

(No Model.)

2 Sheets—Sheet 1.

A. J. MYERS.
EXTENSION STEP LADDER.

No. 440,185.

Patented Nov. 11, 1890.

FIG-2-

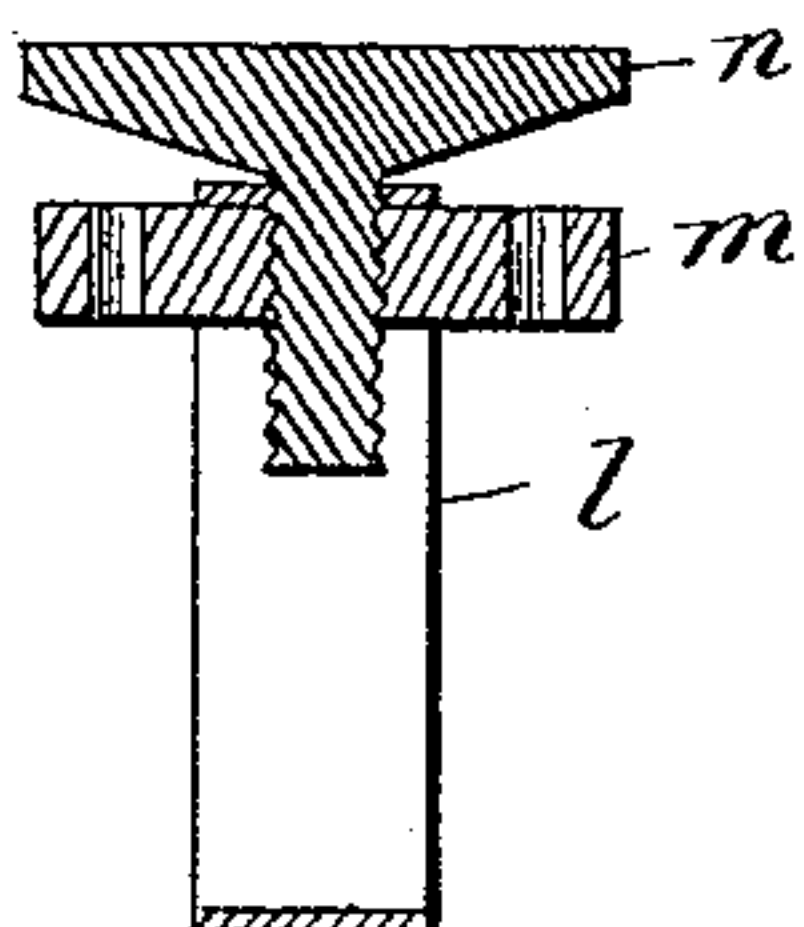


FIG-1-

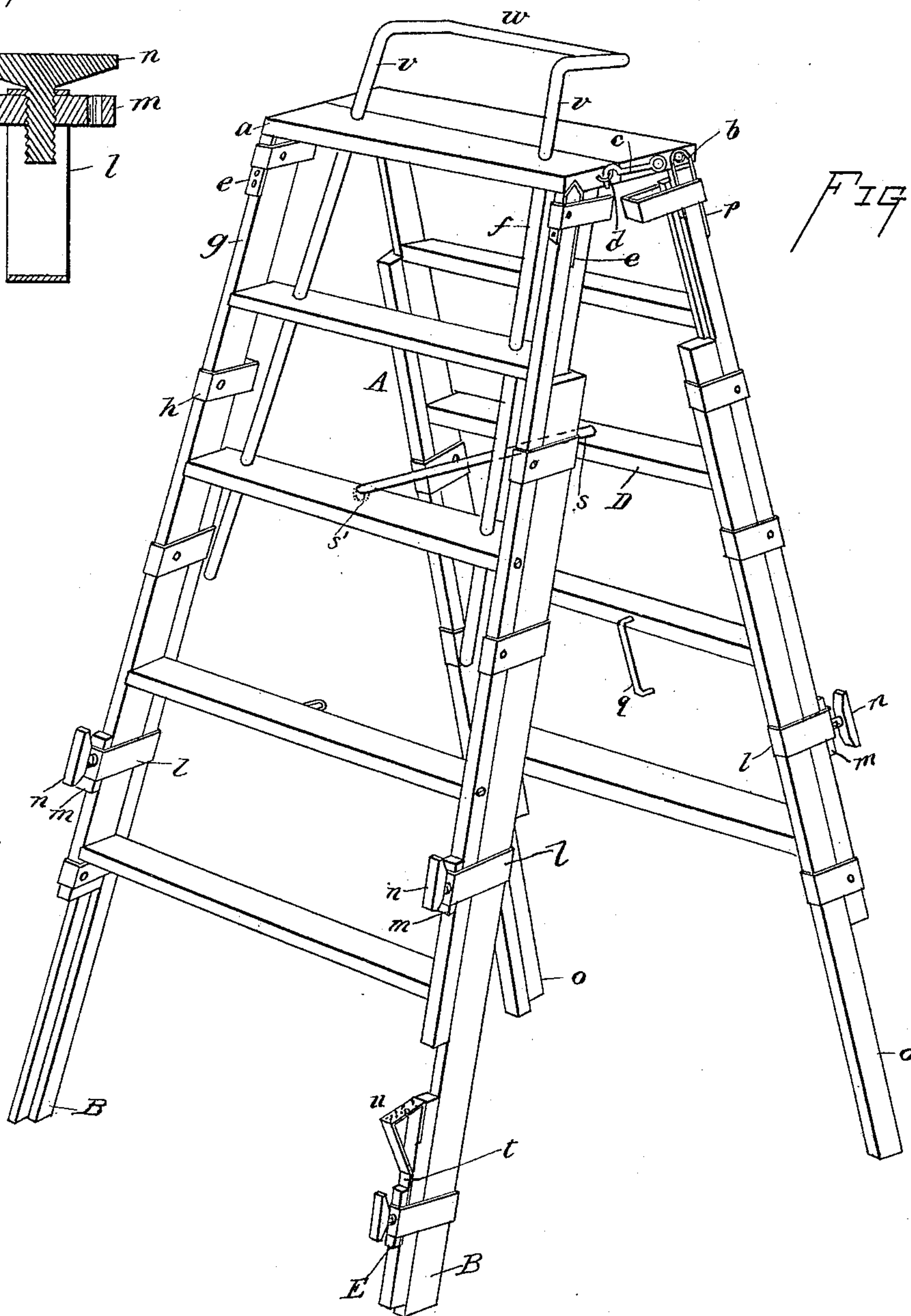
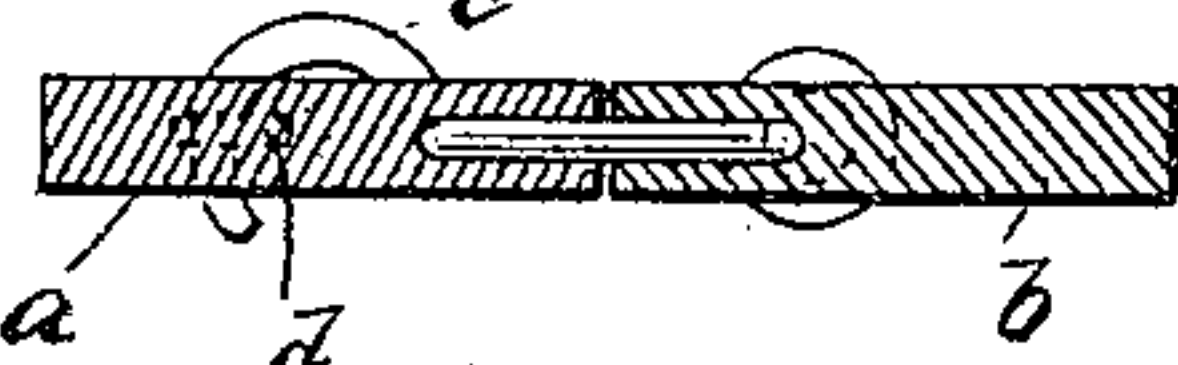


FIG-3-



WITNESSES.

