(No Model.)

W. H. ESTES.

COMBINED COTTON CHOPPER, SCRAPER, AND CULTIVATOR.

No. 342,342. Patented May 25, 1886.

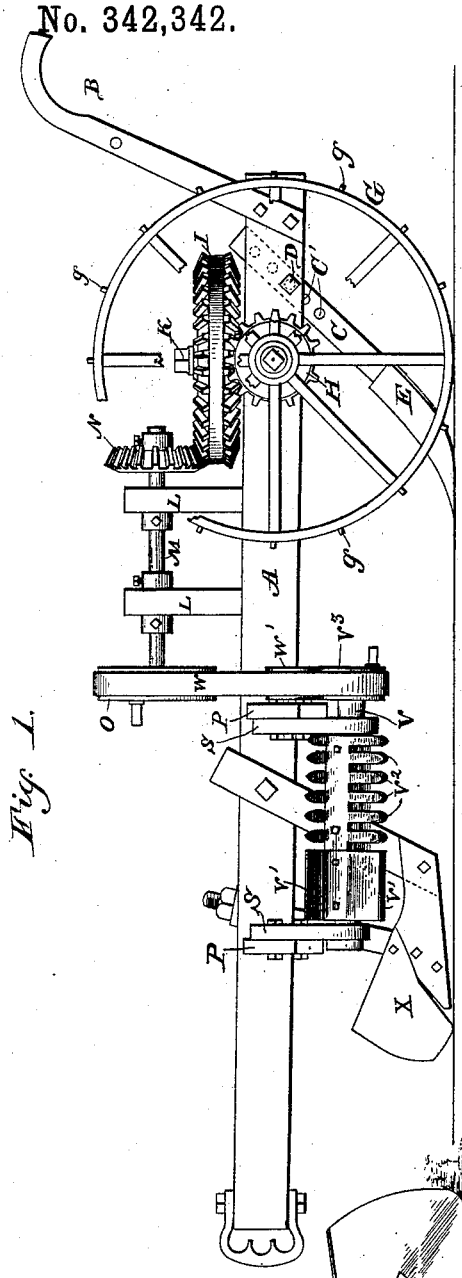

Fig. 1.

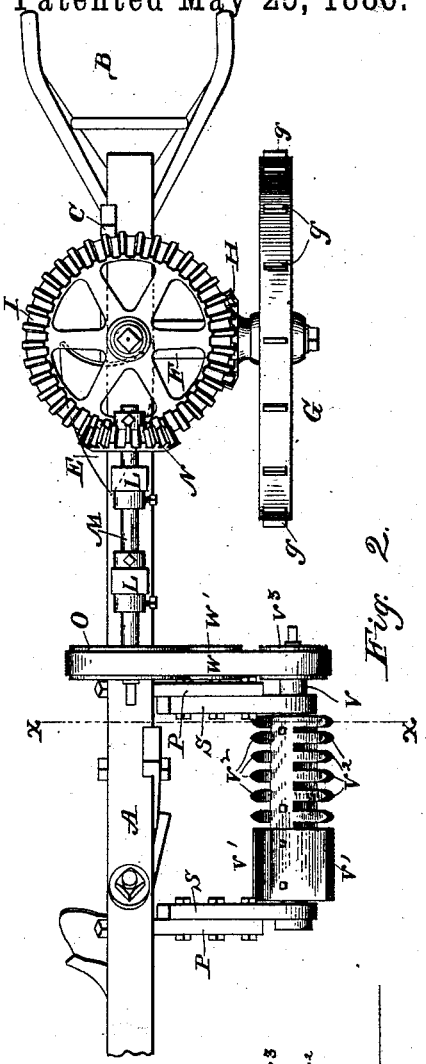

Fig. 2.

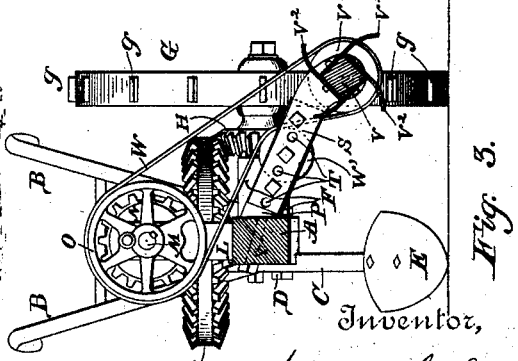

Fig. 3.

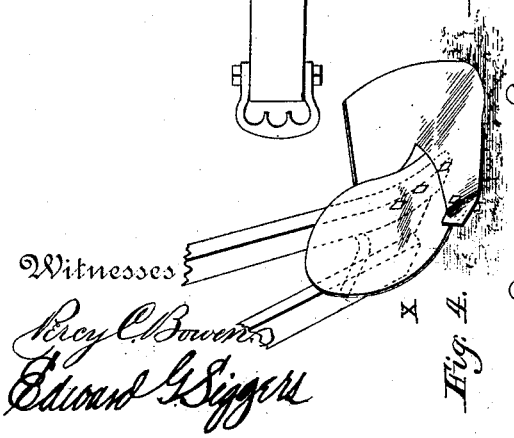

Fig. 4.

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UNITED STATES PATENT OFFICE.

WILLIAM HAMPTON ESTES, OF CANTON, MISSISSIPPI.

COMBINED COTTON CHOPPER, SCRAPER, AND CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 342,342, dated May 25, 1886.

Application filed February 26, 1886. Serial No. 193,325. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM HAMPTON ESTES, a citizen of the United States, residing at Canton, in the county of Madison and State of Mississippi, have invented a new and useful Improvement in a Combined Cotton Chopper, Scraper, and Cultivator, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to an improvement in a combined cotton chopper, scraper, and cultivator; and it consists in the peculiar construction and combination of parts, that will be more fully set forth hereinafter, and particularly pointed out in the claims.

