

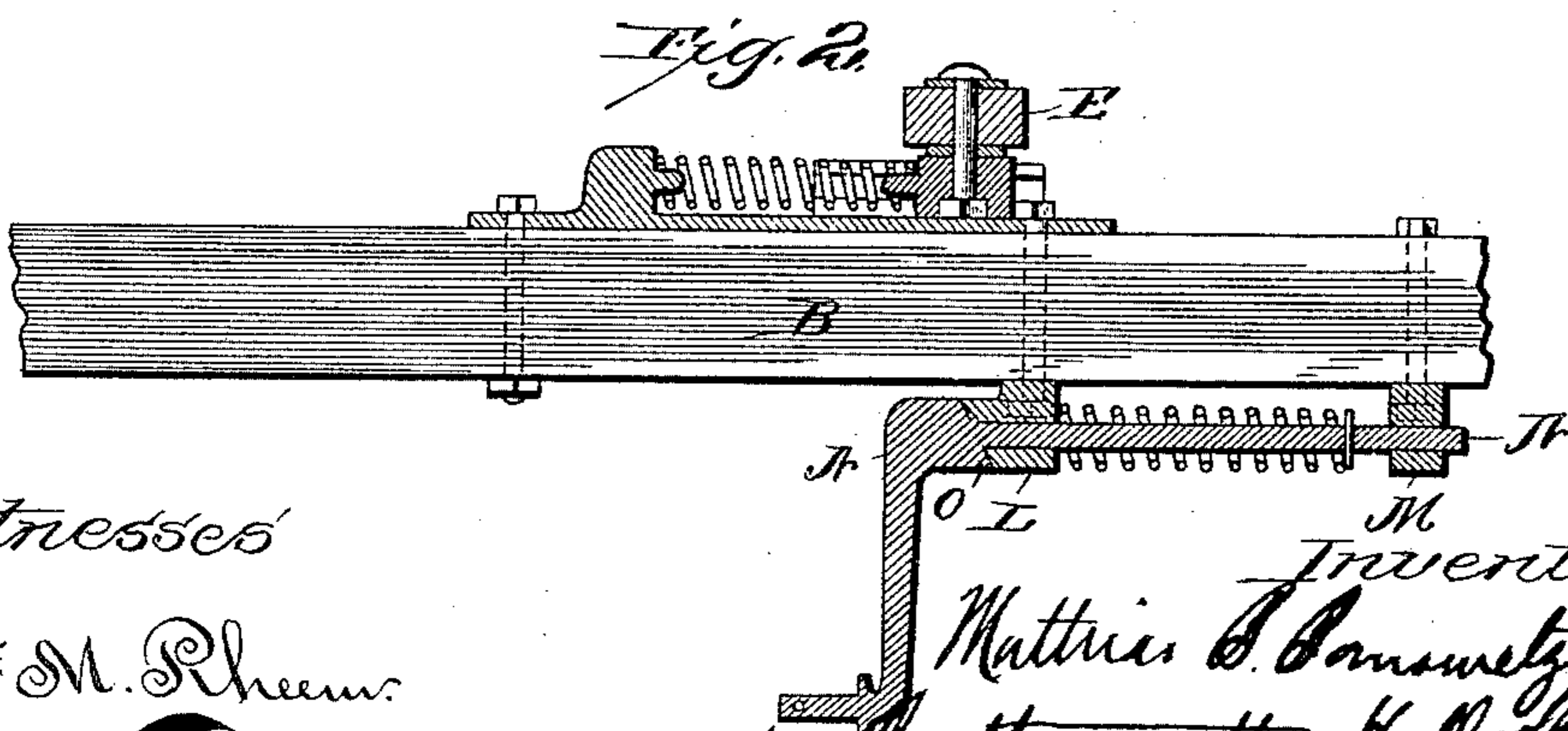
