

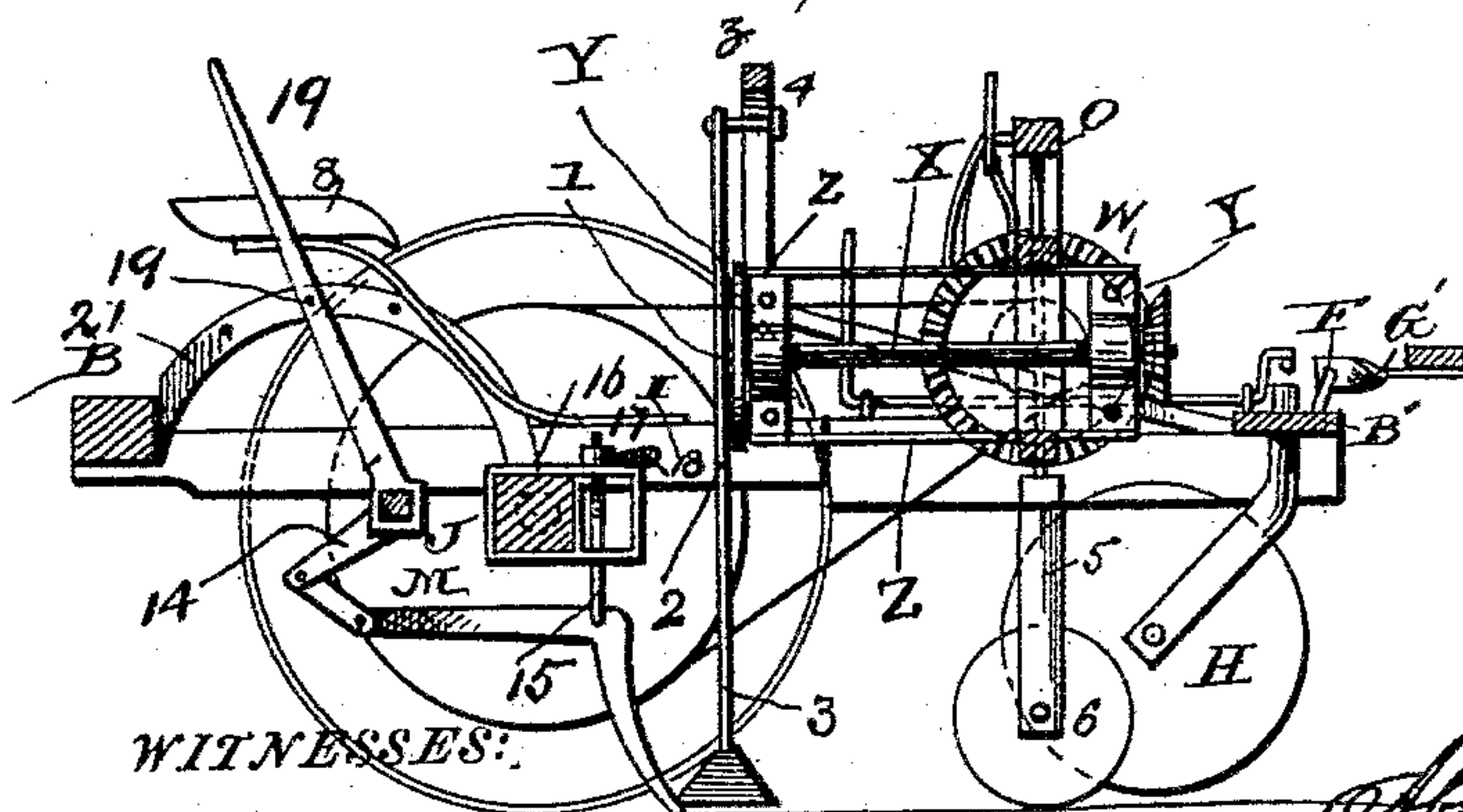
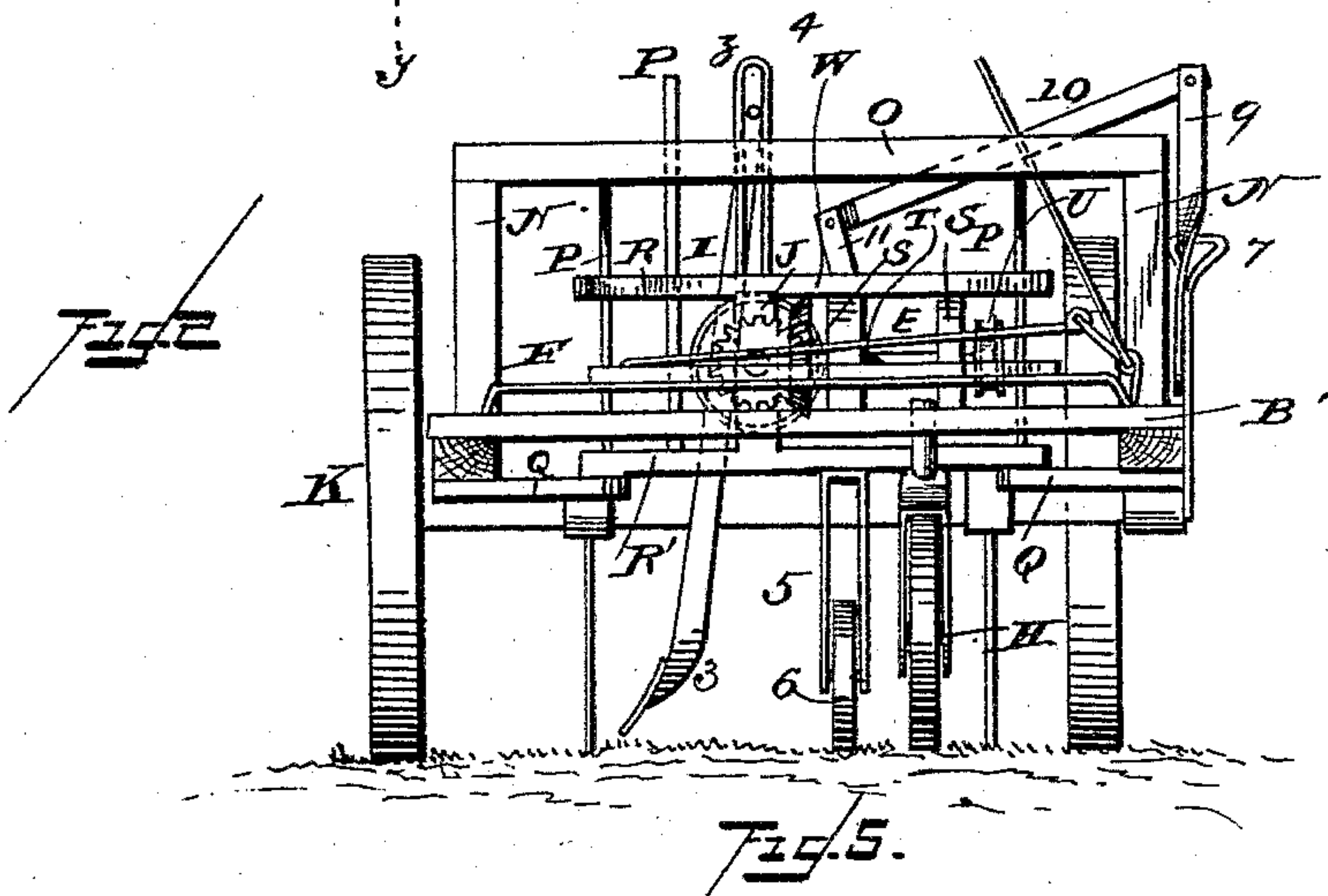
