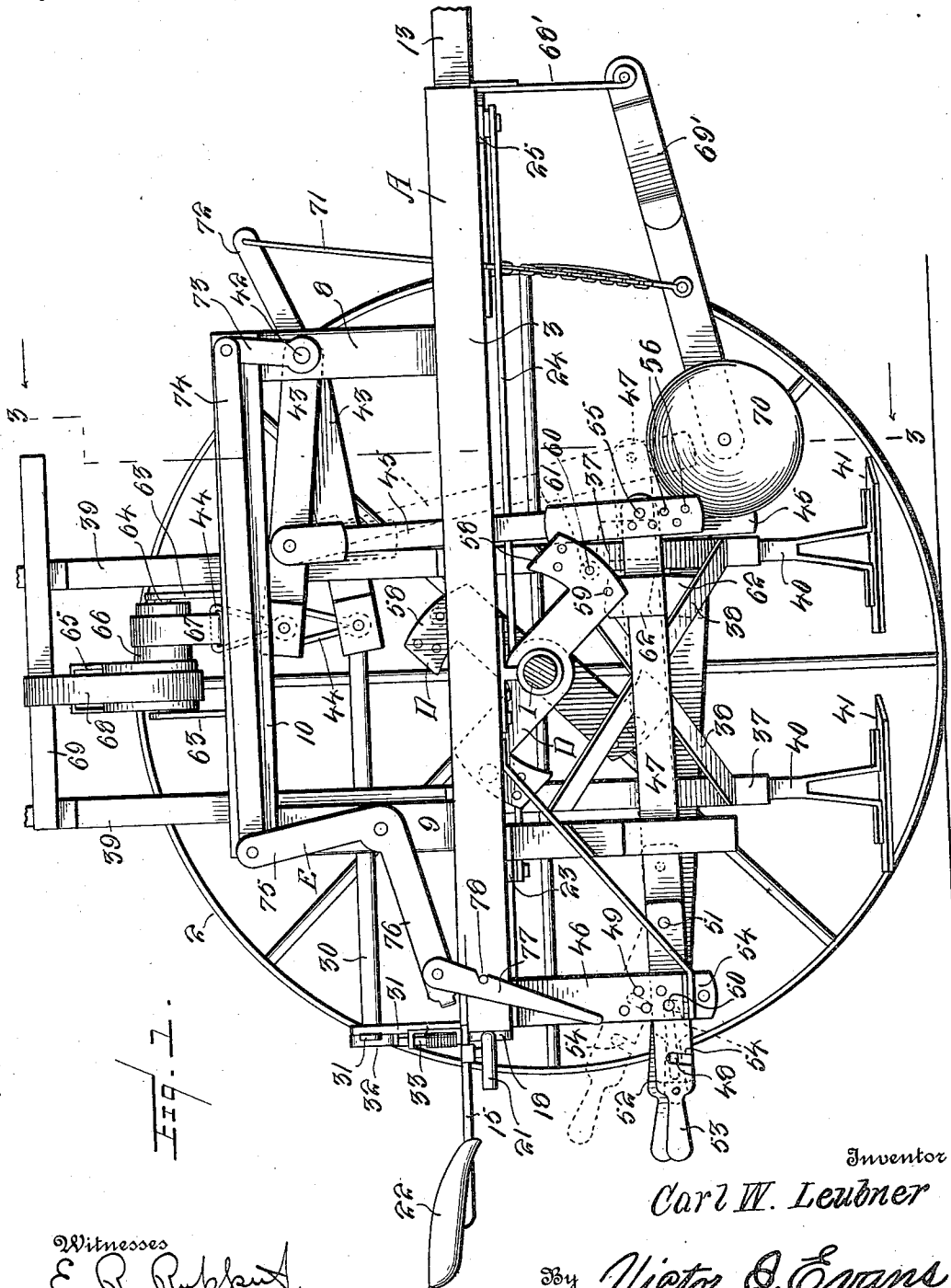


C. W. LEUBNER.
COTTON CHOPPER.
APPLICATION FILED AUG. 15, 1911.

Patented Apr. 23, 1912.

3 SHEETS-SHEET 1.

1,024,346.