Arthur H. Oak

J. H. Hughes

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Andrew J. Myers
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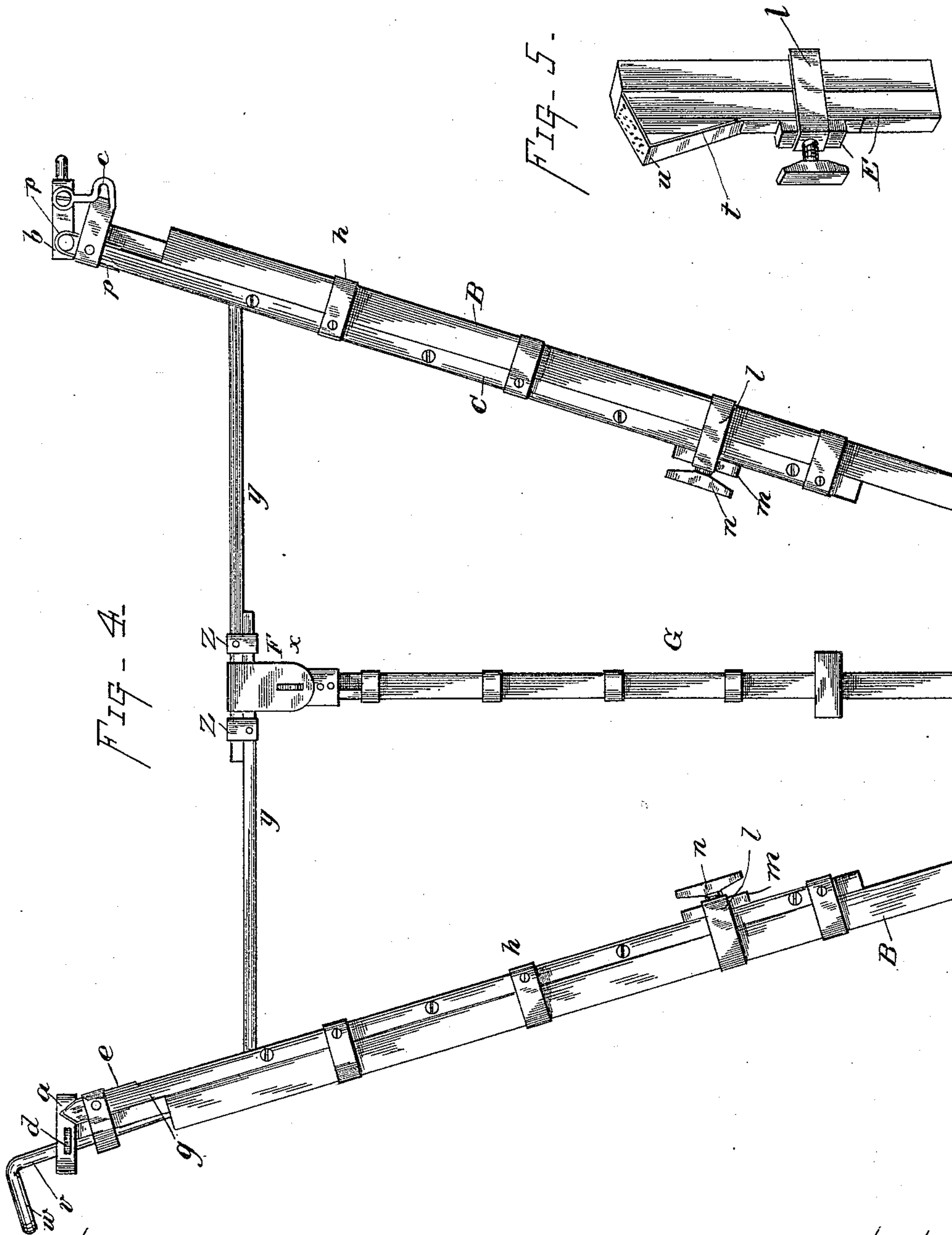
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2 Sheets—Sheet 2.