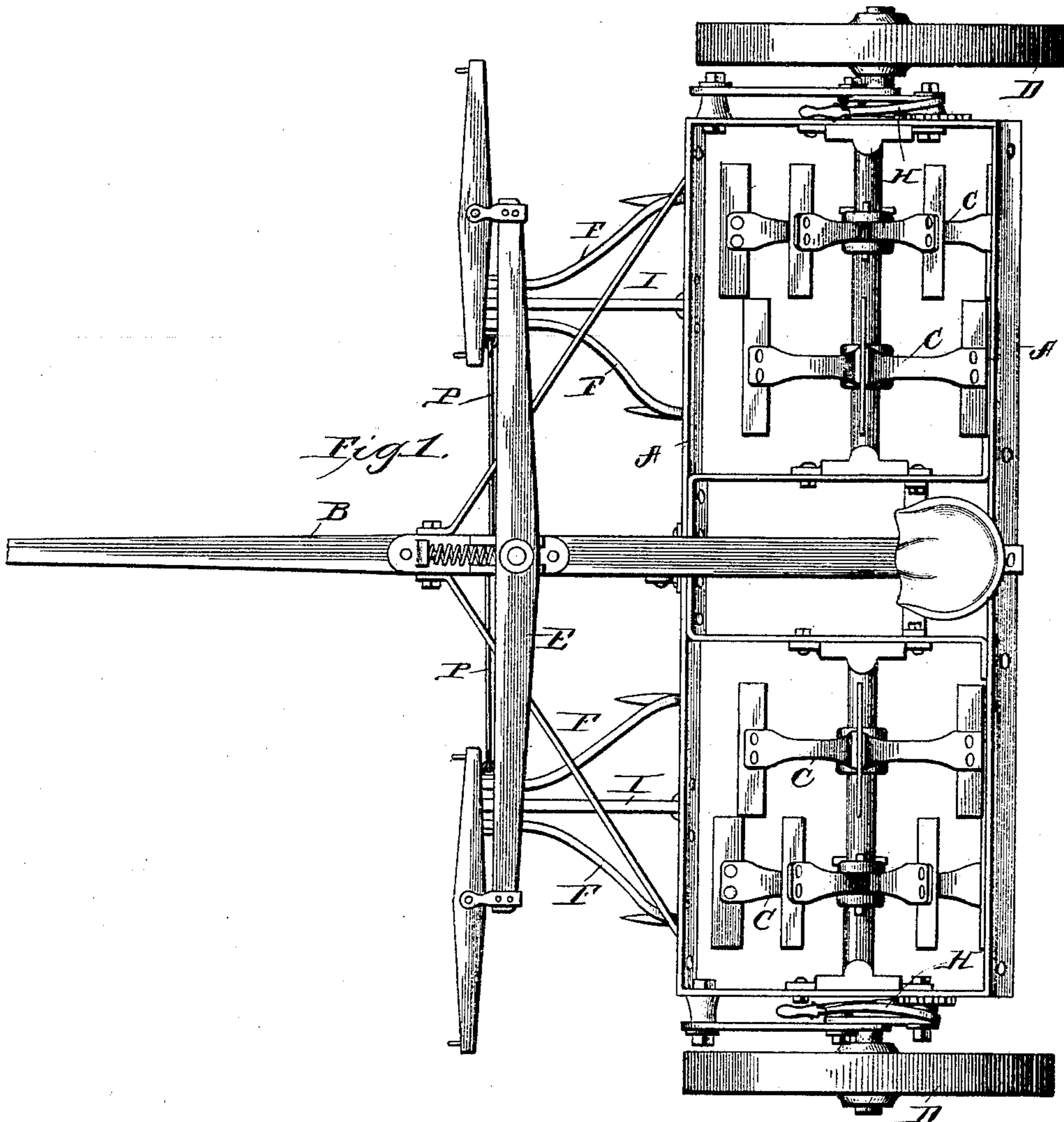
(No Model.)