Witnesses
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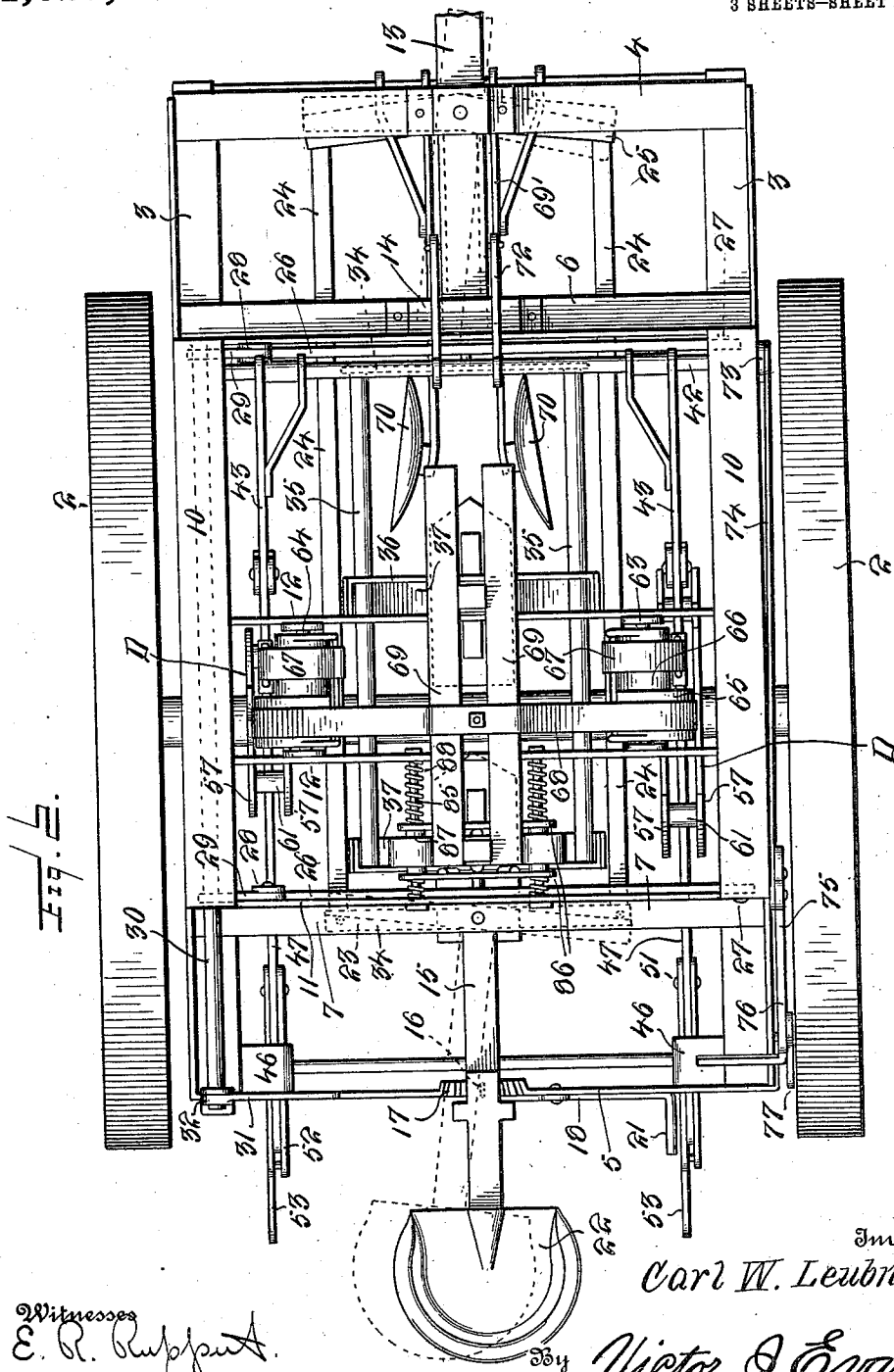
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