

(No Model.)

L. G. HOLDEN.
LADDER SPLICE.

Patented Nov. 19, 1895.

No. 550,175.

FIG. 1.

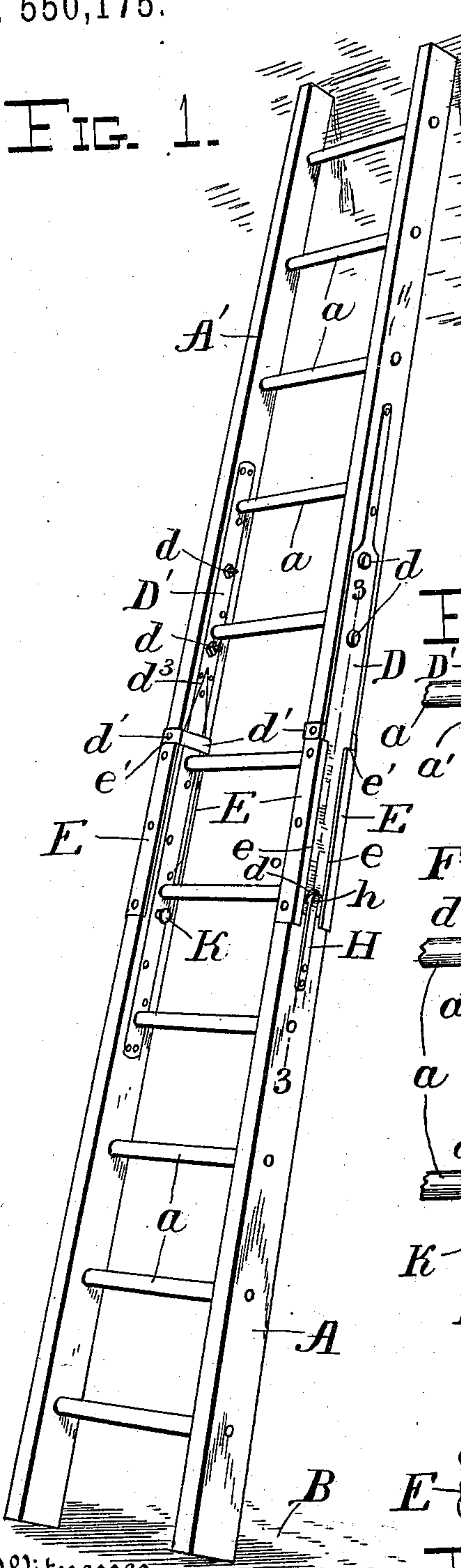


FIG. 2.

