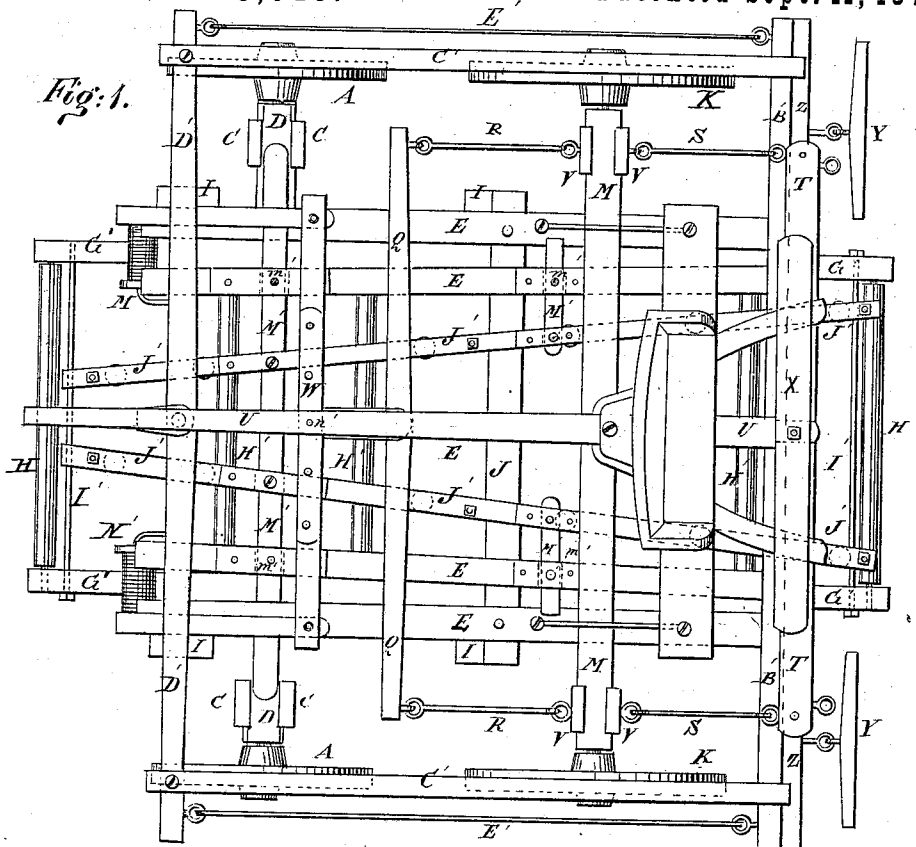


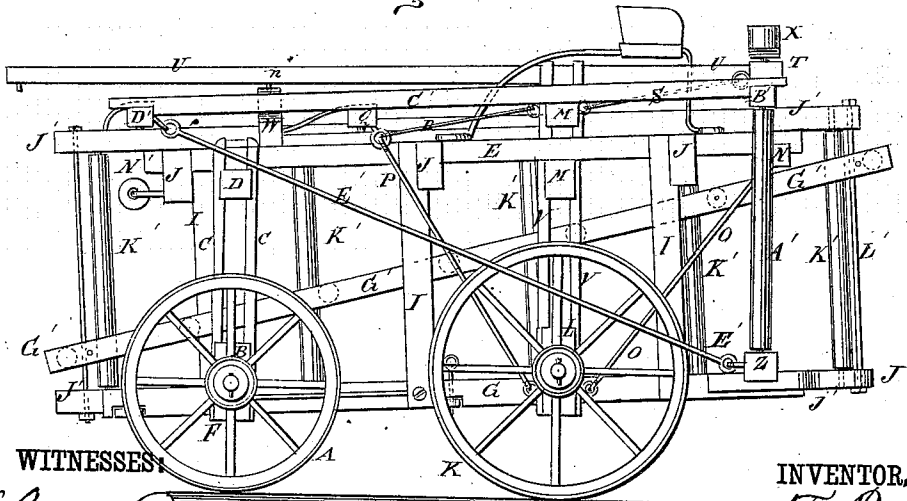
F. POOLE & W. A. PENDERGRAFT.  
HEDGE-FENCE LAYER.

No. 195,046.

Patented Sept. 11, 1877.



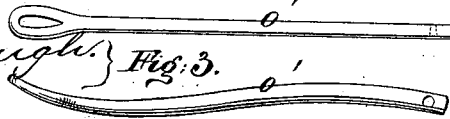
*Fig. 2.*



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*Fig. 3.*



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Fig. 4.

