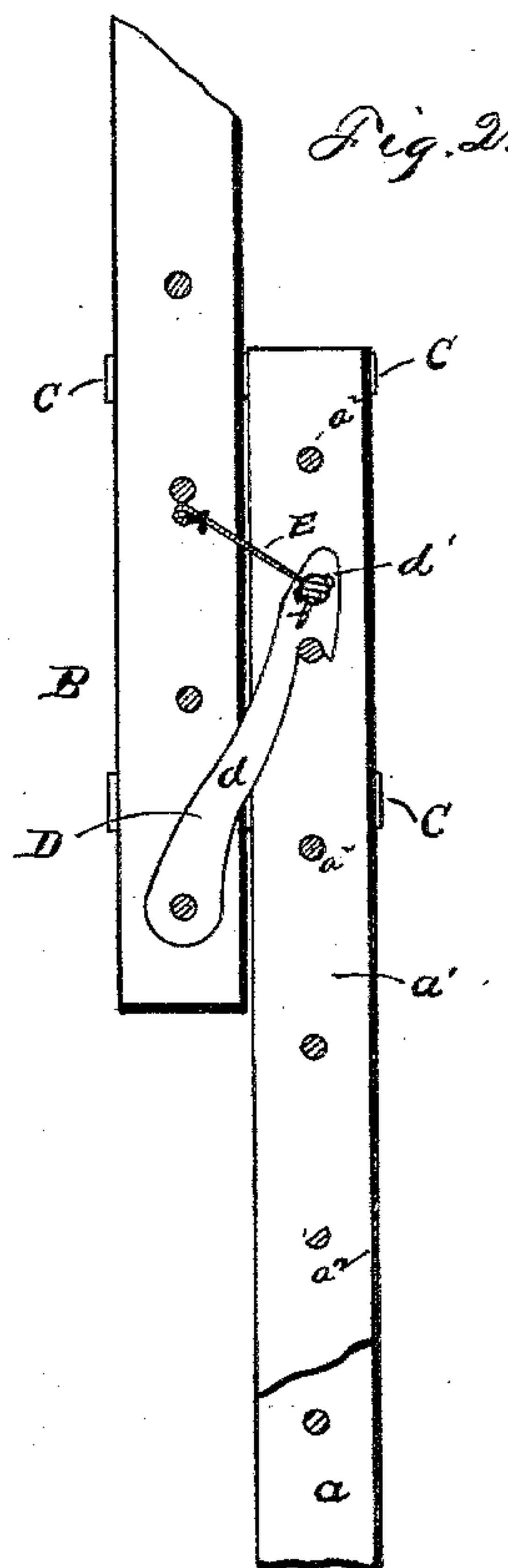
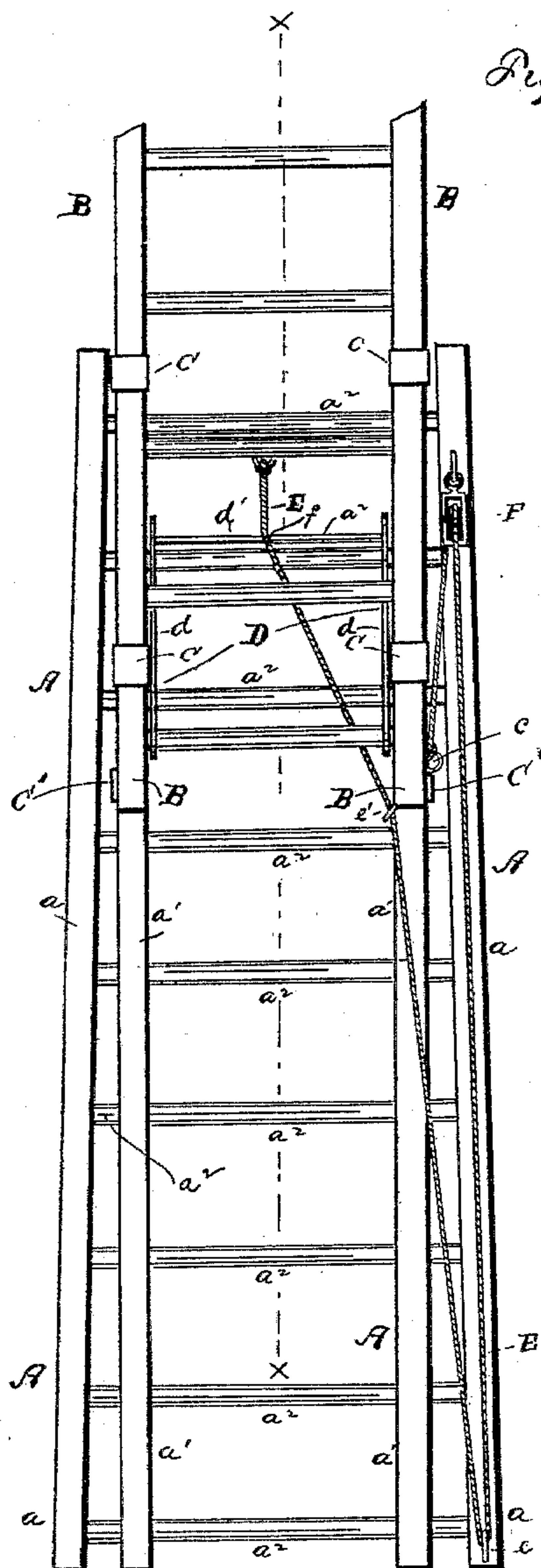


