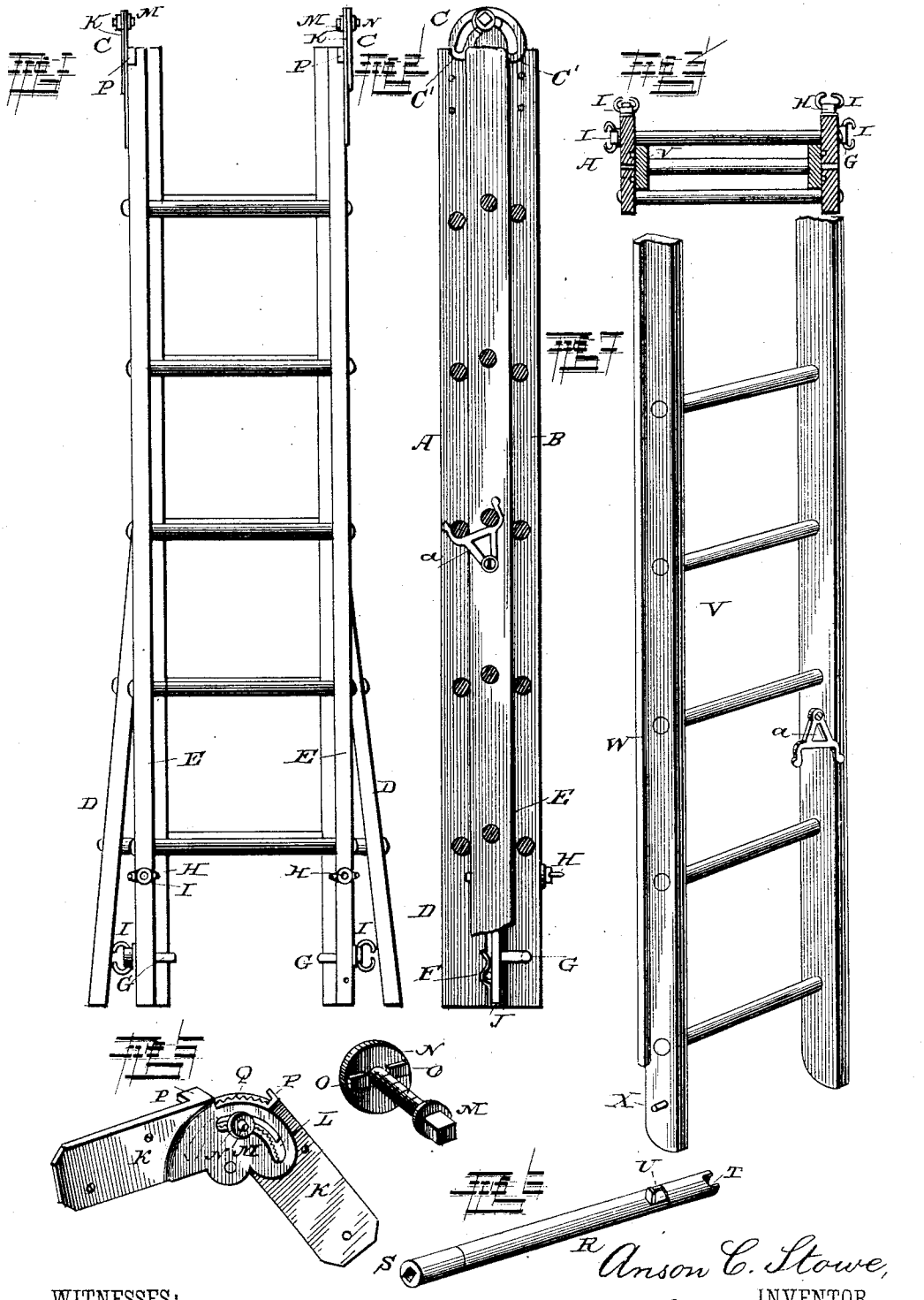
(No Model.) 2 Sheets—Sheet 1.

A. C. STOWE.

LADDER.

No. 306,974. Patented Oct. 21, 1884.



WITNESSES:

Fred. L. Dieterich.

Wm. Bagger

Anson C. Stowe,

INVENTOR,

by: Louis Bagger & Co

ATTORNEYS.

