

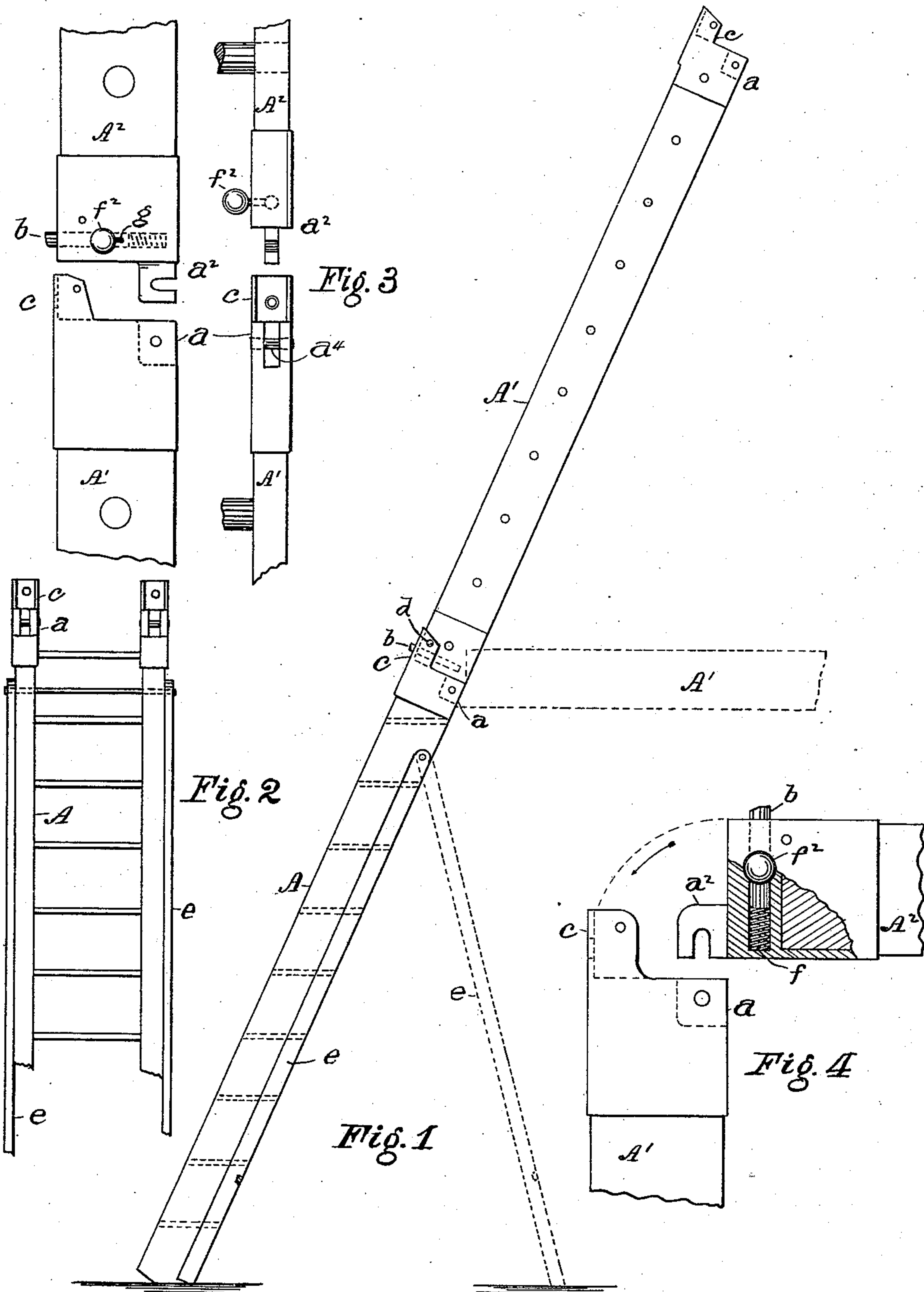
(No Model.)

2 Sheets—Sheet 1.

C. G. HAUSMANN.
LADDER.

No. 572,201.

Patented Dec. 1, 1896.



Witnesses
Myron B. Vorce.
John R. Ryder.

