(No Model.)

4 Sheets—Sheet 1.

W. WÜRDEMANN.

ASPARAGUS BUNCHER.

No. 370,842. Patented Oct. 4, 1887.

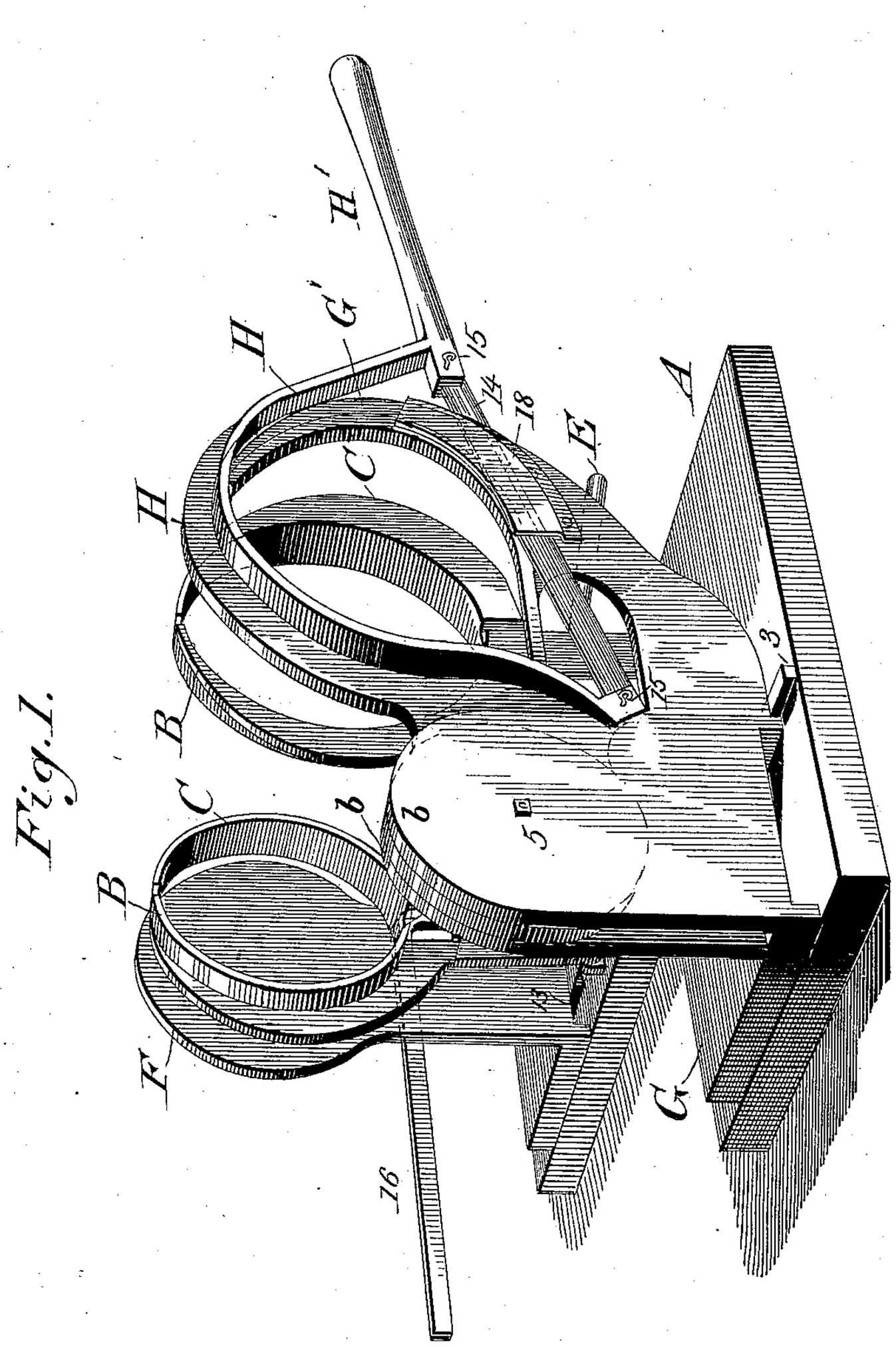

Fig. 1.

Witnesses

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(No Model.)