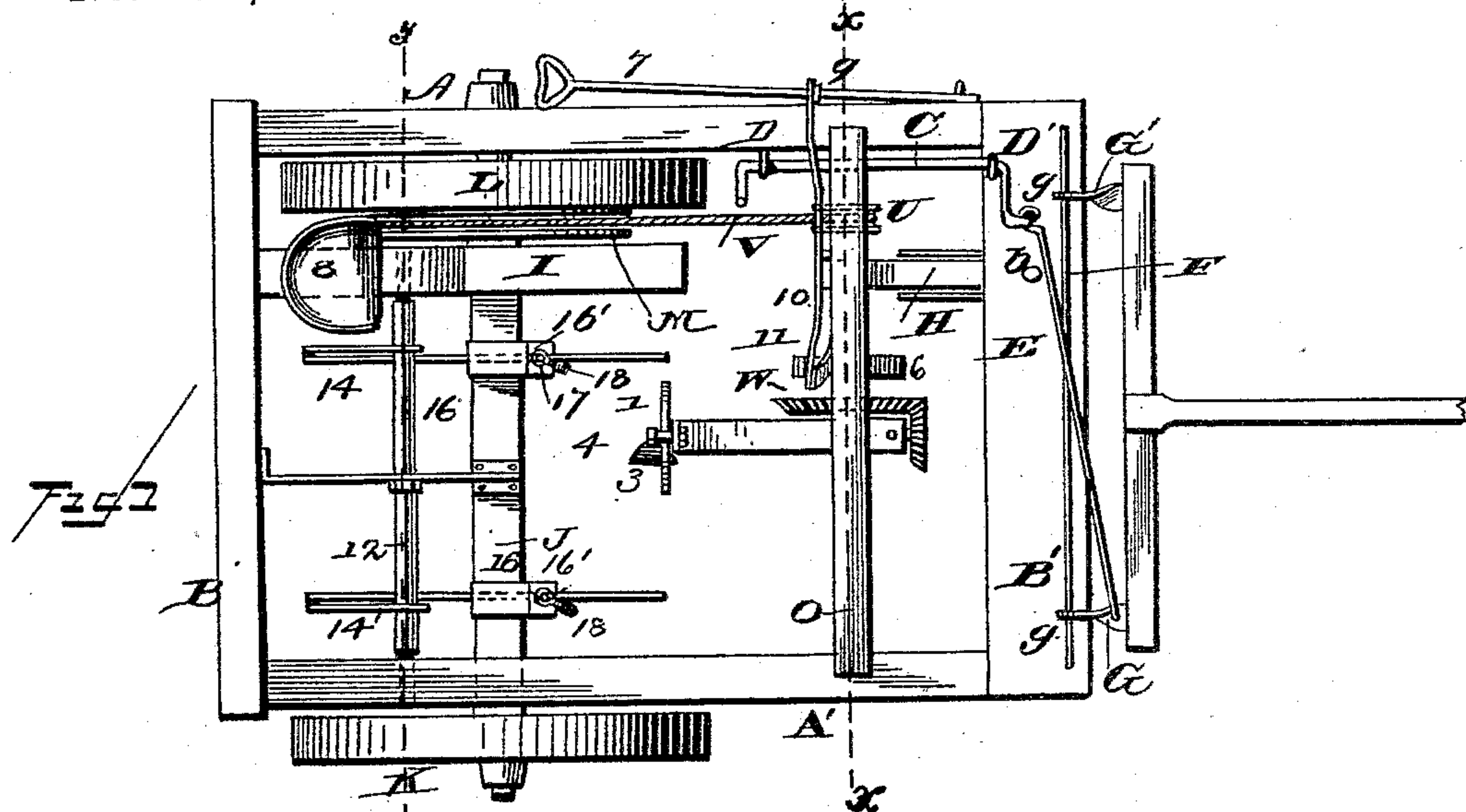
(No Model.)

