(No Model.) 2 Sheets—Sheet 1.

H. HENRIKSEN.

COTTON CHOPPER ATTACHMENT FOR CULTIVATORS.

No. 327,681. Patented Oct. 6, 1885.

Fig: 1.

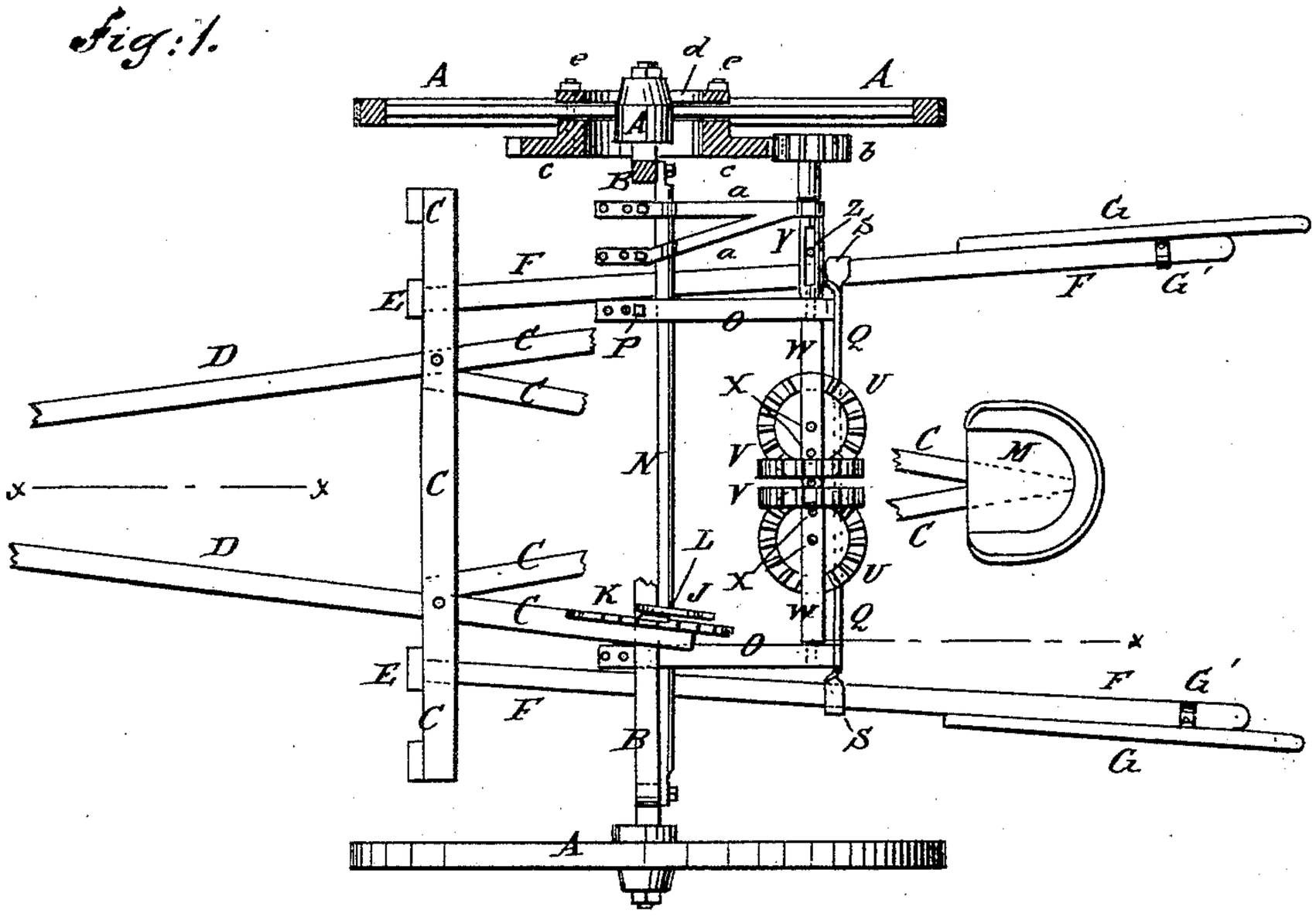
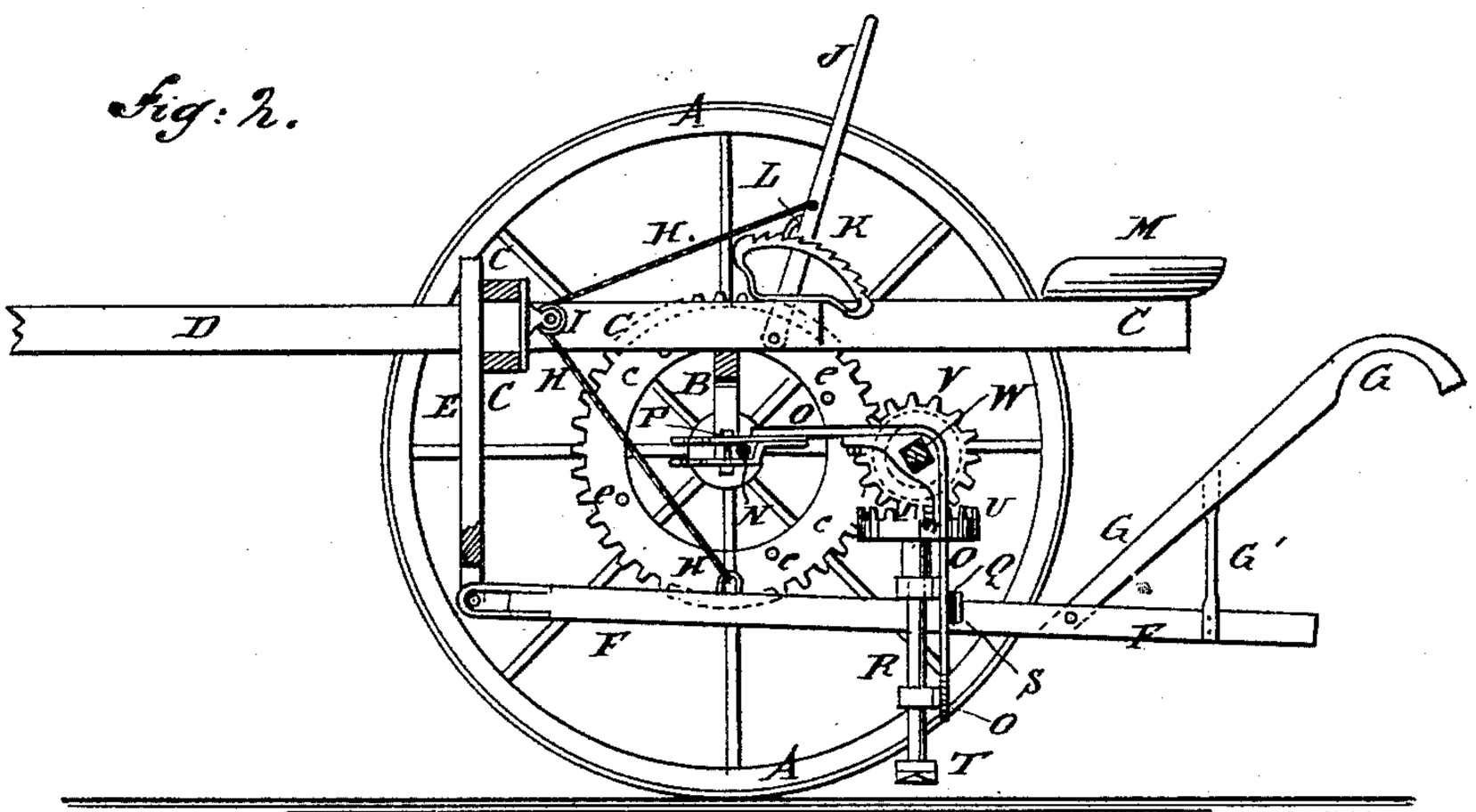


