

No. 749,833.

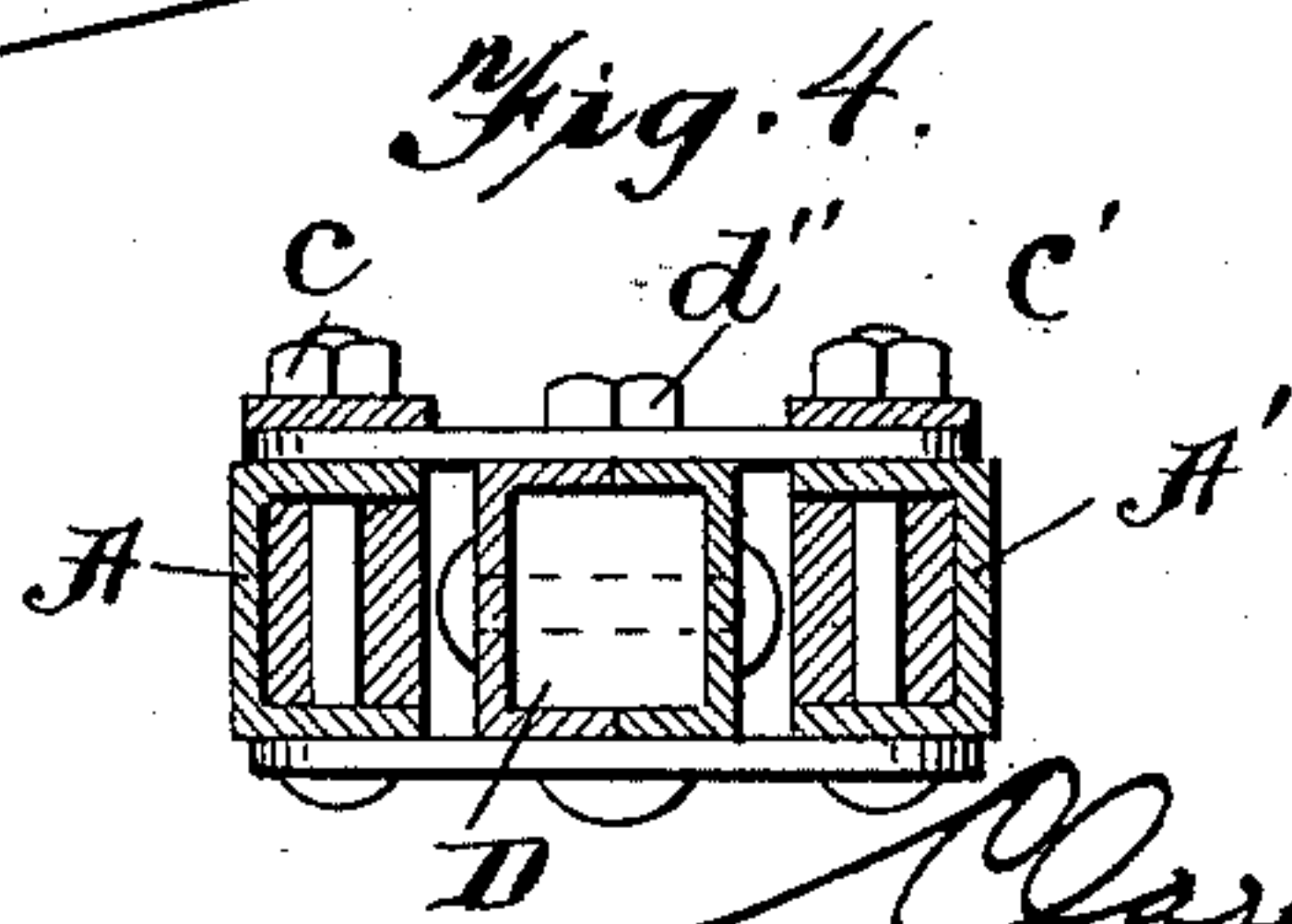