2 Sheets—Sheet 1.

A. W. WEATHERLY.  
COMBINED COTTON CHOPPER AND CULTIVATOR.

No. 414,617.

Patented Nov. 5, 1889.



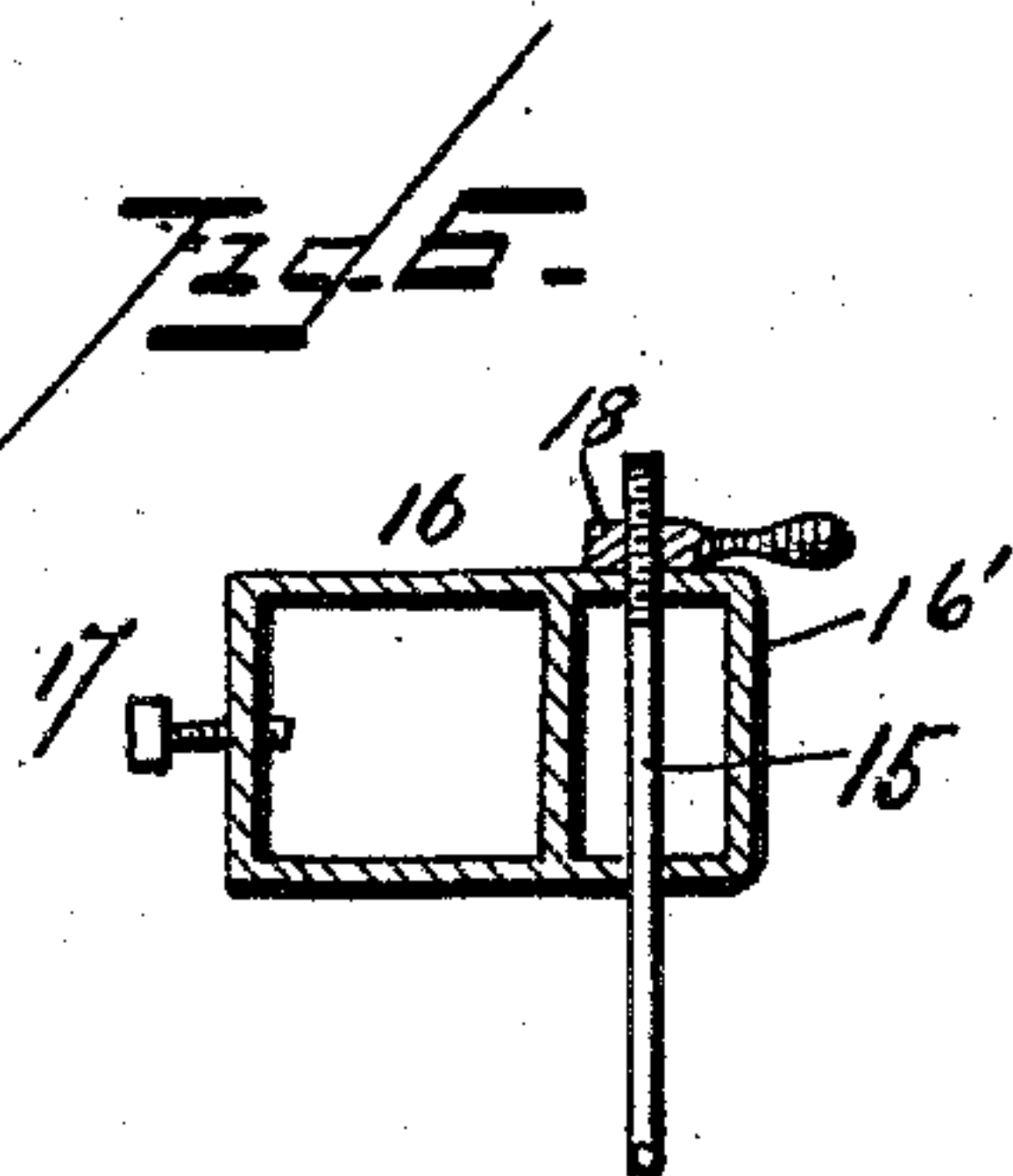
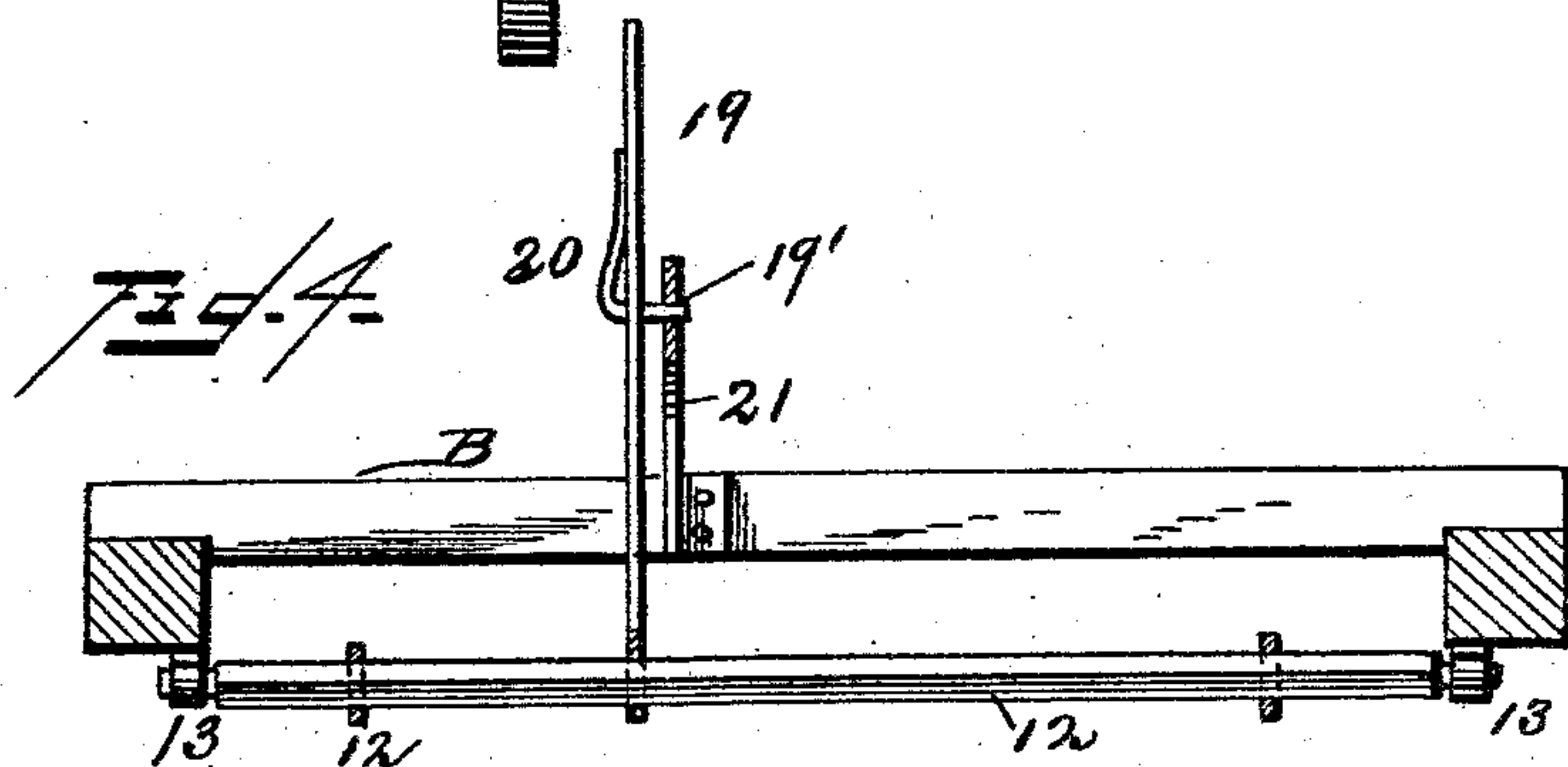