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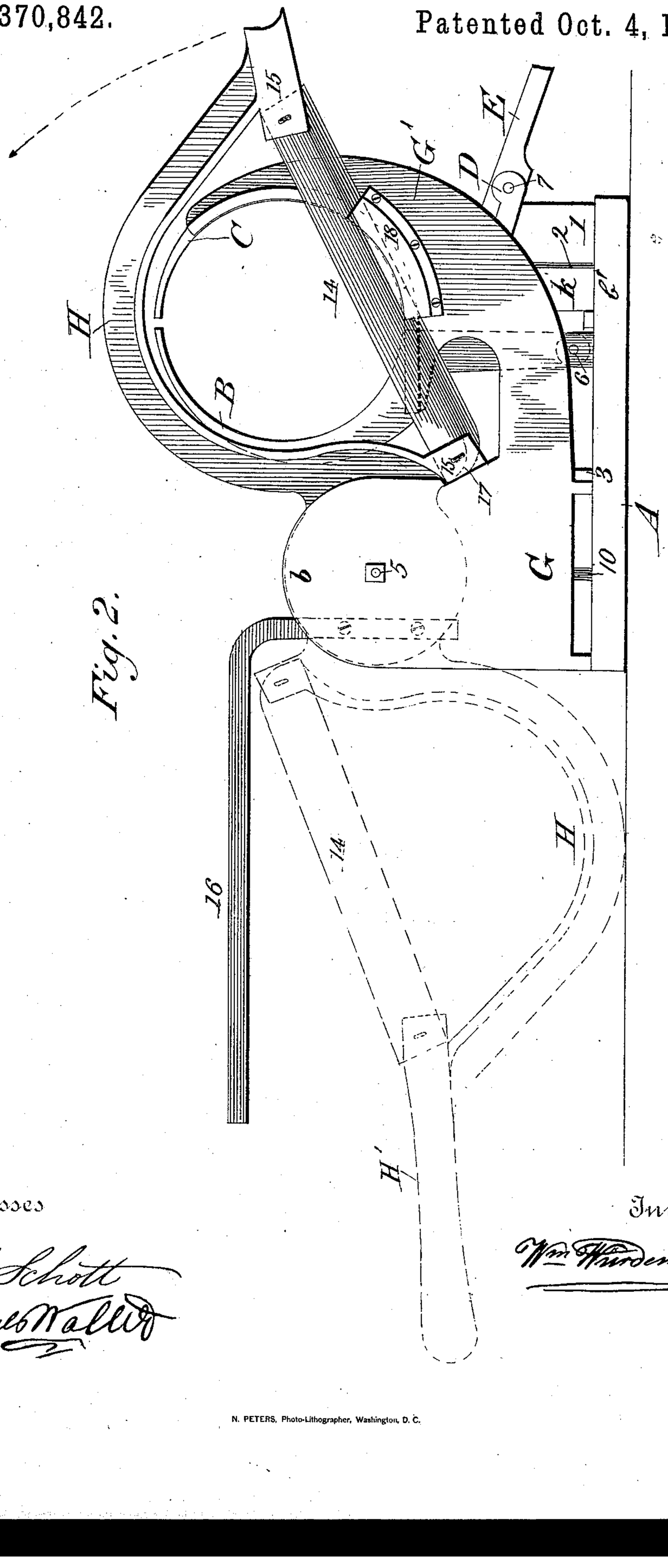

Fig. 2.

Witnesses

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ASPARAGUS BUNCHER.

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Fig. 3. y.y.