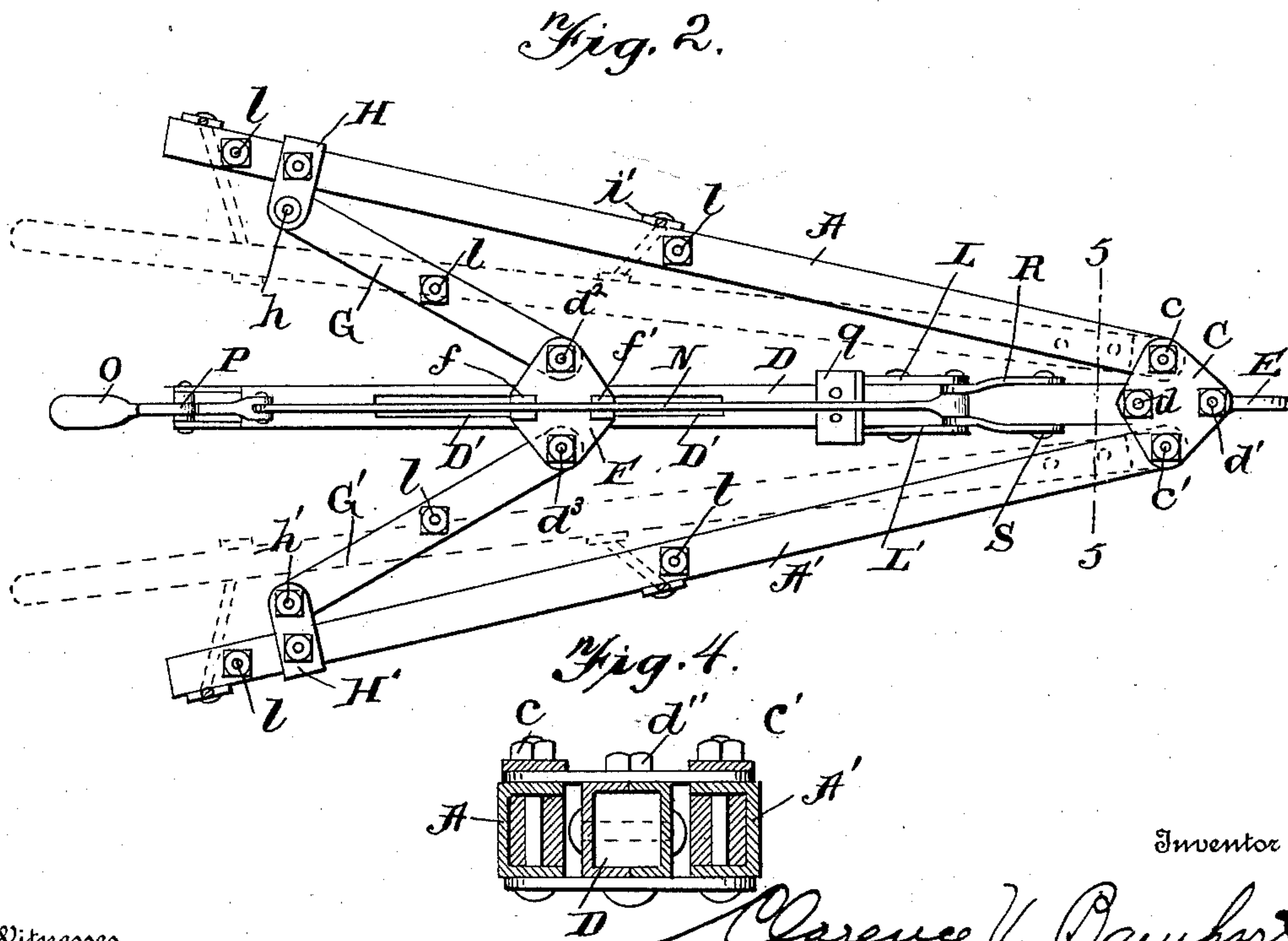