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WITNESSES
Arthur A. Erb.
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FIG 5-
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UNITED STATES PATENT OFFICE.

ANDREW JACKSON MYERS, OF BELLAIRE, OHIO.

EXTENSION STEP-LADDER.

SPECIFICATION forming part of Letters Patent No. 440,185, dated November 11, 1890.

Application filed February 12, 1890. Serial No. 340,137. (No model.)

To all whom it may concern:

Be it known that I, ANDREW JACKSON MYERS, a citizen of the United States, residing at Bellaire, in the county of Belmont and State of Ohio, have invented certain new and useful Improvements in Extension Step - Ladders; and I do hereby declare the following to be a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to various new and useful improvements in extension step-ladders especially adapted for the use of paper-hangers, and to an improved scaffold attachment to the same.

The objects of my invention are to provide a step-ladder wherein the legs may be easily and quickly extended to accommodate themselves to any irregularities and wherein they may be firmly secured in such extended position.

A further object is to provide a step-ladder which may be securely locked in a folded or extended position.

Another object of my invention is to provide the ladder with a metal extension, so that when used by paper-hangers the ladder may be set up against the wall without interfering with the operation of hanging the wall-paper; and a still further object is to provide an improved attachment to my novel step-ladder, whereby a very convenient scaffold is produced for the use of paper-hangers, painters, or interior decorators.

For a better understanding of my invention attention is invited to the accompanying drawings, forming a part of this specification, and in which—

Figure 1 is a perspective view of the improved step-ladder, showing the legs extended and the auxiliary step in position; Fig. 2, a sectional view of one of the clamps for the legs and auxiliary strip; Fig. 3, a sectional view of the top of the step-ladder, illustrating the manner of fastening the two sections of the ladder together; Fig. 4, a plan view showing the manner of using the scaffold attachment; Fig. 5, an enlarged perspective view of the separate auxiliary strip; and Fig. 6, a sectional view of one of the legs, showing the L-shaped construction thereof.

In all of the above views like parts are designated by identical letters of reference.

The top of the step-ladder is composed of two flat wooden pieces *a* and *b*, one section being provided with two or more dowels, which engage with corresponding holes in the other section. One of these sections is provided on each side with a hook *c*, which engages with an eye *d* on the other section, so that when the dowels are in position and the hooks are in engagement with the eyes the top of the step-ladder will be very strong and rigid.

The front of the step-ladder is secured in place to the top thereof by means of angular metal bands *e e*, engaging with suitable grooves at the top of the ladder and bolted or screwed to the side pieces *f* and *g* of the front. These side pieces in cross-section are L shape, and are connected together by the usual steps *A*, mortised or otherwise secured in position. Each of the side pieces *f* and *g* is provided at suitable points with a metallic band, which form a guide for the extension-pieces *B*. Said extension-pieces are also L shape in cross-section, and are made to slide upon the side pieces *f* and *g* and engage beneath the band *h*, so that when the extension-pieces are in position on the side piece, as shown, the cross-sectional shape of the same will be rectangular. On the front of each side piece *f* or *g* near the bottom thereof are placed two studs *l l*, with which a flat metallic block *m* engages. This block is provided at its center with a screw-threaded opening, and engaging with this opening is a thumb-screw *n*. The lower metallic band *h* passes around this block *m*, and by this arrangement it will be seen that by manipulating the thumb-screw the block *m* may be moved backward and forward, and in this way the lower band *h* may be made to clamp the extension-pieces or to release the same and allow the extension-piece to move readily up or down. It is preferable to use the lower band *h* for this purpose; but it will be evident that any other one of the strips may be used.

