

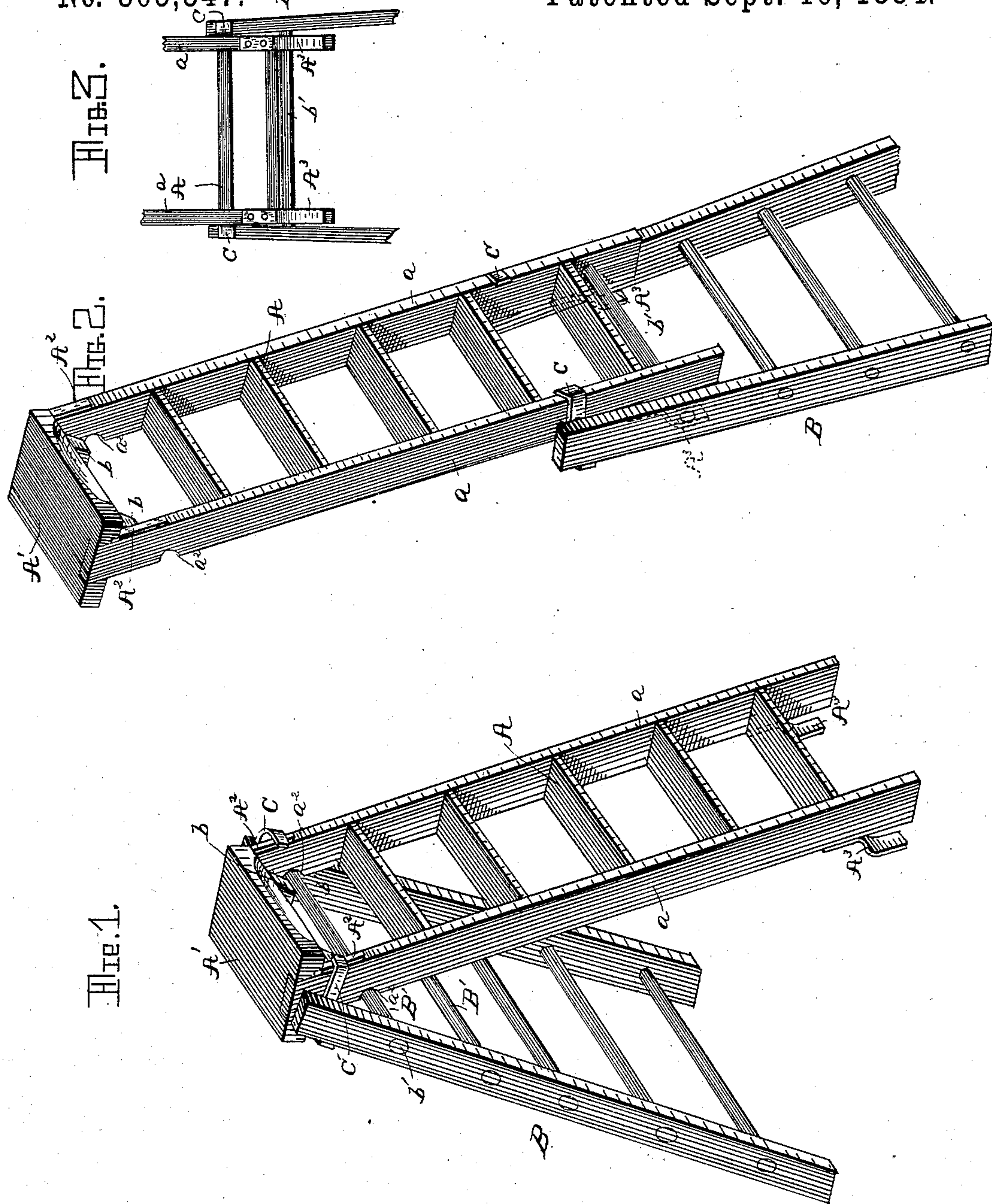
(No Model.)

F. E. A. SMITH.

LADDER.

No. 305,347.

Patented Sept. 16, 1884.



Witnesses  
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# UNITED STATES PATENT OFFICE.

FRANK E. A. SMITH, OF CHARLOTTE, MICHIGAN.

## LADDER.

SPECIFICATION forming part of Letters Patent No. 305,347, dated September 16, 1884.

Application filed July 3, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, FRANK E. A. SMITH, a citizen of the United States of America, residing at Charlotte, in the county of Eaton and State of Michigan, have invented certain new and useful Improvements in Ladders, of which the following is a specification, reference being had therein to the accompanying drawings.

10 The object of my invention is to produce a step-ladder which may also be employed as an ordinary extensible ladder; and it consists in the step-ladder A, having the supporting-hooks  $A^3$ , and ladder-section B, having 15 guide-clamps C, and in the peculiar construction, combination, and arrangement of the parts, substantially as hereinafter more fully shown and described.

20 In the accompanying drawings, Figure 1 is a view in perspective of my invention. Fig. 2 is also a view in perspective showing the lower end of the lower or ladder-section broken away and the upper ladder-section extended and secured, and Fig. 3 is a detail view of my 25 invention.

30 In the accompanying drawings, the letter A represents the steps of an ordinary step-ladder having the platform  $A'$ , the longitudinal plates  $A^2$ , and the supporting or splicing hooks  $A^3$ . The steps A are mortised in the standards of the step-ladder, which standards are shouldered at top for the better support of the platform. The plates  $A^2$  are designed, in connection with studs  $b$  and the upper ladder-round, 35  $B'$ , which fits into recesses  $a^2$  of standards  $a$ , to receive the spreading-strain of the two ladder-sections at the point of their connection. The supporting and splicing hooks  $A^3$ , which are rigidly secured to the inner side of the 40 ladder-standards  $a$ , where they come in contact with the floor when the ladder is extended its full length, enlarge the base, and thus

render more secure the support of the ladder, and when the ladder is extended its full length these hooks are projected over the next to the 45 top round of the coincident ladder-section.

The guide-clamps C, which are hanger-shaped, their ends being bent at right angles, are rigidly secured to the ladder-section B. They project out horizontally when the ladder 50 is in a vertical position, and their right-angular ends project inwardly and over the edges of the standards  $a$  of ladder-section A. Thus constructed, when it is desirable to employ a ladder to reach a greater altitude 55 than can be reached by use of the step-ladder, as shown in Fig. 1, section A of the extensible ladder is slid up into the position shown in Fig. 2, and the hooks C are slipped down over a round of ladder-section B, as 60 shown in Fig. 3, and the ladders, thus extended into a single ladder, are securely held in position by the joint action of the guide-clamps C and the supporting-hooks  $A^3$ .

I am aware that extensible ladders and step-ladders are not broadly new, the same being 65 shown in the patents of L. C. Boyington of September 25, 1877, No. 195,440, and C. A. Bourdman of October 11, 1881, No. 243,014, which I disclaim. 70

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

The combination of the ladder-section A, having recesses  $a^2$ , studs  $b$ , and plates  $A^2$ , and 75 ladder-section B, having the right-angular hooks C, substantially as shown and described.

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

FRANK E. A. SMITH.

Witnesses:

JNO. B. BELCHER,  
JAS. G. POLLARD.