

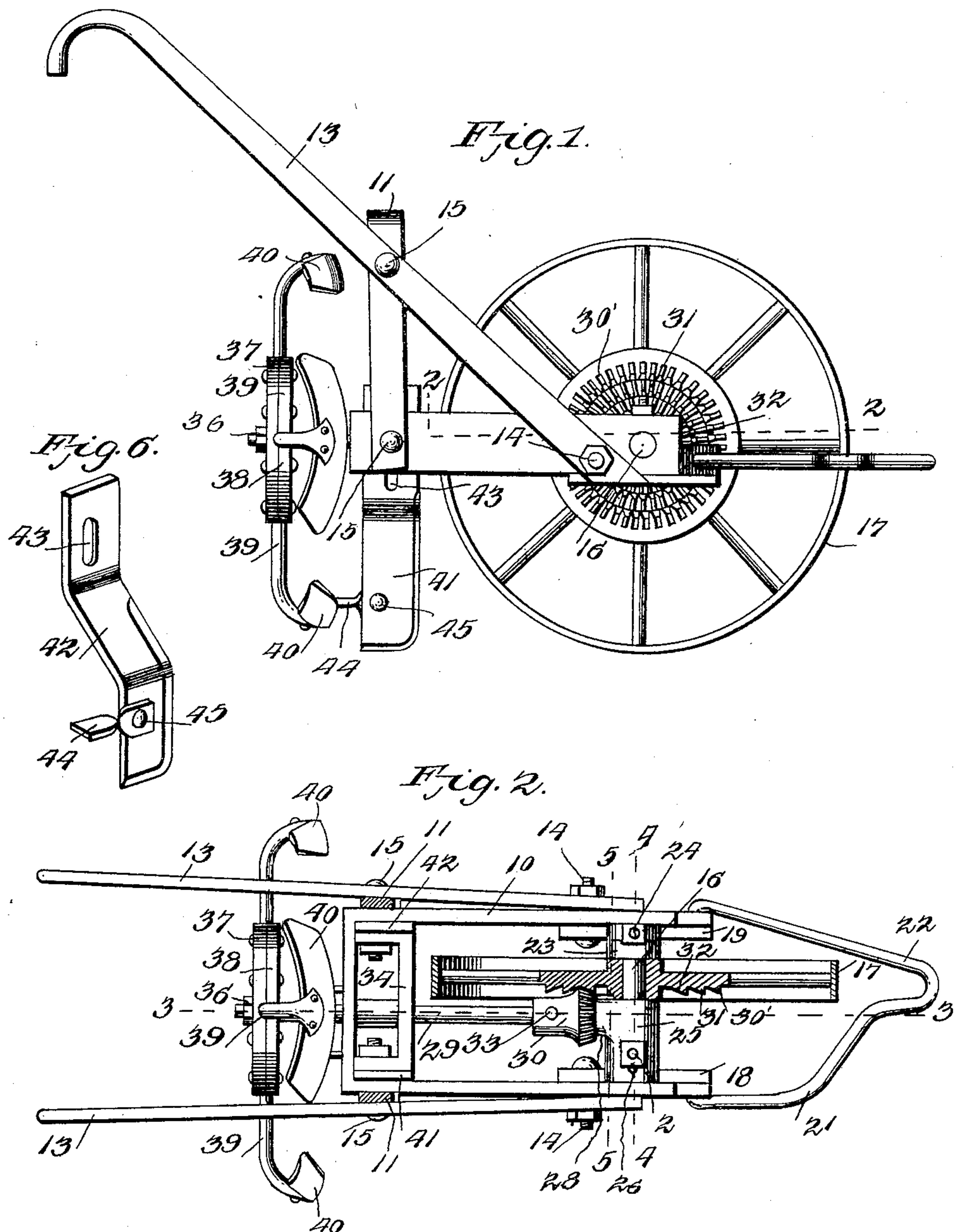
No. 822,823

PATENTED JUNE 5, 1906.