Inventor
Charles G. Hausmann.
By his Attorney
C. M. Vorce

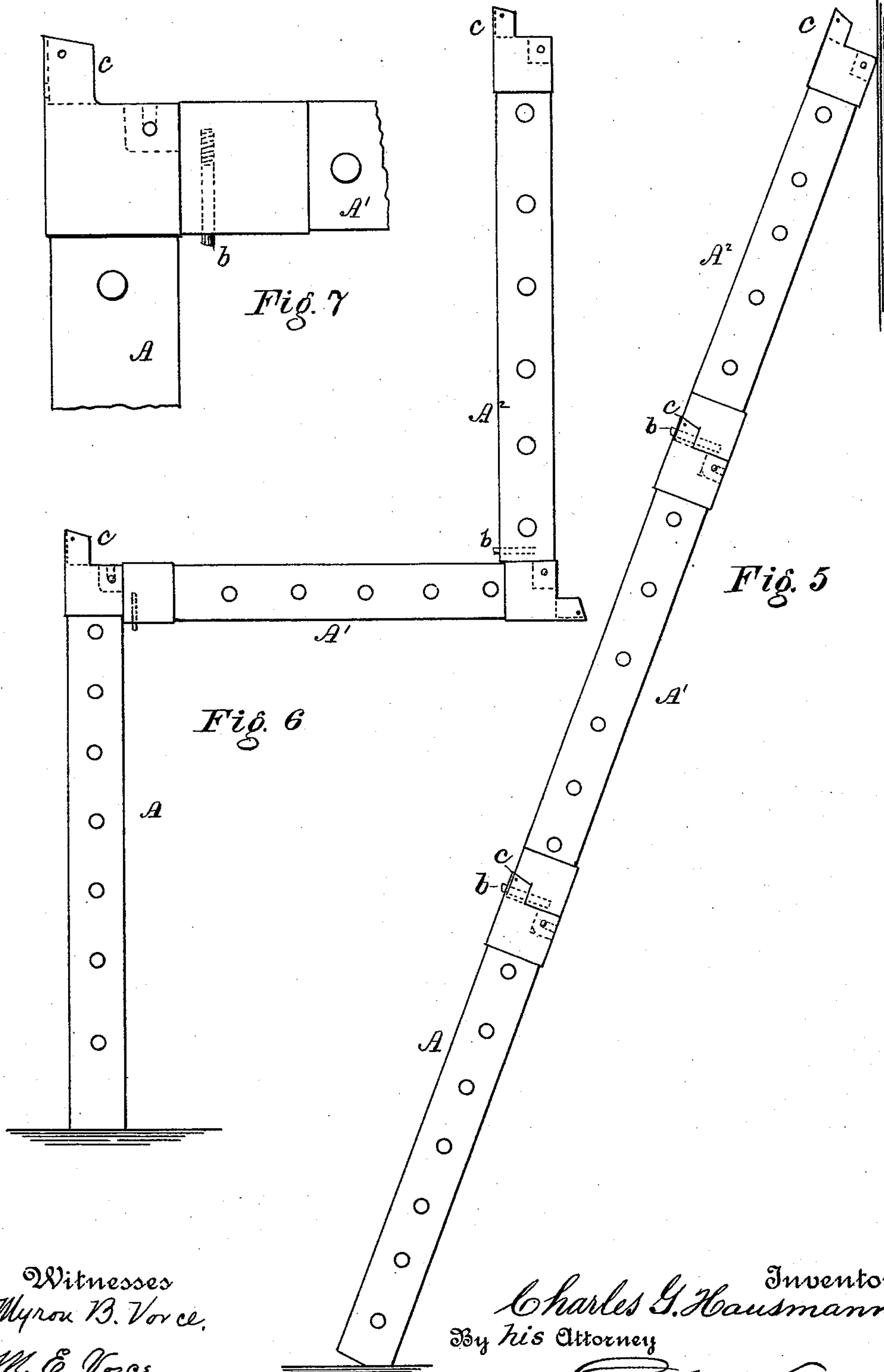
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UNITED STATES PATENT OFFICE.

CHARLES G. HAUSMANN, OF CLEVELAND, OHIO.

LADDER.

SPECIFICATION forming part of Letters Patent No. 572,201, dated December 1, 1896.

Application filed March 17, 1896. Serial No. 583,547. (No model.)

To all whom it may concern:

Be it known that I, CHARLES G. HAUSMANN, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Ladders; and I do hereby declare that the following is 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.

The object of my invention is to provide a ladder applicable to diversified uses and to uses to which ladders have not usually been put, as well as to improve the efficiency of the ladder as such; and it consists in the novel construction and combination of parts, as hereinafter described, and set forth in the claims.