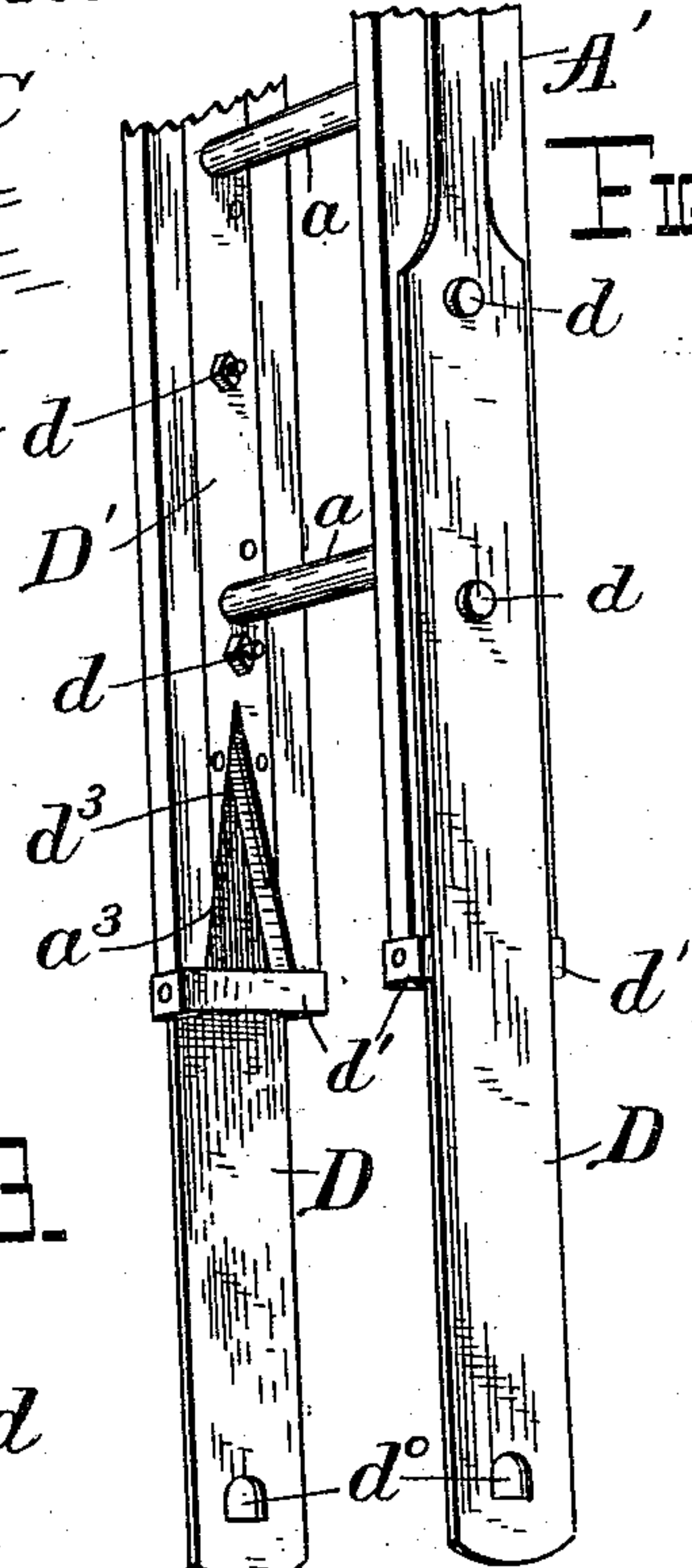


FIG. 3.

