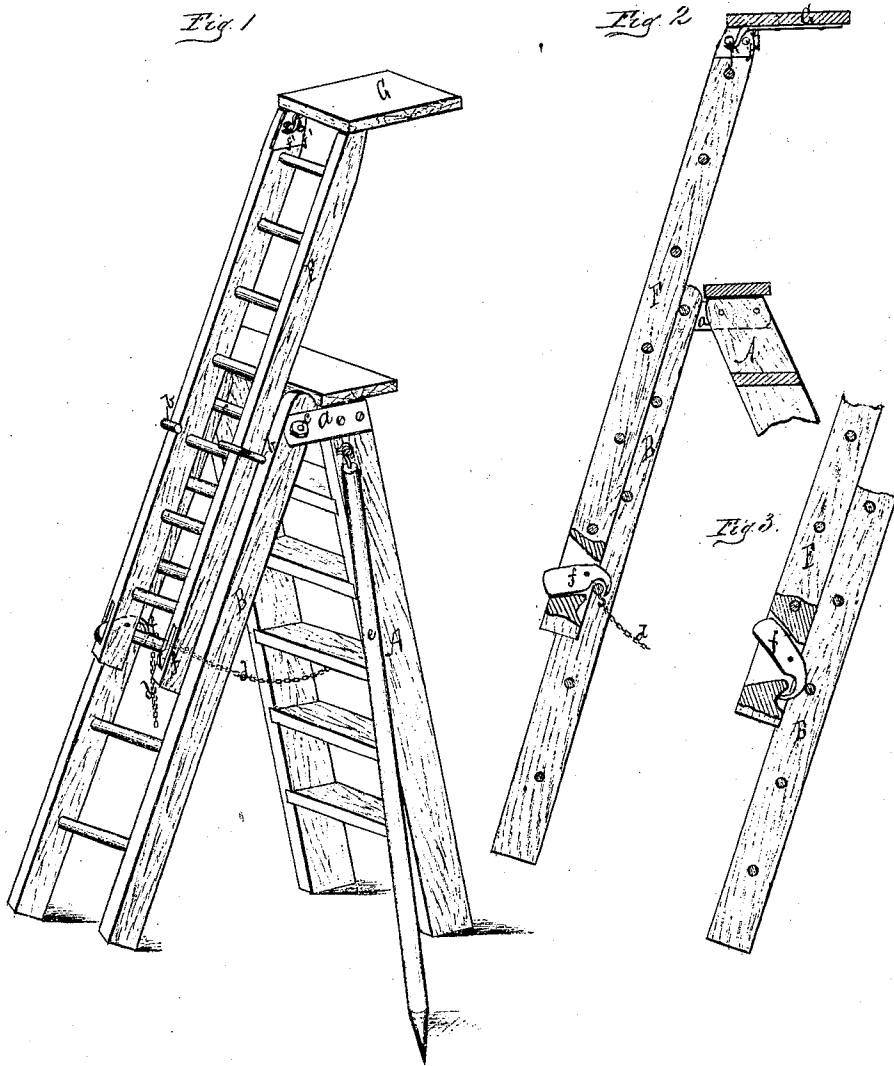


N. Pullman,

Ladder.

No. 105126.

Patented July 5, 1870.



*Witnesses:
S. J. Noyes.
A. H. Person*

Nath. Pullman, Inventor.

*by H. W. Beadle,
his Attorney*

United States Patent Office.

NATHANIEL PULLMAN, OF NEW OREGON, IOWA.

Letters Patent No. 105,126, dated July 5, 1870.

IMPROVEMENT IN EXTENSION LADDERS.

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, NATHANIEL PULLMAN, of New Oregon, in the county of Howard and State of Iowa, have invented a new and useful Improvement in Ladder; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawing, and to the letters of reference marked thereon.

This invention has for its object the production of an improved extension ladder, especially designed for painting or fruit-picking purposes, and consists mainly in certain details of construction which will be fully described hereinafter.

In the drawing—

Figure 1 represents a perspective view of my improved ladder, and

Figures 2 and 3, sectional views of parts detached.

To enable others skilled in the art to make and use my invention, I will now proceed to describe fully its construction and method of operation.

A and B represent two ladders which are united at the top by means of any suitable fastenings.

I preferably employ arms *a a*, which are rigidly attached to the ladder A, and extend far enough from it to receive the bolt *c*, which passes through suitable orifices therein, and also through the upper ends of the ladder B, as clearly shown in the drawing.

The ladder A is provided with steps, while the ladder B is provided with rounds.

d represents a chain, by means of which the spreading of the ladders at the bottom is regulated.

To steady the ladders and secure them against lateral movement, a stay-rod, *e*, may be used, if desired, which, being provided with a hook at its upper end, may be caught into an eye attached to one of the ladders, as shown.

F represents an additional ladder, which is used for extension purposes. It is secured to the ladder B in such manner that it may readily be adjusted vertically, and yet is firmly held from accidental displacement.

To secure these results, I employ guides *b b*, which consist of suitable pieces of metal rigidly attached at one of their ends to the sides of the ladder B at its upper end, and having their other ends bent over the ladder F, as shown. These guides securely prevent the ladder F from becoming accidentally disconnected from the ladder B, and yet do not interfere with its vertical adjustment.

For the purpose of securing the ladder F in any desired position upon the ladder B, I provide the weighted hooks *f f*; these are pivoted in the sides of the ladder at its lower end, in such manner that, when the latter stands vertically, or nearly so, the hooks are

in position to rest upon one of the rounds of the ladder B.

Their shape and location is such, also, that if the ladder F be pushed upward upon the ladder B, the hooks will be depressed upon coming into contact with each round, (their points passing into suitable sockets in the ladder,) and thus be enabled to slip freely over it.

As soon, however, as the round is passed, the hooks are brought immediately, by means of the weighted ends, into position to catch upon it, and, by simply freeing the ladder from the grasp, it will fall at once into position and be securely held.

To lower the ladder, it is necessary first to raise the ladder sufficiently to free the hooks from the rounds upon which they are caught, and then to raise the weighted ends of the hooks with the hand.

By these means the points of the hooks will be turned down into their sockets, and the ladder may, consequently, be lowered.

To enable the ladder F to be easily moved, I place upon the bolt *c* a cylinder or hollow roller, *c'*, which freely revolves as the ladder moves over it.

It will be readily perceived that the ladder F may be removed entirely from the ladder B, when desired, without taking the ladders down, by having ladder F six inches shorter than ladder B, and drawing the former out from under the guides *b*.

G represents a removable platform, provided with the arms *g g*, which, when in place, is held by its arms, which engage with the pins *f' f'* upon the upper end of the ladder F, as shown.

The operation will be readily understood. The ladders A and B are employed in the usual well-known manner. The ladder F is raised or lowered upon the ladder B as necessity may require, being securely held in any position by means of the devices described.

Having thus fully described my invention,

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

1. The removable platform G, when constructed with the hooks *g*, and used in connection with the ladder F, having the pins *f' f'*, for the purpose set forth.

2. The ladders A and B, guides *b b*, bolt *c*, with rollers *c'*, ladder F with hooks *f f*, and removable platform G, when combined and arranged as described, for the purpose set forth.

This specification signed and witnessed this 16th day of March, 1870.

Witnesses: NATHANIEL PULLMAN.

HENRY K. AVERILL,
WILLIAM GARRETT.