In the drawings, Figure 1 represents in side elevation a ladder embodying my invention. Fig. 2 is a partial front elevation of the same. Fig. 3 represents in side and face view the locking-joint by which the sections are secured together. Fig. 4 is a detail showing the method of joining the sections. Fig. 5 is a side elevation of a ladder composed of three sections, showing how any required number of sections may be joined together. Fig. 6 shows three sections joined so as to form a combined ladder and scaffold. Fig. 7 is a detail, on a larger scale than Fig. 6, showing how one section may be joined to another in a reversed position.

A¹, A², &c., represent the sections of the ladder, each of which is provided on each side rail at one end with a socket *a* and at the other end a hook or lug *a*², adapted to fit a similar socket on another section, whereby the sections may be joined together end to end. In order to lock the sections together when so joined, I provide on one section a spring-actuated bolt *b* and on the other a catch *c*, into which the bolt seats when the sections are joined, as seen in Fig. 1. Preferably I form the lug *a*² as a hook, which is engaged by a rigid part of the socket *a*, such as the strong rod *a*⁴, the two being turned nearly at right angles to each other when the lug is inserted in the socket, as seen in Fig. 4, and then turned in line with each other until the ends of the two sections abut, when the spring-bolt *b* will engage the catch *c* and

lock the sections firmly together. When the sections are long, or where several sections are joined to make a very long ladder, I prefer, as a further safeguard, to insert a pin *d* through the catch *c* and the end of the section seated therein. This strengthens the joint and prevents the unlocking of the joint by anything accidentally falling or striking against the spring-bolt *b*, but will seldom, if ever, be necessary, since the weight of the ladder itself would usually prevent the joint from opening in such case.

The bottom section of the ladder usually has the joining device only at the upper end, although obviously any section may be used, as the bottom one, in certain cases. I prefer, however, to provide the bottom section with flat steps instead of the rungs with which the upper sections are provided, as shown by the dotted lines in Fig. 1, and to pivot thereto a brace *e*, which can be set at any angle to the section, as shown in Fig. 1. This brace adds strength and stability to the ladder when more than two sections are joined, it enables the bottom section to be used alone as an ordinary step-ladder, and it enables the ladder to be converted into a scaffold by turning the section A¹ to a horizontal position, as indicated in Fig. 1. The sections may also be joined together stairwise, as shown in Fig. 6, by reversing the sections with relation to each other. Thus if that side of the section which bears the catch *c* be considered the front side by joining the sections with their front sides turned the same way they may form a straight ladder, as in Fig. 5, or a simple scaffold, as in Fig. 1; but by reversing some of the sections, as in Fig. 7, in which the sections are joined alternately front and back, a combined ladder and platform may be formed, the upper section A² being supported in any suitable way, and thus suspending the middle section A¹, or preferably the section A¹ resting on some rigid support.

The sections may be of the same length, but are preferably made of different lengths, so that by joining different sections any desired length of ladder may be obtained. If three sections be joined, an efficient scaffold may be formed by resting the two end sections upon the ground and adjusting the middle section horizontally.

The locking-bolt *b* bears at its inner end against a coiled spring *f* and has a knob or handle *f*² protruding through the slot *g*, by means of which knob the bolt can be pressed
5 back against the action of the spring to unlock the joint.

What I claim is—

1. A ladder formed in sections having each a lug and a spring-lock at one end and a socket
10 and catch at the other on each rail, substantially as described.

2. A ladder formed in sections having each a hooked lug and a spring-lock at one end, and a socket to receive and retain said lug and
15 a catch to receive a lock-bolt at the other, on each rail, substantially as described.

3. A ladder formed in sections one having on each rail a hooked lug and a spring-lock, and the other having on each rail a socket to
20 receive and hold the lug and a catch to receive the lock-bolt, whereby the sections may be joined together and locked in a straight line, or joined at an angle with each other, substantially as described.

25 4. The combination of the ladder-section having a pivoted brace and having on each

rail a socket and a catch, and the section having on each rail a lug to engage the socket and a spring-lock to engage the catch and lock the sections together, substantially as described. 30

5. The combination of the ladder-section having a pivoted brace and socket, and interchangeable sections each having at one end a lug to engage said socket, a similar socket at their opposite ends, and a spring-lock at
35 one end of each section to secure the sections together, substantially as described.

6. The joint for sectional ladders, comprising a socket open on two sides and having a transverse lug or bar, and a catch, on one section, and a hooked lug adapted to enter and
40 engage said socket from either side, and a spring-actuated bolt adapted to engage said catch, on the other section; whereby the sections may be joined in line or transversely, 45 substantially as described.

In witness whereof I hereunto set my hand in the presence of two witnesses.

CHARLES G. HAUSMANN.

In presence of—

JOHN R. RYDER,

WM. G. TAYLOR.