

(No Model.)

2 Sheets—Sheet 1.

S. J. VANCE.  
Hedge Trimming Machine.

No. 239,578.

Patented March 29, 1881.

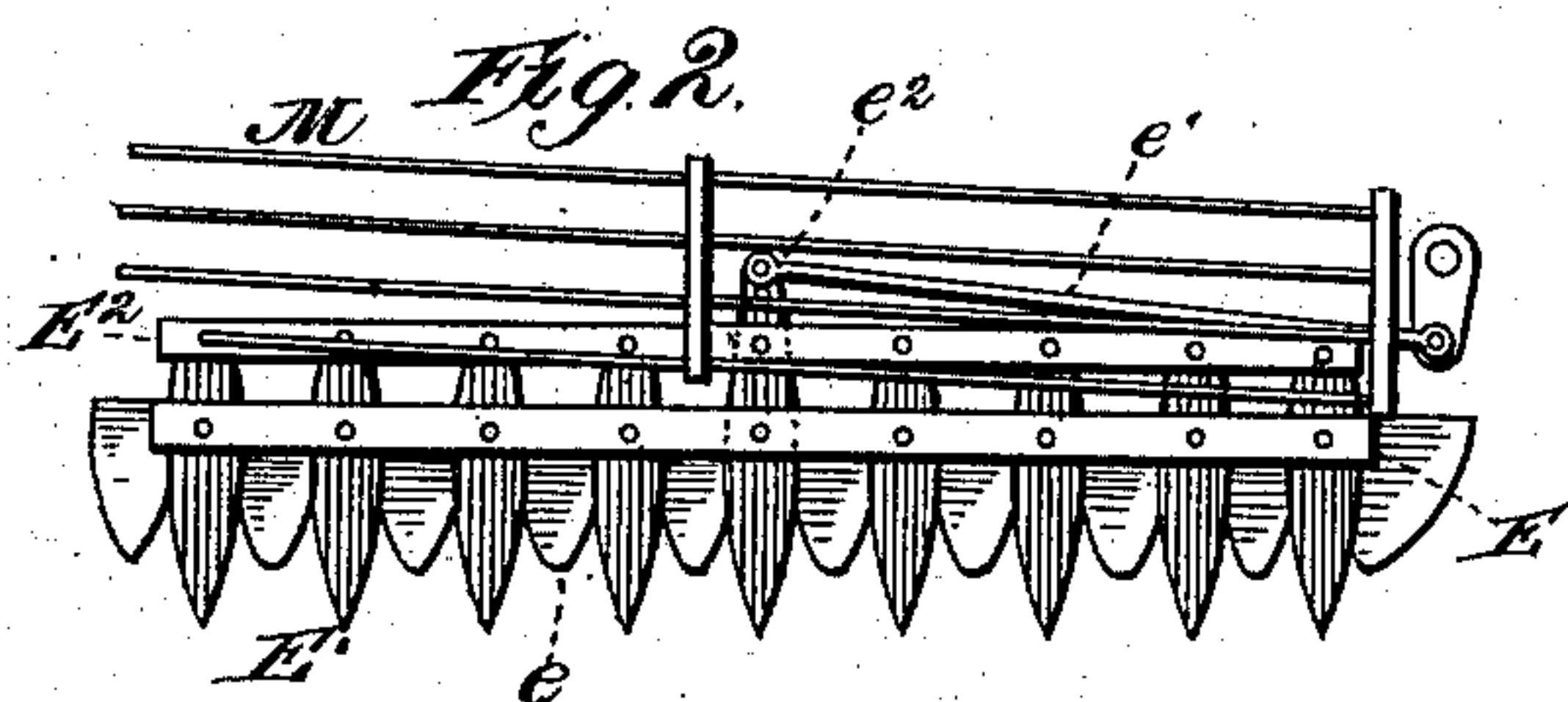
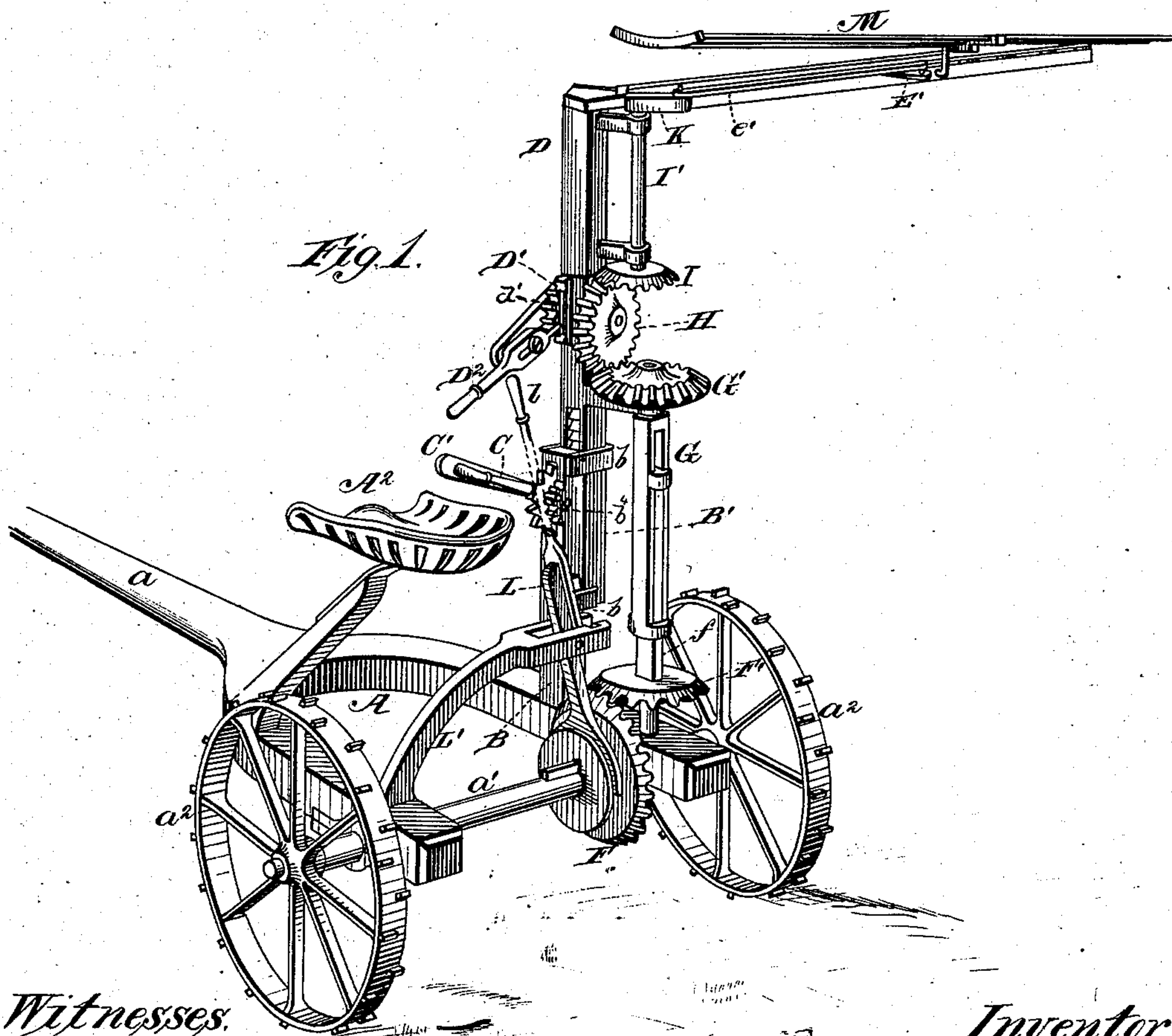
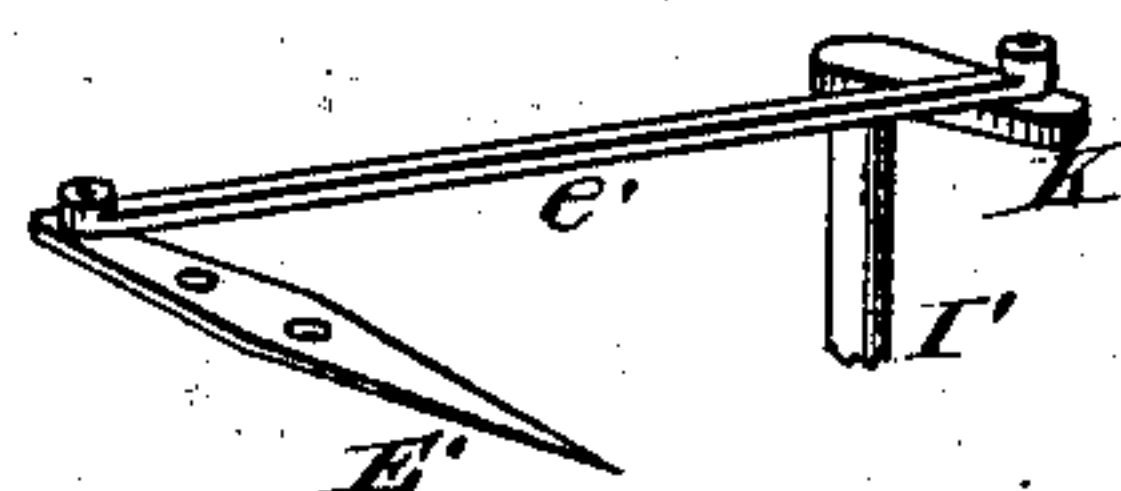


