

(No Model.)

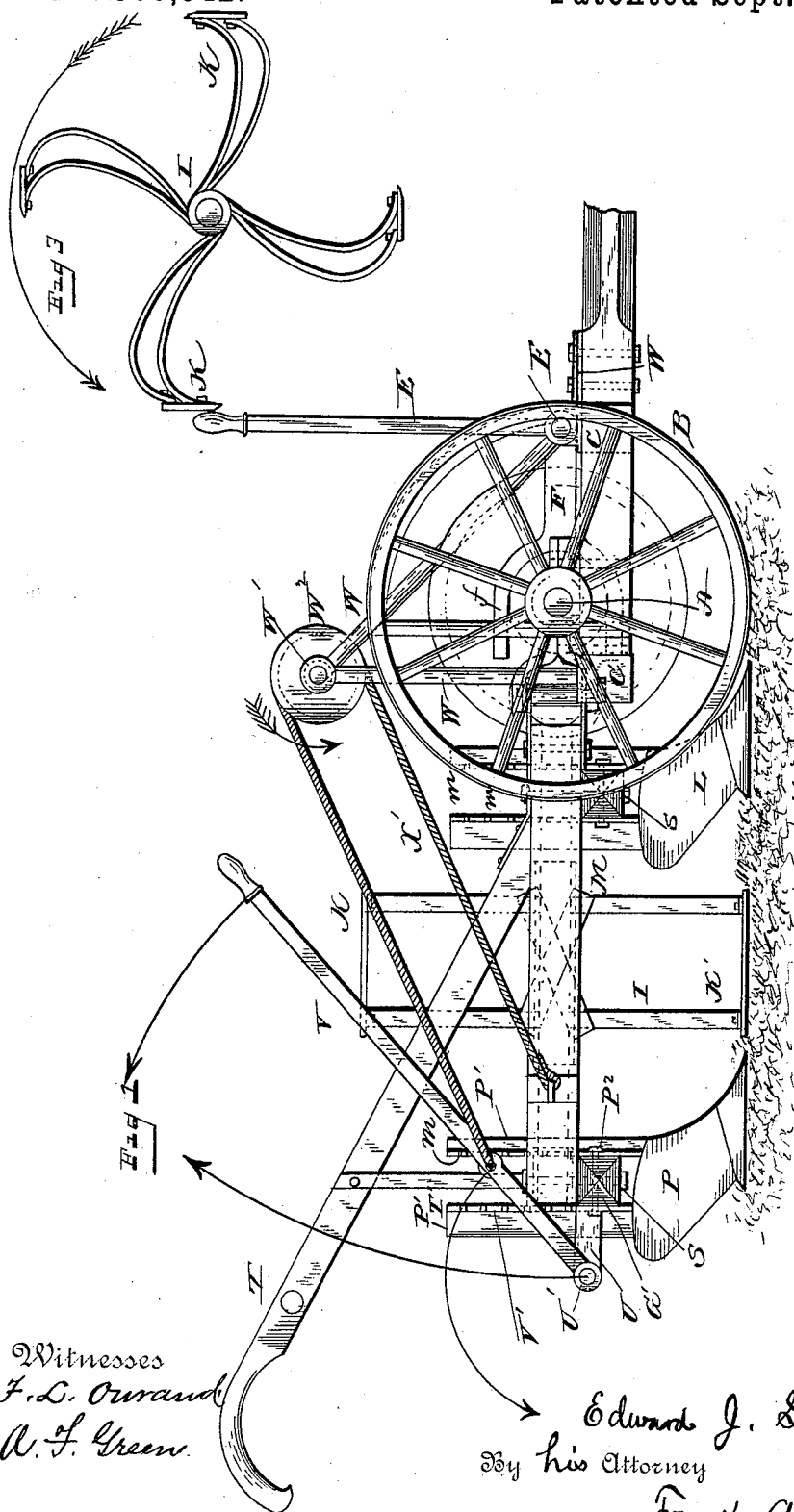
2 Sheets—Sheet 1.