(No Model.)

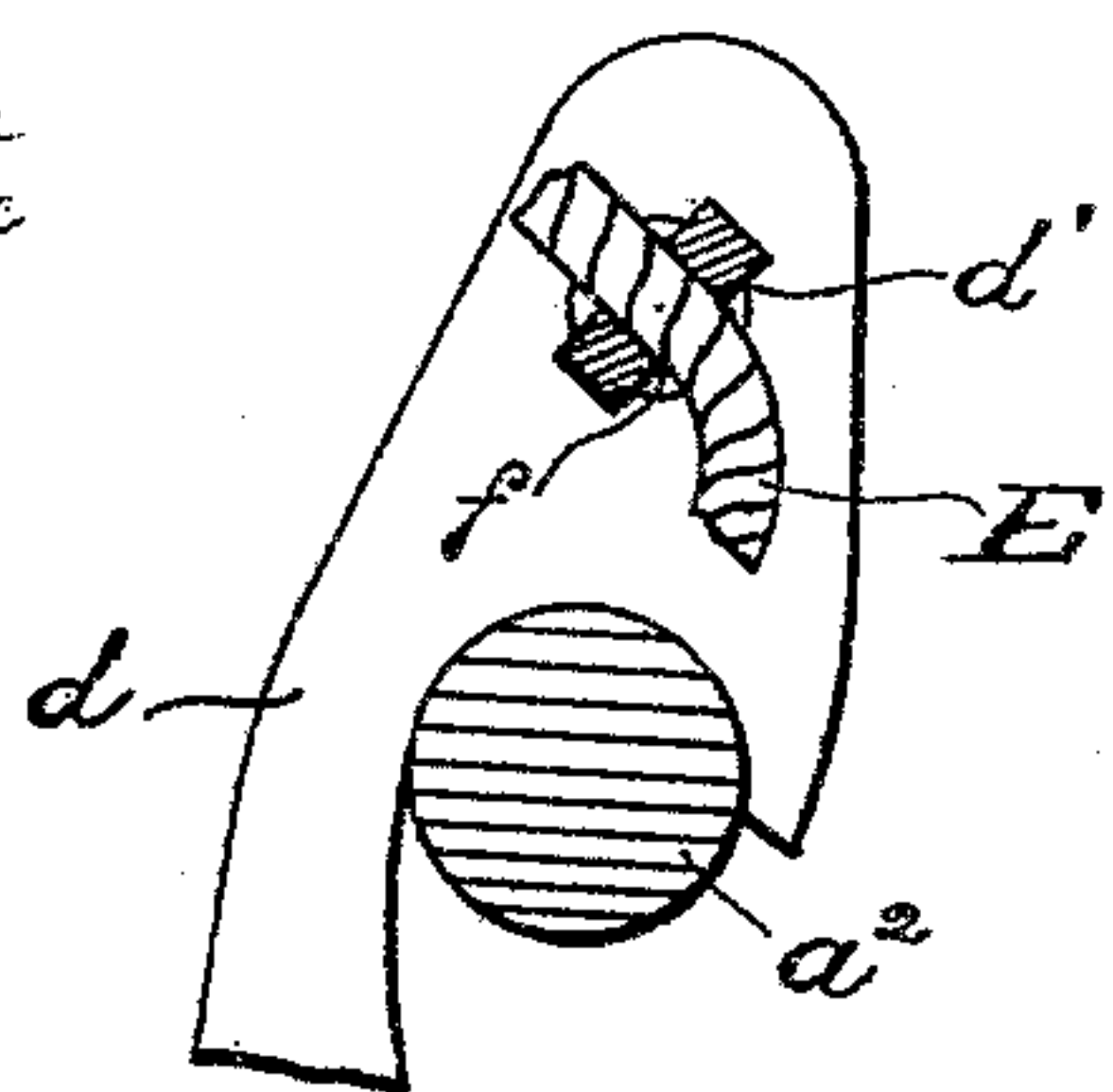
L. A. WEATHERSTON & J. E. RANKIN.  
EXTENSION LADDER.

