

W. H. HEFFLEY.
Improvement in Orchard-Ladders.

No. 131,442.

Patented Sep. 17, 1872.

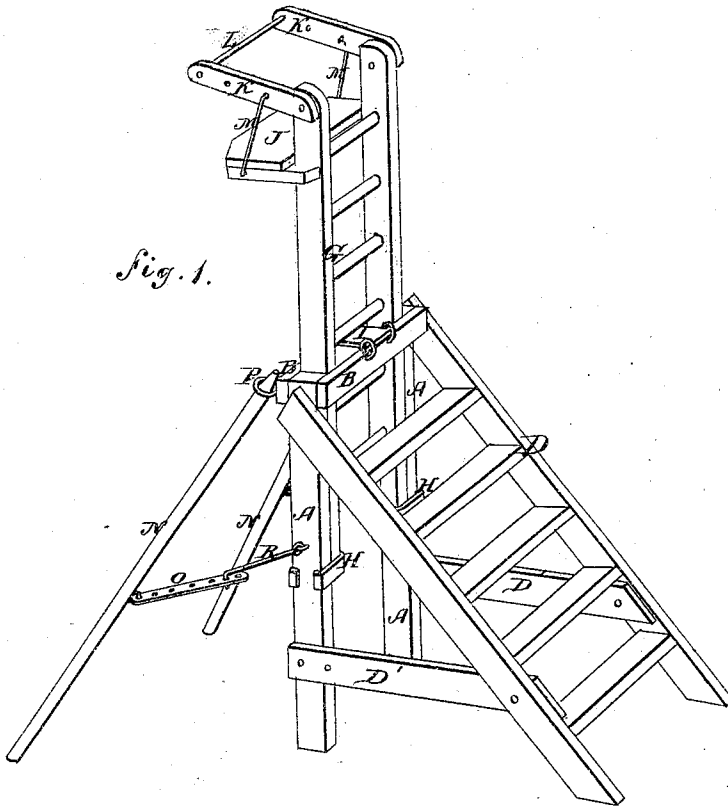


Fig. 1.

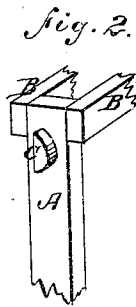


Fig. 2.

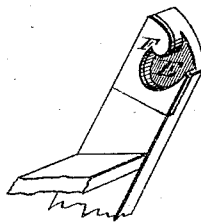


Fig. 3.

Witnesses.
C. F. Brown
Nathan D. Ellsworth

Inventor.
Wm. H. Heffley.
by his attys.
Hill & Ellsworth.

UNITED STATES PATENT OFFICE.

WILLIAM H. HEFFLEY, OF ROCHESTER, INDIANA.

IMPROVEMENT IN ORCHARD-LADDERS.

Specification forming part of Letters Patent No. 131,442, dated September 17, 1872.

To all whom it may concern:

Be it known that I, WILLIAM H. HEFFLEY, of Rochester, in the county of Fulton and State of Indiana, have invented an Improved Orchard-Ladder; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing forming part of this specification, in which—

Figure 1 is a perspective view of my invention, and Figs. 2 and 3 detached views showing the connection of the inclined ladder to its vertical supports.

Similar letters of reference in the accompanying drawing denote the same parts.

This invention has for its object to produce a step-ladder for fruit-gathering and other purposes, which can be adjusted vertically to any desired height, and readily taken apart for packing and transportation; and it consists, mainly, first, in the combination, with an inclined step-ladder having vertical supports, of a vertical ladder sliding on said supports; second, in connecting said inclined ladder to its vertical supports or standards, by means of lugs and grooves, in such manner that it can be detached at will; and third, in a pawl or catch pivoted to a cross-piece connecting the upper ends of the vertical standards, which pawl engages with one of the rungs of the sliding ladder and holds the same at any desired height. It also consists in certain other details of construction, which will be more fully described hereinafter.

In the drawing, A A represent vertical standards or supports, which are connected at their upper ends by the cross-bars B, said cross-bars being secured to the opposite edges of the standards A and running parallel with each other, the space between them being the width of the standards. The standards A are provided at their upper ends with cam-shaped lugs C, which project outward from the opposite sides and are pointed at their tops and convex on their inner edges. D represents an inclined step-ladder, the side pieces of which are provided on their inner sides with metal plates in which are curved grooves E, which latter conform to the shape of and are engaged with the lugs C, the ladder D being inverted and the lugs entering the grooves E at their open ends, after which the ladder D is swung

downward until the pointed ends of the lugs C come in contact with the corresponding ends F of the grooves E, at which point the ladder D is securely held, as shown in Fig. 1, and can only be removed by reversing the operation and raising the ladder in the air. The lower end of the ladder D is connected to the standards A by the bars D', which are provided with holes, and are engaged with pins projecting from the standards A and side pieces of ladder D. Between the cross-bars B, and held in sliding contact with the same, is the vertical ladder G, the side pieces of which are connected to the standards A by metal bands or clamps H that embrace said standards and guide the ladder G, which slides vertically on the standards A as on ways, being held and guided, in addition to the clamps H, by the cross-bars B. I represents a plate of metal or other material, which is hinged to one of the cross-bars B, and constitutes a pawl or stop to the ladder G, lying, when in operation, across the cross-bars B, and supporting the ladder by one of its rungs, as shown in Fig. 1, at the same time offering no impediment to the upward motion of the ladder, it being hinged to but one of the cross-bars B, and yielding to the upward movement of the rung below it until said rung passes its extreme radius, and then falling back to its former position across the cross-bars B, to be again raised by the next lower rung until the whole is elevated to the desired height, when it engages with the rung next above it, as shown, and holds the ladder in position. J represents a horizontal platform located at the upper end of the ladder G, upon which platform the operator stands. K K represent arms pivoted to the ends of the ladder G, and connected at their outer ends by a rod, L, the whole constituting a railing or guard around the platform J to keep the fruit-receptacle in place. The arms K are connected to the platform J by means of the hooks M, which can be readily disengaged therefrom. N N represent brace-rods, which are pivoted at their upper ends and provided with hinged perforated plates O. The rods N are connected to the standards A on the opposite side from the ladder D by inserting their pointed ends into rings P, which are attached to the rear cross-bar B, and engaging the perforated plates O with hooks R

on the sides of the standards A. The rods N can thus be adjusted to incline more or less from the standards A, according to the elevation of the ladder G, and, as will be readily seen, securely brace the whole and prevent the ladder from toppling over under the influence of extra weight on the ladder G.

It will be seen that, by this arrangement, the ladder can be packed in small compass for transportation or storage and adjusted conveniently, besides being securely braced when in operation. If desired the ladders can be disconnected and either used separately.

Having thus described my invention, what I claim is—

1. An inclined step-ladder having vertical

supports, provided with a vertical ladder sliding on said supports, substantially as described.

2. The described method of connecting the inclined ladder D to its standards A, the same consisting of the pointed lugs C and correspondingly-shaped grooves E, as and for the purpose set forth.

3. The hinged stop-plate I, in combination with the sliding ladder G, arranged and operating as described.

WILLIAM H. HEFFLEY.

Witnesses:

ISAIAH CONNER,
A. T. METCALF.