2 Sheets—Sheet 1.

M. B. BANOWETZ.  
CORN OR COTTON STALK CUTTER.

No. 454,617.

Patented June 23, 1891.



Witnesses

Wm. M. Rheem.

O. P. Murdeman,

Inventor:

Mattias B. Banowetz,  
by Lutherworth Hall Brown  
his Atty's

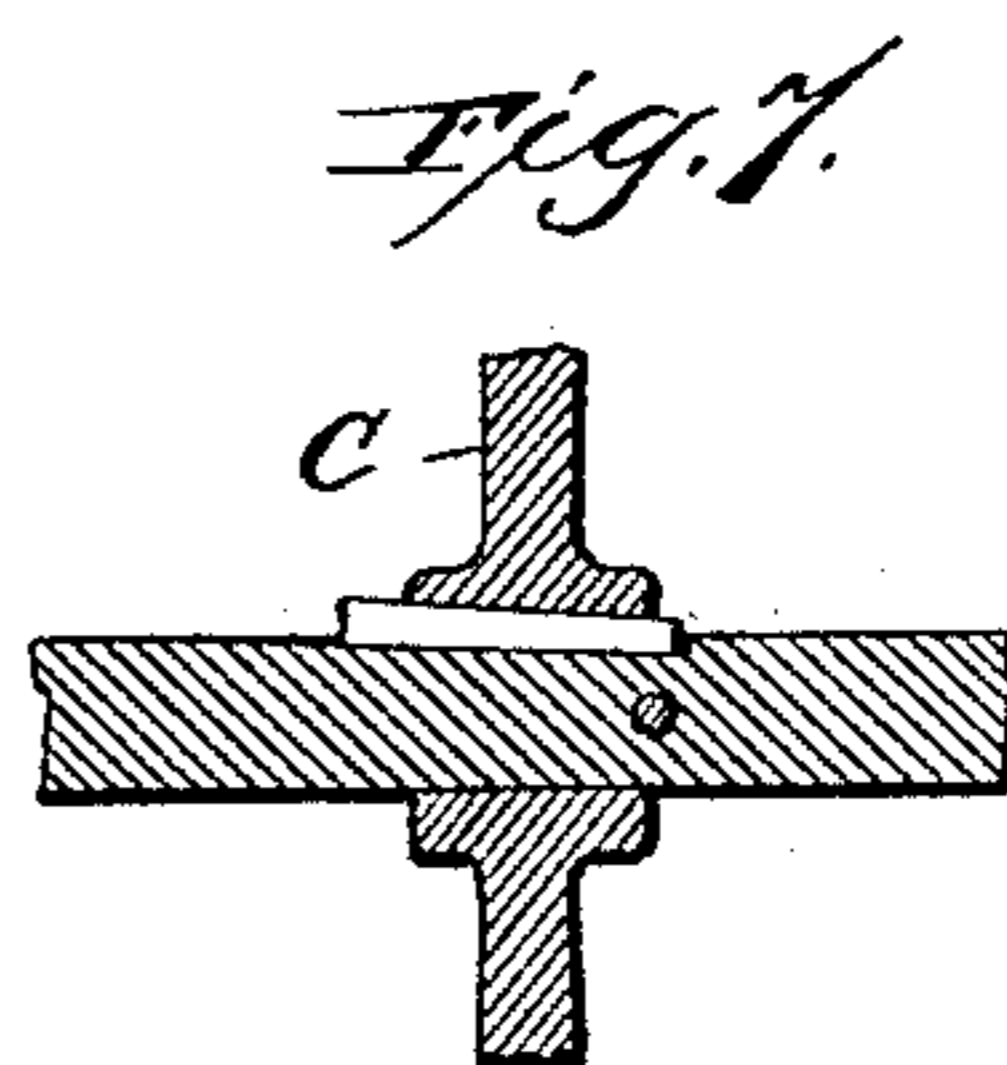
