H. N. PROUT.

Hoeing-Machine.

No. 207,443. Patented Aug. 27, 1878.

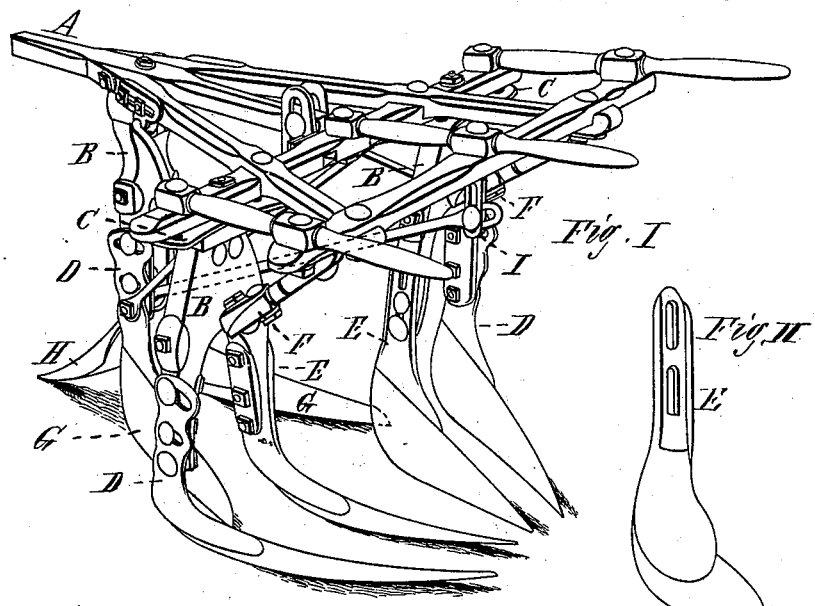

Fig. I

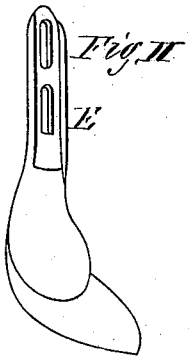

Fig. II

Fig. III

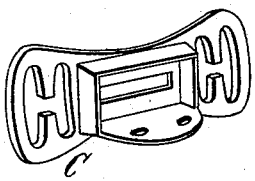

Fig. IV

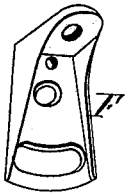

Fig. V

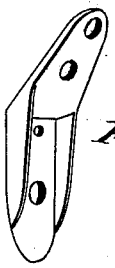

Fig. VI

Witnesses.
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HORACE N. PROUT, OF WESTFIELD, MASSACHUSETTS.

IMPROVEMENT IN HOEING-MACHINES.

Specification forming part of Letters Patent No. **207,443**, dated August 27, 1878; application filed June 24, 1878.

To all whom it may concern:

Be it known that I, HORACE N. PROUT, of Westfield, Hampden county, State of Massachusetts, have improved my hoeing-machine, patented September 28, 1875, No. 168,105, and my wing-springs as a hoeing attachment, patented March 24, 1874, No. 148,845, of which improvement the following is a specification:

My improvement consists, mainly, in the change of profile of wing-springs, the top and lower edges being straight, with the exception of the broad runner shape of the forward end. The inner and outer surfaces are straight crosswise, with the exception of the lower outer edge, beveled to a cutting-edge. Being cut to pattern, they are uniform in shape, and, being rolled to uniform thickness when tempered, their elasticity is the same. This is important, for as they stride the row, their rear small ends working on both sides close to the growing plants, any variation would destroy the plant.

The improvement consists in a novel construction of parts, which I will now proceed to describe.

Figure 1 is a plan view of my invention. Fig. 2 is a detailed side view of the improved inner adjustable flanged and beveled wing-spring or hoe-stocks with the wing-springs attached, the wing-springs being straight, with broad rear ends, the stock showing the lengthwise slots. Fig. 3 is a detail front view of the inner improved hoe-stock. Fig. 4 is a detail bottom view of the adjustable flange-slotted plate. The flange receives the beveled end of the bifurcated standard B, said plate showing the crosswise and lengthwise slots and holes in the flange for bolt to secure it to standard B. Fig. 5 is a detail bottom view of the adjustable beveled, flanged, and slotted cap for the bottom end of back-brace, connecting the same to standard B in such a manner that it can be adjusted. Fig. 6 is a detail view of the adjustable beveled flanged cap for the upper end of rear brace, with slots or holes to lengthen the same in adjusting the bifurcated standard B.

In the drawing, A represents the main supporting-frame of my improved hoeing-machine.

Frame A is made of four pieces of white ash or other hard wood of any suitable size—two cross-pieces and two brace-pieces. The rear upper ends of the brace-pieces halve diagonally, and the rear cross-pieces halve to match near both ends on the under side of the said brace-pieces. The front cross-piece halves at equal distances from each end on the top to receive the diagonal braces. Sixteen inches from the center of the back cross-piece to the center of the front cross-piece said braces halve on the under side to correspond with the front cross-piece. Said braces are cut to a bevel to receive the pole or tongue at their front ends. Said pole or tongue extends back to the front cross-piece, entering at its center a clamp with holes or slots, in such a manner that the pole or tongue can be raised or lowered, as desired, and held in position by bolts in said slots or holes.

