(No Model.)

W. A. BOYD.

LADDER.

No. 257,463. Patented May 9, 1882.

Fig 1.

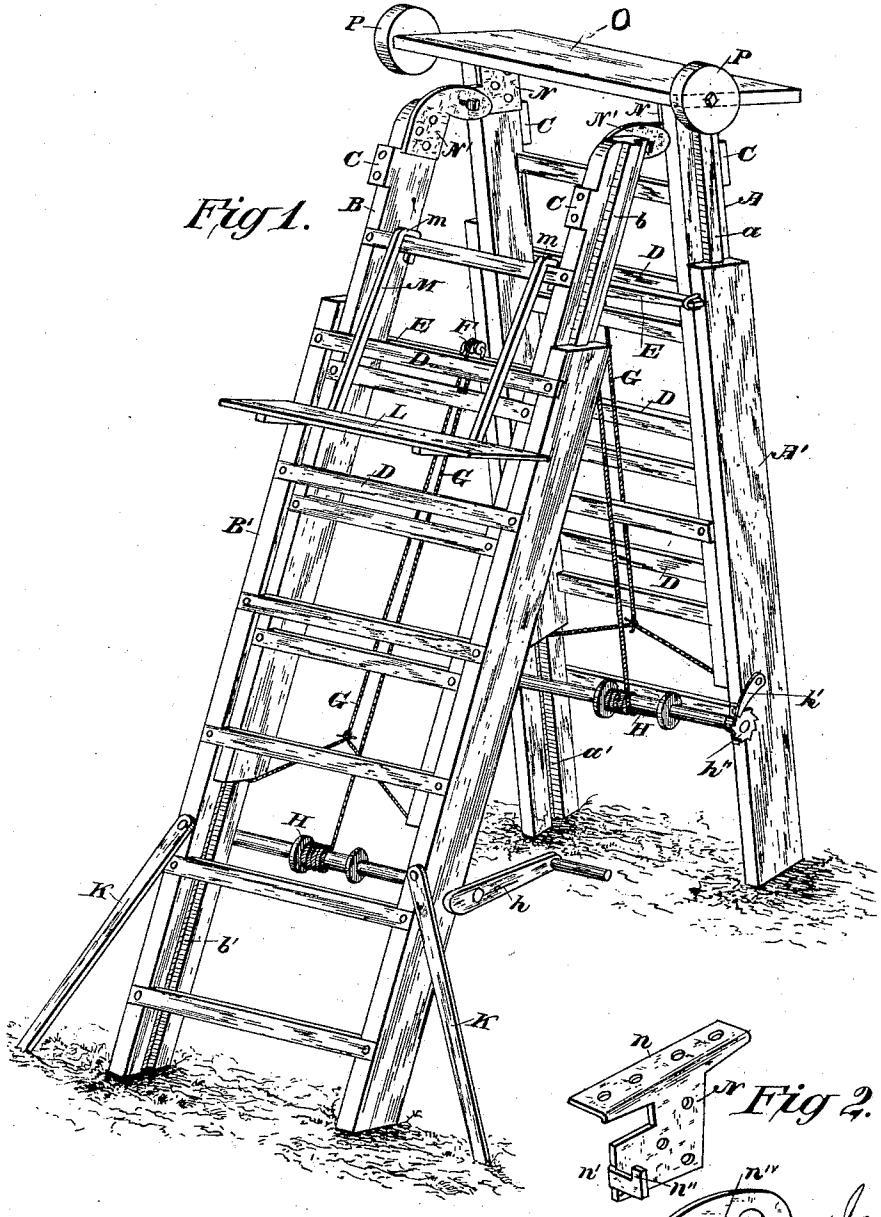


Fig 2.

Attest:

Geo. T. Smallwood Jr.

Harry E. Knight.

Inventor:

William A. Boyd

By Knight Bros.

Attys.

N. PETERS. Photo-Lithographer. Washington. D. C.

UNITED STATES PATENT OFFICE.

WILLIAM A. BOYD, OF STRATHROY, ONTARIO, CANADA, ASSIGNOR OF ONE-HALF TO HIRAM EDGAR KETCHUM, OF SAME PLACE.

LADDER.

SPECIFICATION forming part of Letters Patent No. 257,463, dated May 9, 1882.

Application filed February 18, 1881. (No model.) Patented in Canada March 26, 1881.

To all whom it may concern:

Be it known that I, WILLIAM ANDREW BOYD, a subject of the Queen of Great Britain, residing at Strathroy, in the county of Middlesex, Province of Ontario, and Dominion of Canada, have invented new and useful Improvements in Step-Ladders, of which the following is a specification.

This invention relates to certain improvements in extensible step-ladders; and it consists in a mode of constructing the lower sections of the ladder so that the upper sections slide therein, and of hanging the rope used for elevating the upper section.

In the accompanying drawings, Figure 1 is a perspective view of my improved extensible step-ladder. Fig. 2 is a view of the hinge detached.

A A′ represent the upper and lower sections, respectively, of a step-ladder, and B B′ of its supporting-ladder. The upper sections, A B, have tongues *a b*, which slide in grooves *a′ b′* in the lower sections of the ladder. Stops C C limit the downward movement of the upper sections by striking in their descent against the uppermost of the rungs or steps D D of the lower sections. Upon the rear side of the upper end of each of the sections A′ B′ is a cross-bar, E, which supports at its center a pulley, F, on which runs a rope, G, which is attached at one end to the lower extremity of the upper section of the ladder and at its other end to a windlass, H, operated by handle *h*, and held in any desired position by pawl *h′* and ratchet *h″*. The upper section of each ladder slides between the upper rung, D, and the cross-bar E, and the end of the hoisting-rope G, which is attached to the section A or B runs in the space between the rungs of the two sections. Pivoted legs K at the lower end of section B′ serve, when adjusted, to support the ladder steadily on uneven ground.

A platform is shown at L supported by bent rods M, having hooked portions *m*, capable of being hung over any rung of either the step or supporting ladder. When hung over a rung of the upper section, as shown, a person gathering fruit, painting, or doing other work may stand upon the same and be hoisted to any desired position from the ground by means of windlass H.

A hinge is shown detached in Fig. 2. One portion, N, is fastened by screws to the top of the upper section, A, as shown in Fig. 1, and is provided with a flange, *n*, which is screwed to the under side of the top platform, O, of the step-ladder. From one side of the plate N projects a tongue, *n′*, having an upturned lip, *n″*, which serves, when the plate N′, forming the other leaf of the hinge, (and which is provided with a circular aperture, *n‴*, having a recess, n^{IV},) is slipped over the said tongue and the ladder shifted so that the lip will engage with the side of the plate N′, to hold the ladders firmly together until they are spread widely apart, when they may be easily separated. The plate N thus serves not only to connect the two ladders, but as a support for the platform O, holding it rigidly above the section A. Wheels P on both ends of the platform O allow the upper section, A, to be run readily up when placed against the side of a building and hoisted by the windlass.

I am aware that it is not new to form step-ladders in four sections, the upper two sliding in the lower two and supported thereon by stops. I am also aware that it is not new to use a rope and windlass on the lower section for elevating the upper one, both these devices being shown in former patents.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

An extensible step-ladder consisting of the two lower sections, each provided with a windlass and a cross-bar supporting a pulley-wheel on its rear side, and an upper section sliding within the said lower section and adapted to be operated by the windlass thereon through a rope attached to its lower end, substantially as set forth.

WILLIAM ANDREW BOYD.

Witnesses:
WILLIAM PALMER LAIRD,
CHARLES W. PARKER.