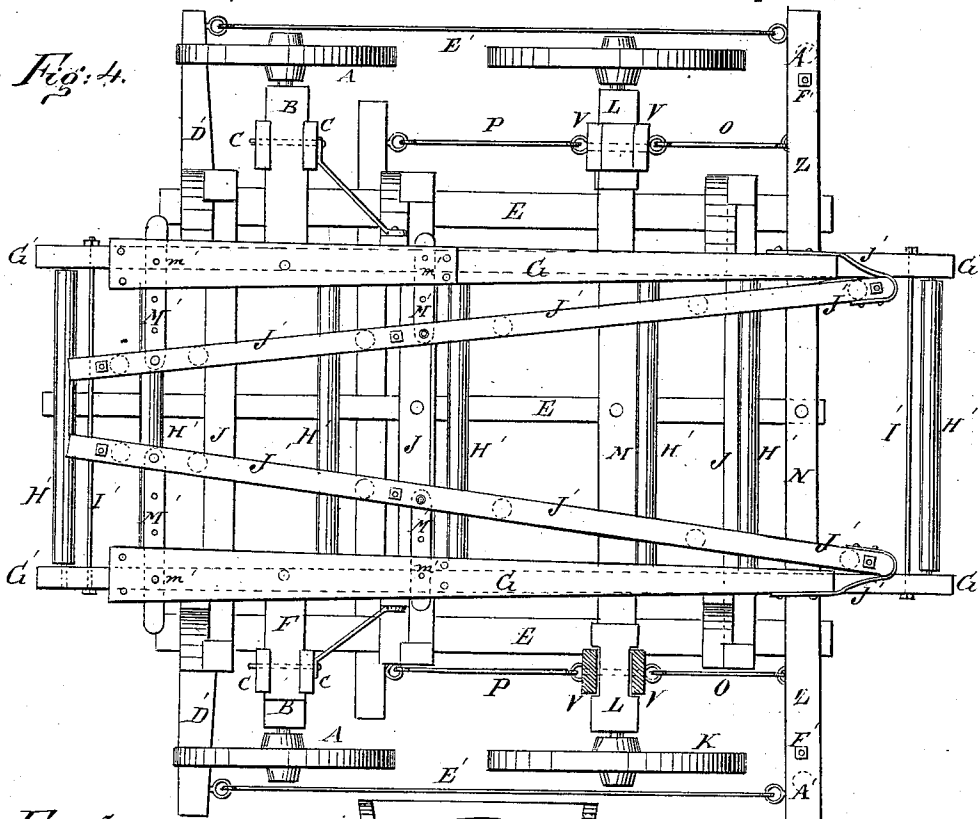
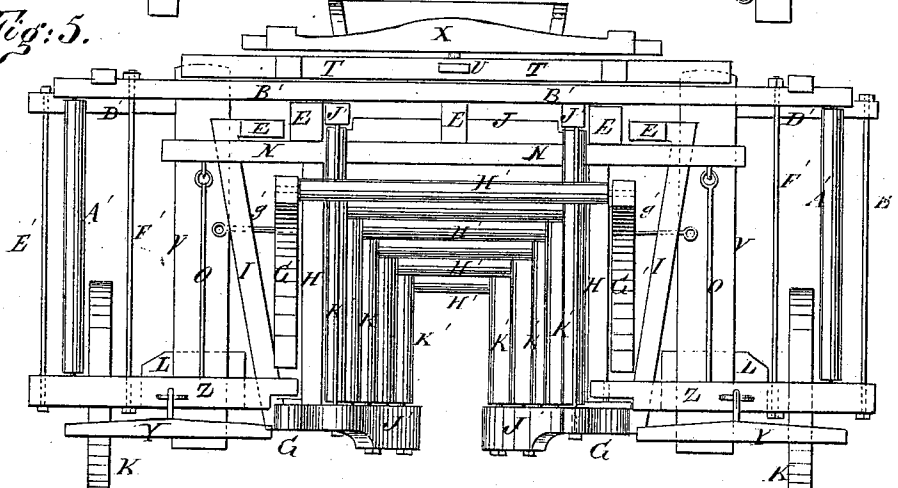


Fig. 5.

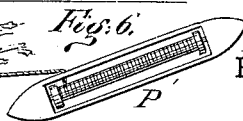


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Fig. 6.



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# UNITED STATES PATENT OFFICE.

FERDINANDO POOLE AND WILSON A. PENDERGRAFT, OF AUGUSTA, KANSAS.

## IMPROVEMENT IN HEDGE-FENCE LAYERS.

Specification forming part of Letters Patent No. **195,046**, dated September 11, 1877; application filed August 3, 1877.

