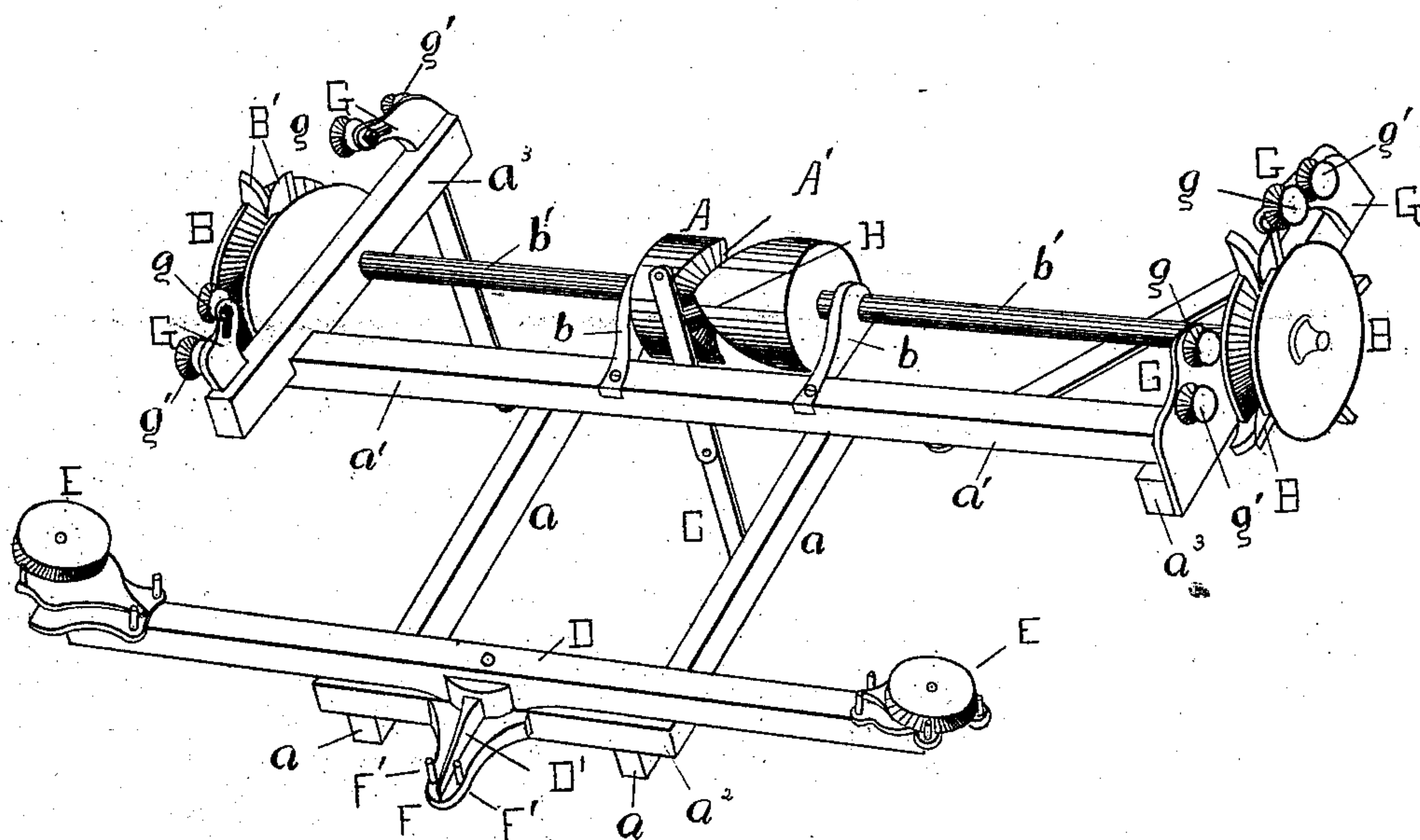


(No Model.)

J. H. WARREN.  
CHECK ROW DROPPER.

No. 290,950.

Patented Dec. 25, 1883.



WITNESSES.

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# UNITED STATES PATENT OFFICE.

JOHN HOWARD WARREN, OF BURLINGTON JUNCTION, MISSOURI.

## CHECK-ROW DROPPER.

SPECIFICATION forming part of Letters Patent No. 290,950, dated December 25, 1883.

