

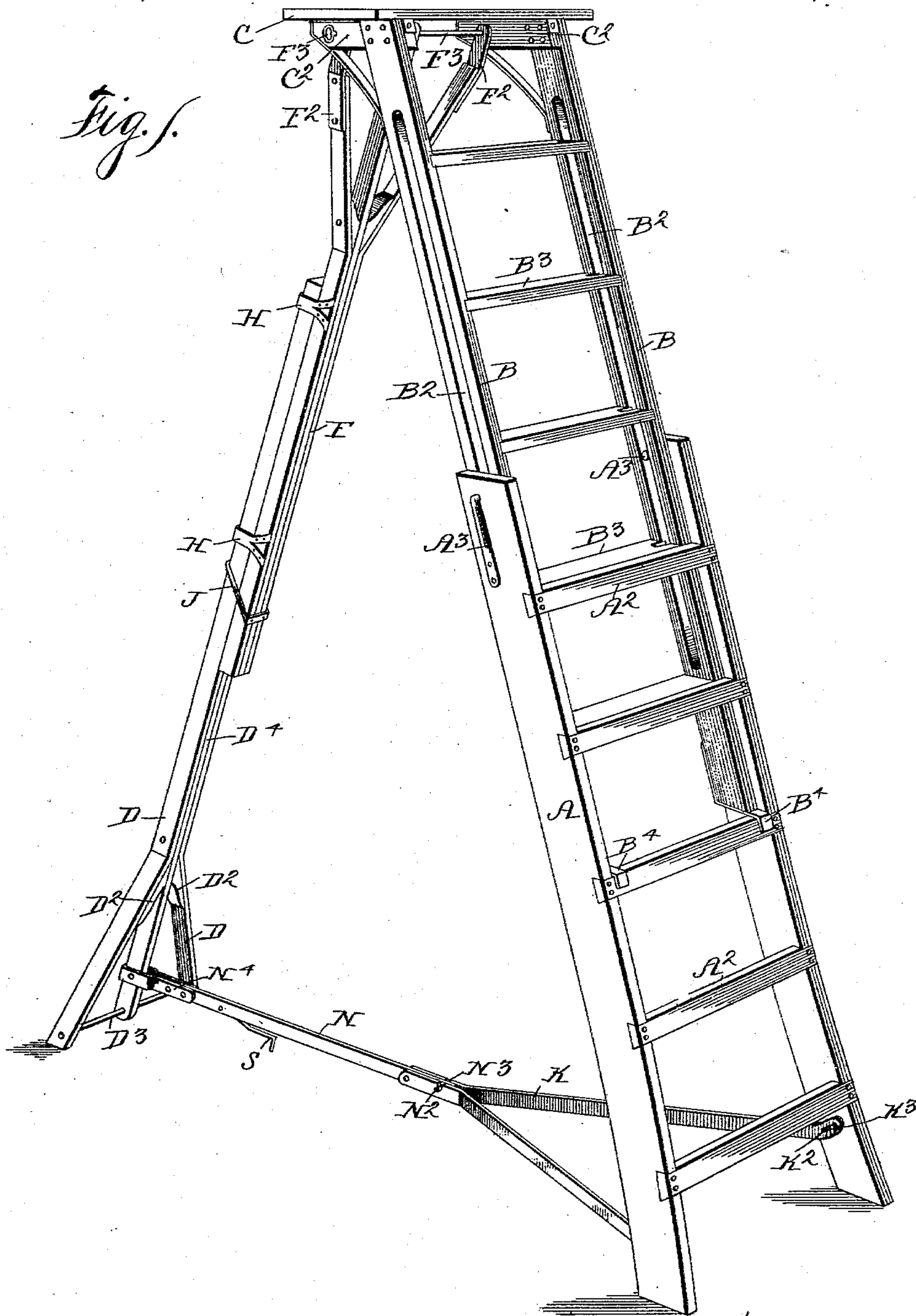
(No Model.)

2 Sheets—Sheet 1.

W. V. STEPHENSON.
STEP LADDER.

No. 548,670.

Patented Oct. 29, 1895.



Witnesses:
W. J. Sankey
R. G. Onwif.

Inventor: Walter V. Stephenson,
By Thomas G. and J. R. Orwig, Attorneys.