Fig: 2.



WITNESSES:

Chas. Nida

Jno. Mathew Ritter

INVENTOR:

H. Henriksen

BY Munn & Co

ATTORNEYS.

(No Model.) 2 Sheets—Sheet 2.

H. HENRIKSEN.

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Fig: 3.

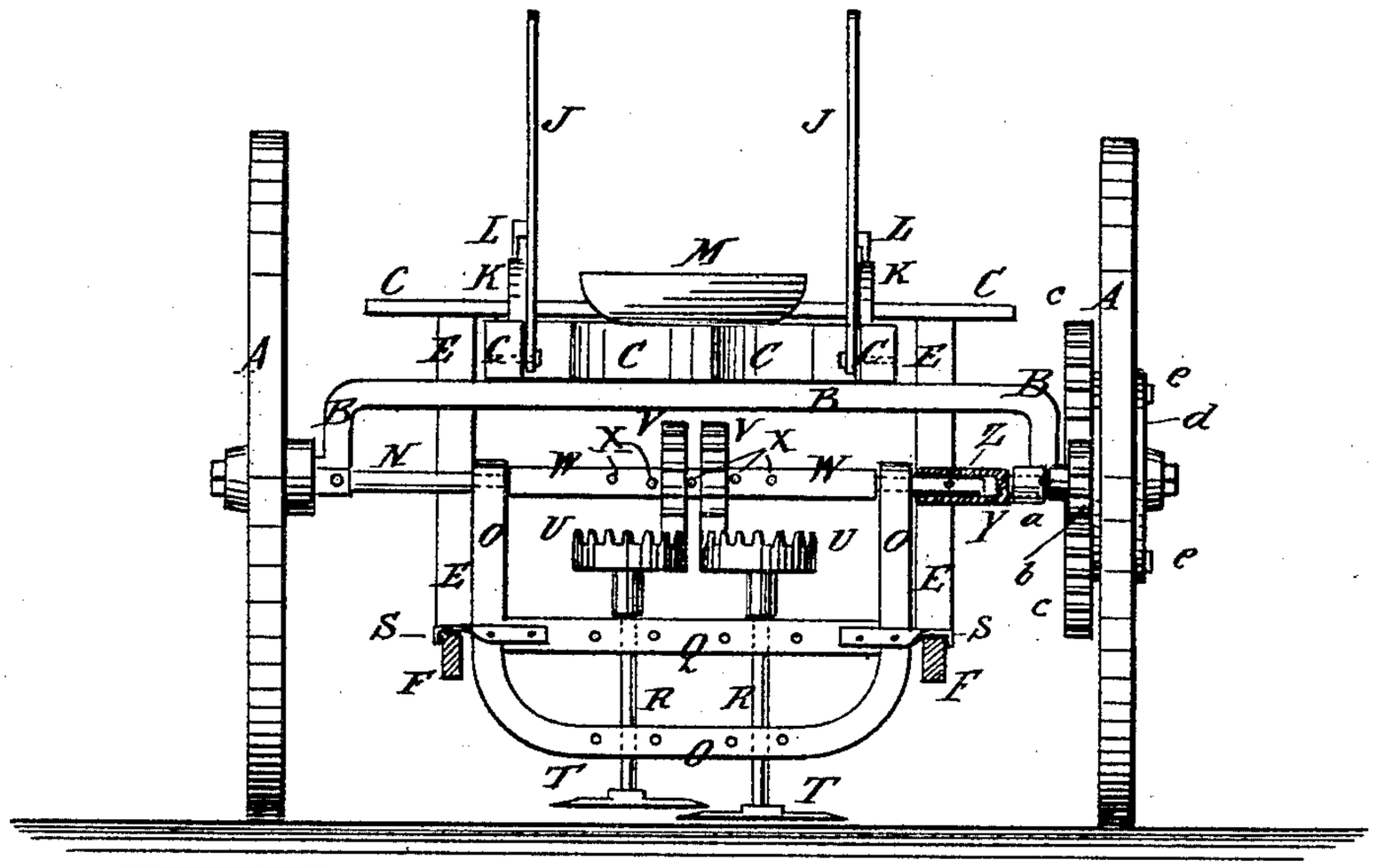

Fig: 5.

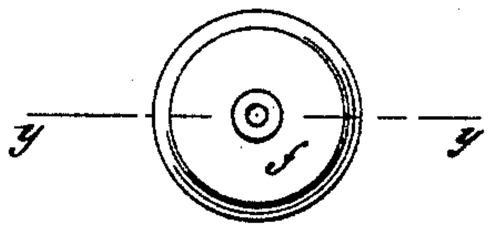

Fig: 4.