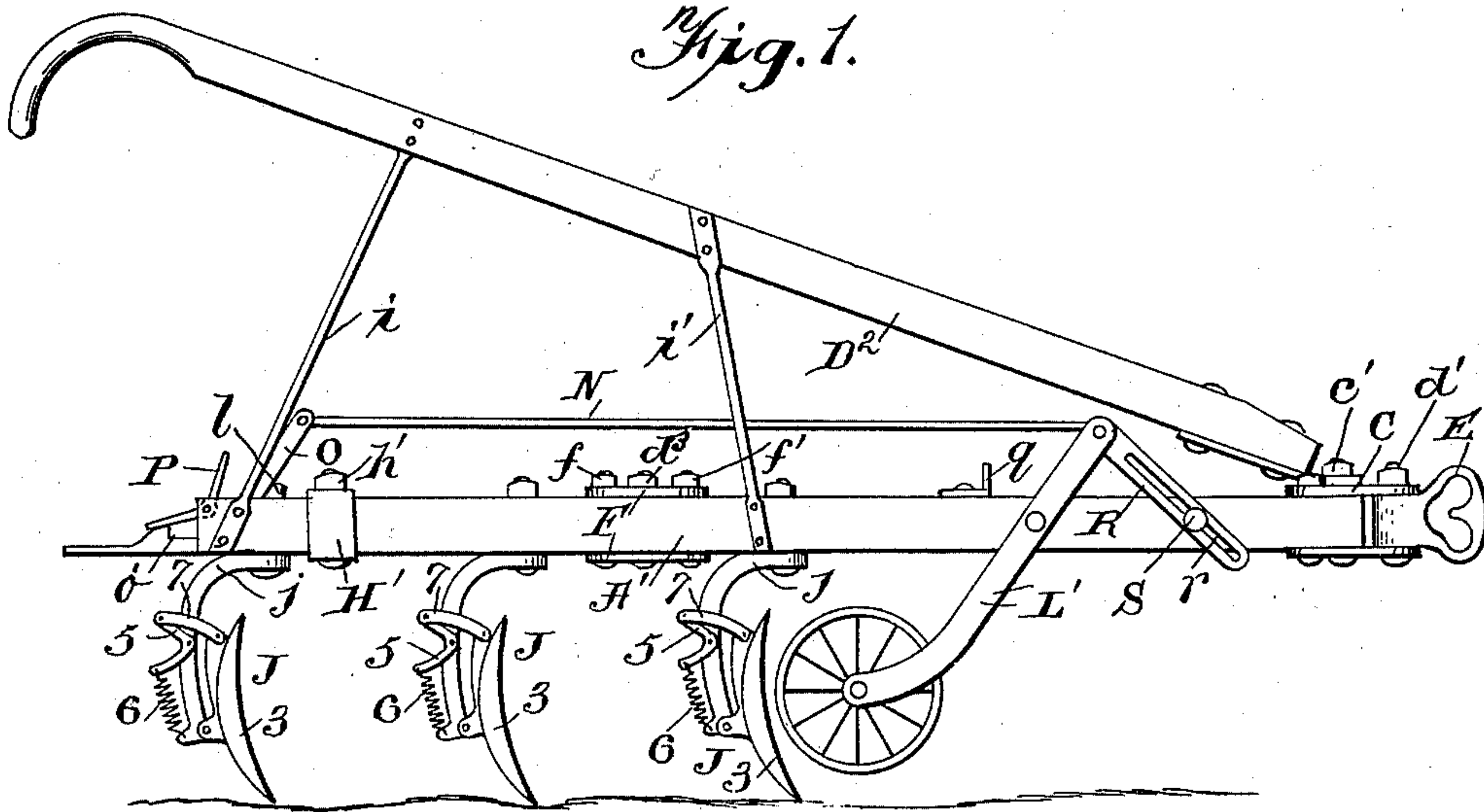
PATENTED JAN. 19, 1904.