O. L. CARMICAL.
COTTON CHOPPING MACHINE.

APPLICATION FILED DEC. 27, 1904.

2 SHEETS--SHEET 1.



Witnesses
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By

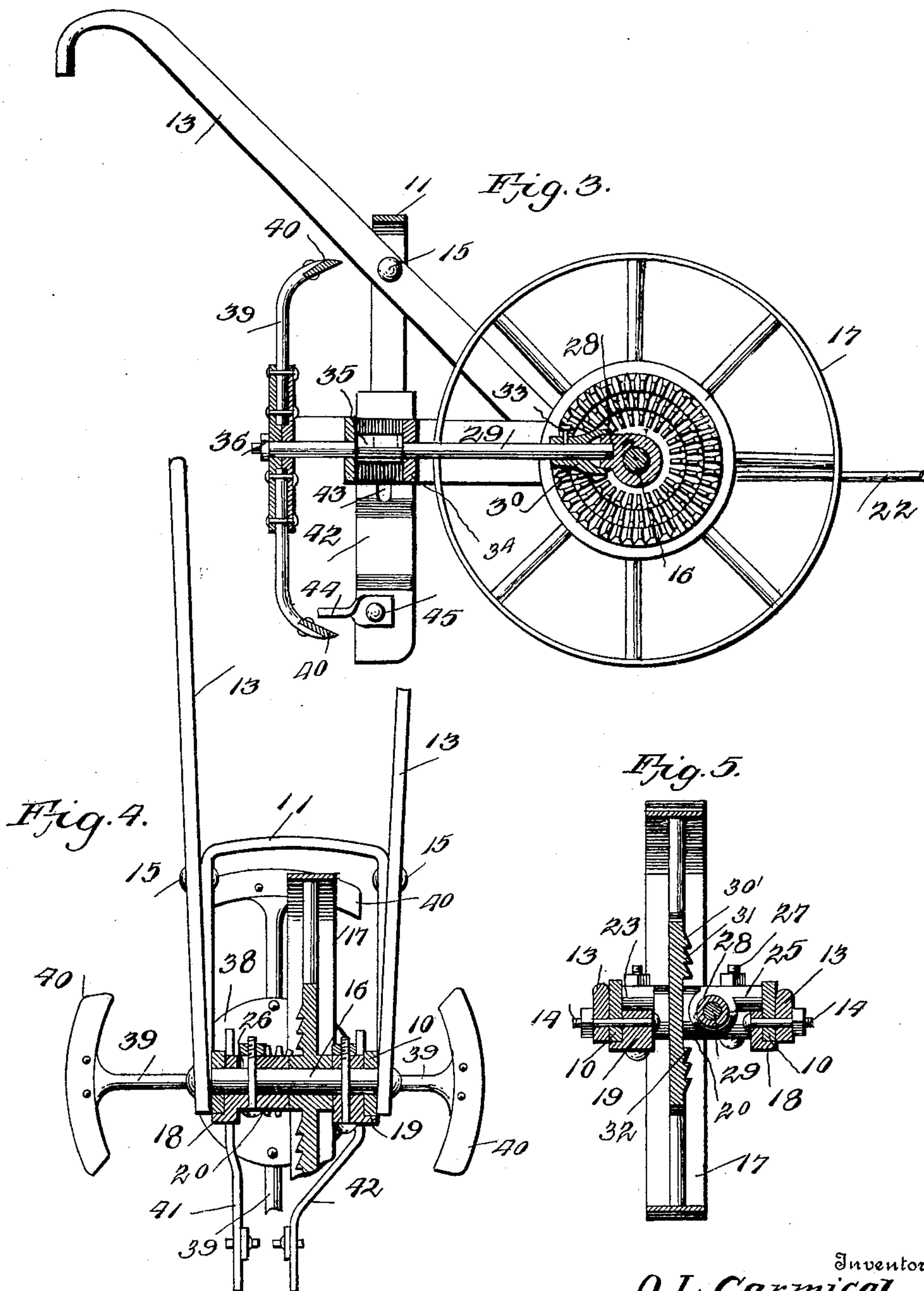
Victor J. Evans
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UNITED STATES PATENT OFFICE.

