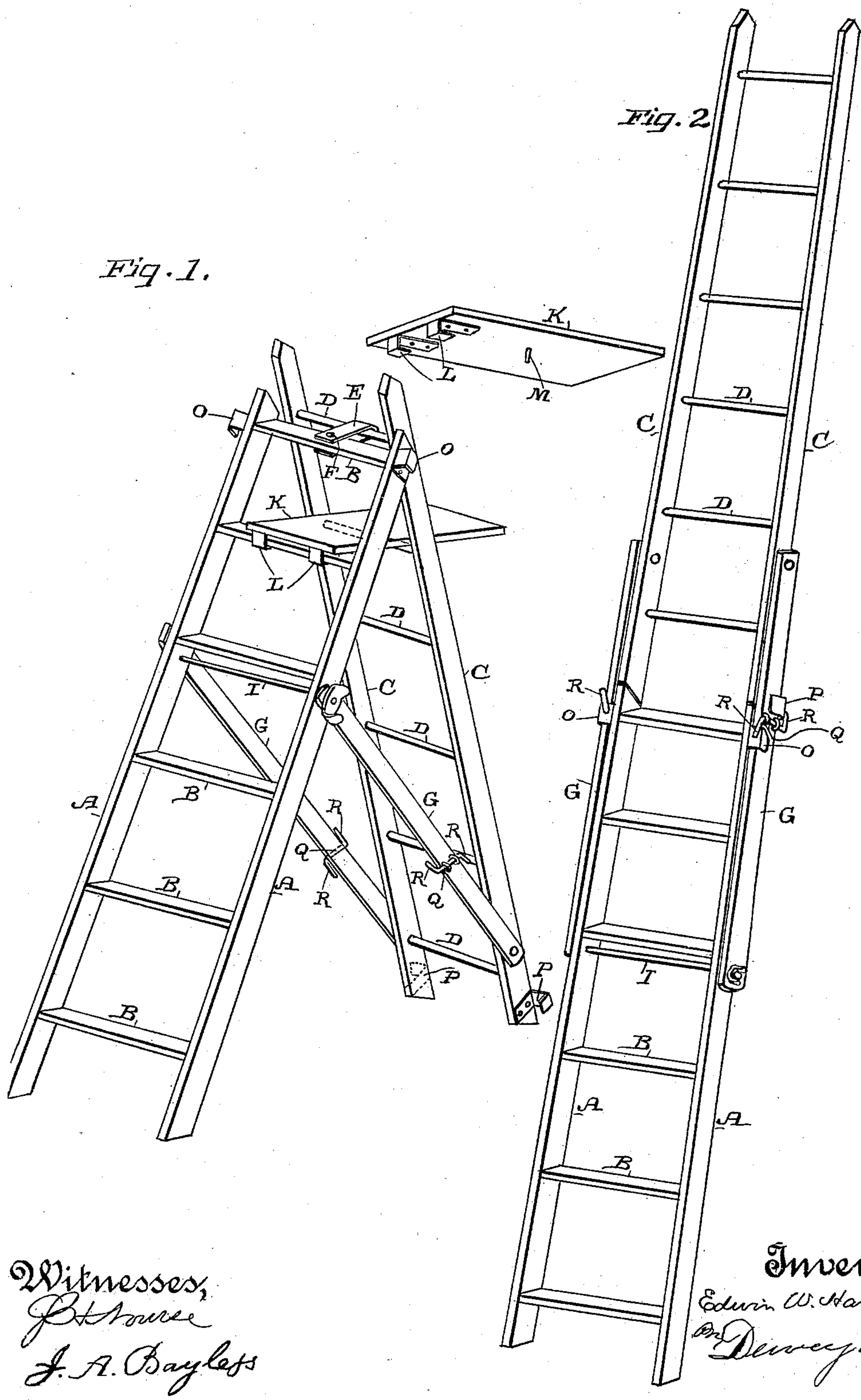


(No Model.)

E. W. HAMMON.
EXTENSION AND STEP LADDER.

No. 467,685.

Patented Jan. 26, 1892.



Witnesses,
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UNITED STATES PATENT OFFICE.

EDWIN W. HAMMON, OF MEDFORD, OREGON.

EXTENSION AND STEP LADDER.

SPECIFICATION forming part of Letters Patent No. 467,685, dated January 26, 1892.

Application filed May 20, 1891. Serial No. 393,450. (No model.)

To all whom it may concern:

Be it known that I, EDWIN W. HAMMON, a citizen of the United States, residing at Medford, Jackson county, State of Oregon, have
5 invented an Improvement in Extension and Step Ladders; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to improvements in
10 ladders; and it consists in the combination of parts forming a step-ladder and supports therefor, and means whereby the ladder may be converted into an extension-ladder with suitable strengthening and locking devices.

15 It also consists in certain details of construction.

Referring to the accompanying drawings for a more complete explanation of my invention, Figure 1 is a view of my step-ladder. Fig. 2 shows it as an extension-ladder.

20 A A are the side rails, having the steps B and forming that portion of the ladder which is used as a step-ladder.

C C are the side rails of that portion which
25 forms the rear support for the step-ladder when it is used as such, and D are transverse rounds fixed therein at suitable distance apart, so that they may be used for climbing similarly to the steps B of the other
30 portion.