*To all whom it may concern :*

Be it known that we, FERDINANDO POOLE and WILSON ALAWAY PENDERGRAFT, of Augusta, in the county of Butler and State of Kansas, have invented a new and useful Improvement in Hedge-Fence Layer, of which the following is a specification :

Figure 1, Sheet 1, is a top view of our improved machine. Fig. 2, Sheet 1, is a side view of the same. Fig. 3, Sheet 1, is a detail side and top view of the needle. Fig. 4, Sheet 2, is a view of the under side of the machine. Fig. 5, Sheet 2, is a front view of the same. Fig. 6, Sheet 2, is a detail view of the shuttle, illustrating its use.

Similar letters of reference indicate corresponding parts.

The object of this invention is to furnish an improved machine for bending down and pressing together the Osage orange and other hedge-plants, and holding them until tied, so that the hedge may be narrow and the upright shoots close together, making a close hedge.

The invention consists in the frame-work formed by the combination of the wheels, the adjustable axles, the stationary axle-frame, the pivoted axle-frame, the longitudinal bars, the sills, the vertical and the inclined uprights, and the cross-bars with each other; in the combination of the connecting-rods, the pivoted cross-bars, and the pivoted tongue or lever with the longitudinal bars of the frame-work and with the pivoted axle-frames for guiding the machine; in the combination of the draw-bars, the uprights, the cross-bars, the longitudinal bars, the brace-rods, and the tie-rods with the sills and the longitudinal bars of the frame-work for drawing the machine; in the combination of the adjustable roller-frame with the vertical and the inclined uprights of the frame-work; and in the combination of the two adjustable roller-frames with the top roller-frame, and with the sills and the longitudinal bars of the frame-work, as hereinafter fully described.

A A represent the rear wheels, which revolve upon the journals of the short axles B. The inner ends of the short axles B are placed in the spaces between the upright bars C, where they are secured in place by bolts, several holes being formed in the said bars to

receive the said bolts, so that the said axles B may be secured higher or lower in said bars C, according as the hedge-plants are to be laid closer to or farther from the ground.

To and between the upper parts of the pairs of bars is attached a cross-beam, D.

To the beam D are attached the rear parts of five longitudinal bars, E—two upon each side and one at the center. The side bars of each pair incline toward each other slightly as they pass forward.

To and between the lower ends of the bars C are attached the outer ends of the short bars F, the inner ends of which are attached to the rear parts of the sills G.

To the inner sides of the sills G are attached the lower ends of the vertical uprights H, the upper ends of which are attached to the inner sides of the inner side bars E.

To the outer sides of the sills G are attached the lower ends of the uprights I, which incline outward, and their upper ends are attached to the outer sides of the outer side bars E.

The upper ends of the uprights H I are attached to cross-bars J, to which the five bars E are also attached.

K K represent the forward wheels, which revolve upon the journals of the short axles L. The inner ends of the short axles L are bolted to and between the lower parts of two pairs of bars, V, several holes being formed in the said bars to receive the said bolts, to enable the frame-work to be adjusted lower or higher, according as the hedge-plants are to be laid closer to or farther from the ground.

To and between the upper parts of the bars V are secured the ends of two bars, M, which are placed at such a distance apart as to receive the five bars E between them. The bars M are pivoted at their centers to the middle bar E by a bolt, so that the forward wheels can cramp in turning.

To the lower side of the forward end of the middle bar E is pivoted the center of the cross-bar N, the ends of which project, and to them are pivoted the forward ends of the rods O. The rear ends of the rods O are pivoted to the forward side of the lower ends of the bars V.

To the rear side of the lower ends of the bars V are pivoted the forward ends of the

rods P, the rear ends of which are pivoted to the projecting ends of the cross-bar Q. The cross-bar Q is pivoted at its center to the rear part of the middle bar E, and to its ends are pivoted the rear ends of the short rods R, the forward ends of which are pivoted to the rear side of the upper ends of the bars V.

To the forward side of the upper ends of the bars V are pivoted the rear ends of the short rods S, the forward ends of which are pivoted to the cross-bar T of the tongue U. The tongue U is pivoted to the upper cross-bar M, and has a pin, *u'*, attached to it, to enter a hole in the catch-bar W, to hold the running-gear in place when adjusted to run straight forward.

By raising the pin *u'* out of the hole in the catch-bar W, the tongue U T may be used as a lever for guiding the machine.

To the center of the cross-bar T of the tongue U is pivoted the bolster X.