Fig. 3.



Witnesses.  
Robert Emmett  
A. H. Norris.

Inventor.  
S. J. Vance.  
By James L. Norris,  
Attorney.

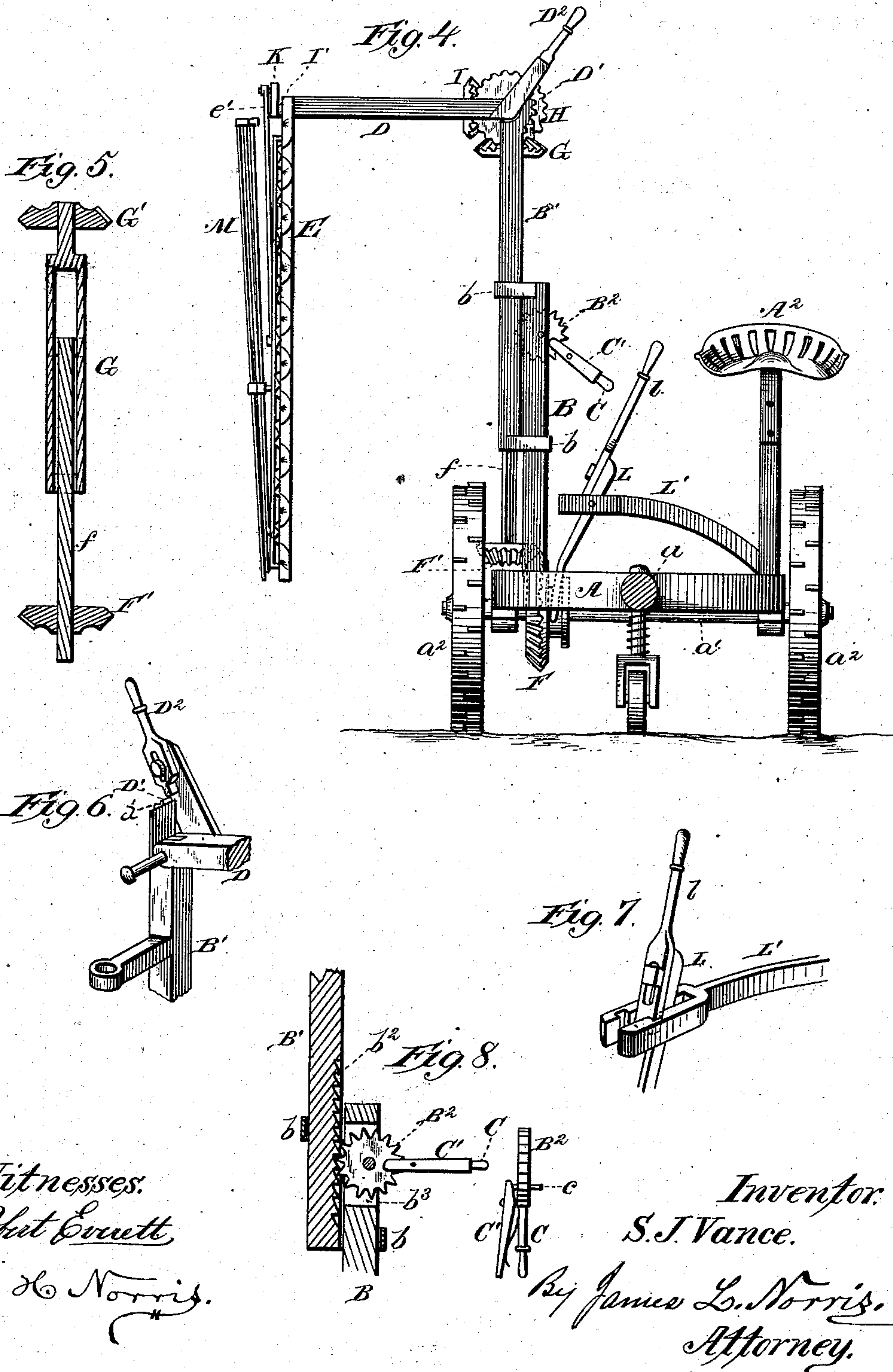
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2 Sheets—Sheet 2.