In the drawings, Figure 1 is a side elevation of my invention. Fig. 2 is a top plan view of the same. Fig. 3 is a transverse sectional view, taken on the line *x x* of Fig. 2, looking rearwardly. Fig. 4 is a detail perspective view of the cotton-scraper.

A represents the beam, which is provided at its rear end with the usual plow-handles, B. Near the rear end of the beam is secured a standard, C, which works in an inclined groove which is made on one side of the beam, and is provided with a vertical series of openings, C′, through one of which and through the beam passes a transverse bolt, D, by means of which the standard may be secured to the beam at any desired vertical adjustment. The lower end of the standard is provided with the usual cultivating-shovel, E.

From one side of the beam A, at a suitable distance from the rear end thereof, projects an axle, F, on which is mounted a driving-wheel, G, which is provided with the usual projecting points, *g*, on its periphery for engaging with the ground and causing the said wheel to be rotated as the machine is drawn along. Formed with or secured to the wheel G is a gear-wheel, H, which meshes with a horizontal idle gear-wheel, I, which is mounted on a vertical spindle, K, that projects from the upper side of the beam.

L represents vertical standards, which extend from the upper side of the beam A, in front of the spindle K, and in the said standards is journaled a horizontal longitudinal shaft, M, the rear end of which carries a gear-wheel, N, which is fixed to the said shaft and meshes with the idle gear-wheel I. To the front end of the shaft M is secured a belt-wheel, O.

P represents a pair of transverse arms, which project from the same side of the beam A with the axle, and are arranged at a suitable distance in front of the standards L. To the arms P are bolted a pair of arms, S, which are provided each with a horizontal series of openings, T, by means of which the said arms S may be secured to the arms P at any desired lateral adjustment from the beam A. In the outer ends of the arms S is journaled a horizontal shaft, V.

V′ represents a series of chopping-hoes, which are adapted to be fitted on the square sides of the front end of shaft V, and are removably secured thereto by means of bolts or screws, or other suitable clamping devices. V^2 represents a series of chopping-fingers, which project from metallic plates that are adapted to be fitted on the square sides of the shaft V in rear of the chopping-hoes, and are also made detachable from the said shaft, and are provided with bolts, screws, or other suitable devices for securing them to the shaft.

To the rear end of the shaft V is secured a band-pulley, V^3. An endless belt, W, connects the band-wheel O with the band-pulley V^3, and the lower side of this belt passes over a tightening-pulley, W′, that is journaled on a bolt which projects from the rear side of the rear arm, P.

X represents a cotton-scraper, which is of the usual preferred form, and is secured to the beam A at a suitable distance from the front end thereof.

In order to operate my invention, the arms S are adjusted to suit the width of the rows of cotton-plants to be cultivated, and the machine is drawn along the rows and astride of the latter, the cotton-scraper and the cultivating-shovel being on one side of the row and the chopper and driving-wheel being on the opposite side thereof. When the machine is to be used to chop and thin the cotton, one of the chopping-hoes is attached to the shaft V, and one set of chopping-fingers is also attached to the same side of the shaft in rear of the hoe. As the machine advances, the cotton-plants are scraped by the scraper, and the rotating shaft V causes the hoe to chop or block out some of the plants, and those which are left

standing by the hoe are thinned by the succeeding action of the chopping-fingers.

In order to successfully cultivate cotton it is necessary to keep down the grass and weeds. To do this while the machine is used to cultivate the cotton, as will be readily understood, the chopping hoes and fingers are attached to all four sides of the shaft V, as shown in the drawings, and the said shaft is adjusted laterally from the beam A, far enough to cause the hoes and choppers to clear the row of cotton-plants. The rotation of the shaft V when the machine is in motion causes the hoes and fingers by their continuous operation to thoroughly chop out and destroy the grass and weeds alongside the cotton rows.

The shovel E serves to cultivate the plants while being thinned and scraped.

If preferred, the endless belt and tightening-pulley may be dispensed with, and the cotton-chopper actuated by means of a pitman-rod connecting the wheels O and V^3.

Having thus described my invention, I claim—

1. In a cotton chopper and cultivator, the combination of the rotating laterally-adjustable shaft V and the chopping-hoes V′ and chopping-fingers V^2, detachably secured to the said shaft, substantially as described.

2. In a cotton-chopper, the rotating shaft V, having the detachable chopping-hoes V′ (one or more) and the detachable series of chopping-fingers V^2 (one or more) in rear of the chopping-hoes, for the purpose set forth, substantially as described.

3. The combination, in a cotton-chopper, of the beam A, carrying the cultivating-shovel or the scraper and having the arms P extending from one side of the said beam, the arm S, secured to the arms P and laterally adjustable thereon with relation to the beam A, and the rotating cotton-chopper journaled in the outer ends of the adjustable arms S, substantially as described.

4. The combination of the beam A, carrying the cultivating-shovel and the cotton-scraper, and having the axle and the arms P projecting from one side thereof, the driving-wheel mounted on the axle and carrying the gear-wheel H, the idle gear-wheel I, meshing with the wheel H, the gear-wheel N, meshing with the idle-wheel I, the shaft M, on which the wheel N is secured and carrying the wheel O. the arms S, secured to the arms P, the rotating cotton-chopper journaled in the outer ends of the arms S and carrying the wheel V^3, and means connecting the wheel V^3 with the wheel O, for actuating the cotton-chopper as the machine advances, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

WILLIAM HAMPTON ESTES.

Witnesses:
J. M. RANDEL,
J. W. JOYCE.