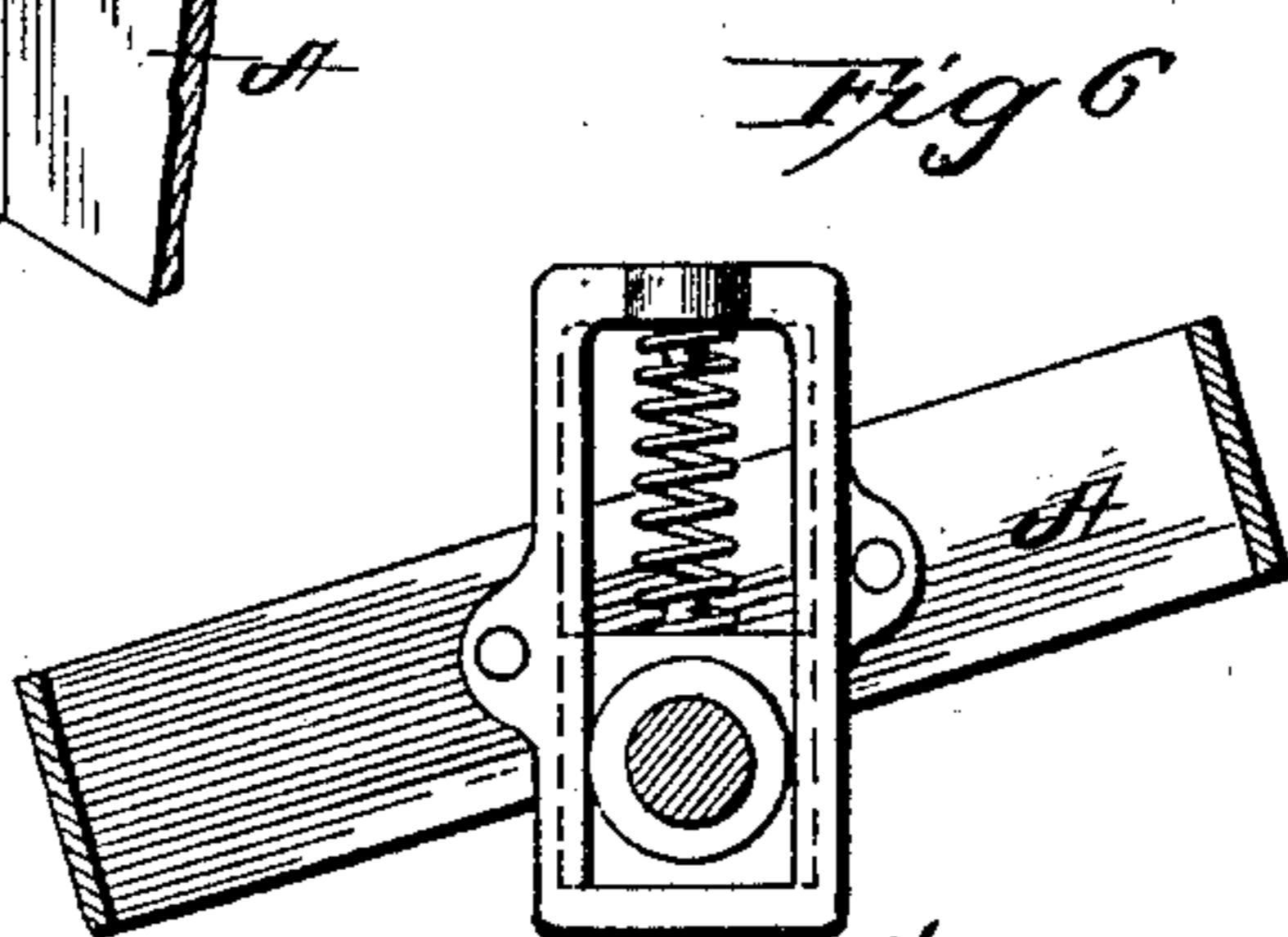
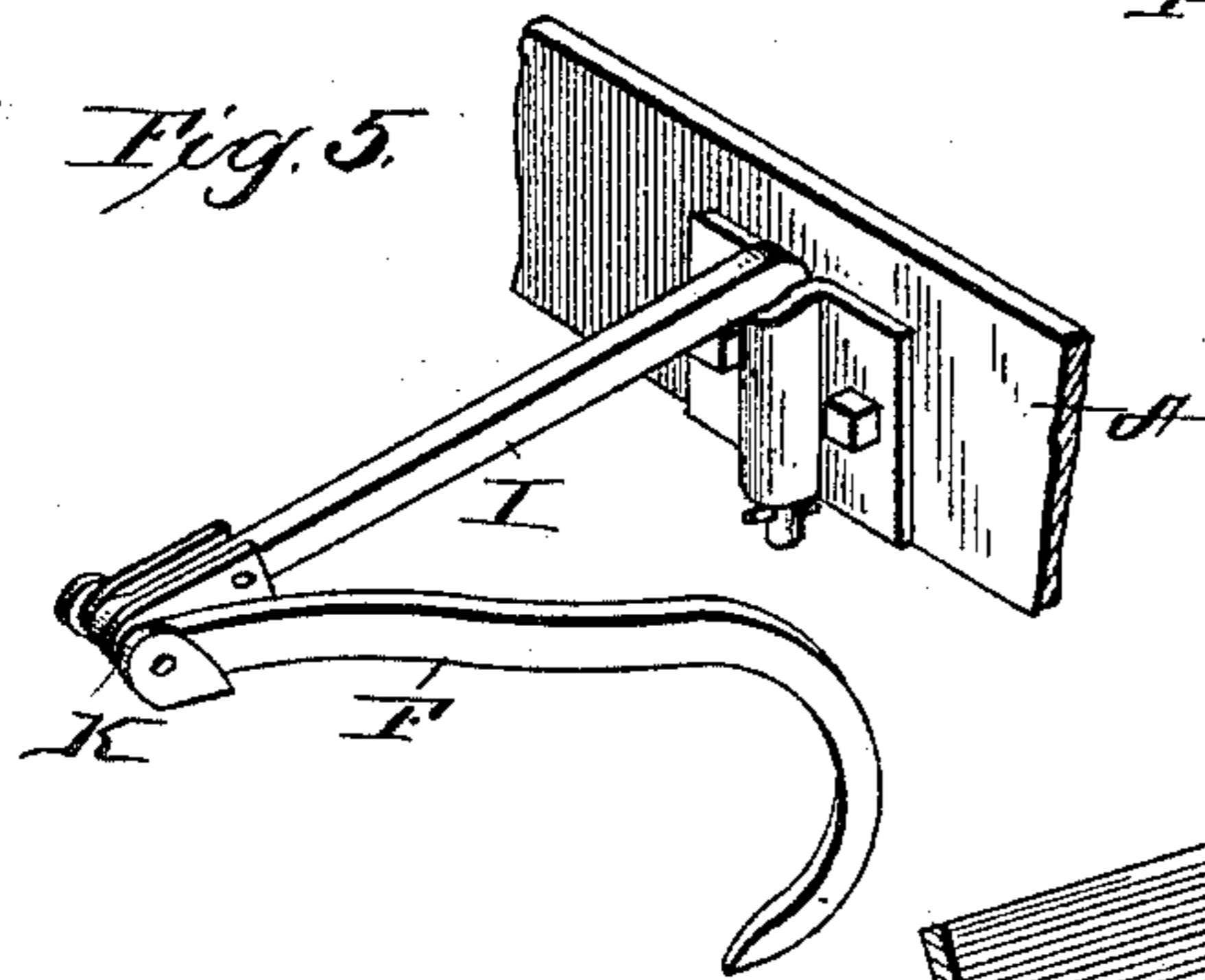
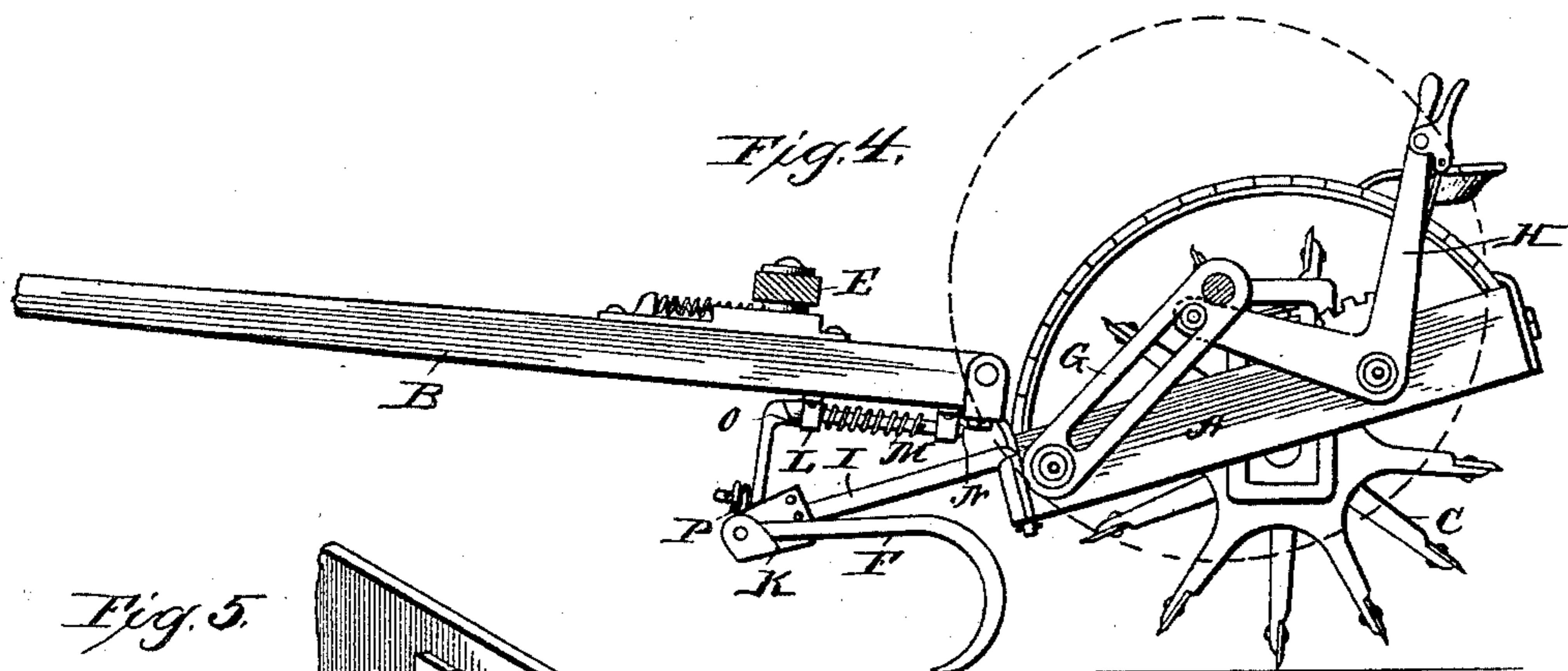