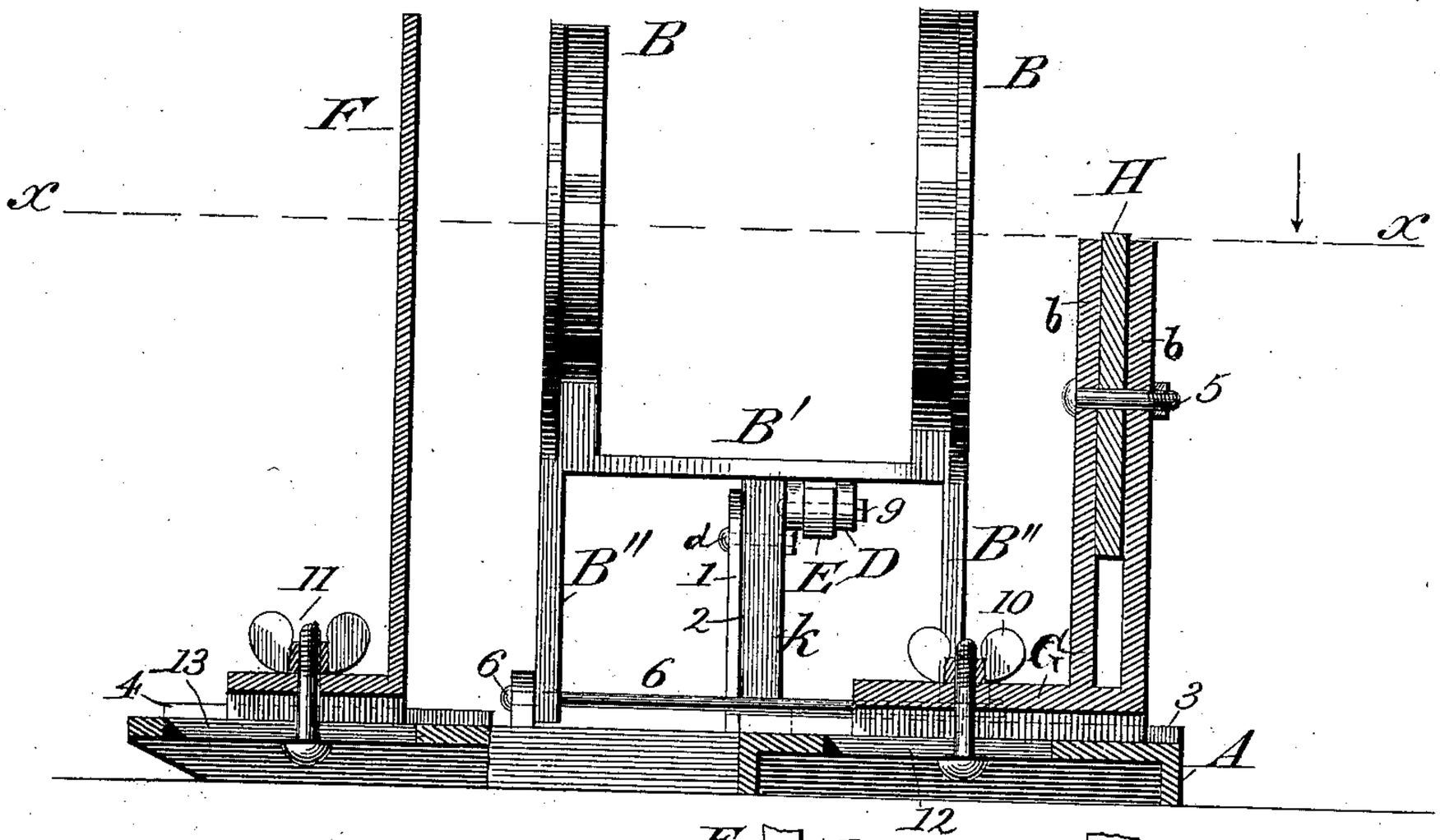