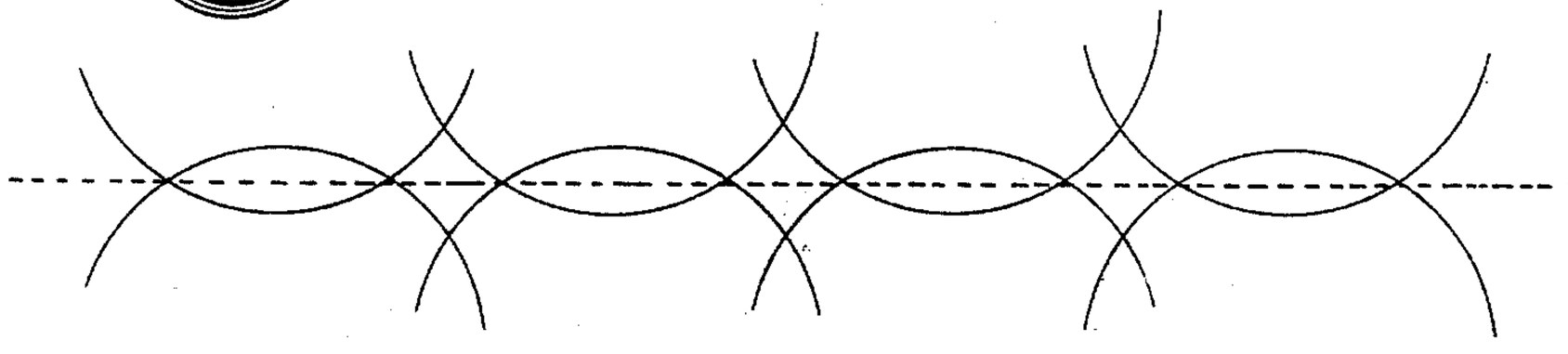

Fig: 6

WITNESSES:

Chas. Nida.

Jno. Mather Ritter

INVENTOR:

H. Henriksen

BY Munn & Co

ATTORNEYS.

UNITED STATES PATENT OFFICE.

HANS HENRIKSEN, OF DUARTE, CALIFORNIA.

COTTON-CHOPPER ATTACHMENT FOR CULTIVATORS.

SPECIFICATION forming part of Letters Patent No. 327,681, dated October 6, 1885.

Application filed July 28, 1885. Serial No. 172,876. (No model.)

To all whom it may concern:

Be it known that I, HANS HENRIKSEN, of Duarte, in the county of Los Angeles and State of California, have invented certain new and useful Improvements in Cotton-Chopper Attachments for Cultivators, of which the following is a full, clear, and exact description.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view of a cultivator to which my improvement has been applied, parts of the cultivator being broken away. Fig. 2 is a sectional side elevation of the same, taken through the line *x x*, Fig. 1. Fig. 3 is a rear elevation of the same, the cultivator-beams being shown in section. Fig. 4 is a diagram illustrating the cuttings. Fig. 5 is a plan view of a circular cutter. Fig. 6 is a sectional elevation of the same, taken through the line *y y*, Fig. 5.

The object of this invention is to provide cotton-chopper attachments for cultivators constructed in such a manner that they can be readily applied to any ordinary cultivator and can be made to chop the cotton to any desired stand.

The invention consists in the construction and combination of the various parts of the attachment, and in their combination with a cultivator, as will be hereinafter fully described and then claimed.

A represents the wheels, B the axle, and C the frame, of the cultivator.

D are the shafts. E are the draw-bars. F are the plow-beams; and G are the handles, which are strengthened in position by braces G′.

H are the ropes or chains, I are the guide-pulleys, and J are the levers, for raising and lowering the cultivator-beams.

K are the catch-bars, and L are the pawls, for holding the adjusting-levers in place, and M is the driver's seat, about the construction of which parts there is nothing new.

To the axle B are attached the ends of a rod, N, in such a position that the said rod will be in line, or nearly in line, with the axis of the wheels A.

Upon the rod N is placed the forked or slotted forward ends of the arms of the U-shaped bar O, which are secured to the said rod by bolts P, so that the bar O can swing upon the rod N as a pivot. Several holes are formed in the forked or slotted ends of the bar O to receive the bolts P, so that the said bar O can be adjusted forward or backward upon the rod N, as may be required.

To the vertical parts of the bar O, at a little distance from its bend, are attached the ends of a cross-bar, Q, to which and to the said bend are attached bearings, in which revolve vertical shafts R. Several holes are formed in the cross-bar Q and in the bends of the bar O to receive the bolts that fasten the shaft-bearings, so that the shafts R can be adjusted at a greater or less distance apart, as may be desired.