E. J. SCHUMAN.

COTTON CHOPPER.

No. 389,942.

Patented Sept. 25, 1888.



Witnesses
F. L. Orvand
A. F. Green.

Inventor
Edward J. Schuman
By his Attorney
Frank A. Fouts.

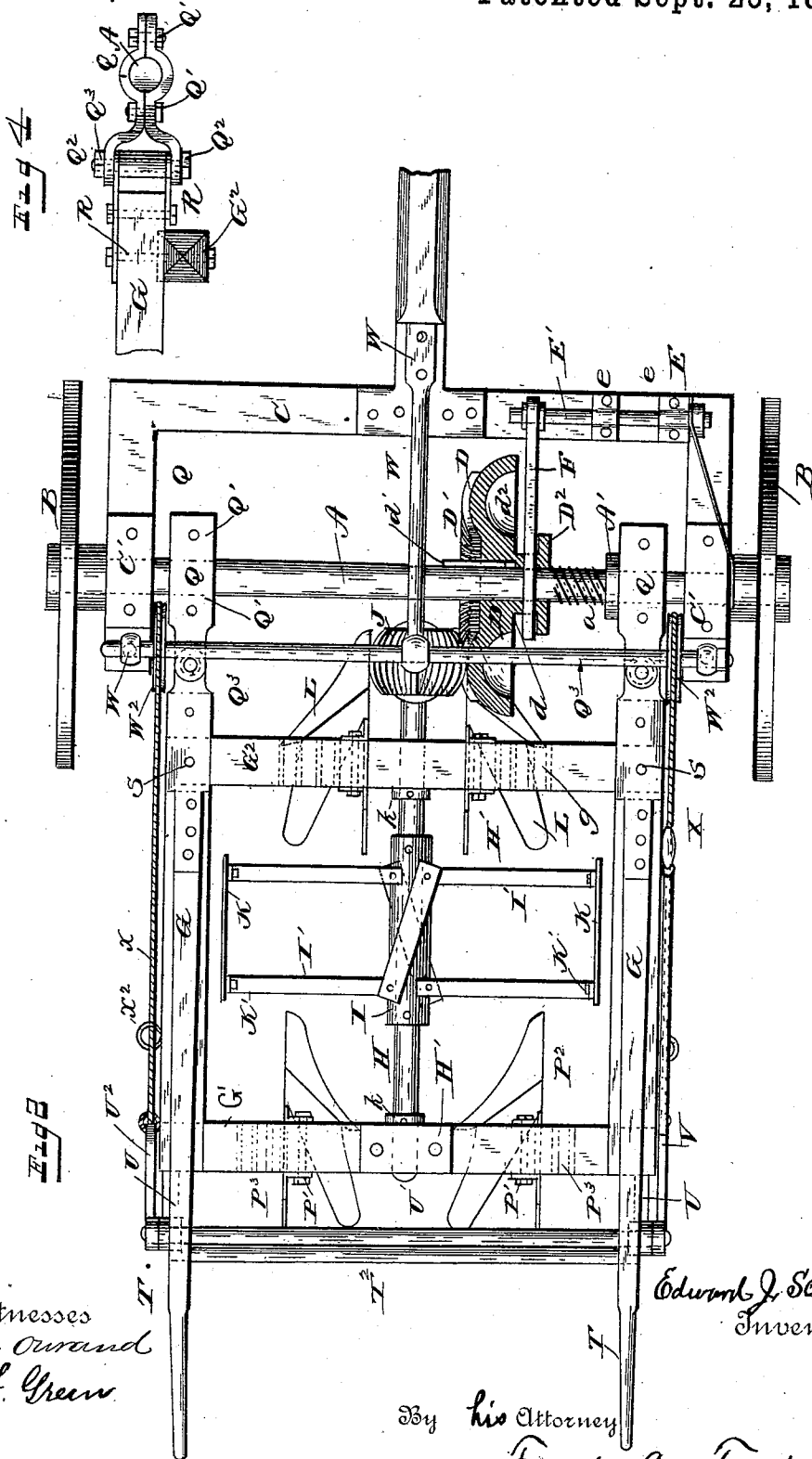
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UNITED STATES PATENT OFFICE.