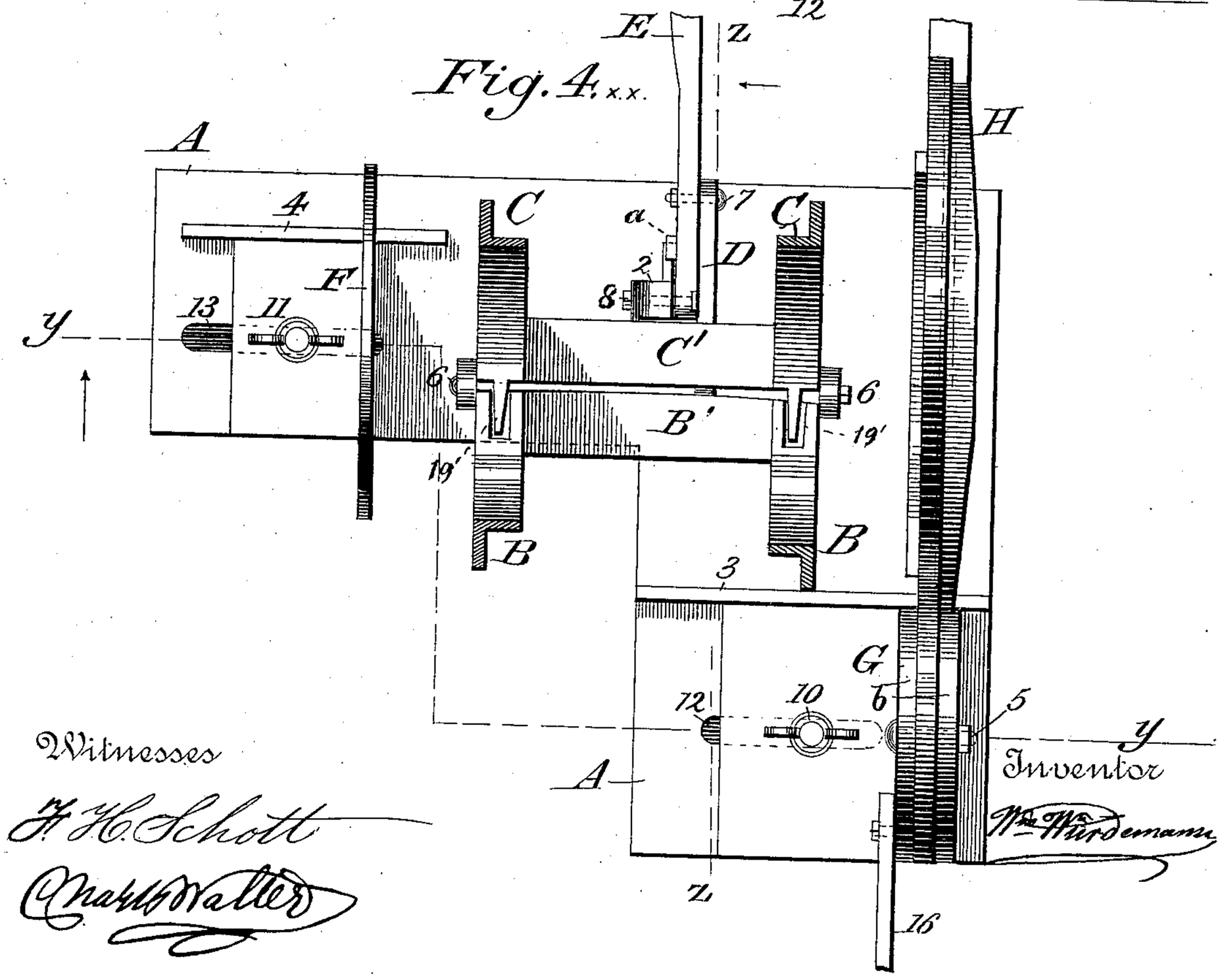