C. V. BARNHART.  
CULTIVATOR.

APPLICATION FILED JULY 26, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses

Geo. C. Frech,  
Geo. M. Adams.

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Inventor  
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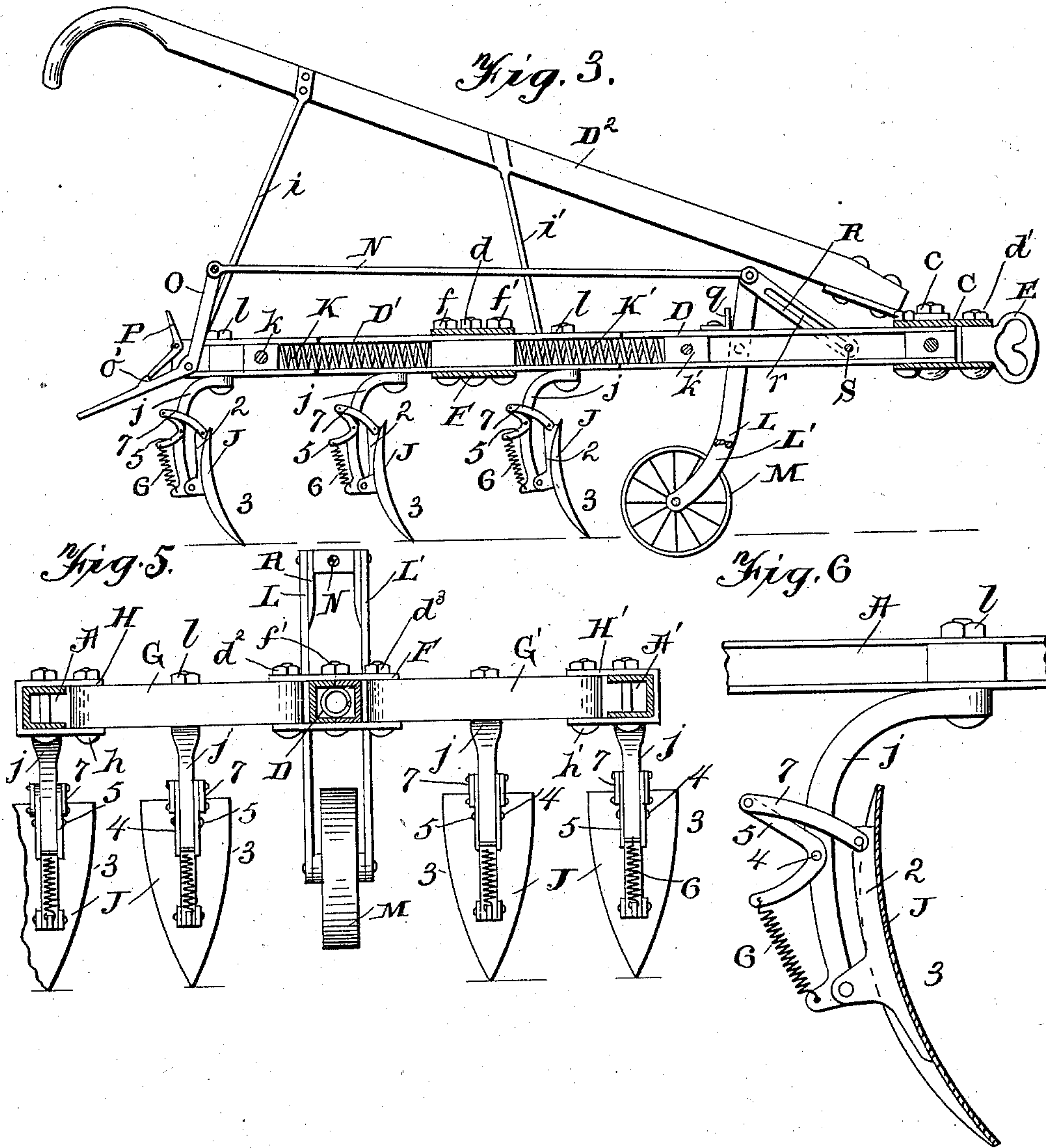
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# UNITED STATES PATENT OFFICE.