No. 596,766.

Patented Jan. 4, 1898.



*Fig. 3.*



WITNESSES:

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# UNITED STATES PATENT OFFICE.

LYMAN ANDREW WEATHERSTON AND JOHN EMERSON RANKIN, OF  
OGDENSBURG, NEW YORK.

## EXTENSION-LADDER.

SPECIFICATION forming part of Letters Patent No. 596,766, dated January 4, 1898.

Application filed January 4, 1897. Serial No. 617,923. (No model.)

*To all whom it may concern:*

Be it known that we, LYMAN ANDREW WEATHERSTON and JOHN EMERSON RANKIN, citizens of the United States, residing at Ogdensburg, in the county of St. Lawrence and State of New York, have invented certain new and useful Improvements in Extension-Ladders; and we do 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

The special object of the invention is to make an extension-ladder which can be conveniently held at any degree of extension and moved with a man standing upon it without displacement lateral or otherwise.

Figure 1 of the drawings is a front elevation showing the ladder extended, and Fig. 2 a cross-section on the dotted line  $x x$  of Fig. 1. Fig. 3 is a detail view of cross-piece. Fig. 4 is a detail view showing the hooks with cross-piece in transverse section through the hole  $f$ .

In the drawings, A represents the lower and B the upper section, the former consisting of two exterior upwardly-converging rails  $a a$  and two parallel rails  $a' a'$ , all in the same plane and provided with the same rungs  $a^2$ , wedged securely in the four rails. The section B is arranged to slide upon the section A and is held to the rails  $a' a'$  by the metallic clips C, made fast to said rails, the said clips being hook-shaped at each end, so as to embrace the rails of each section, but made fast to section A. As these clips are shaped so as not to depend upon bolts, nails, or screws, they are very strong and durable, allowing the section B to be extended its full length, excepting about three feet at the lower end, and permitting it to be moved with a man upon it wherever it may be needed.

C' C' are two metallic guides arranged on the lower end of the upper section to prevent lateral swaying when the ladder is extended.

D is a catch consisting of two hooks  $d d$ ,

connected by a cross-bar  $d'$  and pivoted to the lowest rung of the upper section B, so as to catch on any of the rungs on section A, thus enabling the upper section to be held at any degree of extension which may be desired.

E is a cable fastened at one end to the eye  $c$  on movable section B, passing thence up and over the swinging pulley F on fixed section A, then down through an eye  $e$  at the bottom of the fixed section, then up through an eye  $e'$  on the movable section, and through a hole in the cross-bar  $d'$  to an eye on a rung of the section B, where it is made fast. It will be perceived that when the rope cable is pulled it raises the catch D, disengages it from the rung, and holds it disengaged until it is slacked, when the hook catches upon the nearest rung of section A.

The size and weight of the several parts of the ladder will depend upon the special use for which it is intended.

It will be readily perceived that the rope E, after passing through the hole  $f$  in the cross-bar  $d'$ , is fastened to an eye in the third round from the top of the adjustable section B, the said eye being attached to the middle of the round. By this means the rope is adapted to perform its two functions—namely, of raising section B after it has lifted the hooks out of connection with whatever round it may have engaged.

Having thus described all that is necessary to a full understanding of our invention, what we claim as new, and desire to protect by Letters Patent, is—

In an extension-ladder, the cable E made fast to a rung of movable section and combined with eyes  $e e'$  on section B; the eye  $e$  and swinging pulley F on section A; and a cross-bar  $d'$  having a hole in the middle and hooks  $d d$ , as and for the purpose set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

LYMAN ANDREW WEATHERSTON.

JOHN EMERSON RANKIN.

Witnesses:

ISAAC L. WELLS,

JNO. F. WELLS.