OLIVER LEE CARMICAL, OF HAPEVILLE, GEORGIA.

COTTON-CHOPPING MACHINE.

No. 822,823.

Specification of Letters Patent.

Patented June 5, 1906.

Application filed December 27, 1904. Serial No. 238,357.

To all whom it may concern:

Be it known that I, OLIVER LEE CARMICAL, a citizen of the United States, residing at Hapeville, in the county of Fulton and State of Georgia, have invented new and useful Improvements in Cotton-Chopping Machines, of which the following is a specification.

This invention relates to cotton-chopping machines.

The objects of the invention are to improve and simplify the construction of such devices; furthermore, to increase their efficiency and operation and to decrease the expense attending their manufacture.

With the foregoing and other minor objects in view, which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed as a practical embodiment thereof.

In the accompanying drawings, Figure 1 is a side elevation of a cotton-chopping device constructed in accordance with the invention. Fig. 2 is a horizontal section on the line 2 2 of Fig. 1. Fig. 3 is a vertical section on the line 3 3 of Fig. 2. Fig. 4 is a vertical transverse section on the line 4 4 of Fig. 2 looking from the front. Fig. 5 is a similar section taken on the line 5 5 of Fig. 2 looking from the rear. Fig. 6 is a perspective view of one of the vertically-adjustable blades.

Like reference-numerals indicate corresponding parts in the different views.

The frame of the improved cotton-chopping device may be of any suitable form and construction. In the embodiment of invention illustrated the frame consists, preferably of a U-shaped yoke 10, which is open toward the forward end of the device. The yoke 10 at its rear end is straddled by a U-shaped brace 11, which is secured to the yoke 10 by means of bolts 12. The handles 13 of the device are secured at their forward lower ends to the yoke 10 by means of bolts 14, said handles being secured to the brace 11 by means of bolts 15.

Fixed between the forward ends of the yoke 10 is a non-rotatable axle 16, on which is rotatably mounted a driving-wheel 17. Secured to the forward ends of the yoke 10 below the axle 16, by means of the bolts 14, is a pair of brackets 18 19, the bracket 18 being provided with a semicylindrical sleeve portion 20, which serves to hold the driving-wheel 17 nearer to one side of the frame than the other. Secured

to the forward ends of the brackets 18 19 is a draft member 21, the loop portion 22 of which is arranged directly in front of the driving-wheel 17. It will be understood that the draft-animal is hooked to the draft member 21. A semicylindrical sleeve 23 is disposed above the axle 16 and is attached to said axle and to the bracket 19 by means of a bolt 24. A semicylindrical sleeve 25, having therein a slot 26, is secured to the bracket 18 and to the shaft 16 by means of a bolt 27. The sleeve 25 is provided with a socket 28, in which is stepped the forward end of a shaft 29, which is provided with a longitudinally-adjustable pinion 30, adapted to be thrown into mesh with any one of a plurality of concentrically-arranged gear elements 30' 31 32 upon the driving-wheel 17. The longitudinal adjustability of the pinion 30 is secured, preferably, by means of a set-screw 33. At its rear end the shaft 29 extends through a brace-piece 34, which is arranged inside the yoke 10. The shaft 29 also extends through the rear end of the yoke 10, a collar or enlargement 35 being provided on said shaft 29 between the brace-piece 34 and the rear end of the yoke 10 to prevent longitudinal movement of said shaft. At its rear end the shaft 29 has rigidly secured thereto, by means of a nut 36, a pair of clamping-disks 37 38, between which are removably clamped the shanks 39 of cotton-choppers 40, the disks 37 38 and the cotton-choppers 40 constituting a cotton-chopping wheel. The diameter of the cotton-chopping wheel can be changed or regulated readily by adjusting the shanks 39 of the cotton-choppers 40 inward or outward or by removing said cotton-choppers and replacing them with similar choppers having longer or shorter shanks.