When the machine is to be drawn from place to place the tongue U is detached from the cross-bar M, the ends of the bolster X are attached to the lower side of the forward ends of the sills G, and the rods O are attached to the rear side of the ends of the cross-bar T of the tongue U, and to the lower ends of the bars V.

Y Y represent the whiffletrees, which, when the machine is being drawn from place to place, are attached to the ends of the cross-bar T of the tongue U, and which, when the machine is at work, are attached to the forward side of the draw-bars Z.

The inner ends of the bars Z are pivoted to the upper side of the forward ends of the sills G, and to their outer ends are attached the lower ends of two uprights, A', the upper ends of which are pivoted to the ends of a cross-bar, B'.

The cross-bar B' is pivoted at its center to the forward end of the central bar E, and to its ends are pivoted the forward ends of two longitudinal bars, C', the rear ends of which are pivoted to the ends of a cross-bar, D'.

The cross-bar D' is pivoted at its center to the rear end of the central bar E, and to its ends are pivoted the rear ends of the brace-rods E', the forward ends of which are pivoted to the ends of the draw-bars Z.

The draw-frame is thus made flexible, so that the machine will not be turned out of its course should one of the horses get a little in advance of the other.

The draw-frame is strengthened by the tie-rods F', which pass through and are pivoted to the draw-bars Z and the front cross-bar B'.

G' are two bars, to and between which are pivoted a number of rollers, H', and which are held together by tie-rods I'. The bars G' are placed between the vertical and the inclined uprights H I, and incline downward toward the rear end of the machine, so that the rollers H' may gradually bend down the hedge-plants into a horizontal position.

The roller-frame G' H' I' is secured in place

by pins *g'*, which are passed through holes in the bars G' and in the uprights H I. Several holes are formed in the uprights H I to receive the pins *g'*, to enable the roller-frame G' H' I' to be adjusted lower or higher, according as the hedge-plants are to be bent down closer to or farther from the ground.

J' J' represent two pairs of bars, to and between which are pivoted two sets of rollers, K', and which are held together by stay-rods L'. The upper bars J' are placed upon the cross-bars J, upon the opposite sides of the center-bar E, and the lower bars J' are placed in the space between the sills G.

The roller-frames J' K' L' are placed with their rear ends inclined toward each other so as to gradually press the hedge-plants together laterally as they are being gradually bent down by the roller-frame G' H' I'.

The roller-frames J' K' L' have outwardly-projecting arms M' attached to them, which enter mortises in the inner side bars E and sills G, and are secured in place by pins *m'*. Several holes are formed in the arms M' to receive the pins *m'* according as the hedge-plants are to be pressed together more or less compactly.

The forward ends of the bars J' are connected with the forward ends of the sills G by metal straps *j'*, as shown in Fig. 4. As the bent and compressed hedge-plants come out at the rear end of the machine they are bound by a wire or tarred cord carried upon spools N' pivoted to the rear end of the frame-work of the machine.

The wire or cord is passed around the plants with a needle, *o'*, through the eye of which it is passed, and is then tied and cut off, the said wire or cord being never withdrawn from the said eye, but being slipped through the eye as each knot is tied.

If desired, the spool holding the wire or cord may be placed in a shuttle, P', as shown in Fig. 6, and passed around the hedge-plants by hand. In this case the wire or cord is continuous, is secured to a plant or stake at the place of beginning, and is fastened with a half-hitch each time it is passed around the plants, as shown in Fig. 6.

The hedge-plants may be laid the first time close to the ground, and afterward laid one or more times at a higher level, so as to form a thick, close hedge with comparatively few plants.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. The frame-work formed by the combination of the wheels A K, the adjustable axles B L, the stationary axle-frame C D, the pivoted axle-frame V M M, the longitudinal bars E, the sills G, the vertical and the inclined uprights H I, and the cross-bars J, with each other, substantially as herein shown and described.

2. The combination of the connecting-rods O P R S, the pivoted cross-bars N Q, and the

pivoted tongue or lever T U with the longitudinal bars E of the frame-work, and with the pivoted axle-frame V M M for guiding the machine, substantially as herein shown and described.

3. The combination of the draw-bars Z, the uprights A', the cross-bars B' D', the longitudinal bars C', the brace-rods E', and the tie-rods F' with the sills G and the longitudinal bars E of the frame-work for drawing the machine, substantially as herein shown and described.

4. The combination of the adjustable roller-

frame G' H' I' with the vertical and inclined uprights H I of the frame-work, substantially as herein shown and described.

5. The combination of the two adjustable roller-frames J' K' L' with the roller-frame G' H' I', and with the sills G and the longitudinal bars E of the frame-work, substantially as herein shown and described.

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