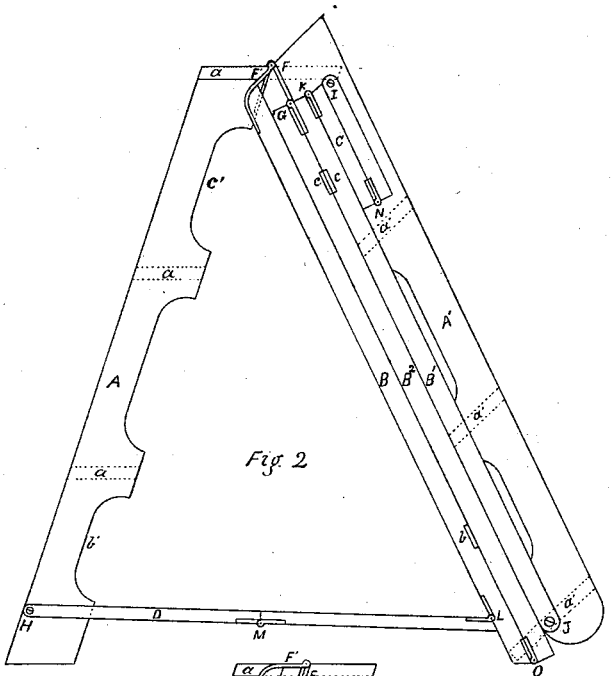
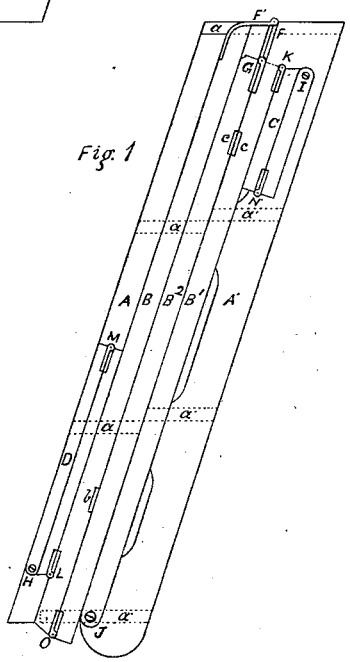
(No Model.) 2 Sheets—Sheet 1.

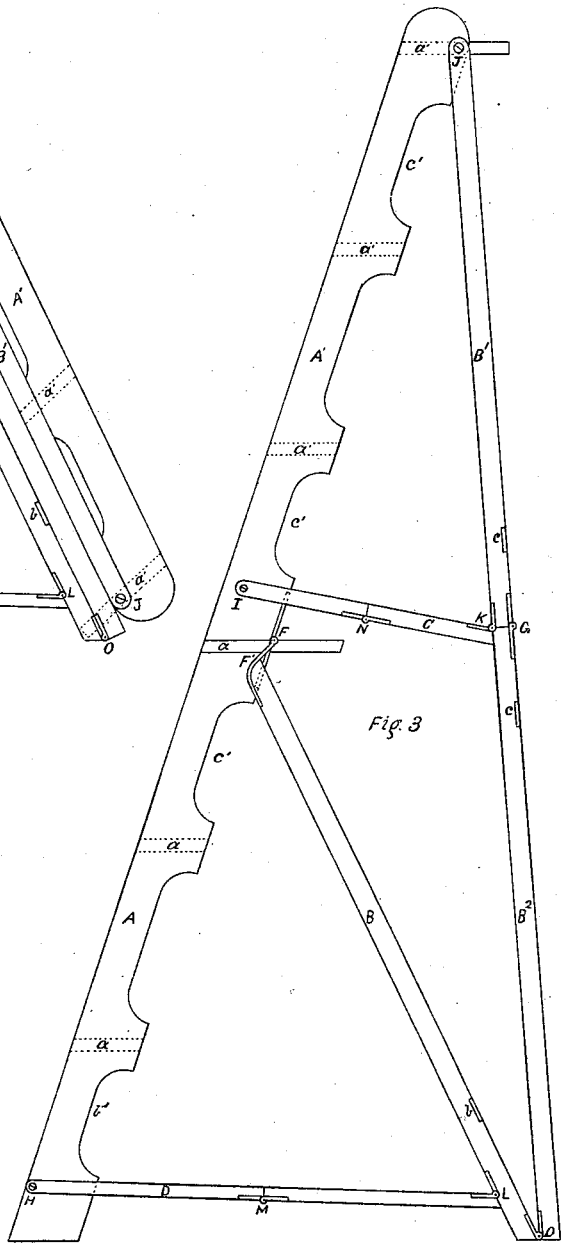
G. T. LAPÉ.

STEP LADDER.

No. 261,239. Patented July 18, 1882.







Witnesses.

Thomas Van Antwerp

Isaac M. Babbitt

Inventor.

George T. Lapé

(No Model.) 2 Sheets—Sheet 2.