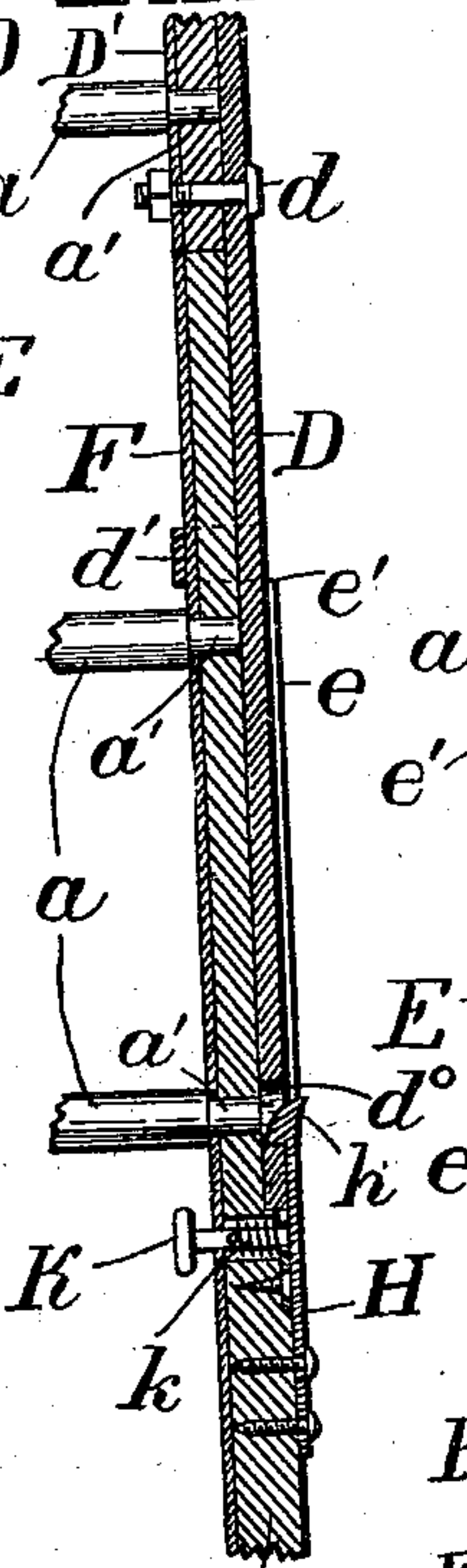


FIG. 4.

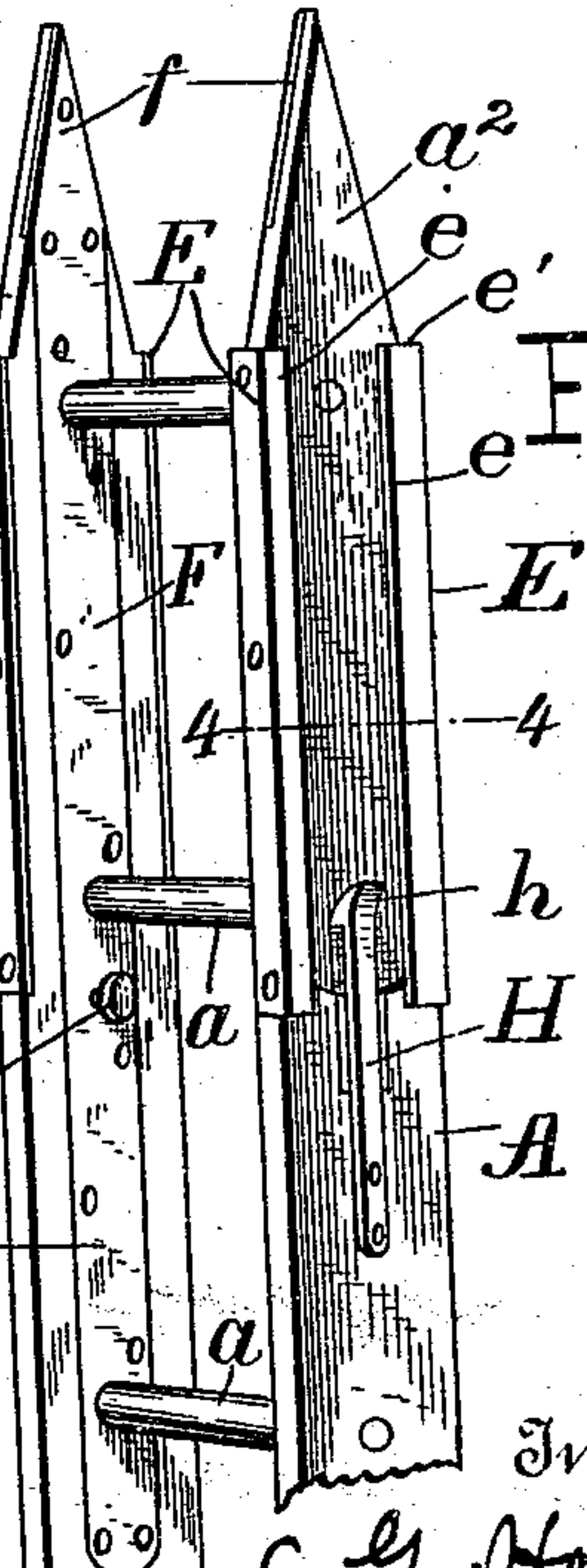
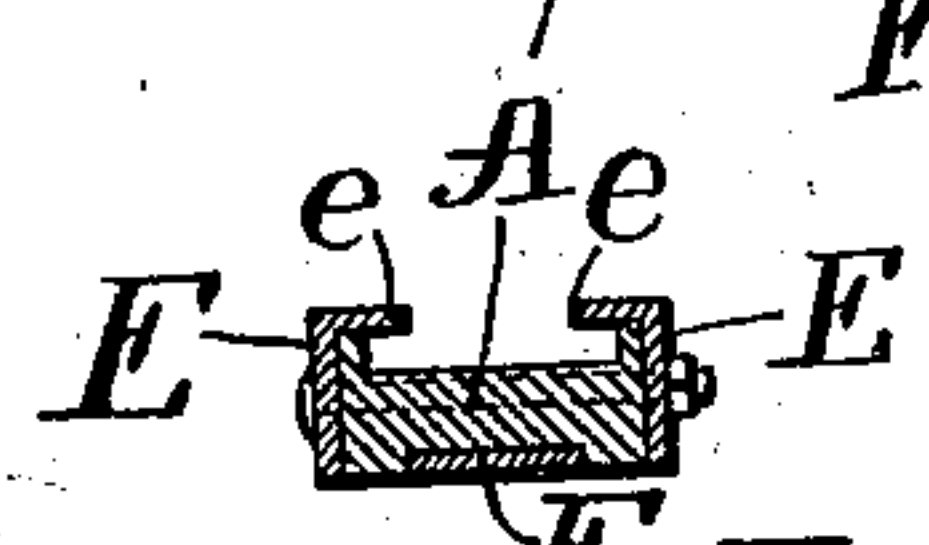