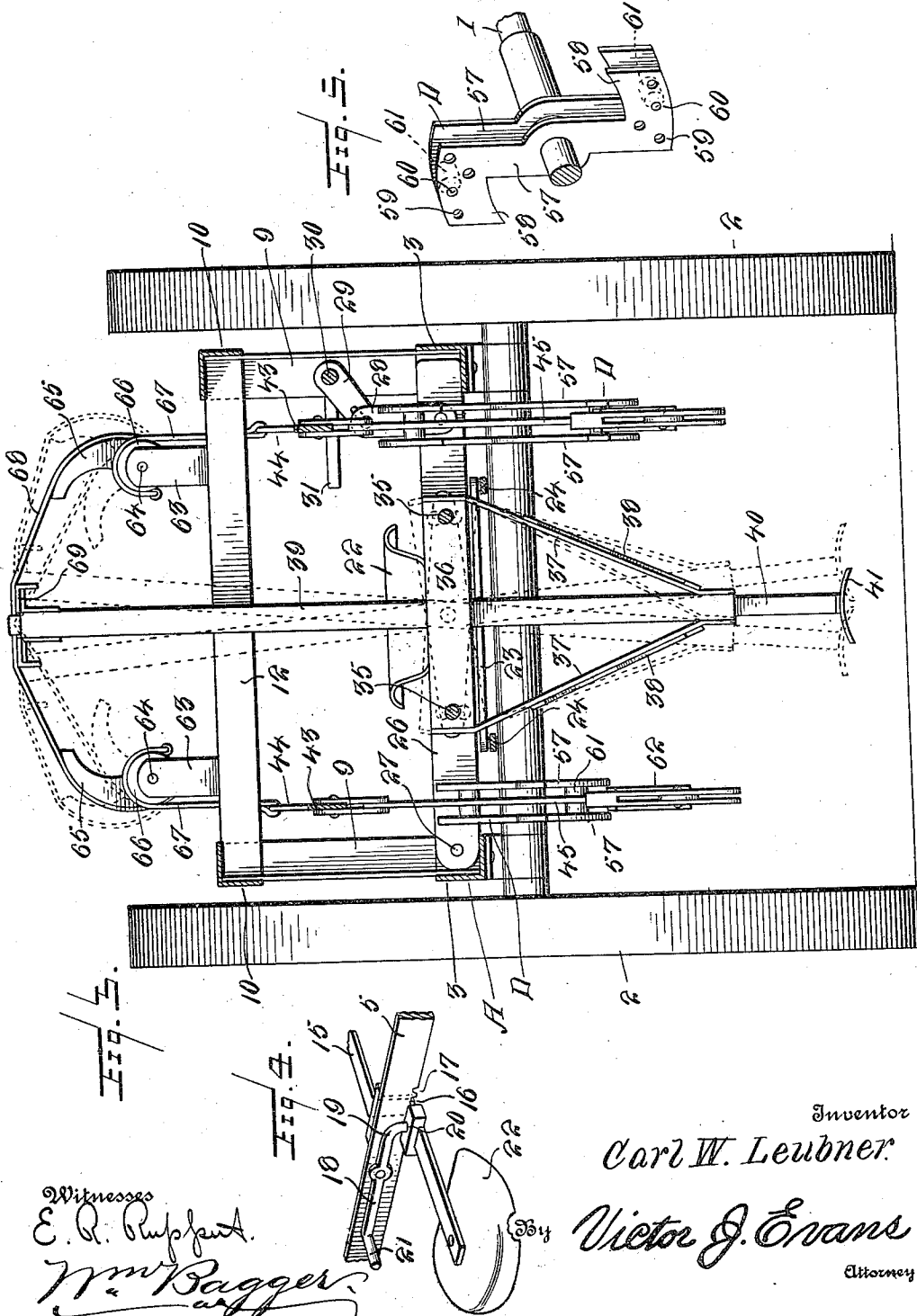
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UNITED STATES PATENT OFFICE.