Fig. 4. x.x.



Witnesses

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4 Sheets—Sheet 4.

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ASPARAGUS BUNCHER.

No. 370,842. Patented Oct. 4, 1887.

Fig. 5. z.z.

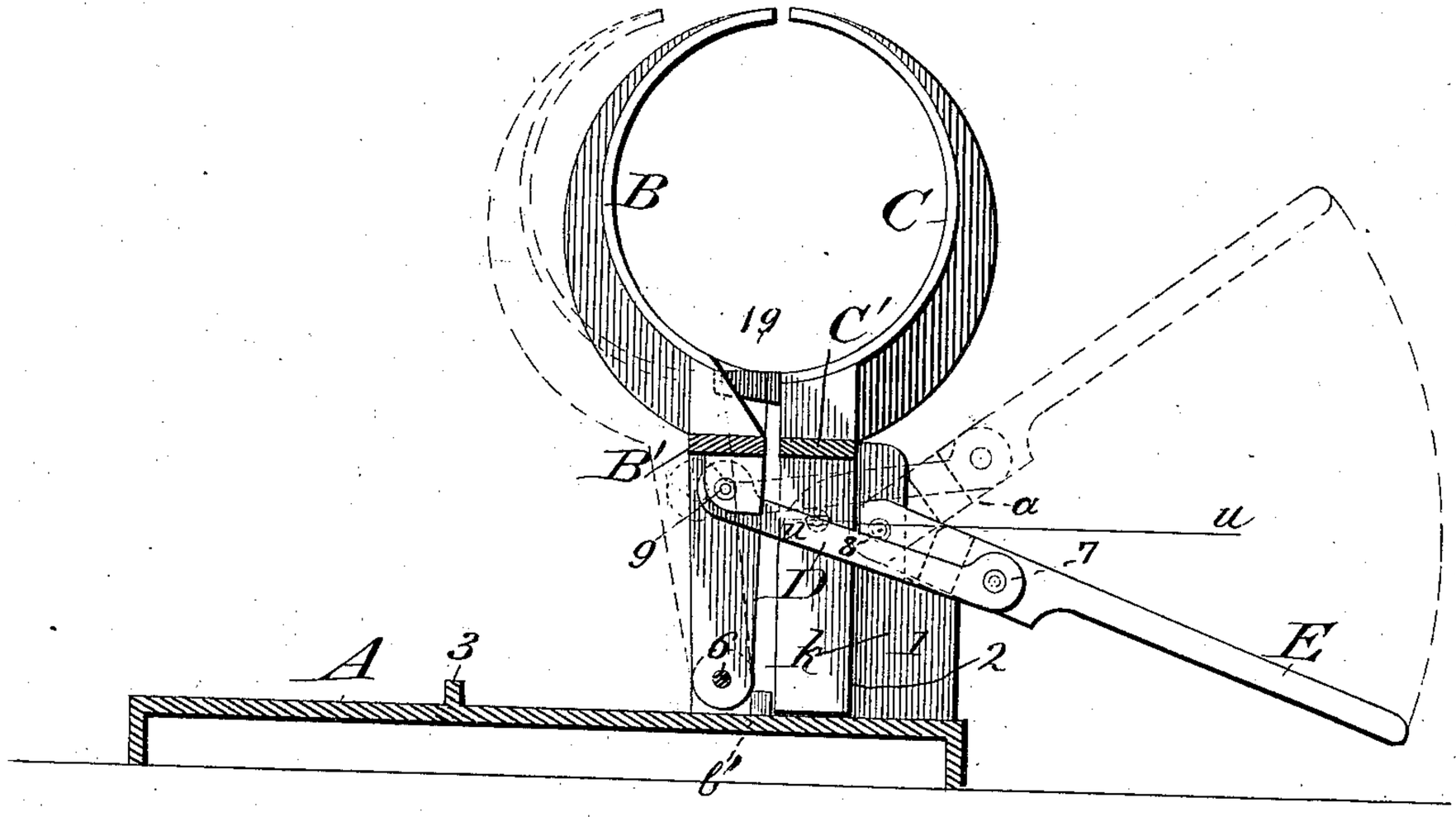


Fig. 6. u.u

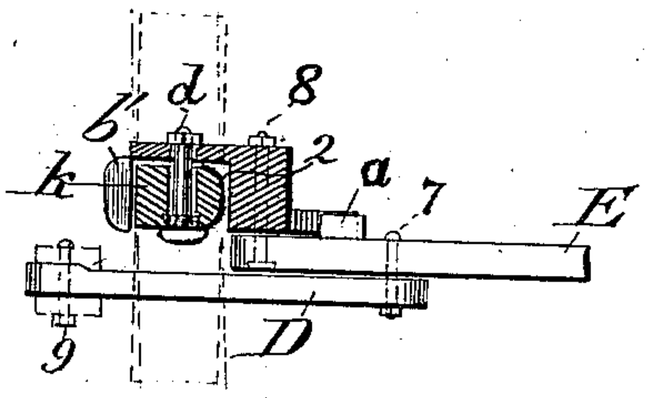
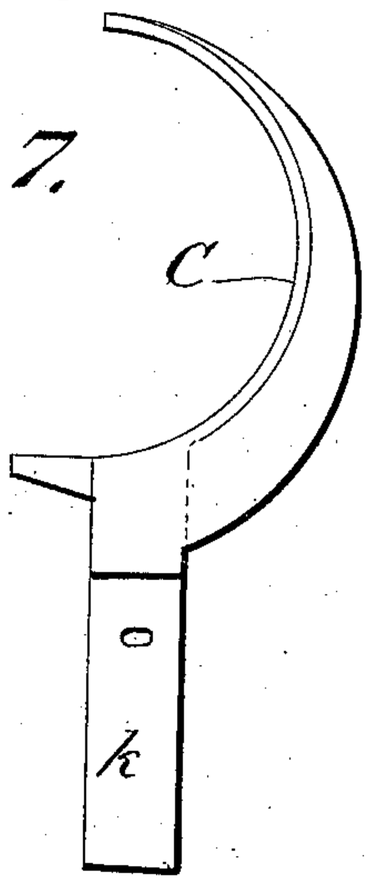


Fig. 7.



