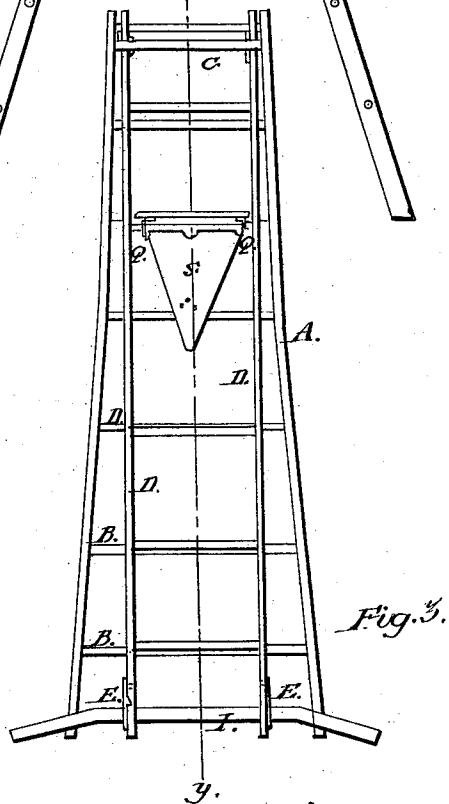
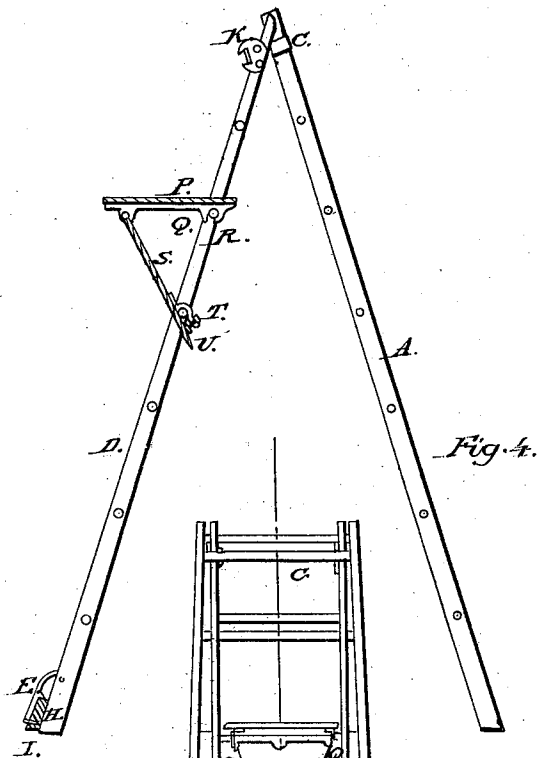
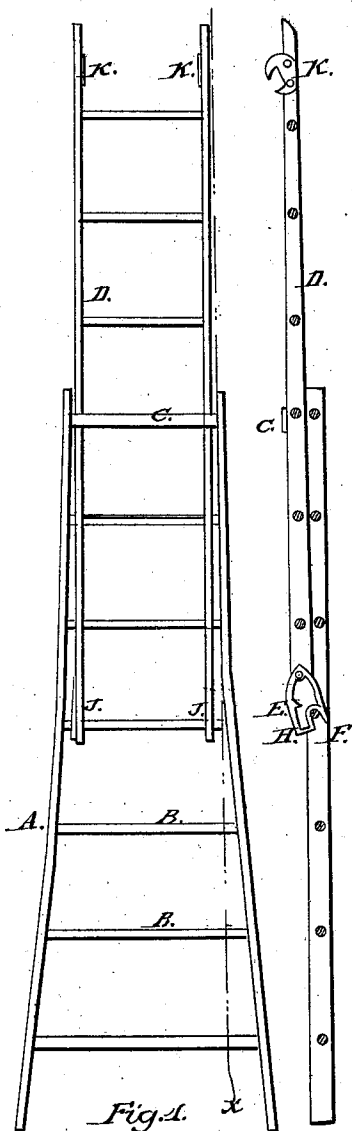


C. G. Udell.

Extension Ladder.