EDWARD J. SCHUMAN, OF FRISCO, COLORADO.

COTTON-CHOPPER.

SPECIFICATION forming part of Letters Patent No. 389,942, dated September 25, 1888.

Application filed October 4, 1887. Serial No. 251,446. (No model.)

To all whom it may concern:

Be it known that I, EDWARD J. SCHUMAN, a citizen of the United States, residing at Frisco, in the county of Summit and State of Colorado, have invented certain new and useful Improvements in Cotton-Choppers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to cotton-choppers; and it consists in the parts which will be hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 represents a side elevation of my invention. Fig. 2 is a top plan view. Fig. 3 is a side elevation of the cotton-choppers, the spokes to which they are secured, and the inner collar and shaft; and Fig. 4 is a detail of one of the double joints or hinges of the main frame.

Like letters indicate like parts in the several views.

The letter A represents the main axle provided with wheels B B, rigidly secured thereto.

C indicates a three-sided rectangular frame-work provided near its ends with boxes C', by means of which said frame is secured to the axle A. The axle is freely movable in said boxes.

The axle A is provided with a laterally-movable wheel, D. Said wheel is circumferentially concavo-convexed. The convexed side thereof is provided with cogs D'. Said wheel is also provided with a hub, D². Said hub is provided with a circumferential groove, *d*. A spline or feather, *d'*, is seated in and secured to the axle A. Said spline engages a transverse recess, *d''*, on the inner side of the hub of the wheel D.

The letter E represents a lever rigidly secured at one end to a shaft, E'. Said shaft is provided on its inner end with a fork, F, rigidly secured thereto. The lines of said fork F lie within the groove *d* of the hub D². Said shaft is secured to the front frame-piece, C, by means of boxes *e e*, and it is longitudinally movable in said boxes.

A' represents a collar fixed on the shaft A. A spiral spring, *a*, encircles the shaft A. The

ends of said spring lie and press, respectively, against the collar A' and the hub D².

G represents the two parallel side bars of the rear frame, and G' the rear transverse cross-piece uniting said bars.

G² indicates a cross-bar in advance of the cross-bar G', uniting the side bars, G.

H represents a shaft provided with collars *h h*. Said shaft is mounted in boxes H' on the cross-bars G' G², and it is provided with a sleeve, I, secured thereto. I' represents a series of spokes whose inner ends are fixed to the sleeve I. These spokes are arranged in sets, two constituting a set. The outer ends

of each set are provided with a chopper, K. One spoke in each set is placed in advance of its companion spoke. The spokes are bent and provided with openings for the reception of bolts. The bolts K' engage the chopper to outer the ends of the spokes. Each chopper is arranged obliquely to the axis of the shaft H,

so as to facilitate the chopping. The forward end of the shaft H is provided with a convexed cog-wheel, J, rigidly secured thereto. The forward cross-bar, G², is provided with two plows, L L, which are laterally and vertically adjustable. Each plow is provided with two parallel right-angled standards, *l l*. The bar G² lies between each set of standards. That portion of the standards which lies against the bar G² is provided with a series of openings, *m m*.

M represents a threaded bolt and nut, by means of which the plows and their standards are adjustably secured to the bar G². Said bar is provided with a series of openings, *g*, for the reception of the bolt M. By means of the openings *m* in the standards, the openings *g* in the bar, and the bolt M said standards and attached plows may be either vertically or laterally adjustable on the bar G². The rear plows, P, their standards P', bolts P², and openings P³ in the rear cross-bar, G', are substantially identical with the plows, standards, bolts, and openings described in connection with the forward cross-bar, G². The function of the forward set of plows is to "bar off," while those in the rear are to "dirt the plant."