S. J. VANCE.  
Hedge Trimming Machine.

**No. 239,578.**

**Patented March 29, 1881.**





# UNITED STATES PATENT OFFICE.

SAMUEL J. VANCE, OF WAVERLY, ILLINOIS.

## HEDGE-TRIMMING MACHINE.

SPECIFICATION forming part of Letters Patent No. 239,578, dated March 29, 1881.

Application filed December 20, 1880. (No model.)

*To all whom it may concern:*

Be it known that I, SAMUEL J. VANCE, a citizen of the United States, residing at Waverly, in the county of Morgan and State of Illinois, have invented new and useful Improvements in Hedge-Trimming Machines, of which the following is a specification.

My invention relates to a hedge-trimming machine; and it consists, essentially, in the combination of a wheeled main frame provided with a rigid standard, an upright bar arranged to slide in bearings on the standard and provided with a rack, a ratchet-wheel or pinion engaging said rack for elevating and depressing the upright bar, a cutting mechanism having a hinge-connection with the upright bar, and devices for adjusting the cutting mechanism to horizontal or vertical positions, all of which will be fully hereinafter described.

In the drawings, Figure 1 is a perspective view of a hedge-cutter embodying my invention, the cutters being in a horizontal position. Fig. 2 is a detail view of the cutters and the frame which carries off the cut hedge. Fig. 3 is a detail view, showing one of the cutters and the crank and connecting-rod. Fig. 4 is a front elevation of the machine with the cutters in a vertical position. Fig. 5 illustrates some of the gearing with a movable sleeve. Fig. 6 is a detail view, representing the mechanism for raising or lowering the arm which supports the cutting mechanism. Fig. 7 is a detail view, illustrating the shipping-lever. Fig. 8 illustrates the rack upon a vertically-movable bar, with the ratchet-wheel for operating the same. It also shows the device for locking said ratchet-wheel.

Referring by letter to the annexed drawings, A indicates the truck-frame, to which is connected any ordinary tongue or pole, *a*. The truck-frame is mounted upon an axle, *a'*, which is supported upon wheels *a*<sup>2</sup>, one or both of these wheels being rigidly secured to the axle, in order to cause its rotation as the machine is drawn over the ground. A<sup>2</sup> designates the driver's seat, below which a tool-box can be placed when desired.

B indicates a standard, which is mounted upon the truck-frame, and B' designates a vertically-slidable bar, which is supported along-

side of the standard B by means of suitable straps or eyes, *b*. This bar B' is for the purpose of raising or lowering the head of the machine, which includes mechanism for raising or lowering the cutters, as will be explained hereinafter. The bar B' is provided with a rack, *b*<sup>2</sup>, along its side, that opposes the standard B, and within a mortise, *b*<sup>3</sup>, formed through said standard is pivoted a ratchet-wheel, B<sup>2</sup>. This ratchet-wheel engages the rack of the slidable bar, in order that the bar can be raised, and a handle, C, is extended out from the ratchet-wheel to within convenient reach of the driver. Any suitable device can be employed for locking the ratchet-wheel, in order to lock the slidable bar B' in the position desired, the means herein shown for such purpose being the spring-latch C', provided with a pin, *c*, arranged to pass through the ratchet-wheel and engage a stationary rack, *b*<sup>4</sup>, (shown in Fig. 1,) alongside of the ratchet-wheel, the spring-latch being best shown in Fig. 8.