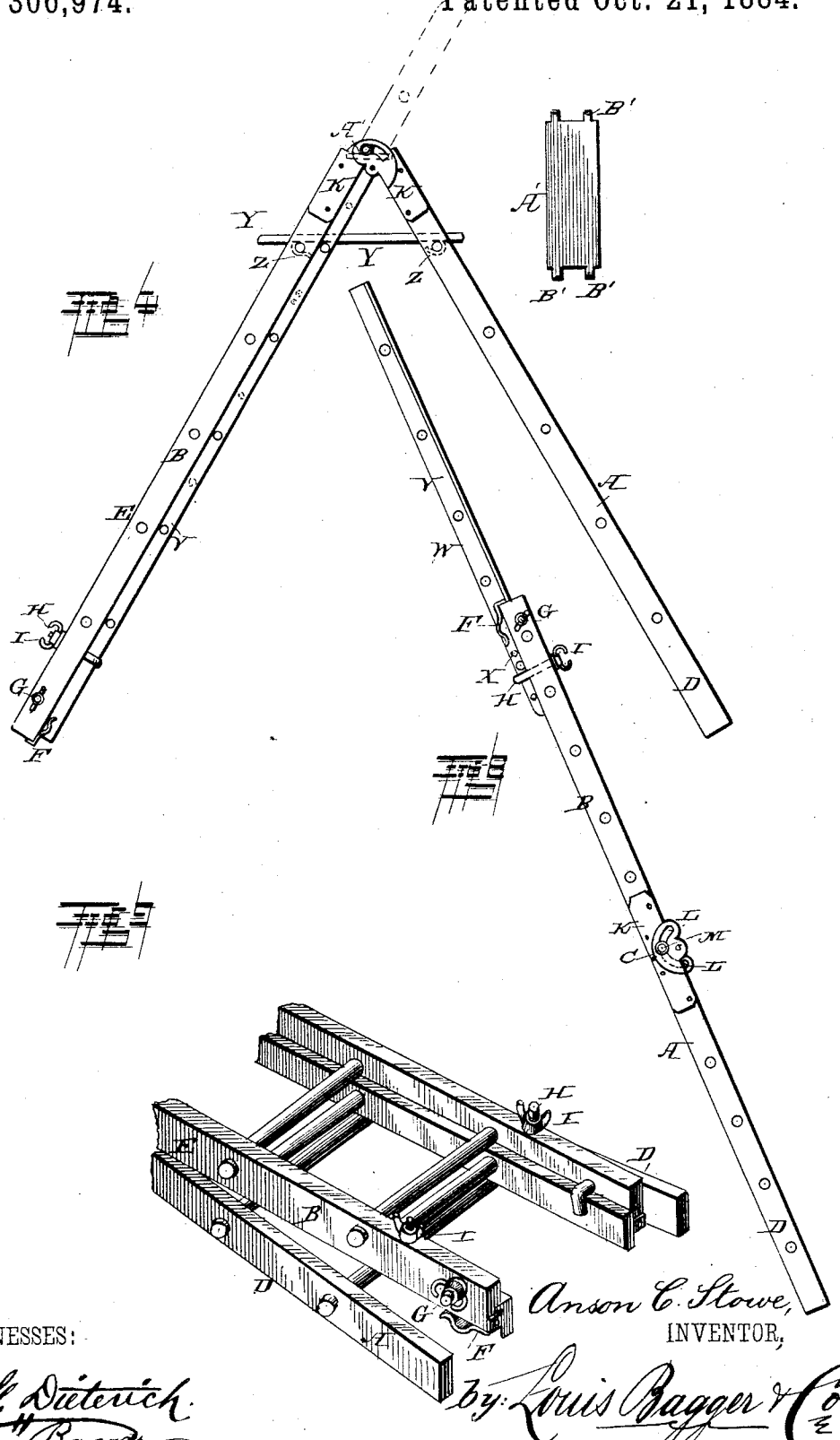
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UNITED STATES PATENT OFFICE.

ANSON C. STOWE, OF PAOLA, KANSAS.

LADDER.

SPECIFICATION forming part of Letters Patent No. 306,974, dated October 21, 1884.

Application filed September 2, 1884. (No model.)

To all whom it may concern:

Be it known that I, ANSON C. STOWE, a citizen of the United States, and a resident of Paola, in the county of Miami and State of Kansas, 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, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure I is a front view of my improved ladder, showing the same folded. Fig. 2 is a longitudinal sectional view of the same. Fig. 3 is a cross-section. Fig. 4 is a side view showing the ladder extended as a step-ladder, the dotted lines showing the extension-slide in its raised position. Fig. 5 is a detail view of one of the hinges. Fig. 6 is a detail view of the combined detachable rung and hinge-tightening wrench. Fig. 7 is a perspective detail view of the extension-slide. Fig. 8 is a side view showing the ladder extended to its utmost capacity, and Fig. 9 is a perspective view, on an enlarged scale, of the lower end of the ladder, showing the same in its folded position, as for storage or shipment.

The same letters refer to the same parts in all the figures.

This invention relates to folding and extension ladders; and it has for its object to provide a device which shall possess superior advantages in point of simplicity, durability, inexpensiveness, and general efficiency.

With these ends in view, the invention consists in the improved construction and combination of parts, which will be hereinafter fully described, and particularly pointed out in the claims.

In the drawings hereto annexed, A and B designate two ladder-sections of equal length, which are connected by a hinge-joint, C. The side rails, D D, of the lower section, A, are spread outward at their lower ends, so as to prop and sustain the ladder securely when in use. The outer or upper end of the upper section, B, (which, however, when the ladder is folded adjoins the lower end of the lower section,) is provided on the inner sides of its side rails E E with spring stops or catches F F. The said side rails are also provided with two sets of transverse hooks, G G and H H, at right angles to each other, and having screw-threaded shanks provided with thumb-nuts I, which may be readily tightened in the manner and for the purposes to be hereinafter described. The inner sides of the side rails E and the straight or parallel portion of the side rails D are provided with longitudinal grooves J.