To the ends of the cross-bar Q and to the arms of the bar O are attached arms S, which cross and rest upon the plow-beams F, and have their outer ends bent downward to keep them in place upon the said beams, so that the free end of the angular frame O Q will be raised and lowered by and with the said beams F, to cause the cutters to conform to the surface of the ground.

To the lower ends of the vertical shafts R are attached the centers of the cutters T, so that the said cutters will be carried around by and with the shafts R in their revolution. One of the shafts R is made a little shorter than the other to prevent the blades of the two cutters T from coming in contact as they pass each other, as illustrated in Fig. 3.

To the upper ends of the shafts R are attached gear-wheels U, the teeth of which mesh into the teeth of gear-wheels V, placed upon the square shaft W, and secured in place by pins X, passed through holes in the said shaft W upon the opposite sides of the said wheels. Several holes are formed through the shaft W to receive the pins X, so that the wheels V can be adjusted to correspond with the adjustment of the shafts R. The shaft W revolves in bearings secured in the angles of the bent arms of the U-bar O. One of the journals of the shaft W is extended to enter a longitudinal perforation in the extension-shaft Y, where it is secured in place by a pin, Z, passing through a slot in the perforated extension-shaft Y, and through a hole in the

journal of the shaft W, so that the shaft W will be carried around by and with the shaft Y in its revolution to give motion to the cutters T. With this construction the removal of the pin Z will release the shaft W, so that it will not be revolved by the revolution of the shaft Y, and the cutters will remain stationary while the machine is being drawn forward.

The extension-shaft Y revolves in bearings in the rear end of the bar *a*, the forward part of which is forked and has slot bearings provided with bolts in its forward ends to receive and rock upon the rod N, so that the bar *a* will be always parallel with the upper or horizontal part of the angular frame O Q and can be adjusted with the said frame.

To the outer end of the extension-shaft Y is attached a gear-wheel, *b*, the teeth of which mesh into the teeth of the gear-wheel *c*, placed upon the inner end of the hub of the wheel A and secured to the spokes of the said wheel by the annular clamping-plate *d* and the bolts *e*, passing through the said plate and wheel, so that the choppers will be driven from the wheel A.

The shafts R are designed to be made of such a length that the cutters T will revolve a little below the surface of the ground, so as to loosen the soil and to cut out the plants in those places where the blades of the said cutters cross the row of plants and overlap, as indicated by the diagram in Fig. 4, the diamond-shaped spaces in the said diagram representing the places where the plants are left for a stand.

The cutters T can be made to revolve slower or faster to leave more or fewer plants for a stand by exchanging the gear-wheel *b* for a larger or a smaller gear-wheel and adjusting the angular frame O Q and the brace-bar *a* accordingly.

When it is desired to only loosen the soil without chopping the plants, the cutters T are detached and replaced by circular cutters *f*, which may be of a less diameter than the length of the said cutters T. In this case the shafts R and gear-wheels V must be adjusted at such a distance apart that a sufficient space will be left between the adjacent edges of the cutters *f* to allow the said cutters to pass along the opposite sides of a row of plants without injuring the plants.

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

1. A cotton-chopper attachment for cultivators, constructed substantially as herein shown and described, and consisting of the rod N, the angular frame O Q, hinged to the said rod and provided with arms S to rest upon the plow-beams, the shafts R R W Y, journaled to the frame O Q, the cutters T, attached to the shafts R R, the gear-wheels U V, U V, connecting the shafts R R with the shaft W Y, and the gear-wheels *b c*, for connecting the said shaft W Y with the wheel of a cultivator, as set forth.

2. The combination, with the axle B, the wheel A, and the plow-beams F of a cultivator, of the rod N, attached to the cultivator-axle, the angular frame O Q, hinged to the rod N and provided with arms S resting upon the said plow-beams, the shafts R R W Y, journaled to the said angular frame, the cutters T, attached to the shafts R R, the gear-wheels U V, U V, connecting the shafts R R with the shaft W Y, and the gear-wheels *b c*, connecting the shaft W Y with the wheel A of the cultivator, substantially as herein shown and described, whereby the cotton-chopper attachment will be operated by the advance of the cultivator, and will be made to conform itself to the surface of the ground, as set forth.

HANS HENRIKSEN.

Witnesses:
JAS. C. KAYS,
F. HAMM.