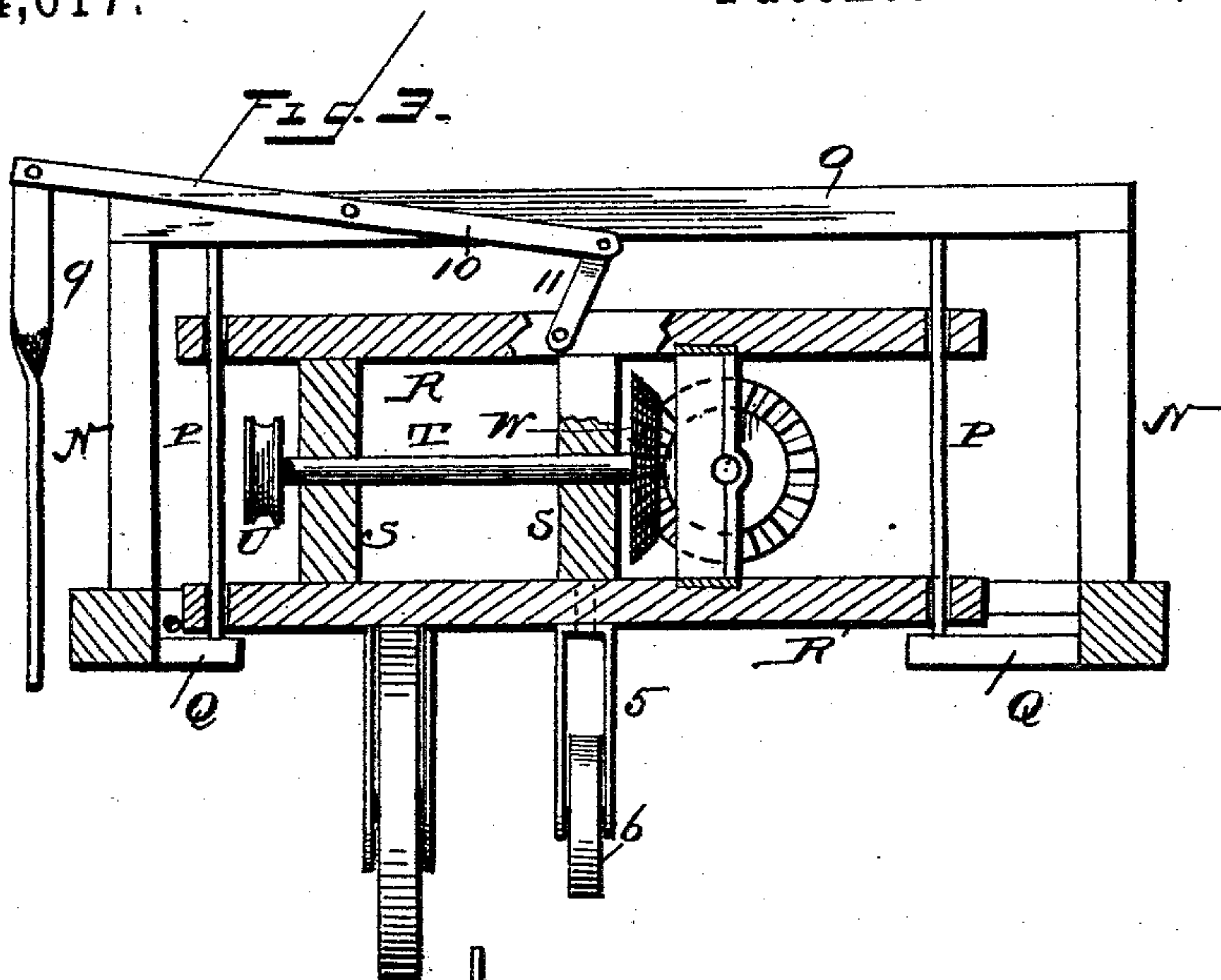
WITNESSES:  
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A. L. Mossell.