N^o 93,502.

Patented Aug. 10, 1869.



WITNESSES:

J. L. Coburn
L. L. Coburn

INVENTOR:

Calvin G. Udell

United States Patent Office.

CALVIN G. UDELL, OF CHICAGO, ILLINOIS.

Letters Patent No. 93,502, dated August 10, 1869.

IMPROVED EXTENSION-LADDER.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, CALVIN G. UDELL, of Chicago, in the county of Cook, and State of Illinois, have invented a new and useful Improvement in Extension-Ladders; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, and the letters and figures marked thereon, which form a part of this specification, in which—

Figure 1 represents a front elevation of my ladder;

Figure 2, a side view, with the lower ladder in section at the line *x*;

Figure 3, a front view of the same ladders placed in the form of a step-ladder; and

Figure 4, a side vertical sectional view at the line *y*.

The nature of my invention consists in providing an extension-ladder with irons, O and K, hereafter more fully described; by which the ladders are held together when used as an extension-ladder, and the tops thereof firmly locked together when converted into a step-ladder.

To enable those skilled in the art to understand how to construct and use my invention, I will proceed to describe the same with particularity.

The same letters of reference refer to corresponding parts in the different figures.

I make an ordinary ladder, A, with rounds, B, to which, near its top, just below its upper round, I attach a metallic strip, C, said strip being so constructed and attached to the ladder as to admit the ladder D passing beneath it, and between it and the round of the ladder A.

At or near the bottom of the ladder D, I attach the pieces E, with notches or recesses F, which rest upon the rounds B of the ladder A, and hold the ladder D extended to any desired length.

The pieces E, with shoulders F, I have heretofore constructed, and therefore do not now claim them as new; but I construct said pieces with openings or recesses H, for the cross-brace I, and said pieces are so attached to the ladder D, that they will swing forward into the position shown in fig. 2, to rest on the rounds B, being kept from swinging further forward by the flange or projection J, and they will swing back to the position shown in figs. 3 and 4, to admit of the brace I passing through them, as shown.

The ladder D is made sufficiently narrow to pass between the sides of the ladder A.

K K are pieces firmly secured to the sides of the ladder D, with a recess, O, in one side thereof, so con-

structed as to receive therein the said strip C, when the ladder D is close against the ladder A; but when the ladders are swung apart, as shown in figs. 3 and 4, the said strip C is locked into the said recesses, and the tops of the two ladders are locked together in such a way that they cannot come apart or slip. They are prevented from tipping over sidewise by the brace I, arranged as above described.

P is a platform, with pieces, Q, on the under side thereof, in which are recesses, R, of such shape that they will receive the round of the ladder, and when it is swung up into the position shown in fig. 4, it is made fast on the round, and will not admit of the platform slipping thereon, or coming off from the round, except as it is raised perpendicularly.

The projection that extends down on one side of the recess R is hook-shaped, so that as a weight is placed upon the platform P, it presses the round of the ladder more firmly into said hook, and the platform is held more securely on the ladder.

The brace S is hinged to the platform, and has a piece, T, attached to it that passes over a round below the platform, and is fastened thereon by the pin U.

By this construction and arrangement of the different devices, the platform P is securely fastened to the ladder, and can be removed therefrom only by raising the pin U, and raising one end of the platform so as to raise the piece T from the round on which it rests; then, by moving the platform back slightly, so as to move the round from the hook on one side of the recess R, the platform can be raised and taken from the ladder.

By bringing the two ladders together, parallel with each other, the pieces K can be removed from the strips C, and the ladder made into an ordinary extension-ladder, or taken apart and used as single ladders.

Having fully described the construction and operation of my improved ladder,

What I claim, and desire to secure by Letters Patent, is—

The combination of the ladders A and D, the strip C, and pieces K, for the purpose of locking the tops of the ladders together, when used as a step-ladder, when constructed and operating substantially as here-in set forth.

CALVIN G. UDELL.

Witnesses:

J. L. COBURN,
L. L. COBURN.