Application filed August 2<sup>d</sup>, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN HOWARD WARREN, a citizen of the United States, residing at Burlington Junction, in the county of Nodaway and State of Missouri, have invented a new and useful Check-Row Dropper, of which the following is a specification.

My invention relates to improvements in check-row corn-planters; and it consists in the construction, combination, and arrangement of the several parts, as will be hereinafter described.

In the drawing I have shown in perspective the main frame and check-rowing devices of a corn-planter constructed according to my invention. The bars *a a* and *a'* constitute the main frame. The bar *a'* is supported on the forward ends of and at right angles to the bars *a*, and a bar, *a<sup>2</sup>*, is secured to and connects the rear end of the said bars, as shown. Brackets *b b* are projected forward from the bar *a'* and provide bearings for the shaft *b'*, as well as a means for preventing longitudinal movement of the roller *A* along the said shaft. This roller, it will be seen, is fixed on the shaft *b'* between the brackets *b*, and is provided with a cam-slot, *A'*. A lever, *C*, is pivoted on the side of bar *a'*, and has one end connected with the dropping-slide in the operation of the machine, and its other end is provided with a pin or stud, *H*, which projects into the cam-slots *A'*. As the roller is revolved, it will be seen the pin *H*, traversing the cam-slot, will give the lever *C* a rocking motion on its pivot, which, being communicated to the dropping-slide, gives the latter the reciprocating motion desirable in machines of the class to which my invention is most universally adapted.

On the outer ends of the bar *a'*, and at right angles thereto, I secure bars *a<sup>3</sup>*, through which the shaft *b'* extends, and in which it has supporting-bearings. On the ends of this shaft I secure grooved pulleys *B*, having forks *B'*, which are engaged by the knots of the wire in the operation of the machine. Brackets *G* are mounted on the bar *a<sup>3</sup>* on opposite sides of the pulley, and provide bearings for the guide-pulleys *g g'*, one arranged above the other, as shown. The upper pulley, *g*, is ad-

justable vertically by means of slot in the brackets and set-screw on the pulleys spindle for the purpose of varying the depth of the wire in the main pulleys *B<sup>2</sup>*. A guide-bar, *D*, is pivoted centrally on the bar *a<sup>2</sup>*, and is provided on its outer end with guide-pulleys *E E*. A tension-arm, *D'*, projects rearwardly from the bar *D* at the center thereof, and its outer end rests between two pins, *F'*, mounted on plate *F*, secured to the bar *a<sup>2</sup>*. This arm *D'* has a slight play between the pins *F'*, and is preferably made of spring material, so as to permit a greater oscillation or vibration of the bar *D* in the operation of the device.

It will be understood that the wire is placed on the machine in the following manner, to wit: around one of pulleys *E*, thence across the machine parallel to bar *D* and around the other pulley *E*, and forward between pulleys *g g'* and over pulley *B*, operating the latter by means of the knots engaging the forks.

The bar *D*, it will be seen, serves the part of a guide for the rope, and being pivoted and provided with tension-arm *D'*, is capable of a slight pivotal or vibration motion, as is desirable in check-rowing machines, from the uneven feeding along the wire, resulting from roughness or unevenness in the ground.

I am aware that prior to my invention check-rowers have been in use. Therefore I do not claim such a combination, broadly; but

What I do claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, with the frame having pins *F'*, and the forked pulleys *B*, arranged on opposite sides of the frame, of the oscillating guide-bar *D*, pivoted midway its ends, the tension-arm *D'*, fixed at the middle of the guide-bar and projected between the pins *F'*, and guide-pulleys *E*, fixed on the ends of the bar *D* and in position to receive the cord in the passage of same to the forked pulleys, substantially as set forth.

2. The combination, in a corn-planter, of the framing, the shaft journaled therein and provided with roller *A*, having cam-slot, the lever *C*, having pin *H* fitted into said groove, the forked pulleys secured on the ends of the

shaft, the guide-pulleys G G, arranged on opposite sides of and below the plane of the upper side of the forked pulleys, the bar F, the pins F', mounted on said bar, and the piv-  
5 oted guide-bar D, having pulleys E E, and provided with the spring-arm D', extended between the pins F', all arranged and oper-

ating substantially as described and shown, and for the purposes set forth.

JOHN HOWARD WARREN.

Witnesses:

L. C. FISHBACK,

J. HOWARD DANNER.