The rear of the step-ladder is composed of the two side pieces *C* and *C*, which are held in place to the top by means of suitable metal strips *p*, engaging in curved grooves in the top, so that the rear of the step-ladder may be allowed a hinged movement.

The rear of the step-ladder is constructed almost identically like the front, and is provided with the extension-pieces *o o*, arranged to slide and to be clamped like the front extension-pieces *f* and *g*. The rear of the ladder is provided with flat cross-pieces *D D*, which correspond in location with the steps *A*. When the ladder is closed and the two sections are brought up together, the two sections are held in that position by means of a small hook *q*, secured to one of the cross-pieces on the rear and engaging with a suitable staple *r* on the corresponding step at the front. When the ladder is extended and it is desired to hold it in that position, this is accomplished by means of a longer hooked rod *s*, secured to another cross-piece and engaging with a suitable hole *s'* in the opposite step.

It will be observed that the lower step at the front and the lower cross-piece at the rear are nearer to the ground than is customary with the usual step-ladders. This is done so that when the step-ladder is slightly extended the step may be easily reached by the operator. When the ladder is extended for any considerable distance, it would be impossible to reach the lower step from the ground, and in order that this may be accomplished I provide one of the extension-pieces with an auxiliary step *E*. This is composed of a main portion *t*, made *L* shape in cross-section, so as to slide easily on the extension-piece. Near the top of this main portion is secured a small step *u*, made of metal and suitably roughened on its upper face to prevent slipping. By means of a block, band, and thumb-screw, arranged as I have before described, this auxiliary step may be secured at any point on the extension-piece and will form a very convenient means of reaching the ladder.

During the operation of painting the wall or laying paper thereon it might be inconvenient to use the complete step-ladder to do this with, since the steps would be necessarily too great a distance from the wall. In order that the ladder may be conveniently used for this purpose, the front portion is removed from the rear portion by disengaging the hooks from the eyes at the top of the ladder, so that the front portion may be used like an ordinary ladder, and may be rested up against the wall. In high walls it would be impossible to lay paper, for the reason that the ladder, being in contact with the wall, would prevent the application of the paper at that point. To overcome this, I make use of an extension-piece *F*, arranged near the top of the ladder. This extension-piece is made

of metal, preferably iron, and is constructed of one piece with the two side rods *v v*, engaging with openings at the top and steps of the ladder, as shown, and with the bent-over head portion *w*. By this arrangement the extensions may be elevated so as to rest against the wall at the very topmost point, and thereby leave a clear space in front of the ladder, where the paper-hanger may work. This extension will also enable the operator to do effective work from the top of the ladder, which would be impossible without it.

In Fig. 4 is shown the scaffold attachment, which I have before briefly referred to. This scaffold attachment consists of an extension-leg *G*, arranged identically like one of the sides of the main ladder, so as to be capable of being shortened or lengthened, as will be evident. At the top of this extension-leg *G* is pivoted a metallic head *x x*, arranged so as to be capable of a hinged movement on the top of said leg. Working within this head are two boards *y y*, carrying at their ends guiding-bands *z*, engaging with each other, so that they may be extended or shut up on each other. When the scaffold attachment is used, the two portions of the ladder are first separated and are each set up against the opposite walls of the room, as shown in Fig. 4. The adjustable leg of the scaffold is now set to the right height, and the two boards *y y* are extended, so as to rest upon one of the steps of the front part of the ladder and on one of the round-connecting braces on the rear part, thus forming a very convenient scaffold for the use of interior painters or decorators working on a ceiling of a room.

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

1. As a new article of manufacture, a step-ladder composed of two separate parts and having extension-legs, one of said parts being provided with an iron extension, substantially as set forth.

2. As a new article of manufacture, a step-ladder having extension-legs and an auxiliary step adapted to be attached to one of said extension-legs.

3. The combination, with a step-ladder made of sectional parts, and an iron extension on one of said parts, of a separate telescopic scaffold attachment, substantially as set forth.

ANDREW JACKSON MYERS.

In presence of—

E. B. KENNEDY,

T. T. SEAL.