CLARENCE V. BARNHART, OF WAYNESBORO, PENNSYLVANIA.

## CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 749,833, dated January 19, 1904.

Application filed July 26, 1902. Serial No. 117,168. (No model.)

*To all whom it may concern:*

Be it known that I, CLARENCE V. BARNHART, a citizen of the United States, residing at Waynesboro, in the county of Franklin and State of Pennsylvania, have invented certain new and useful Improvements in Cultivators, of which the following is a specification.

My invention relates to improvements in cultivators, and particularly to that class known as "adjustable" cultivators.

The object of my invention is to provide a cultivator in which the width thereof can be readily increased or decreased by the operator without stopping and one in which said adjustment is readily retained.

Another object of my invention is to provide a cultivator in which the tooth-beams can be readily raised from the ground without taking the hands from the handles, and thus permitting the cultivator to be easily turned.

A still further object of my invention is to provide a simple, durable, and more effective cultivator to accomplish the above results.

In the accompanying drawings, Figure 1 is a side elevation of my improved cultivator. Fig. 2 is a top plan view. Fig. 3 is a side elevation partly in section. Fig. 4 is a transverse sectional view taken on the line 5 5, Fig. 2. Fig. 5 is a rear end view partly in section. Fig. 6 is an enlarged view of one of my improved teeth.

Referring now to the drawings, A and A' represent the side tooth-beams, which are preferably made of channel-iron, as shown in Fig. 4, and the forward ends of said beams A and A' are pivoted to the plate C at *c* and *c'*, and thus allowing said beams to swing from that point. Between the beams A and A' and rigidly secured to the plate C by bolts *d* and *d'* is the rearwardly-extending central beam D, which is formed of channel-iron similar to those of the tooth-beams.

The clevis E is secured to the forward end of the plate C by the same bolt *d'* that secures it to the beam D. Adjacent the rear end of said beam D is a cross-head F similar to plate C and secured thereto in precisely the same manner, only the bolts *f* and *f'* are not drawn tight and allow it to slide within the central opening or slot D. Pivoted to the outer ends

of said cross-head by means of bolts *d*<sup>2</sup> and *d*<sup>3</sup> are the transverse tooth-carrying bars G and G', which have their outer ends pivoted to the plates H and H' by means of bolts *h* and *h'*, thus allowing the plate F to be moved upon the beam D and throw the tooth-bars A and A' to or from the center beam.

Pivoted to the plate C by the bolts *c* and *c'* are the rearwardly-extending handles D<sup>2</sup>, which are provided with the downwardly-extending braces *i* and *i'*, which have their lower ends rigidly secured to the beams A and A', and when it is desired to change the width of the cultivator the handles are either drawn together or forced apart, whichever the case might be. By this construction it will be readily seen that the width of the cultivator can be readily changed without the operator taking his hands from the handles, and thus avoiding stopping the cultivator or losing control thereof.

The tooth-beams A and A' are provided with the teeth J, which are preferably as shown. The said tooth-support consists of a curved arm *j*, which is provided with an opening through which the bolt 1 passes and by means of which it is firmly clamped to the beams. Pivoted to the lower end of the arm *j* is a vertically-arranged bar 2, which has rigidly secured thereto the reversible tooth or blade 3. Pivoted to the arm *j* at 4 is a U-shaped lever 5, which has its lower end connected to a spring 6, and the lower end of said spring is secured to the arm *j*. A link 7 has one end connected to the upper portion of the U-shaped lever 5 and its upper end to the upper portion of the vertical bar 2. By this construction it will be readily seen that the tooth or blade is normally held in a vertical position, but is adapted to swing in either direction against the tension of the spring, and thus less liable to be broken by coming in contact with stones or roots. The bars G and G' are also provided with teeth similar to those above described. By this construction it will be readily seen that the resistance of the dirt against the teeth carried by the beams A and A' tends to force the beams together, while the resistance on the teeth carried by the beams G and G' have a tendency to force the beams apart when in the position shown in Fig. 2, and thus neutralize the re-



sistance at a certain width. When the beams are spread wider apart than this point of balance, the tendency then is to spread the beams farther apart, and when closed beyond the point of balance the tendency is to draw the beams together. To change this point of balance, I use two coil-springs K and K', which rest within the opening formed by the channel-irons forming the central draft-beam and said springs resting or bearing against the cross-head F and assisting in maintaining the above-referred-to balance. The outer ends of said springs bear against the bolts k and k', which are adapted to be moved in either direction and clamped in said position, thus changing the point of balance.