At the top end of the slidable bar B' is pivoted the swinging arm D, which supports the cutters at its outer end. To this swinging arm is secured an arm, D', at an angle thereto, and near its pivotal end. An adjustable handle, D<sup>2</sup>, connects with this arm D' in such manner that the operator can slide the arm toward the hinged bar, so as to cause it to engage a rack-segment, *d'*, secured upon the slidable bar B'. This arrangement is for locking the hinged arm D either in a horizontal or a vertical position, or at an angle between the two.

To the end of the hinged arm is attached the finger-bar E, the cutters E' (see Fig. 2) being pivoted both to the finger-bar and also at their tail ends to the reciprocatory bar E<sup>2</sup>, the fingers *e* being shown as attached to the finger-bar. One of the tail ends of the cutters extends back of the reciprocatory bar E<sup>2</sup>, and to such end of the cutter is pivoted the vibratory bar *e'*, as at *e*<sup>2</sup>. This bar is employed for operating the cutters. Motion is transmitted to this bar *e'* from a gear, F, upon the axle, as follows: The gear F engages with a bevel-gear, F', upon a vertical shaft, *f*. A vertically-movable hollow shaft or sleeve, G, is arranged upon the shaft *f*, and a bevel-gear, G', is secured



upon the upper end of the said movable sleeve G. This last-named bevel-gear G' engages a rotary gear, H, carried by the standard B', which, it will be remembered, is adapted to move vertically. The rotary gear H meshes with a bevel-gear, I, secured upon the rotary shaft I', that is supported in bearings attached to the hinged arm D, as illustrated in Fig. 1. Upon the outer end of this shaft I' is a crank, K, that operates the reciprocating bar e', which, as stated, connects with one of the cutter-teeth. The gear F is feathered upon the axle and arranged to slide to or from the gear F', with which it intermeshes, in order that the two gears can be disengaged when necessary, in order to check the cutting mechanism. Shipping-lever L, for moving the gear F, is pivoted in an arm, L', that rises from the truck-frame, and an adjustable handle, l, is connected with the shipping-lever and extended up alongside of the driver's seat. Finally, a vibratory frame, M, is arranged above the vibratory bar E<sup>2</sup>, and supported thereby.

The operation is as follows: The machine is drawn alongside of the hedge to be cut. The driver elevates the bar B' by operating the handle of the ratchet-wheel, and the cutter-bar is allowed to drop by unlocking the hinge of arm D, which supports the cutting mechanism. As the machine passes alongside of the hedge the vibrating knives will trim the hedge. Instead of now carrying the machine along the other side of the hedge, the machine can be driven closer to the hedge, and the arm D thus allowed to extend over and admit of the cutters along the other side. To trim the top of the hedge, the operator elevates and locks the arm D into a vertical position, as shown in Fig. 1. He will then lower the bar B' so as to bring the cutters down upon the hedge, and thus effectively trim the top. The cut

material falls upon the vibrating frame M and slides thereon over to the other side of the hedge.

It will, of course, be seen that the cutters can be set at various angles by raising or lowering the arm D, which supports the cutting mechanism.

Heretofore machines for trimming hedges have been provided with cutting mechanism arranged to be adjusted back and forth above the plane of the main frame and from horizontal to vertical positions; but such is not claimed by me.

What I claim is—

1. In a hedge-trimming machine, the combination of a wheeled main frame provided with a rigid standard, the upright bar arranged to slide in bearings on said standard and provided with a rack-bar, a ratchet-wheel or pinion engaging the rack for elevating and depressing the upright bar, a cutting mechanism having a hinged connection with the upper end of the upright bar, and devices for adjusting the cutting mechanism to horizontal or vertical positions, all substantially as and for the purpose described.

2. In a hedge-cutter, the combination, with the cutting mechanism, of a hinged supporting-arm, D, a vertically-movable supporting-bar, B', a vertically-movable sleeve carrying a gear, and the gears H and G' and a third intermeshing gear, through the medium of which motion is transmitted to the cutters, substantially as described.

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

SAMUEL J. VANCE.

Witnesses:

EDWARD WEMPLE,  
F. H. WEMPLE.