The hinges by which the ladder-sections A and B are connected are of the construction clearly shown in Fig. 5 of the drawings, by reference to which it will be seen that they consist of leaves or plates K, having curved ends provided with segmental slots L, adapted to receive the pintles M, which consist of screw-threaded shanks having square heads at their inner ends, and the outer ends of which enter nuts N, which are provided with flattened portions O, fitted in the slots L, so as to prevent the said nuts from turning when the screw-threaded pintles are tightened. The edges of the hinge-plates are provided with lugs P, fitting over the edges of the side rails of the ladder-sections, which are thereby braced and strengthened, and the inner adjoining sides of the slotted portions of the hinge-plates are serrated or corrugated, as shown at Q, so that when the pintles are tightened they shall bind firmly together and serve to secure the ladder-sections in the position to which they have been adjusted relatively to each other.

R is a rung arranged detachably at the intersection of the two hinged ladder-sections. The said rung is provided at one end with a square metallic socket, S, adjustable upon the head of one of the pintles M, and at its other end it has a socket, T, one side of which is formed by a slide, U, which may be withdrawn so as to admit of the adjustment of the said socket upon the head of the pintle of the other hinge. The said pintles are to be provided, respectively, with right and left hand threads. It follows that when the said rung is placed in position it may be utilized for the purpose of tightening the pintles of the hinges, while, when desired, it may be readily removed.

V designates the extension-section of the ladder, the side rails of which are provided on their outer sides with ribs or flanges W,

adapted to slide in the grooves in the inner sides of the sections A and B. The lower ends of the side rails of the extension-section are provided with outward-projecting pins X, and also with a double adjustable hook, *a*, pivoted to the inner side of the side rails, and adapted to hook upon the rungs of either section A or B.

Y designates a detachable and adjustable platform, the under side of which is provided at both ends with hooks Z Z, adapted to catch over two rungs of the ladder-sections A and B when the same are unfolded for use as a step-ladder, when the said platform will be found serviceable as a table for supporting a basket, pail, paint-pot, or the like. An additional but smaller platform, A′, is provided, the ends of which are provided with tenons B′ B′, adapted to rest in recesses C′, formed in the adjoining ends of the side rails of the ladder-sections A and B, and the purpose of which is to accommodate the detachable rung when the ladder is fully extended.

From the foregoing description, taken in connection with the drawings hereto annexed, the operation and advantages of my invention will be readily understood.

To fold the ladder for storage or shipment, the sections A B are first folded together. The pins X of the section V are then inserted between the side rails of sections A B and the section V slid in between the latter in such a manner that its flanges W shall enter the grooves J of section A. The lower ends of the side rails of section V will enter the catches or hooks G G of section B, thus locking the two hinged sections together. The detachable rung is then placed in position, thus preventing the withdrawal of the section V. The detachable platforms may be placed between section V and one of the sections A B. To open the ladder for use, the operation is reversed. When the sections A B are extended as a step-ladder, the section V may be partly extended and supported by one of its rungs resting upon the platform Y. When the ladder is extended to its full capacity, as in Fig. 8, the extension-section V is secured by means of the hooks or clamps G H. By adjusting the section B in a horizontal position, placing section A at an angle of about sixty degrees to the ground, and sliding section V out until its pins X enter the stops *f*, the said section V may be placed at an angle of about sixty degrees to the ground and be suitably braced or connected with section A. By simply placing a plank upon the section B an excellent scaffold for painters or other artizans may be formed.

Other uses of my improved folding ladder will readily suggest themselves.

The device is simple in construction, inexpensive, strong, and durable, and capable of being folded and packed into a small space.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

1. In a ladder, the combination of two folding sections connected by hinges, consisting of segmentally-slotted leaves or plates having lugs at their edges and corrugations upon their adjoining sides, and right-and-left-hand threaded pintles with square heads at their inner ends, and provided at their outer ends with nuts having flattened portions extending through the slots of the hinges, substantially as and for the purpose set forth.

2. The combination of the folding ladder-sections connected by hinges having right-and-left-hand threaded pintles with square heads at their inner ends, with the detachable rung having a square socket at one end, and at the other end a square socket one of whose sides is formed by a slide, substantially as and for the purpose set forth.

3. As an improvement in folding and extension-ladders, the combination of two hinged ladder-sections the hinges of which have right-and-left-hand threaded pintles, the side rails of said ladder-sections being longitudinally grooved on their inner sides, and the upper section being provided at its free end with stops F and clamps G H, the extension-section having exteriorly-flanged side rails provided at their lower ends with outwardly-extending pins, and having pivoted double hooks, the detachable socketed rung, and the platforms Y A′, all constructed, combined, and operating substantially as and for the purpose set forth.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

ANSON C. STOWE.

Witnesses:
J. T. HAUGHEY,
E. T. AHRENS.