When used as a step-ladder, the two parts A and C are set with their bases upon the ground, their upper ends meeting like the letter A, and the top rounds B and D of the
35 two parts stand approximately in a horizontal plane and close together.

E is a U-shaped link which clasps the top round D, and the two ends extend above and below the top step B of the other portion of
40 the ladder. Holes are made through these two ends and through the top step B, and a pin F passes through and thus unites these two parts firmly together.

G G are side timbers, one end of each of
45 which is pivoted near the lower ends of the sides C, and the other ends of these braces are attached by a pivot pin or rod I through the sides of the parts A of the step-ladder, so that these two bars G stand at an inclination
50 extending between the two parts of the ladder and firmly bracing and holding the two together. The lower ends of the parts C are sepa-

rated from each other a distance just equal to the space between the upper ends of the parts A; but the upper ends of the parts C by reason
55 of the taper of this portion are not as far apart as the upper ends of A. Therefore they rest against the rear of the upper step B, to which they are secured by the link or yoke E and have considerable side-play between the up-
60 per ends of A, the yoke E allowing this movement. This enables me to set the ladder on places which are not exactly level, as the two parts are thus enabled to adjust themselves with relation to each other, so as to stand
65 firmly.

K is a board having hooks L fixed upon the under side at one end and a pin M passing through it at such a point that when the hooks
70 are slipped over one of the steps B this pin will drop behind the corresponding cross-bar D of the other portion of the ladder. The board projects sufficiently beyond the cross-bar D when it is attached to the second step from the top to leave a space for the support
75 of the basket or receptacle into which fruit is to be picked. If set upon the next step below, there will then be space enough between the sides A and C to allow the basket to be set between these upon this board. The board
80 also provides a convenient platform for the operator to stand upon, and, if desired, the end which projects behind the portion C may be utilized for this purpose, as the hooks L lock
85 the board firmly to the other portion of the step-ladder and will prevent its slipping off.

If it is desired to make an extension-ladder, the link or yoke E is disengaged from the top step by removing the securing-pin, and the portion C is then moved about the pivot-
90 pins of the bars G until the feet or lower ends of C stand in line with the upper ends of A. In order to unite these ends perfectly, the upper ends of A are beveled to correspond with the bevel of the lower ends of C, and the
95 points at which the brace-bars G are united with the two ladders are such that when the two ladders stand in line the beveled ends of C fit exactly against the beveled ends of A and form an absolute continuation of them.
100 Upon each side at the upper ends of A are the hook-shaped clasps O, and upon the bottom and opposite sides of the parts C are fixed corresponding clasps P. When the ladders

are brought into line, the braces G will extend up on each side of A and their edges will lie in the clasps O, and when the bottom part of C is brought into line with A the clasps P will in the same manner fit against the opposite sides of the bars G. Upon the sides of the bars G are fixed two rods or shafts Q, which extend transversely across the outside of these bars G and between the top of the clasps O and the bottom of the clasps P. These rods extend just outside of the front and rear edges of G and have their ends bent in opposite directions, forming short crank-arms R. By turning the rods Q around in their journals or holding-staples the ends R are caused to pass behind the plates O and P, one upon the front and the other upon the rear, and they are thus locked so as to hold the abutting ends of the parts A and C of the ladder firmly together, as shown in Fig. 2. As the braces G are fixed at their upper and lower ends to the two sections of the ladder, extending across the joint between them, and are strongly locked to each part at the joint, it will be manifest that the latter is stronger and more rigid than if made in a single piece. By this construction the operator is enabled to reach points which would not otherwise be available. The ladder is at any time easily brought into the other position to form a step-ladder by turning the locking-crank Q R so as to disengage the clasp-plates O and P, when the two parts of the ladder may be moved about their pivots and the connecting-bars G and set into the position shown in Fig. 1.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A step-ladder consisting of the sides A and steps B, the sides C, with the cross-bars or steps D, the yoke or coupling E, by which the step and cross-bar at the upper meeting ends of the two are loosely secured together, and the side bars G, pivoted to the parts A and C, respectively, substantially as herein described.

2. A step-ladder consisting of the parts A and C, having the steps or cross-bars, the braces G, extending diagonally from the sides A to the sides C, pivoted to each, and a yoke E, loosely clasping the upper cross-bar D and secured to the upper step B, whereby the upper ends of the parts A and C are allowed a side motion to adjust the feet to irregularities of surface, substantially as herein described.

3. A ladder consisting of the sides A, having the beveled upper ends and the transverse steps, the sides C, with the transverse bars and having the lower ends beveled to fit and correspond with the upper ends of A, clasps O and P, fixed to the upper ends of the sides A and the lower ends of the sides C, respectively, bars G, pivoted to the sides A and C, so that when the two parts of the ladder stand in line the beveled ends will fit each other and the side bars will fit into the clasps O and P, and crank rods or shafts journaled upon the sides of the bars G, so as to lock the clasp-plates and hold the parts of the ladder together, substantially as herein described.

In witness whereof I have hereunto set my hand.

EDWIN W. HAMMON.

Witnesses:

S. H. NOURSE,
J. A. BAYLESS.