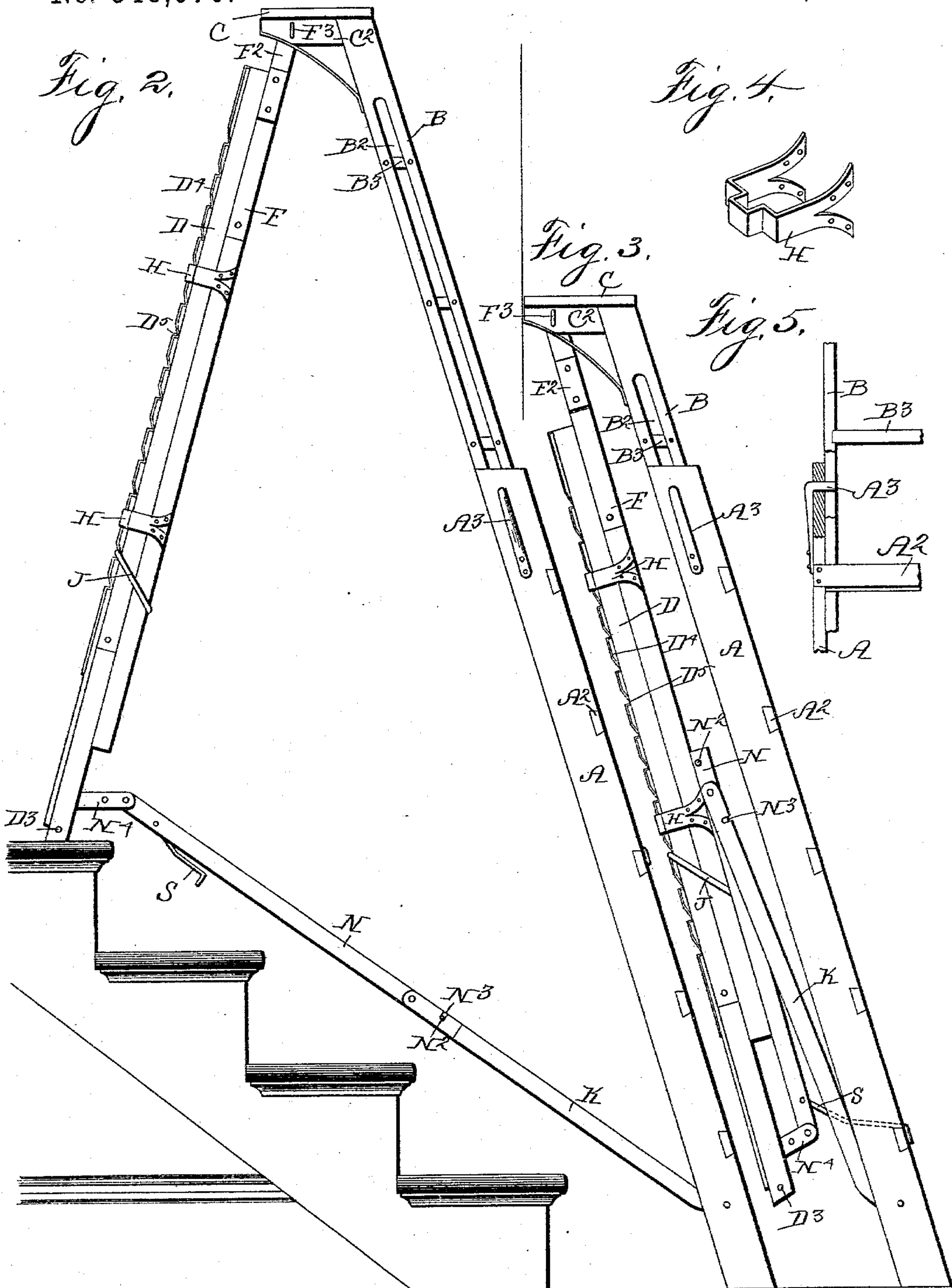
(No Model.)

2 Sheets—Sheet 2.

W. V. STEPHENSON.
STEP LADDER.

No. 548,670.

Patented Oct. 29, 1895.



Witnesses.
W. J. Sankey,
R. G. Onwig.

Inventor: Walter V. Stephenson,
By Thomas G. Onwig, attys.

UNITED STATES PATENT OFFICE.

WALTER V. STEPHENSON, OF FORT DODGE, IOWA.

STEP-LADDER.

SPECIFICATION forming part of Letters Patent No. 548,670, dated October 29, 1895.

Application filed May 27, 1895. Serial No. 550,888. (No model.)

To all whom it may concern:

Be it known that I, WALTER V. STEPHENSON, a citizen of the United States of America, residing at Fort Dodge, in the county of Webster and State of Iowa, have invented a new and useful Adjustable Step-Ladder, of which the following is a specification.

The object of this invention is to provide a simple, strong, and durable step-ladder in which the ladder proper and also the support therefor may be adjusted as to length independently of each other or in unison, thereby adapting the device for use in position where the ladder and the support rest upon bases in different horizontal planes—such, for instance, as upon a stairway—and further to provide means whereby the support may be detached and the ladder used independently thereof.