CARL W. LEUBNER, OF MCGREGOR, TEXAS.

COTTON-CHOPPER.

1,024,346.

Specification of Letters Patent.

Patented Apr. 23, 1912.

Application filed August 15, 1911. Serial No. 644,095.

To all whom it may concern.

Be it known that I, CARL W. LEUBNER, a citizen of the United States of America, residing at McGregor, in the county of McLennan and State of Texas, 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 this class which shall be simple in construction and thoroughly effective in 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 side elevation of a cotton chopping machine constructed in accordance with the invention. Fig. 2 is a top plan view of the same. Fig. 3 is a vertical transverse sectional view taken on the line 3—3 in Fig. 1. Fig. 4 is a perspective detail view showing a portion of the seat supporting bar in inverted position, together with related parts including the means for locking the seat in position. Fig. 5 is a perspective detail view of one of the tappet arms and related parts.

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

The main frame A of the improved machine is supported upon an axle 1 having ground wheels 2, 2, one or both of which must be secured upon the axle to cause the latter to rotate when the machine is in operation for the purpose of actuating the moving parts of the device. The main frame is mainly of rectangular form including side bars 3, 3, front and rear cross bars 4, 5 and intermediate cross bars or braces, one of which, 6, is located relatively near the front cross bar, another cross brace, 7, being located relatively near the rear cross bar.

Front and rear uprights 8 and 9 are mounted upon the side bars 3 respectively, adjacent to the front and rear cross bars 6 and 7, and said uprights support the top frame including side bars 10, the rear cross bar 11 and the cross bars 12, 12 which are suitably spaced apart and disposed intermediate the front and rear ends of the side bars 10.

Pivotally supported upon the front cross bar 4 of the main frame is a tongue 13, the rear end of which is confined in a keeper 14 upon the cross bar 6. Pivoted upon the rear cross bar 7 is a seat supporting bar 15 having a corrugated end portion 16 engaging a correspondingly corrugated portion 17 upon the rear cross bar 5 of the main frame. Pivoted upon said rear cross bar is a lever 18 having at one end a hook 19 adapted to engage a recess 20 in the underside of the seat bar which may thus be locked in position parallel to the side bars of the frame. The opposite end of the lever 18 has a handle 21 whereby it may be manipulated to engage or disengage the recess 20. The bar 15 supports the seat 22. By disengaging the hook 19 of the lever 18 from the recess 20, the seat may be shifted to either side and will be temporarily retained by interengagement of the corrugated portions 16, 17.

The seat bar 15 has a cross bar 23 which is connected by links 24 with a similar cross bar 25 connected with the tongue. It will thus be seen that when the seat is shifted or moved to either side, the front end of the tongue will be shifted or moved in the opposite direction, thus permitting side draft to be exercised in either direction and enabling the extent of such side draft to be accurately gaged or regulated. When straightforward draft is required, the seat may be locked in position by means of the lever 18.

An auxiliary frame is provided including front and rear members 26, 26 which are pivotally connected at 27, see Figs. 2 and 3, with the front and rear uprights 8, 9 at one side of the main frame. The opposite ends of the bars or members 26 are provided with lugs 28 connected with arms 29 extending from a rock shaft 30 which is supported for oscillation in the uprights 8, 9 at the side of the frame opposite to that with which the frame members 26 are connected. The rock shaft 30 is provided at its rear end with a

hand lever 31 having a toothed or corrugated head 32 engaged by a spring actuated pawl or dog 33, whereby the rock shaft may be held in adjusted position. It is obvious
 5 that by manipulating the rock shaft, the free ends of the frame members will be rocked or moved or reciprocated vertically, imparting a corresponding motion to mechanism carried thereby and which will now
 10 be more fully described.

Pivotaly mounted upon each of the frame members 26 is a rocker bar 34, said rocker bars being connected together by means of longitudinal bars or side members 35 so as
 15 to constitute a rocker frame. An additional cross bar 36 connects the side members 35 intermediate the ends thereof, and said cross bar and the rear rocker bar 34 are provided with downwardly extending converging
 20 arms 37 which are connected together and reinforced by diagonal braces 38, best seen in Fig. 1. Tubular socket members 39 are secured upon the rear rocker arm 34 and upon the intermediate rocker arm 36, the
 25 lower ends of said socket members being secured between the lower ends of the converging arms 37, said socket members being thus firmly secured in an upright position. The shanks 40 carrying hoes 41 are vertically
 30 cally movable in the socket members 39 where they may be secured at any desired adjustment in any convenient well known manner.