Witnesses

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UNITED STATES PATENT OFFICE.

WILLIAM WÜRDEMANN, OF WASHINGTON, DISTRICT OF COLUMBIA.

ASPARAGUS-BUNCHER.

SPECIFICATION forming part of Letters Patent No. 370,842, dated October 4, 1887.

Application filed May 2, 1887. Serial No. 236,866. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM WÜRDEMANN, a citizen of the United States, residing at Washington, District of Columbia, have invented certain new and useful Improvements in Asparagus-Bunchers; and I hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification, similar characters indicating like parts in the different figures.

Figure 1 represents an isometric perspective view of the machine complete. Fig. 2 is side elevation showing the peculiar construction of the shears which trim the bunches and other parts of the machine connected therewith. Fig. 3 is a rear elevation showing the joint of the shears and the relative positions in relation thereto of the principal parts of the machine. Fig. 4 is a top or plan view of the entire machine, illustrating the general arrangement of the several parts with relation to each other. Fig. 5 is a detail side view illustrating the arrangement of the clamping-jaws and their operating devices. Fig. 6 is a detail view showing the arrangement of the rocking shaft and its connections, by which the bunching-jaws are operated. Fig. 7 is a side view of the jaws C C and stud *k*, showing the hole through which bolt passes to fasten it to the stud 1.

This invention relates especially to improvements in that part of asparagus-bunching machines by which the bunching-jaws are operated and the butts trimmed to form an even-ended and symmetrical bunch.

A represents the bed of the machine, upon which all the operating parts are supported.

B and C are the bunching-jaws, of which there are two pairs, each pair connected at the base, placed at suitable distances from each other to properly support the bunch of stalks and allow the passage of the string or other fastening device to be passed between them and secured around said bunch. The pair of jaws C C are connected at their base by the cross-bar C′, which has a downwardly-projecting stud, *k*. This stud *k* is loosely fastened to the stud 1, which projects upward from the bed-plate A, by a bolt, *d*, which passes through an elongated hole in said stud *k*. The jaws are kept from tipping backward by coming in contact with the shoulder 2 of stud 1, Fig. 6, and the projection *b* of the bed-plate A. This mode of fastening allows the jaws C C to twist sidewise to conform with the shape of the bunch should it happen to be larger at one end than at the other. Otherwise they remain substantially stationary. The jaws B B are fastened together at their bases by the cross-bar B′, which has at its extremities the downwardly-projecting lugs B″ B″, which pass between ears projecting upwardly from the bed-plate A and oscillate on the bar 6, connecting said ears. The cross-bar B′ has two downwardly-projecting ears, between which is pivoted one end of the connecting-rod D by bolt 9. The other end of this connecting-rod D is pivoted to the hand-lever E by means of the bolt 7. The hand-lever is pivoted to the stud 1 by the bolt 8. Thus it is seen that when the hand-lever is raised (as shown in dotted lines, Fig. 5) it causes the jaws B B to recede, thereby giving room to insert the bunch. When the hand-lever is depressed, the jaws B B are brought forward. This motion continues until the bearings 7, 8, and 9 come into line. The lever is still carried a little below this point, thereby locking the jaws in their closed position. To prevent the lever E from being carried too far in either direction a stop, *a*, is placed on the side of said lever, which comes in contact with shoulders on the stud 1.

To prevent the stalks from dropping between the jaws and impeding their operations the jaws B B are recessed in their lower part to receive the tongues 19, projecting from the jaws C C and entering said recesses, thus forming a bridge over the space between the jaws at the bottom and preventing the dropping of stalks or other matters into said space.

