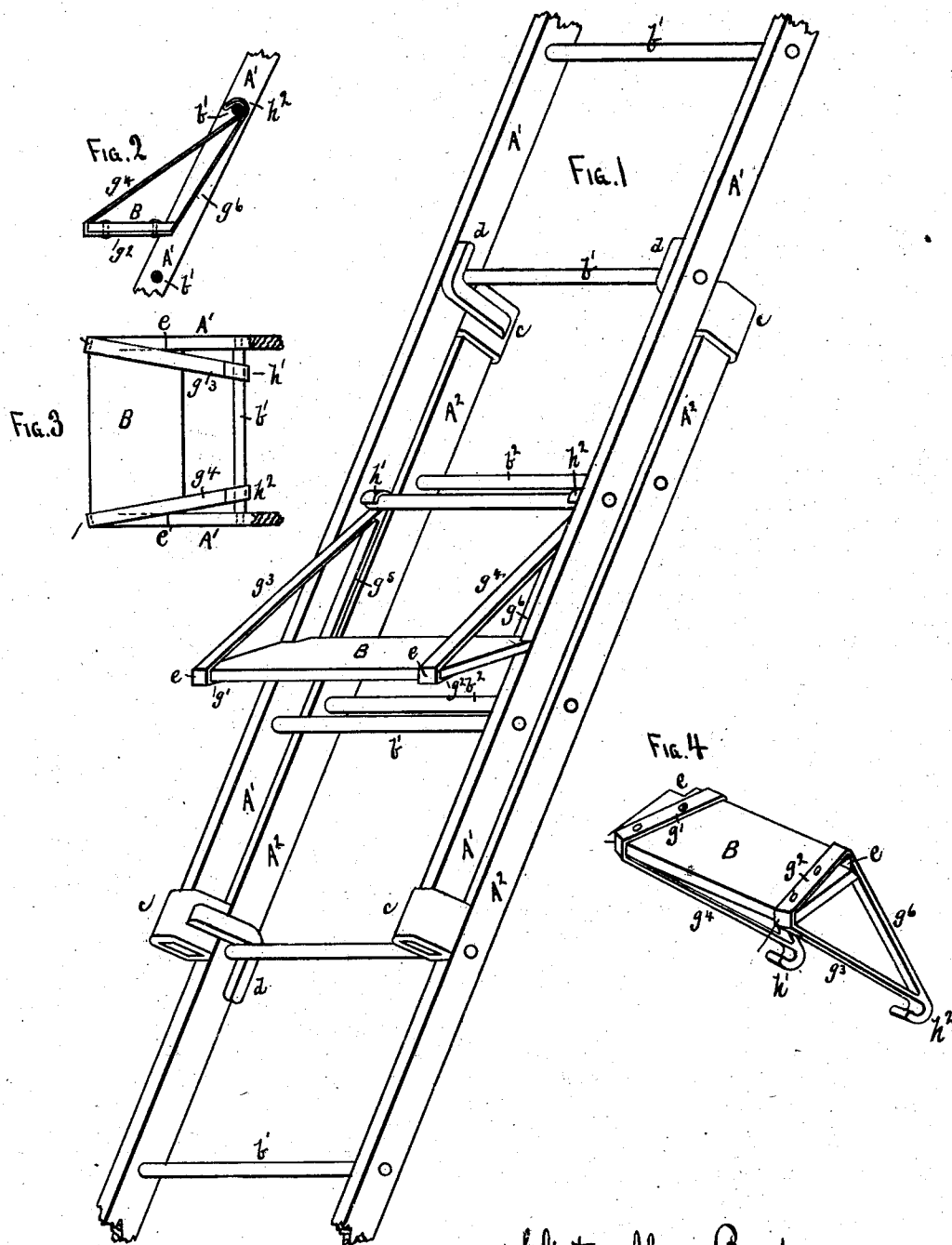


(No Model.)

C. A. BOARDMAN.
COMBINED STEP AND EXTENSION LADDER.
No. 248,014. Patented Oct. 11, 1881.



WITNESSES.

Louis Fessler Jr.
P. B. Kramdall.

Clinton Alonzo Boardman,

INVENTOR, BY
Louis Fessler & Co.
Attys.

UNITED STATES PATENT OFFICE.

CLINTON A. BOARDMAN, OF BOARDMAN, WISCONSIN.

COMBINED STEP AND EXTENSION LADDER.

SPECIFICATION forming part of Letters Patent No. 248,014, dated October 11, 1881.

Application filed March 11, 1881. (No model.)

To all whom it may concern:

Be it known that I, CLINTON ALONZO BOARDMAN, of Boardman, in the county of St. Croix and State of Wisconsin, have made certain new and useful Improvements in Combined Step and Extension Ladders, of which the following is a specification.

This invention relates to combined step and extension ladders; and it consists in a system of hook-shaped catches upon the ends of two ordinary ladders, the hooks upon one ladder adapted to fit under the rounds of the other, whereby the two ladders are connected together at any desired point to lengthen or shorten them; and, furthermore, the invention consists in a removable step adapted to be attached to any one of the rounds, and so connected to its supporting braces and hangers that the full width of the front edge is utilized for a step, as hereinafter set forth. I accomplish these results by the use of the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of the ends of two ladders, illustrating the manner of applying my invention thereto. Fig. 2 is a sectional side view, and Fig. 3 is a plan view, of a portion of a ladder and the movable step. Fig. 4 is an inverted perspective view of the movable step detached.

A' A² are the sides, and b' b² the rounds, of two ladders, made of the same size and with the sides parallel with each other. Upon the end of each side piece, A' A², metal ferrules *c* are secured, and each provided with a right-angled hook, *d*, attached to its side and adapted to fit under the rounds b', the hooks of one ladder catching under the rounds of the other, and vice versa, so that the two ladders may be readily and firmly connected to each other at any pair of rounds desired, so that two or more ladders may be connected together to extend their length. This arrangement will be found very convenient for use in stacking grain and hay, and for picking fruit, &c.

B is a step with the corners *e* cut out to enable it to fit in partially between the sides A', and with metal straps *g' g²* attached at an angle under each end, as shown. These straps are continued upward above the step at *g³ g⁴*, and with their ends welded or otherwise connected together in the form of hooks *h' h²*, adapted to catch behind and over one of the rounds *b*, by which means the step may be attached to any desired round. The hooks *h' h²*, it will be observed, pass around the round *b*, to which they are connected, from the rear, so that when attached to the ladder it will be necessary to raise the whole step bodily before it can be disconnected, thereby preventing the accidental removal of the step. The straps *g' g²* are attached to the lower side of the step B at an angle, so that the brace-shaped front pieces, *g³ g⁴*, start upward from the outer corners of the step, thereby permitting the full width of the front of the step to be utilized; or the step may be made even wider than the ladders, and the straps attached to the outer corners, to provide more standing room than the width of the ladder.

What I claim as new is—

1. The combination, with the ladders A' A², of the ferrules *c*, provided with the hooks *d*, adapted to catch beneath the rounds b' in opposite directions, substantially as set forth.
2. The combination, with the step B, of the straps *g' g²*, attached thereto at an angle, so that the full width of the front of the step is unobstructed, and forming said straps in one piece with the braces *g³ g⁴*, and hangers *g⁵ g⁶*, and hooks *h' h²*, substantially as set forth.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

CLINTON ALONZO BOARDMAN,

Witnesses:

FRANK M. NYE,
H. P. BURDICK.