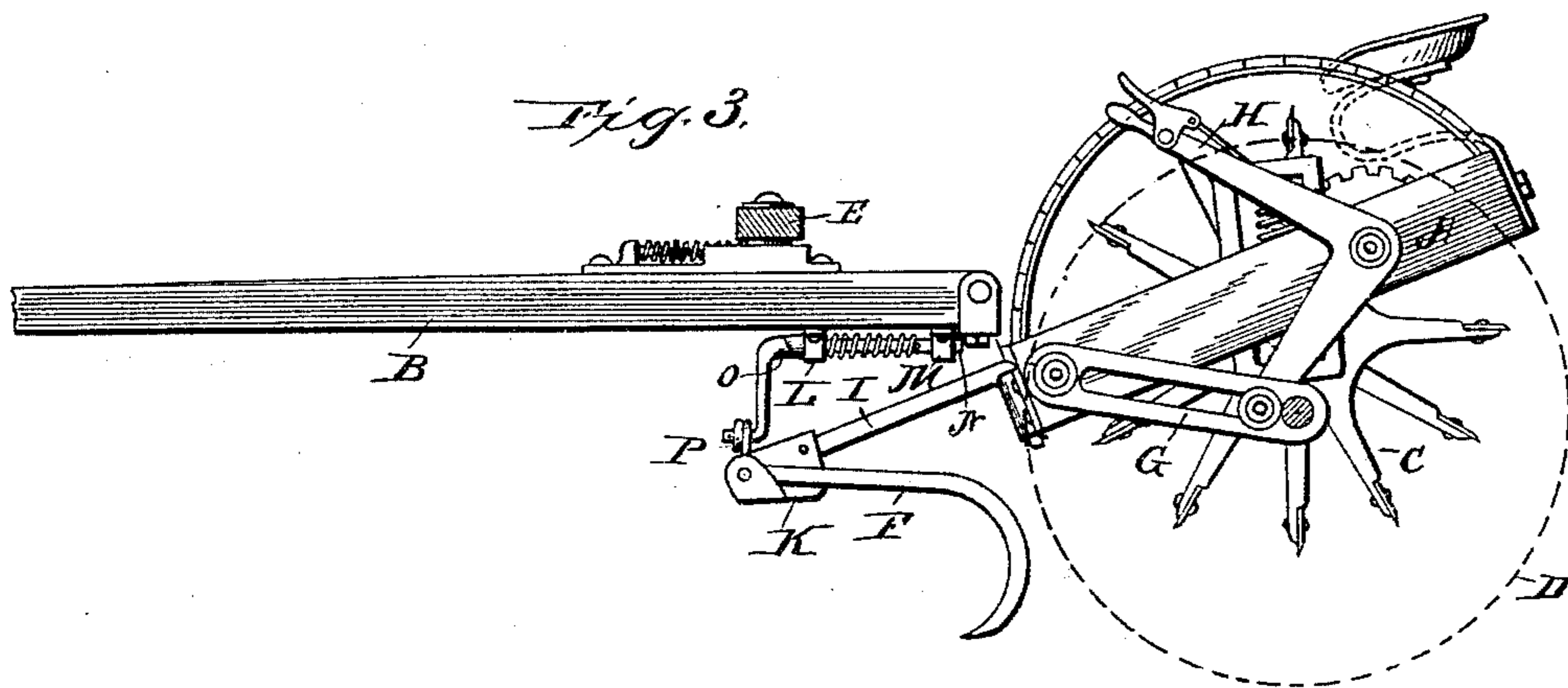
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# UNITED STATES PATENT OFFICE.