Disposed between the ends of the brace-piece 34 and the yoke 10 is a pair of vertically-adjustable blades 41 42, which are held in position by means of the bolts 12, the vertical adjustment of said blades 41 and 42 being secured, preferably, by forming therein longitudinal slots 43. These blades serve to enter the ground during the operation of the chopper and in conjunction with the stops hereinafter referred to gage the cutting depth of the apparatus. The blade 42 preferably is bent intermediate its ends, so that its lower portion is disposed at the side of the frame opposite the driving-wheel 17. In other words, the blade 42 is out of line with the wheel 17, so that the row of cotton-plants

which is straddled by the blades 41 42 will be out of line with the wheel 17. Each of the blades 41 42 is provided at its lower end with a stop device 44, which preferably is in the form of a piece of twisted steel secured to the blade by means of a bolt 45. The stops 44 limit the extent to which the blades 41 42 will project into the ground during the cotton-chopping operation.

Constructed as above described the operation of the improved device is as follows: When it is desired to cut a greater or lesser number of plants in a row, the pinion 30 is adjusted longitudinally upon the shaft 29, so that it registers with one or the other of the concentric gear elements on the driving-wheel 17. In other words, when the pinion 30 is intermeshed with the smallest of the concentric gear elements the chopping-wheel will be rotated rapidly and a larger number of plants in a row will be chopped. When the pinion is intermeshed with either of the other gear elements, the speed of the chopping-wheel will be decreased, and consequently a larger number of plants in a row will remain uncut. The choppers 40 of the cotton-chopping wheel operate immediately below the stops 44 on the vertically-adjustable blades 41 42. When the diameter of the cotton-chopping wheel is increased or decreased by adjusting the shanks 39 away from or toward the center of the disks 37 38 or by substituting a different set of shanks and choppers, the blades 41 42 are adjusted vertically in order that the stops 44 will cooperate properly with the changed adjustment of the cotton-chopping wheel. It will be understood that the arrangement of the driving-wheel 17 at one side of the frame will prevent said wheel from running upon the row of plants which pass between the blades 41 42. The sleeve 25, having the slot 26 and the socket 28, is adapted to be adjusted away from the driving-wheel 17 when it is desired to move the pinion 30 longitudinally upon the shaft 29 to disengage it from one of the concentric gear elements and to engage it with another.

Changes in the precise embodiment of invention illustrated and described may be made within the scope of the following claims without departing from the spirit of the invention or sacrificing any of its advantages.

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

1. In a cotton-chopping machine, a frame, a driving-wheel journaled in the frame and provided with gear elements, a brace secured to the frame, a shaft journaled on the frame and having engagement with said gear elements, said shaft being provided with an enlargement positioned between the brace and the frame to prevent the shaft from moving longitudinally, and a chopping-wheel secured to the shaft.

2. In a cotton-chopping machine, a frame, a driving-wheel journaled in the frame and provided with gear elements, a brace secured on the frame, a shaft journaled on the frame and having engagement with said gear elements, said shaft being provided with an enlargement located between the brace and the frame to prevent the shaft from having longitudinal movement, a chopping-wheel secured to the shaft, blades provided with stop devices and having elongated openings, and means carried by the frame for engagement with said openings to adjustably secure the blades on the frame.

3. In combination with a cotton-chopping machine, of blades adjustably secured to the machine and provided with stop devices, one of said blades being bent intermediate its ends to dispose its lower portion out of alignment with the driving-wheel on the machine.

4. In a cotton-chopping machine, a frame, a driving-wheel journaled on the frame and provided with gear elements, a brace mounted on the frame, a shaft journaled on the frame and having engagement with said gear elements, said shaft being provided with an enlargement located between the brace and the frame to prevent the shaft from having longitudinal movement, a chopping-wheel secured to the shaft, blades provided with stop devices, and means for securing the blades adjustably to the frame, said means also securing the brace to the frame.

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

OLIVER LEE CARMICAL.

Witnesses:

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I. C. McCRORY.