In order to form bunches of certain desired lengths, a slot, 13, is formed in the bed in axial line with the jaws, through which slot passes the screw-bolts 11, adjustably securing at any point the shield or stop F, against which the heads of the stalks are brought to secure uniformity in their positions, their opposite ends or butts projecting beyond the jaws at the other side of the machine in position to

be acted on by the trimming devices, which will now be described. In order to always keep the shield or stop parallel to the cross-section of the bunch, a guide, 4, is formed on the bed-plate, along which the edge of the base of said shield moves. These trimming devices consist of a movable supporting-plate, G, made adjustable upon the bed A by means of the thumb-screw and bolt 10, which pass through the slot 12 in the bed-plate A. One edge of the plate G moves along the guide 3. This plate is provided with an upwardly-curved extension-piece, G′, which supports the butts of the stalks while being trimmed. Two large projecting ears, *b b*, extend upwardly from the plate G and serve as guides and a support for the trimmer, which is pivoted between them by means of the bolt 5. This trimmer is formed from a bow-shaped piece of metal, H, having an extension, H′, forming a handle by which it is operated. The cutting-blade has its edge formed by grinding it upon one side to a bevel, like the edge upon one-half of a pair of shears, and is attached at each end to the bow-shaped frame H by two pins, 15 15, so that it may be readily removed for sharpening, and acts, in conjunction with the extension G′, (which may also be provided with a similar beveled plate attached to its outer side,) in the same manner as the cutting parts of a pair of shears, so that when the blade is depressed by means of the handle H′ it severs the butts of any stalks which may project outside of the curved support G′. As the stalks are easily bent, it may become necessary to provide a support for their outer ends outside the support G′, which I provide by attaching to said support the curved blade 18, space being left between it and the support for the passage of the knife.

In order to protect the operator from accidental injury by his hands coming in contact with the blade while it is turned back and he is manipulating the machine, I attach to one of the ears *b* of the plate G a guard, 16, which extends backward, as shown in Fig. 2, a short distance above the blade, and effectually prevents accidents therefrom.

The operation of the machine is as follows: The trimmer and stop F having been adjusted to the distance apart required for the length of the bunches, the trimmer is thrown back and the lever E raised, so as to open the jaws. The bunch of asparagus is then inserted with the tops of the stalks against the stop. The lever E is then depressed, causing the jaws to close upon it. Then, by turning down the trimmer, the butts are cut, so as to give the stalks an even length. The bunch is then tied, the lever E raised, and the bunch removed, leaving the machine in condition for the reception of the next.

I am aware that asparagus-bunchers provided with sliding jaws operated by a lever to form and hold the bunches while being tied have been invented, and do not, therefore, broadly claim such a construction; but so far as my knowledge extends no one before my invention thereof has constructed an asparagus-buncher the jaws of which have not only a swinging movement but also a horizontal oscillatory motion by which they are adapted to conform to the varying taper of the bunches.

Having thus described my invention, I claim as new and desire to secure by Letters Patent the following:

1. In an asparagus-buncher, the bed-plate A, provided with the jaw-supports cast integral therewith, in combination with the jaws B and C, said jaws having a horizontally-oscillating motion upon their supports to fit the taper of the bunch, as well as a swinging movement to compress the same, a connecting-rod, D, attached to the jaws C at a point nearer the cutting-knife than the stop F to bring the greatest pressure on the butts, the lever E, and stop for limiting the movement of said lever, substantially as specified.

2. In an asparagus-buncher, the bed-plate A, in combination with the adjustable stop F, the adjustable trimmer and grasping-jaws pivoted to each other and loosely pivoted to the bed-plate to give an oscillating as well as a swinging movement adapted to inclose and compress the bunches at two points regardless of their taper, substantially as set forth.

3. In an asparagus-buncher, the bed-plate A, in combination with the adjustable support G, having curved extension G′, the bow-shaped lever H, and bevel-edged cutting-blade attached to said lever and acting in conjunction with said curved extension to form an asparagus-trimmer, as set forth.

4. In an asparagus-bunching machine, the combination, with the adjustable support G, having curved extension G′, of the curved support 18, attached to said extension, substantially as and for the purpose specified.

5. In a trimmer for asparagus-bunching machines, the support G, in combination with the trimming-knife and guard 16, arranged, as shown and described, to protect the operator from injury by said knife, as set forth.

6. In an asparagus-bunching machine, the recessed swinging jaws B, in combination with the jaws C, provided with tongues 19 to enter said recesses and prevent the stalks from dropping between the jaws at their bases, as set forth.

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Witnesses:
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