MATHIAS B. BANOWETZ, OF BROWN, IOWA.

## CORN OR COTTON STALK CUTTER.

SPECIFICATION forming part of Letters Patent No. 454,617, dated June 23, 1891.

Application filed February 20, 1891. Serial No. 382,145. (No model.)

*To all whom it may concern:*

Be it known that I, MATHIAS B. BANOWETZ, a citizen of the United States, residing at Brown, in the county of Clinton and State of Iowa, have invented a new and useful Corn and Cotton Stalk Cutter, of which the following is a specification.

This invention relates to improvements in corn and cotton stalk cutters, and it is specially designed to improve the general class of machines of the character shown and described in my patent, No. 443,349, dated December 23, 1890.

The invention consists in certain constructions and arrangements, substantially as hereinafter set forth, and particularly pointed out in the claims.

Like letters of reference are used to designate similar parts in the several figures of the drawings, in which—

Figure 1 is a plan view of the machine. Fig. 2 is a detail, partly in section, of the shaft and the attachments for use in connection with the drag-hooks and for elastically mounting the doubletree. Fig. 3 is a vertical section showing the drag-hooks and cutting-blades lifted above the ground and out of operative position. Fig. 4 is a vertical section showing the drag-hooks, cutting-blades upon the ground in operative position, and the supporting-wheels raised. Fig. 5 is a detail view in perspective of the drag-hook and the manner of pivoting it to the frame. Fig. 6 is a detail view of the elastic bearing for the cutting-blades, and Fig. 7 is a sectional view showing an effective means of securing the cutting-blades to their shafts.

A designates the frame of the machine, which is of the usual construction and materials, such as is shown in my former patent. This frame has secured to it the usual tongue of the vehicle B, and to the latter is secured the doubletree E, preferably by an elastic or yielding connection, such as is shown in Fig. 2 of the drawings; but as there is no novelty in these several features it will be unnecessary to describe them in detail.

The cutting-blade C may be of any well-known construction and arrangement; but I prefer the arrangement shown in my former patent, in which the blades in adjoining sets alternate or the blades of one set are opposite

the spaces between the blades of the other set. I find in practice that the great strain put upon the cutting-blades is apt to turn them upon their shafts unless they are firmly secured thereto, and accordingly I prefer to attach them to their shafts by means of a key fitting in a socket formed partly in the shaft and partly in the hub of the blade, and additionally by a bolt passing through the shaft and hub, both of which are shown in Fig. 7; or the shaft may be made polygonal, in which case the bolt may be dispensed with. No novelty is claimed in this method of attachment; but it is mentioned as a preferable form merely to guide those skilled in the art who attempt to construct the machine under the patent. I also prefer to mount the shafts of the cutting-blades in sliding boxes or bearings having springs resting thereon, whereby serious jars are averted; but this being simply a common mechanical expedient is simply mentioned for the convenience of the constructors.

When the stalks desired to be cut are heavy, it is well to have the full use of the weight of the cutting-blades and their bars in cutting them; and to this end I propose in such instances to lift the wheels of the vehicle clear of the ground and have the entire weight of these parts rest upon the cutting-blades; but when the stalks are light not so much weight is required in cutting them, and it is therefore desirable to decrease the draft of the machine by depressing its main wheels so as to take up or carry the weight of the machine and adjust the cutting-blades so as to barely clear the ground. Again, when the cutting is finished and it is desired to transfer the machine from one point to another, it is desirable to lift the cutting-blades and drag-hooks entirely clear of the ground and out of the way. For these different adjustments of cutting-blades and drag-hooks and main wheels with reference to each other I have made special provision, which I have found in practice to be most efficient. The main wheels D are pivoted to the slotted arms G, the other ends of which are pivoted to the ends of the frame, preferably near the forward portion thereof. Elbow-levers H are pivoted at their angles to such ends of the frame, with their longer