G. T. LAPÉ.

STEP LADDER.

No. 261,239. Patented July 18, 1882.

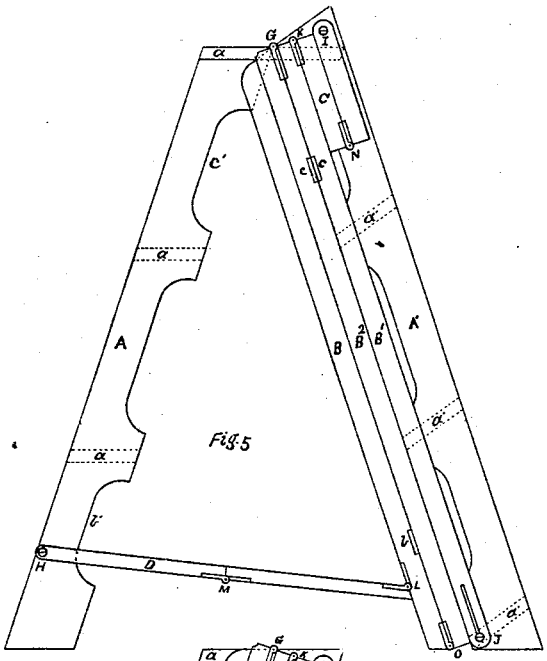


Fig. 5

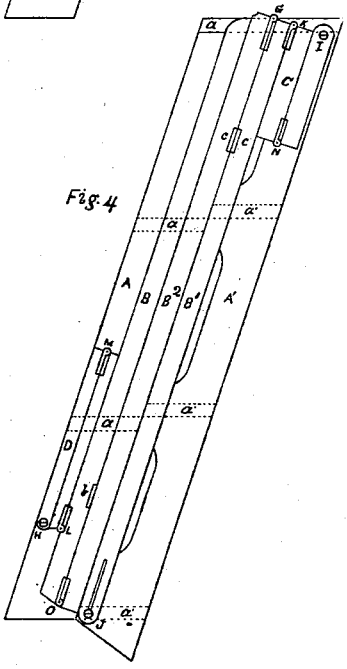


Fig. 4

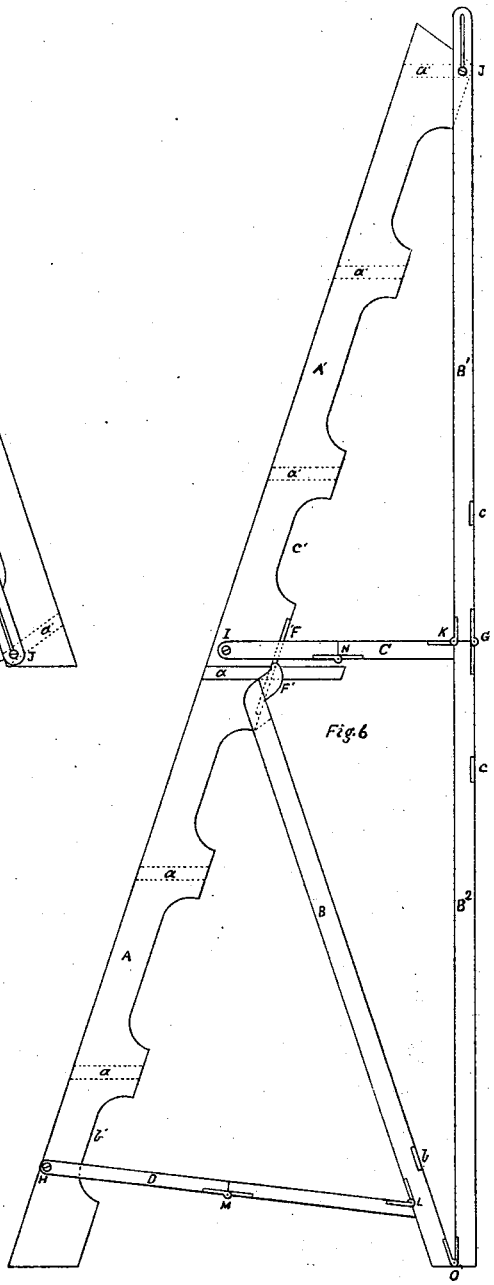


Fig. 6

Witnesses.

Thomas Van Antwerp

Isaac M. Babbitt

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George T. Lapé

UNITED STATES PATENT OFFICE.

GEORGE T. LAPÉ, OF BROOKLYN, NEW YORK.

STEP-LADDER.

SPECIFICATION forming part of Letters Patent No. 261,239, dated July 18, 1882.

Application filed November 16, 1881. (No model.)