The forward end of the central beam is provided with the intermediately-pivoted arms L and L', which have rotatably mounted between their lower ends the draft-wheel M, and pivoted to the upper ends is the rearwardly-extending bar N, which is pivoted to the upper end of the intermediately-pivoted L-shaped foot-lever O. It will be readily seen by this construction that the teeth can be readily drawn from the ground by simply placing the foot upon the lower end of the lever O, which draws the forward end of the levers L and L' rearward, thus throwing the wheel M upon the ground and raising the whole frame, so that the cultivator can be readily turned when the end of a row is reached. In order that the wheel may be held in said position and the foot removed, I provide the horizontal portion of the L-shaped lever with a notch o', and adjacent thereto I provide a spring-pressed pawl P, which is adapted to enter said notch and hold the lever in said downward position. I also provide the pawl with the upwardly-extending member p, by means of which it is readily released.

The central beam D is provided with a stop q to prevent the wheel-carrying levers from being pulled too far back. To prevent the said levers from being carried too far back when the weight of the cultivator is on the wheel M, I provide the upper ends of the arms with the downwardly-extending pivoted arms R, provided with the slots r, and passing through said slots and secured within the central beam is a bolt S. The forward end of the central beam is provided with a clevis, by means of which the cultivator is drawn along.

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

1. In a cultivator, the combination with a central beam, of side tooth-beams pivoted thereto, a slidable cross-head carried by the central beam, springs bearing against said cross-head from opposite direction and transverse tooth-beams pivotally connected to the

cross-head and the side tooth-beams, substantially as described.

2. In a cultivator, the combination with a central beam, of side tooth-beams pivoted thereto, a slidable cross-head carried by the central beam, springs bearing against said cross-heads from opposite directions, transverse tooth-beams pivotally connected to the cross-head and the side tooth-beams, and handles connected to the side tooth-beams, whereby the side beams may be adjusted, substantially as described.

3. In a cultivator the combination with a central beam, of side tooth-beams pivoted thereto a slidable cross-head carried by the central beam, springs bearing against said cross-heads from opposite directions transverse tooth-beams pivotally connected to the cross-head and the side tooth-beams, a handle carried by each side beam, and teeth carried by the side beams and transverse beam, whereby the resistance thereon will hold the beams in their adjusted position, substantially as described.

4. In a cultivator, the combination with a central beam, side beams pivoted thereto, means for adjusting said beams, means for automatically holding the side beams in the adjusted position, levers intermediately pivoted to the forward end of the central beam, a draft-wheel between the lower ends of said lever, a rearwardly-extending bar pivoted between the upper ends of said levers, and a foot-lever intermediately pivoted to the rear end of the central beam, and its upper end connected to the said rearwardly-extending-bar, whereby the teeth are raised from the ground, substantially as described.

5. In a cultivator, the combination with a central beam, side beams pivoted thereto, means for adjusting said beams, means for automatically holding the side beams in the adjusted position, levers intermediately pivoted to the forward end of the central beam, a draft-wheel between the lower ends of said lever, a rearwardly-extending bar pivoted between the upper ends of said levers, a foot-lever, intermediately pivoted to the rear end of the central beam, and the upper end of the rearwardly-extending bar, said lever having a notch adjacent its lower end, and a spring-pressed pawl adapted to enter said notch, whereby the teeth are raised from the ground and held in said raised position, substantially as described.

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

CLARENCE V. BARNHART.

Witnesses:

H. A. DISERT,  
C. H. RENFREW.