arms projecting upwardly in the shape of handles and their shorter arms provided with pins or rollers which play in the slots of the arms G, before mentioned. Upon the ends of the frame are attached segmental ratchets, and to the inner side of the longer arms of the elbow-levers are secured spring-actuated pawls which are connected with short finger-levers, so that they may be readily operated upon by the pressure of the hand upon the elbow-levers. It is manifest, inasmuch as one end of the slotted levers is pivoted to the frame and the other end to the main wheels, that if the ends next the main wheels are lifted such wheels will also be lifted, and the degree to which the wheels may be raised is capable of being fixed and the wheels held in such position by means of the segmental ratchets and the pawls actuated by the finger-levers. When the main wheels are drawn entirely down, they are positioned with reference to the frame, so that the cutting-blades and the drag-hooks secured to such frame are lifted clear of the ground and above any small obstruction thereon; but by varying the position of the pawl in the ratchet and the position of the bell-crank lever the slotted arms will be correspondingly changed, and consequently the main wheels proportionately raised or lowered, and in this way the distance of the cutting-blades and drag-hooks from the ground may be regulated.

It sometimes happens that owing to the inequalities of the surface of the ground traversed by the drag-hooks F they are pressed in one direction or the other, and in such cases if they are rigidly connected to the frame they are apt to be bent out of shape, so as to be not fully effective. To avoid this trouble the following construction is designed: To the front of the frame of the machine I pivotally secure bars I I, one for each pair of drag-hooks, and to the forward ends of these bars I secure the upper ends of the drag-hooks, whereby it will be seen that the drag-hooks are free to turn in either direction. I prefer to secure the drag-hooks to the bars by means of the casting, (shown at K,) which is provided with ears, in which the drag-hooks may be pivoted, and which is also rendered adjustable with reference to the bars I by means of a series of holes and a bolt or pin. In this manner the inclination of the drag-hooks may be varied at will. After the drag-hooks have been pushed aside by the elevation or obstruction it is desirable that they shall be returned to their central position. This may be done by springs arranged in various ways; but I have shown and will now describe an arrangement which I prefer. Secured to the under side of the shaft are two collars L and M, and having a horizontal bearing in such collars is a crank-arm N. The bent end of the crank-arm has placed upon it the looped ends of two links P P, the other ends of which are connected to the drag-hooks. A spiral spring surrounds the straight part of

the crank-arm and abuts at its inner end against a pin or flange thereon and at its outer end against the inner side of the collar L. The outer side of the collar L is inclined or cam-shaped to match a similarly-shaped shoulder on an adjoining portion of the crank-arm, which is shown at O in the drawings. In case the drag-hooks are turned in either direction, the connecting-links cause the crank-arm to correspondingly turn. Its inclined shoulder or cam turns on the correspondingly-shaped portion of the collar L and compresses the spiral spring between the inner side of such cam and the pin or flange; but as soon as the strain which caused this action is removed from the drag-hooks the spring exerts its force and turns the crank-arm back to its former position, and hence carries the drag-hooks to their central position.

It is obvious that variations may be made in the details of my improvements without departing from the principle thereof, and I do not wish to be understood as limiting myself to the exact construction shown and described.

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

1. In a stalk-cutter, the combination of the main wheels, a main frame, slotted arms pivoted at one end of the main frame and at the other to the main wheels, elbow-levers pivoted to the frame and bearing in the slots of the arms, and interlocking mechanism for holding the levers at any desired point, substantially as and for the purpose set forth.

2. In a stalk-cutter, one or more bars pivoted so as to be laterally movable with reference to the frame, plates secured adjustably to the outer edge of such bars, and drag-arms pivoted to such plates, substantially as and for the purpose set forth.

3. In a stalk-cutter, one or more bars, each connected to the frame by a vertical axis, drag-hooks pivotally connected to the outer end of such bars, links for connecting the sets of hooks, and a spring for returning the hooks to their normal position after they have been deflected, substantially as and for the purpose set forth.

4. In a stalk-cutter, the combination of the main frame, a series of bars pivoted thereto by vertical pivots, drag-hooks pivotally connected to the outer ends of such bars, and a central crank-arm horizontally pivoted to a tongue on the vehicle, a spring surrounding the horizontal portion of such crank-arm, a cam-bearing, and links connecting the sets of drag-hooks and the central crank-arm, substantially as and for the purpose set forth.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

M. B. BANOWETZ.

Witnesses:

WM. S. CAMERON,  
J. LAWRENCE GERRY.