INVENTOR:  
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Attorneys.

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**WITNESSES:**

F. L. Oursand.  
A. L. Mossell.

**INVENTOR:**

Abner W. Matherly  
Vernon Daggar & Co.  
Attorneys.



# UNITED STATES PATENT OFFICE.

ABNER W. WEATHERLY, OF DRAKE, ASSIGNOR OF ONE-THIRD TO SIMON STRAUSS, OF BENNETTSVILLE, SOUTH CAROLINA.

## COMBINED COTTON CHOPPER AND CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 414,617, dated November 5, 1889.

Application filed July 8, 1889. Serial No. 316,820. (No model.)

*To all whom it may concern:*

Be it known that I, ABNER W. WEATHERLY, a citizen of the United States, and a resident of Drake, in the county of Marlborough and State of South Carolina, have invented certain new and useful Improvements in a Combined Cotton Chopper and Cultivator; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a top plan view of my improved cotton chopper and cultivator. Fig. 2 is a front elevation. Fig. 3 is a cross-sectional view on the line  $x x$ , Fig. 1. Fig. 4 is a cross-sectional view on the line  $y y$ , Fig. 1. Fig. 5 is a longitudinal vertical sectional view through the frame carrying the vertically-reciprocating cotton-chopper, and Fig. 6 is a section through one of the metallic bands.

Like letters of reference denote like parts throughout the several views.

My invention has relation to a combined cotton chopper and cultivator; and it consists in the improved construction and combination of parts of the same, as hereinafter more fully described and set forth.

In the accompanying drawings, the letters A A' represent the side pieces of the frame, and B B', respectively, the rear and front pieces thereof. A rock-shaft C is journaled in bearings D D' in one of the side pieces and the front piece, and has upwardly-bent ends, the rear end forming a lever for operating the shaft, while the front upwardly-turned end has secured thereto an inclined rod E. A rod F also extends across the front piece B' and passes through eyes  $g g$  in rearwardly-extending pieces G G' from the whiffletree. The rod E also connects with the piece G, so that when the rock-shaft is turned by means of its rear lever the whiffletree, with its connecting-shaft, may be adjusted laterally, so as to regulate the draft or pull of the team, thereby enabling the machine to pass over the ground in a manner best adapted to effectually chop the cotton. The front piece B' is also provided to one side with a perfora-

tion b, in which turns the shank of a castor-wheel H, which is adapted to turn at any angle, so that when the draft is to one side of the center the wheel will run in a direction conforming thereto.