The forward end of each frame-piece G is provided with a strap-boxing, Q, which en-

gages the axle A, and in which said axle may turn freely. The boxing Q is united by means of bolts Q¹. The rear end of each box terminates in two arms, Q², each of which is provided with an opening for the reception of a bolt, Q³. The forward end of each frame-piece G is provided with a top and bottom bar, R, which extends forward in advance of said frame-piece. Said bars are provided with openings for the reception of the bolt Q³. Said bolt is provided with a sleeve, R', interposed between the bars R R, so as to prevent said bars from being bent or forced together. By means of the double joint, as shown in Fig. 4, the rear part of the machine may be raised or lowered and moved sidewise in the arc of a circle.

The letter S represents four pivotal bolts, one on each end of the cross-bars G' G². By means of these bolts the side frame-pieces are jointly attached to the cross-pieces, and they thus provide a flexible frame and permit a lateral movement of the rear of the machine.

T represents two handles having their inner ends rigidly secured to the rear frame-pieces, G, and T' standard-braces uniting said handles and frame pieces. The handles are united by a horizontal cross-piece, T².

The letter U represents two arms secured to and extending rearwardly from the rear cross-piece, G'.

U' represents a rock-shaft having its outer ends journaled in openings in the outer ends of the arms U. On one end of the shaft U is secured a short arm, U². The other end of said shaft is provided with a lever, V, rigidly secured thereto.

W represents an elevated frame-work mounted upon and secured to the forward part of the frame.

W' indicates a horizontal rotary shaft having its ends journaled in the upper ends, respectively of the frame-pieces W. Said shaft is provided with two grooved pulleys, W².

X X' represent two ropes. These ropes respectively are passed over the pulleys W². One end of the rope X is secured to a staple, X², on the outside of one of the side bars, G. The other end of said rope X is secured to the outer end of the arm U². One end of the rope X' is secured to the side of the frame G, the other end of said rope being engaged at V' to the lever V.

The operation of the invention is as follows: When the machine is moved forward, the main wheels B and axle A are rotated. The movement rotates the cogs D and J, the shaft H,

spokes I', and choppers K. The spring a normally holds the cog-wheel D in gear with the cog J. These cogs are thrown out of gear by means of the lever E, shaft E', and fork F. Said lever, shaft, and fork are laterally movable, said fork being engaged in a recess or circumferential groove formed in the hub D². When the cogs D J are thrown out of gear, the shaft H and choppers K lie idle. While thus idle the rear part of the machine may be elevated by moving the lever V rearward. This movement actuates both ropes X X', causing the upper side of each rope to move rearward and the under side of each to move forward. This movement of the ropes, attached as shown, elevates the rear part of the machine. The movements of the several parts during this operation are indicated by the arrows. The adjustable and swinging features of the rear part of the device enables the operator to chop out cotton whether in a straight or crooked line, and the adjustable features of the plows permit them to be worked at any required depth or width apart, or they may be removed and changed at pleasure.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination, with the main shaft and wheels of the front and rear frame-sections hinged thereto, of grooved pulleys mounted above the frame of the machine, a rock-shaft mounted at the rear of the machine, one end of said shaft being provided with a lever, the other with a short arm rigidly secured thereto, and two ropes each passing around one of the pulleys aforesaid, one end of the rope on one side being secured to the lever between its fulcrum and handle, the other end of said rope being secured to the side of the machine, the other rope having its respective ends engaged to the outer end of the short arm aforesaid and the side of the machine, substantially as described, and for the purposes set forth.

2. The combination, with the main frame C, the main shaft A and its wheels, and the journal-boxes Q, having arms Q², of the rear flexible frame, G, carrying the chopper-shaft and provided with front and rear plows adjustable thereon, and means for raising and supporting said flexible frame upon the main frame, substantially as specified.

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

EDWARD J. SCHUMAN.

Witnesses:

AILE. PRUDHOMME,
E. E. BUCKNER.