To all whom it may concern:

Be it known that I, GEORGE T. LAPÉ, of the city of Brooklyn, in the State of New York, have invented certain new and useful Improvements in Folding Extensible Step-Ladders; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, forming part of this specification, in which—

Figures 1 and 4 represent side elevations of the device completely folded. Figs. 2 and 5 represent side elevations of the device in which the substructure is opened for use and the superstructure folded upon the legs of the said substructure. Figs. 3 and 6 represent side elevations of the device completely extended and ready for use.

Like letters refer to corresponding parts in the several figures.

My invention consists in securing to a step-ladder by hinges or pivots an extension-ladder having supporting-legs so constructed and jointed that they may be folded against said extension-ladder, and said extension-ladder and legs so folded then folded against the aforesaid step-ladder.

To the stiles A in a step-ladder of the ordinary construction, having legs or supports B secured to the said stiles A by the hinges or pivots F', I secure by the hinges F another ladder, having the stiles A' and carrying the steps *a'*. The legs or supports B' B^2 of said upper ladder are pivoted or hinged to said upper ladder at J, and are also pivoted or hinged to the legs B of the lower ladder at O, and are formed of an upper and a lower section, the two sections connected by the hinges G. Jointed brace-rods C, pivoted to the upper stiles at I, and hinged to the upper sections of the legs or supports B' at K, serve, when in the position shown in Figs. 3 and 6, to prevent the collapsing of the upper ladder and its legs. The tie-rods D are each pivoted at one end to the stiles A at H. The other ends are hinged at L to the legs or supports B, and are formed of two parts connected by the hinges M. The stiles A A' are provided with recesses *b' c'* to receive the transverse bars *b c* when the parts are folded together. In this construction the lower structure is entirely independent of any part of the upper structure for its integrity, the upper structure being merely an extension of and adjunct to the lower ladder or a superstructure thereon. I prefer to secure by pivots or hinges the legs of the superstructure to the lower extremity of the legs of the lower structure; but it is evident that they may be hinged to said legs of said lower structure at any point desired, or may be connected thereto when in position, as shown in Figs. 3 and 6, by hooks.

The pivot-pins of the hinges F may be adjustable, to the end that by the withdrawal of said pivot-pins and disconnecting the legs B' and B^2 the upper structure may be entirely removed, and the lower sections of its jointed legs folded up, so that each ladder may then be used as an independent step-ladder.

In order to collapse the device constructed as shown in Fig. 3, and fold it as shown in Fig. 1, the brace-rods C are so manipulated as to permit the upper leg-sections, B', to swing over and alongside of the stiles A', and the lower leg-sections, B^2, to swing over and on top of the legs B, the parts A' and B' folding down, the legs B' resting on the legs B^2 and the legs B^2 on the legs B. The upper structure being thus folded away upon the legs B of the lower structure, said lower structure remains available for use as a short step-ladder, as shown in Figs. 2 and 5 of the drawings. To complete the folding, the tie-rods D are so manipulated that the legs B, upon which rests the already folded upper structure, may be folded alongside of the stiles A, as shown in Figs. 1 and 4 of the drawings.

By lengthening the legs or supports of the upper structure, and providing said legs at their upper ends with slots in which the pivot-pins J may travel, as shown in Fig. 6 of the drawings, all of the supports or legs may then be first folded against their respective corresponding stiles, and the whole then folded together, as shown in Fig. 4 of the drawings; or the device may be folded as shown in Fig. 5.

Bolts or hooks may be used on the brace-rods C and tie-rods D to lock them when in position for use.

The brace-rods C and tie-rods D may be formed of ordinary rod-hooks instead of the jointed rods, as shown, and adjustable pins or other like well-known device employed to lock the hook-rods when in position for use.

I am aware that extension-ladders have been made in which the extension or superstructure has been connected to or with the substructure by means which admitted of adjustment, the legs of such superstructure formed of two parts, which parts were connected by a pivoted joint, and said jointed legs connected with the legs or supports of the substructure. I do not therefore claim broadly an extension-ladder in which a superstructure having jointed supporting-legs is so attached to a substructure as to be capable of adjustment; but

What I do claim, and desire to secure by Letters Patent, is—

1. A folding extensible step-ladder composed of a lower ladder having supporting-legs pivoted or hinged thereto, and an upper ladder having jointed supporting-legs pivoted or hinged thereto, the two structures so constructed and so connected by pivots or hinges and the legs of the upper structure so jointed that the upper structure may be folded down upon the legs of the lower structure, and the parts thus folded and the lower structure then folded together, the integrity of the parts and their connections being preserved during the operations of adjustment, substantially as and for the purpose described.

2. A step-ladder, A B, and its tie-rods D, in combination with the extension-ladder A′ B′ B^2, the hinges F and G, and the brace-rods C, substantially as and for the purpose described.

3. The jointed ladder A A′, the legs B, the jointed legs B′ B^2, the tie-rods D, and the brace-rods C, all combined substantially as and for the purpose described.

GEORGE T. LAPÉ.

Witnesses:
THOMAS VAN ANTWERP,
ISAAC M. BABBITT.