FIG. 5.



Witnesses

Percy C. Bower.
Maurice J. Sianosa.

Inventor

L. G. Holden,

By Whitman & Wilkinson
Attorneys.

UNITED STATES PATENT OFFICE.

LEE G. HOLDEN, OF PORTLAND, OREGON.

LADDER-SPLICE.

SPECIFICATION forming part of Letters Patent No. 550,175, dated November 19, 1895.

Application filed April 25, 1895. Serial No. 547,151. (No model.)

To all whom it may concern:

Be it known that I, LEE G. HOLDEN, a citizen of the United States, residing at Portland, in the county of Multnomah and State of Oregon, have invented certain new and useful Improvements in Ladder-Splices; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in means for splicing ladders, fire-escapes, and the like; and it consists of certain novel features hereinafter described and claimed.

Reference is had to the accompanying drawings, in which the same parts are indicated by the same letters throughout the several views.

Figure 1 represents a perspective view of a ladder made in two parts and spliced together according to my invention. Fig. 2 represents a perspective view of the upper part of the ladder shown in Fig. 1 and on an enlarged scale. Fig. 3 represents a section along the line 3 3 of Fig. 1 on an enlarged scale. Fig. 4 represents a detail view in perspective of the lower portion of the splice and the parts in proximity thereto, and Fig. 5 represents a section along the line 4 4 of Fig. 4.

A represents the lower part of the ladder, which rests on the ground B, to which is spliced the upper portion of the ladder A', resting against the wall C. The rounds of the ladder *a* are made in the usual way, and where they pass through the plates of the splice are preferably reduced in size, as at *a'* in Fig. 3. The upper portion of the ladder is provided with plates D, projecting below the ends of the side pieces of the ladder and secured thereto by means of the bolts *d*, and also by means of the guide-plate *d'*, which spans the inverted-V-shaped opening in the lower end of the side of the ladder. Near the ends of these plates D holes *d''* are provided to engage the holding-latch which will hereinafter be described.

The inner side of the ladder is strengthened by the plates D', secured to the outer plates D by the through-bolts *d*, and also rigidly attached to the latter in any convenient way, preferably let into the said sides of the ladder

and nailed thereto, as shown in Fig. 2. The lower end of each of these plates D' terminates in an inverted-V-shaped groove *d''*, while the inner ends of the sides of the ladder are cut away, as at *a''*, to form a continuous chamber in which the wedge-shaped ends *a''* of the opposite member of the ladder engage.