A rock shaft 42 which is supported for
 35 oscillation in the front uprights 8 affords a fulcrum for rearwardly extending arms or levers 43, said levers being provided at their rear ends with stirrups and intermediate their ends with downwardly extending links 45.

The frame A is provided near its rear end with depending bifurcated brackets 46, one at each side of the frame, said brackets being slotted for the passage of forwardly extending bars 47, each having a longitudinal
 45 slot 48. Each bracket 46 is provided with a plurality of apertures 49 for the passage of a pin or bolt 50 extending also through the slot 48 of the bar 47. Pivotaly connected with the latter at 51 is a latch member 52
 50 having a handle 53 and notches 54 which, when the bar 47 is moved in a forward or rearward direction, may be placed in engagement with the pin or bolt 50, thereby locking said bar against longitudinal move-
 55 ment. The pin or bolt 50 constitutes a fulcrum upon which the bar 47 may rock, as will be readily understood. The forward end of the bar 47 at each side of the machine is adjustably connected with the lower end
 60 of the link 45 by means of a pin or bolt 55 for the passage of which a plurality of perforations 56 is provided.

The axle of the machine is provided with pairs of radially extending tappet arms D
 65 which are located in alinement with the bars

47. The tappet arms D adjacent to each bar 47 extend in diametrically opposite directions, and the tappet arms at the two sides of the machine are disposed at right angles to each other. Each tappet arm is
 70 composed of two side members 57 having terminal shoes or offsets 58, each having apertures 59 for the passage of pins or shafts 60 carrying anti-friction rollers 61. One or
 75 more friction rollers may be connected with the shoes of each tappet arm, although, in order to insure the most satisfactory result, it is preferred to use two friction rollers, namely, one large and one smaller one in
 80 connection with each shoe. The bars 47 are provided with upwardly extending blocks or anvils 62 adapted to be straddled by the side members of the tappet arms and to be engaged by the friction rollers 61 when the
 85 bars 47 are positioned as shown in full lines in Fig. 1 at their rearward adjustments. By moving the bars 47 forwardly, as indicated in dotted lines, the blocks or anvils 62 will be moved out of the path of the friction
 90 rollers which constitute the striking elements of the tappet arms. As will be seen, when the bars 47 are adjusted in their rearward positions, they will be alternately struck or engaged by the tappet arms at the
 95 two sides of the machine.

The cross bars 12 of the frame structure are provided with uprights 63 affording bearings for rock shafts 64 carrying curved or arcuate cam members 65 and drums 66. The drums 66 are connected by flexible elements, such as belts 67 with the stirrups 44
 100 of the levers 43. The cam members 65 are connected together by a flexible element 68 which is connected intermediate its ends with a crosshead formed of two bars or side
 105 members 69 which are mounted upon the tubular socket members 39 adjacent to the upper ends of the latter.

It will be noted that when the bars 47 are actuated by the tappet arms, the levers 43
 110 will be alternately rocked in opposite directions, thus imparting oscillatory motion to the rock shafts 64 through the drums 66. The cam members 65 will thus alternately swing in opposite directions, as indicated in
 115 dotted lines in Fig. 3, thereby rocking or oscillating the frame structure carrying the hoes. The tilting frame including the members 26 which supports the rocking hoe carrying frame may be adjusted by means of
 120 the lever 31 to effect vertical adjustment of the hoes, and the tappet mechanism whereby the hoe carrying frame is rocked or oscillated may be thrown into or out of gear by longitudinal adjustment of the bars 47 to
 125 place the anvil blocks 62 in or out of the path of the tappet arms.

The frame bar 11 and the cross bar 12 nearest thereto are connected together by means of rods 85 carrying a pair of slidable
 130

cross pieces 86 between which tubular cushions 87 of rubber or other suitable material are mounted upon the said rods. The rods are equipped with springs 88 serving to force the slides 86 in the direction of the cushions which will be clamped between the slides. The rearward socket member 39 carrying the hoes is guided between the slides 86, and will, when the hoe carrying frame is rocked or oscillated, strike against or impact upon the tubular cushions, thus setting up a vibratory movement which is found important and useful in causing the hoe to clear pieces of grass, weeds and other substances adhering thereto and maintaining the device in good condition for operation.