My invention consists in certain details in the construction, arrangement, and combination of the various parts of the device, as hereinafter set forth, pointed out in my claims, and illustrated in the accompanying drawings, in which—

Figure 1 shows the complete ladder in perspective. Fig. 2 is a side elevation of the same, showing the ladder and support of different lengths and supported upon a stairway. Fig. 3 is a side elevation of the ladder in a folded position. Fig. 4 is a perspective view of one of the brackets for holding the parts of the support together. Fig. 5 is a detail sectional view showing the sliding connection between the two parts of the ladder proper.

Referring to the accompanying drawings, the under portion of the ladder proper is seen to comprise the two flat uprights A, flared outwardly at their lower ends to produce a broad base and having a series of angular rounds A² fitted and secured in its front edge at suitable distances apart. At the upper end portion of each side piece is a spring-actuated bolt A³, fixed at one end and projected through a slot in the side piece.

The upper ladder-section is composed of two parallel side pieces B, separated a sufficient distance to engage the inner faces of the uprights A, and these side pieces B are slotted longitudinally at B² to receive the bolts A³. B³ indicate flat steps connecting

the two side pieces B and located the same distance apart as the rounds A². On the lower ends of these side pieces B are two flat bars B⁴ to project forwardly and then downwardly to overlap one of the rounds A². The said bars and rounds and steps are so arranged that when the bars are resting upon one round the steps and rounds above will coincide and the upper section be firmly held against movement relative to the lower section in any direction except upwardly. It is obvious, however, that the upper section may first be raised until the bars B⁴ clear the rounds, then the lower end of the upper section inclined outwardly and the upper section moved longitudinally relative to the lower one in any direction.

A broad flat top C is fixed on the upper ends of the uprights B and secured thereon by the bracket C².

The support for the ladder is also made of two parts, each preferably constructed of three distinct pieces. The outer pieces D of the lower section are forked at the base, the brackets D² placed between the outer and inner pieces at the fork to strengthen the bent portion, and a wooden round D³ passed through the three parts near their lower ends. The central piece D⁴ is somewhat wider than the others and its edge projects rearwardly, a number of notches D⁴ being formed in this edge.

The upper section F is of substantially the same general construction, being forked at its top, provided with the metal strips F² on its upper ends adapted to admit a rod F³, that is extended through the brackets C² and through said strips, thus pivotally connecting the ladder and support and providing means whereby the support may be readily detached.

The two parts of the support are slidingly connected by means of the two cleats H, clearly shown in Fig. 4, which are secured to the upper section and overlap the lower section.

J indicates a bail pivoted in the lower end portion of the upper section and overlapping the upper section to enter the notches D⁵ and thus prevent the upper sections from moving relative to the lower one except upwardly. The bail, however, may readily be thrown out

of engagement with the notches and the parts freely moved relative to each other.

To hold the lower ends of the latter and support at the proper distance relative to each other, I have provided a forked bar K, with its ends slotted at K² to admit the bolts K³, having elongated heads and fixed to the inner surfaces of its uprights A, so that the said forked bar may not be detached from the uprights unless the fork is placed in a position parallel with the uprights.

N indicates a bar pivoted near the end to the bar K and having a lug N² on its end to enter a notch N³ in the top of the bar K, thus preventing the bars from bending downwardly at their central portions. The other end of the bar N is connected with the base of the support by means of a link N⁴, and in this end of the bar N is pivoted a hook S, so shaped as to engage one of the rounds of the ladder when folded.

In practical use it is obvious that either the ladder proper or the support may be adjusted relative to each other so as to enable the device to rest upon a stairway with the steps of the ladder in either direction. They may also be lengthened or shortened at the same time, and, if desired, the support may be removed and the ladder proper be used independently.

Having thus described my invention, what I claim as new therein, and desire to secure

by Letters Patent of the United States therefor, is—

1. In a step ladder, the combination of a ladder section having flat side pieces and steps at the front edge thereof, flat springs secured at their lower ends to the side pieces and having extensions on their ends passed through the side pieces, a second ladder section having slotted sides designed to pass between the sides of the lower section and receive the said extension in the said slots, and bars secured to the lower ends of the upper section to overlap one step of the lower section, substantially as and for the purposes stated.

2. The combination in a step ladder, of a suitable ladder, two bolts having elongated heads fixed to the inner lower surfaces of its side pieces, a support pivotally and detachably connected with the upper end of the ladder, a bar or brace pivotally attached at one end to the lower end of said support, and having slots on its other ends designed to admit the heads of said bolts and a joint in the central portion of said bar or brace designed to fold upwardly, substantially as and for the purposes stated.

WALTER V. STEPHENSON.

Witnesses:

H. O. BALDWIN,

W. J. CAMPBELL.