Rigidly secured to one of the side pieces of the frame and to a forwardly-extending piece I is a shaft J, having its ends reduced and rounded, and having loosely mounted on one end thereof a drive-wheel K and on its opposite end a similar wheel L, provided with an inner grooved hub M.

Extending from the forward portions of the side pieces of the frame are uprights N N, connected by means of a cross-piece O. Rods or wires P P pass down from the opposite ends of this cross-piece, and their lower ends pass through the apertured ends of inwardly-extending pieces Q Q. Disposed beneath the horizontal connecting-piece O is a vertically-adjustable frame consisting of the upper and lower pieces R and R', respectively, through the apertured ends of which the rods or wires pass.

Bearings S S are located between the two pieces of the frame, and through which a transverse shaft T passes, carrying on one end a grooved wheel U, around which passes an endless belt V, said belt also passing around the grooved inner hub of the drive-wheel L. The inner end of this shaft carries a bevel-wheel W, which meshes with a bevel-gear upon the forward end of a longitudinal shaft X. This latter shaft is journaled in suitable bearings Y Y, disposed between arms Z Z, the upper one of said arms provided with a right-angled slotted extension  $z$ . The rear end of the longitudinal shaft carries a rotating disk 1, provided with a suitable wrist or crank pin 2, to which is pivotally secured at or near its center a cotton-chopper 3. This chopper is provided on its upper end with a pin 4, which passes into the slotted arm  $z$ . It will thus be seen that when the machine is in motion the endless belt will cause the gearing to operate, which in turn imparts a vertical reciprocating movement to the cotton-chopper.

Depending from the lower piece R' of the vertically-adjustable frame is a hanger 5, in which is journaled a guide-wheel 6 for keep-



ing the cotton-chopper a certain distance from the cotton.

To the side piece A of the frame is pivoted a lever 7, adapted to be depressed by the foot of the driver, the latter occupying a seat 8, secured to the forwardly-extending piece I of the frame. This lever has secured thereto pivotally an upwardly-extending arm 9, which has pivoted thereto a transverse arm 10, the latter being pivoted at or near its center to the connecting horizontal piece O. The inner end of this transverse arm 10 in turn articulates with a downwardly-extending arm 11, the lower end of which is pivotally secured to the top piece of the vertically-adjustable frame. It will readily be seen by this construction that when downward pressure is brought to bear by the driver upon the foot lever or treadle the vertically-adjustable frame is raised, so that the cotton-chopper is clear of the plant. A cutter-bar 12 is journaled in suitable bearings 13 13 in the frame. Pivotally secured to this cutter-bar are the usual cultivator-frames 14 14, formed or provided with cultivator teeth or blades, said cultivator-frames being provided with pivoted rods 15 15, having upper screw-threaded ends. Adjustable bands or cuffs 16 16 are arranged upon the shaft J, said bands being provided with forward extensions or boxes 16' 16', adapted to receive the upper screw-threaded ends of the pivoted rods. These cuffs or bands are made adjustable upon the shaft by means of set-screws 17 17, passing through the rear portions thereof and impinging against the shaft in their secured or adjusted position, while wing-nuts 18 18 engage the upper screw-threaded ends of these pivoted rods for the purpose of regulating the depth, in the first instance or before the machine is put into operation, of the cultivator teeth or points by simply screwing down or unscrewing, according as it is desired to make a deep furrow or not. The cutter-bar has also rigidly mounted thereon a lever 19, provided with a side spring 20, having its end bent at right angles and passing through a perforation 19' in said lever. A curved bar 21 is secured to the rear piece of the frame, the perforations in said bar adapted to be engaged by the bent end of the spring. This lever is adapted to regulate the depth of the furrow after the machine is put into operation, if for any reason it is found that the adjustment of the wing-nuts or screws does not answer, and is accomplished by simply turning the lever forward or back, as the case may be, and when the desired position is reached allowing the bent end of the spring to enter the appropriate perforation in the curved bar.