The frame A is provided at its front end with downwardly extending brackets 68' with which beams 69' are pivotally connected, said beams carrying rotary disks 70 which may be employed as cultivating implements for the purpose of throwing the dirt in either direction. The beams 69' are connected by suitable connecting elements 71 with arms 72 extending forwardly from the rock shaft 42. Said rock shaft is provided adjacent to one end with a crank 73 connected by a link 74 with one arm 75 of a bell crank E, the other arm of which, 76, constitutes a handle whereby it may be thrown or actuated to oscillate the rock shaft, thus raising or lowering the disk carrying beams. The lever arms 76 has a pivoted notched latch member 77 adapted to engage a pin 78 for the purpose of retaining the bell crank E in adjusted position.

From the foregoing description, taken in connection with the drawings hereto annexed, the operation and advantages of this invention will be readily understood. The hoe carrying shanks may be adjusted vertically in the tubular socket members which are carried by the rocking frame, whereby vertical adjustment of the entire rocking frame may be effected, the hoe carrying shanks being previously set so as to cut to the requisite depth, and the adjustment of the tilting frame being for the purpose of more minutely gaging the depth of the cut while the machine is in operation. The extent of the rocking movement of the hoe carrying frame may be regulated by adjustment of the anti-friction members 61 in the tapped arms D, it being evident that the farther said anti-friction members or striking members are positioned from the axis of the shaft or axle, the greater will be the extent or throw of the movement imparted to the bars 47 carrying the anvil blocks 62. Said anvil blocks when engaged by the striking elements of the tappet arms will be guided between the side members of the tappet arms and certainty of operation will thus be promoted. To throw the

operating mechanism of the hoes out of gear, the bars 47 may be adjusted forwardly in the manner described. By shifting the position of the seat, the direction of the draft may be changed when necessary to restore it to the proper line if deflection to either side should occur.

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

1. In a cotton chopper, a main frame, a wheel carrying axle supporting said frame, a tiltable frame supported upon the main frame, a hoe carrying rocking frame supported for oscillation upon the tiltable frame pivotally supported bars having anvil blocks, tappet members extending from the axle for engagement with the anvil blocks, and means connecting the anvil carrying bars with the hoe carrying rocking frame to impart oscillatory motion to the latter.

2. In a cotton chopper, the combination with suitable supporting means, of a hoe carrying rocking frame, an axle supported for rotation and having tappet arms arranged approximately at right angles to each other adjacent to opposite sides of the axis of the rocking frame, pivotally supported anvil carrying bars mounted in registry with the tappet arms, suitably supported levers having terminal stirrups, links connecting said levers with the anvil carrying bars, rock shafts supported adjacent to the sides of the rocking frame, each rock shaft being provided with a drum and with a cam member, flexible elements connecting the drums with the stirrups, and a flexible element connected intermediate its ends with the rocking frame and terminally connected with the cam members.

3. In a cotton chopper, a main frame, a tilting frame supported therein, means for adjusting the tilting frame, a rocking frame supported for oscillation upon the tilting frame and including vertically disposed socket members, hoe carrying shanks adjustable in the socket members, and means for oscillating the hoe carrying rocking frame, said means including an axle, tappet arms extending therefrom, pivotally supported anvil carrying bars disposed for engagement by said tappet arms and means connecting said bars with the rocking frame.

4. In a cotton chopper, a rocking frame, and means for imparting oscillatory motion thereto, said means including an axle, tappet arms extending therefrom, bracket members having supporting pins, anvil carrying bars disposed for engagement by said tappet arms and having slots engaging said pins, latch members pivotally connected with the bars and having notches to engage the pins, and means connecting the free ends of the anvil carrying bars with the rocking hoe carrying frame.

5. In a cotton chopper, a rocking hoe

carrying frame, means for imparting oscillatory motion to said frame, and means for setting up vibration in said frame at the end of each stroke, said means including
5 frame bars, rods connecting the same, spring actuated slides mounted upon said rods and confining between them a member of the rocking frame, and tubular cushions supported upon the rods between the slides and

lying in the path of the rocking frame 10 member.

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

CARL W. LEUBNER.

Witnesses:

DANIEL MILO,
E. C. KUNZ.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."