The lower member or part of the ladder is lined interiorly with plates F, let into the inner face of the side pieces of the ladder, as shown in Fig. 4, and nailed, bolted, or riveted thereto. The upper ends of these plates F terminate in points *f*, which correspond with the shape of the wedge end *a''*, adapted to fit in the inverted-V-shaped grooves of the opposite member of the ladder.

The plates E, secured to each edge of the side pieces of the lower member of the ladder, are bent over, as at *e*, to form holding-clips beneath which the edges of the opposite plates D slide, and by means of which the said plates D are held against lateral or transverse strains.

The weight of the upper portion of the ladder rests on the shoulders *e'*, while the two members of the ladder are held against pulling apart by means of the spring H, provided with a latch *h*, which springs into the hole *d''* and firmly locks the two members of the ladder together. When it is desired to separate the ladder into its various parts, these latches *h* may be either sprung out by hand or a push-button or like device may be adapted which will operate from the inside of the ladder for this purpose. Thus I have shown (see especially Fig. 3) a push-button K, normally pressed toward the center of the ladder by the spring *k*, and by pushing which the spring H may be forced, backward releasing the latch *h*.

It will be obvious that the ladder may be used with the splice inverted, if desired, and also that several pieces or sections of ladder may be joined together, if desired, and thus the ladder may be made of any length desired.

Any other suitable means for pushing back the spring H may be adopted, if desired.

It will be obvious that various modifications of the herein-described apparatus might be made which could be used without departing from the spirit of my invention.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. A ladder consisting of a plurality of separable parts, one of each of two adjacent parts being provided with wedge-shaped tongues, and guide clips, and the other part being provided with recesses adapted to receive said tongues, and plates projecting beyond said recesses and adapted to slide in and be held by said clips, with holes in said plates, near the ends thereof, and a spring latch on the opposite part of the ladder adapted to engage in said holes and automatically lock the said plates in position when the ladder is spliced, substantially as described.

2. A ladder consisting of a plurality of separable parts, one of each of two adjacent parts being provided with wedge-shaped tongues, and guide clips, and the other part being provided with recesses adapted to receive said tongues, and plates projecting beyond said recesses and adapted to slide in and be held by said clips, with holes in said plates, near the ends thereof, and a spring latch on the opposite part of the ladder adapted to engage in one of said holes and automatically lock the said plates in position when the ladder is spliced, with a push button extending through the side of said ladder and bearing against said spring, substantially as described.

3. In a ladder or fire escape the combination with the part A, provided with wedge-shaped tongues, a^2 , and plates E, with clips e , of the part A' provided with inverted V-shaped grooves adapted to receive said wedge-shaped tongues, the straps d' spanning said grooves,

and plates D projecting beyond said grooves and engaging in said clips e , substantially as described.

4. In a ladder or fire escape, the combination with the part A, provided with wedge-shaped tongues a^2 , and plates E, with clips e , of the part A', provided with inverted V-shaped grooves adapted to receive said wedge-shaped tongues, straps d' spanning said grooves, plates D projecting beyond said grooves and engaging in said clips e , the said plates D being provided with holes d^o , near the ends of said plates, and the springs H provided with the latches h adapted to engage in said holes, substantially as and for the purposes described.

5. In a ladder or fire escape, the combination, with the part A, provided with wedge-shaped tongues a^2 , and plates E, with clips e , and also with a spring latch H, having a catch h , and a push button K, adapted to press back said spring and release said catch; of the part A' provided with inverted V-shaped grooves adapted to receive said wedge-shaped tongues, straps d' spanning said grooves, and plates D projecting beyond said grooves and engaging in said clips e , the said plates D being provided with holes d^o near the end thereof, to engage the said catches h , substantially as and for the purposes described.

In testimony whereof I affix my signature in presence of two witnesses.

LEE G. HOLDEN.

Witnesses:

LIONEL R. WEBSTER,
J. C. RUTENIC.