This being the construction of my invention, the operation is as follows: When it is desired to use the machine as a cotton-chopper, the cultivator-teeth are adjusted by means of the wing-nuts so that they will not engage the ground. The team is then started,

and if it is found during the operation of chopping that it is desirable to change the course of the machine all that is necessary to be done is simply to operate the rock-shaft lever, which will throw the draft in any direction desired, and as the caster-wheel H is adapted to move at any angle this result may be accomplished in a simple and expeditious manner. When the machine is set in motion, it will be found that the chopper will meet with obstructions, and the uneven character of the ground traversed by the planter will often cause the choppers to cut too deep, or vice versa. This disadvantage is guarded against by providing the foot-lever or stirrup, hereinbefore described, whereby the driver is enabled by simply exerting a foot-pressure upon the lever or treadle to cause the vertically-adjustable frame to move upward, making it possible to always maintain an even cut or chopping of the cotton.

It is obvious that the machine may be used either as a cotton-chopper or as a cultivator. In the latter case the vertically-adjustable frame may be moved upward, so that the chopper will be clear of the ground, and can be held in this position permanently by continued pressure upon the foot-lever. The cultivator-frames in this case are first regulated by means of the wing-nuts, and after the machine is put into operation, if it is found that the furrow made by the cultivator is either too deep, or, on the other hand, not deep enough, the lever 19, in connection with the perforated curved bar 21, may be employed, in order to more effectually effect this result. Having thus fully described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. The combination, with the frame, of the rock-shaft having upwardly-bent ends, the inclined rod or wire pivoted to the forward upwardly-bent end, the transverse rod having its ends bent downward and secured to the front piece of the frame, and the singletree provided with rearwardly-extending pieces provided with perforations through which the transverse rod passes, one of said pieces having the lower end of the inclined rod secured thereto, substantially as set forth.

2. The combination of the frame, the rock-shaft having upwardly-bent ends, the inclined rod or wire pivoted to the forward upwardly-bent end, the transverse rod having its ends bent downward and secured to the front piece of the frame, the singletree provided with rearwardly-extending pieces, said pieces provided with perforations through which the transverse rod passes, one of said pieces having the lower end of the inclined rod secured thereto, and the caster-wheel having the shank thereof turning in a perforation in the front piece of the frame, substantially as set forth.

3. The combination of a frame, a cutter-bar carrying the usual cultivator-frames, an axle or shaft, metallic bands upon said axle or shaft provided with perforated extensions,



arms pivoted to the cultivator-frames and provided with upperscrew-threaded ends, and wing-nuts, substantially as set forth.

4. The combination of a frame, a cutter-  
5 bar carrying the usual cultivator-frames, an axle or shaft, adjustable metallic bands or cuffs upon said shaft or axle provided with forwardly-extending apertured boxes or bearings, arms pivoted to the cultivator-frames  
10 and provided with upper screw-threaded ends, and wing-nuts, substantially as set forth.

5. The combination of a frame, drive-wheels, one of said wheels being provided with an inner grooved hub, a frame or scaffold located  
15 upon the forward end of the machine, a transverse shaft journaled in said frame, carrying on one end a grooved pulley-wheel and on the opposite end a bevel-gear, an endless belt, upper and lower longitudinal pieces extend-  
20 ing rearwardly from the frame, longitudinal shaft journaled in bearings between said longitudinal pieces and carrying on one end a bevel-gear meshing with the bevel-gear upon the end of the transverse shaft and carrying  
25 on its opposite end a rotating disk, said disk provided with a wrist or crank pin, and a cotton-chopper secured to said wrist or crank pin and provided on its upper end with a pin working within a slotted extension of the up-  
30 per longitudinal piece, substantially as set forth.

6. The combination of the frame having the side pieces thereof provided with inwardly-extending pieces, the uprights secured 35 to the forward portion of the machine, the horizontal piece connecting said uprights, the foot-lever pivoted to one of the side pieces of the frame, the transverse movable pieces, wires passing through the ends of the mov- 40 able pieces and secured to the upper horizontal connecting-pieces and to the lower inwardly-extending pieces, gearing mechanism suitably journaled within said frame for imparting motion to the cotton-chopper, the ver- 45 tical arm pivoted to the foot-lever, the transverse arm pivoted to the upper end thereof and pivoted at or near its center to the horizontal connecting-bar, the forwardly-extending arm articulating with said transverse arm 50 and with the upper movable piece, and the hanger depending from the lower piece of the vertically-adjustable frame and having journaled therein a guide-wheel, substantially as set forth. 55

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

ABNER W. WEATHERLY.

Witnesses:

M. F. ELERBE,  
W. C. BRUCE.