As the pole or tongue is held firmly between the front ends of the beveled braces by bolt and nut, I am enabled by this device to raise and lower the rear ends of the wing-springs or hoes for the purpose of leveling or ridging the soil in hoeing different plants.

B represents the bifurcated and beveled wood standards, connected near both ends of the front cross-piece of the main frame by bolts through the slots of flange-plate C, as shown in Fig. 4. Said flange receives the top beveled end of standard B, secured by bolts, the forks being the width of the standards, the inner sides beveled to their lower end, leaving the end three-fourths of an inch thick. Each fork receives one of the adjustable flanged, beveled, and slotted hoe-stocks, with a flanged plate to fit the inner side. The opposite sides are secured with bolts, and the standard has a bolt above the arch, with flanged washers, to prevent it from splitting. The top has a flanged plate, and the adjustable braces in front and rear, secured to the main frame with bolts and nuts, make a substantial working standard.

C represents the adjustable flanged and slotted plate, with holes in the flange, said plate having a series of lengthwise and crosswise slots, as shown in Fig. 4. The flange receives the top beveled ends of the bifurcated wooden standards B, secured by bolts and nuts through the holes of said flange. The lengthwise slots are to adjust the standards B with wing-springs or hoes attached, to hoe any width of row. When said standards are adjusted to

the different width of the rows, the rear ends of the inner wing-springs or hoes move with them. If this moves the wing-springs too near or too far apart, they are regulated by the crosswise slots, in which said standards are adjusted in a circular form, which leaves the rear ends of the wing-springs or hoes as desired.

D represents the outer crosswise slotted and beveled wing-spring or hoe-stock. Said hoe-stock is attached to the outer fork of standard B by bolts, holding the same in any position required, it being necessary that the rear end of the wing-springs be kept at the same height when hoeing ridged or level land. As the inner hoe-stocks, by their lengthwise slots or holes, (shown in Fig. 2, letter E,) are raised perpendicularly for hoeing on a ridge at the same time that the outer wing-springs or hoes work in the furrow, the rear ends of the same should be of one height. This is done by crosswise slots in the outer hoe-stocks, to leave a handsome ridge behind the machine.

E represents the inner flanged beveled lengthwise-slotted wing-spring or hoe-stock, with wing-spring or hoe attached, secured by bolts and nuts through the adjustable slots to the inner fork of standard B.

F represents the beveled flanged adjustable slotted cap shown in Fig. 5, and attached to standard B on the rear or back by bolts, and to the lower front end of the back-brace by bolts through the crosswise slots, to allow standard B to move in any desired position, with flanged, beveled, and lengthwise-slotted cap secured to the upper end of the back-brace by bolts, to lengthen said brace when required in adjusting standard B, as shown in Fig. 6.

G represents my improved wing-spring or hoe. The inner and outer surfaces are straight, vertically or crosswise; the lower and front edge is beveled to a cutting-edge. Longitudinally they may be straight or may be slightly curved. As shown, they run to a point at their rear ends; but when it is desired to carry more dirt to the plants, the width at the rear may be somewhat increased; but they should be narrower in rear than in front. They can be made by rolling, and will be of uniform thickness and elasticity.

The peculiarity of these hoes is that they work under the surface of the soil close to the plants without injury to them, and the dry surface-soil, with stones and lumps, will be carried over the upper edges of the hoes away from the plants.

D is a hoe-stock, to which the hoes or wings G are secured by welding or by bolts or rivets. These stocks D are provided, as shown, with two transverse slots. (See Fig. 1.) The stocks are secured to the standards B by means of bolts, two of which pass through said slots. This construction provides for the easy adjustment of the heel or point of the hoes on the outer side, either up or down, as the form of the ridge or ground along which they pass requires.

I have shown two slots and three bolts; but the central slot and bolt may be omitted.

H represents a furrowing tooth or plow, held by an adjustable lever to gage the same to any depth desired, or raise the same from the soil by a gage made adjustable by holes or slots and held by a bolt, the front standard to be detached from the main frame or any part of its connections required for different kinds of work.

I represents the gage, made to adjust the adjustable lever by holes or slots, with a bolt to secure the same.

Two wing-springs or hoes, being preferably arranged each side symmetrically to the longitudinal sides of the machine which strides the rows, and being peculiarly shaped, are specially adapted to the work of hoeing and covering which they have to perform; also, the ready adjustability of the plates and slotted caps, and the adjustability of the flanged beveled hoe-stocks make the machine a light, strong, useful, economical, and rapid-working hoeing-machine.

Having thus described my improved hoeing-machine, I claim as new and desire to secure by Letters Patent—

1. The improved wing-springs or hoes G, with inner and outer surfaces straight, vertically or crosswise, and of uniform thickness and elasticity, with the lower and front edge beveled to a cutting-edge, said hoe being wider in front than in rear, substantially as and for the purposes set forth.

2. The adjustable plate C, having the flanged socket and the lateral and longitudinal slots, substantially as shown and described.

3. The adjustable flanged plate C, constructed as described, in combination with standard B and main supporting-frame *a*, as and for the purpose set forth.

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Witnesses:
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MARY E. CHASE.