

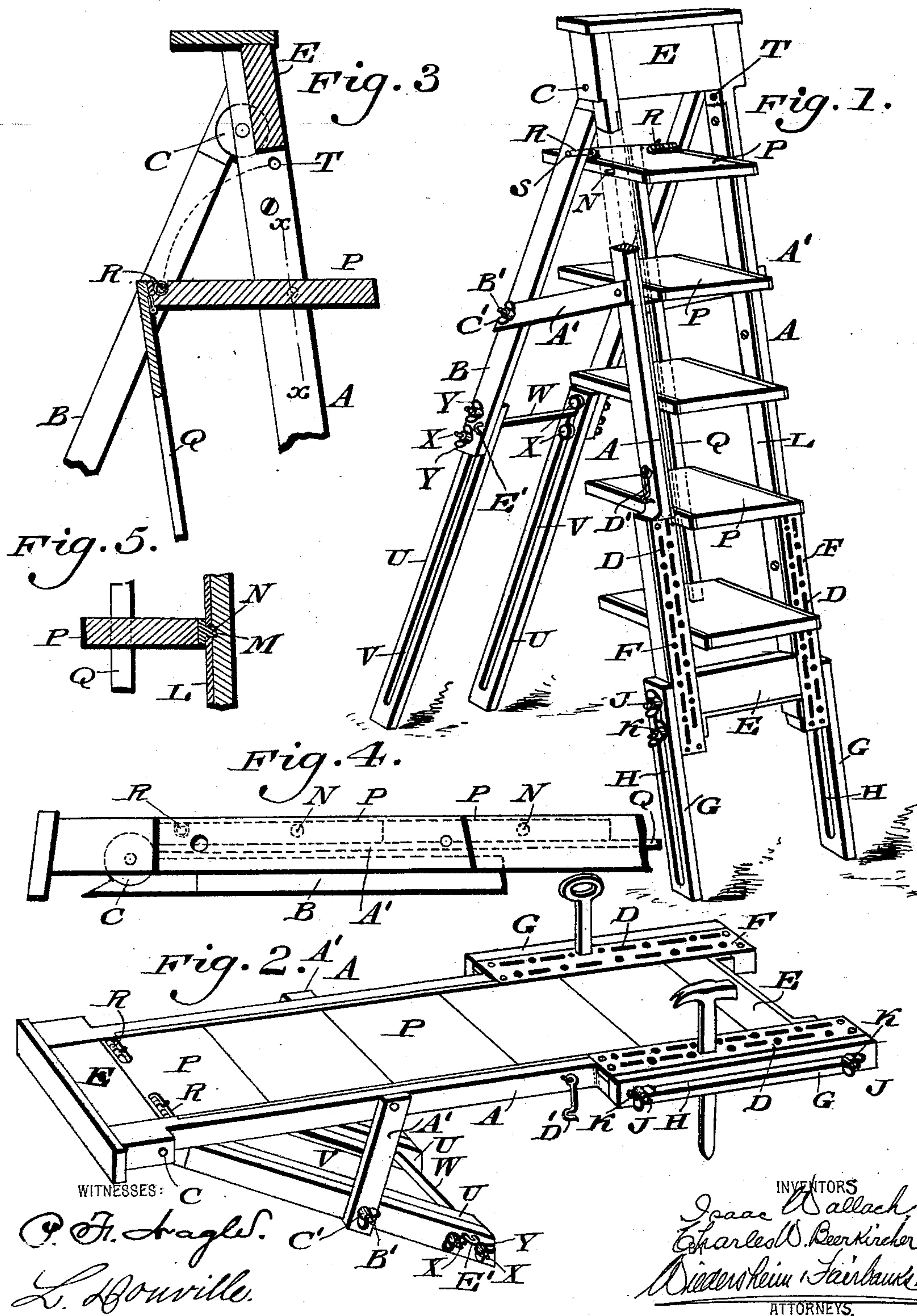
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Patented Apr. 11, 1899.

I. WALLACH & C. W. BEERKIRCHER.
COMBINED STEP LADDER AND JACK.

(Application filed May 28, 1898.)

(No Model.)



UNITED STATES PATENT OFFICE.

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COMBINED STEP-LADDER AND JACK.

SPECIFICATION forming part of Letters Patent No. 622,831, dated April 11, 1899.

Application filed May 28, 1898. Serial No. 681,986. (No model.)

To all whom it may concern:

Be it known that we, ISAAC WALLACH and CHARLES W. BEERKIRCHER, citizens of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in a Combined Step-Ladder and Jack, which improvement is fully set forth in the following specification and accompanying drawings.

Our invention relates to an improved construction of step-ladder which is designed especially for painters' use, although the same may be used by others, the principal object being to produce in a simple and inexpensive manner a step-ladder of this character which may be readily and compactly folded for transportation and which is so constructed that the front and rear legs thereof may be easily and quickly adjusted to rest on different levels, which adjustment frequently becomes necessary while working upon or near stairways, the parts being also arranged so as to make the ladder readily convertible into a strong and substantial jack.

The invention consists of a ladder the front and rear legs of which are pivotally secured to each other, said legs being made in sections and capable of adjustment each pair with relation to itself and relatively to the opposing pair, folding steps pivotally secured to the front legs, and means for locking said steps when in position for use as a ladder and when folded for use as a jack.

It further consists of the novel features of construction and arrangement of parts, all as will be hereinafter fully described, and clearly pointed out in the claims.

Figure 1 represents a perspective view of a ladder embodying our invention, the same being adjusted for use. Fig. 2 represents a similar view showing the same adjusted for use as a jack. Fig. 3 represents a vertical section of the upper portion of the ladder. Fig. 4 represents a side elevation of a portion of the ladder, showing the parts folded. Fig. 5 represents a detail sectional view on the line *x x*, Fig. 3.

Similar letters of reference indicate corresponding parts in all the figures of the drawings.

Referring to the drawings, A designates the

front legs, and B the rear legs, of the ladder, the latter being somewhat shorter than the former and being pivotally secured to each other at or near their upper extremity, as shown at C. The lower extremities of the front legs are provided with a series of perforations D, preferably irregular in character, for the reception of tools of trade, which latter may project therethrough and form substantial fastenings for the ladder when the same is folded and in use as a jack, as will be readily understood by reference to Fig. 2. The perforations D, as shown, will permit of the jack being used upon windows where the walls of the building are of varying thickness, as it is apparent the fastening devices may be moved to compensate for such difference.

The upper and lower extremities of the front legs are fastened together by the cross-bars E, and the lower ends of the legs are preferably provided with metallic strengthening-plates F, the same being perforated, as shown, to correspond with the perforations in the legs. Slotted extension-bars G are further provided at the outer lower faces of the legs through the slots H, in which screw-bolts J are passed, the latter being provided with thumb-nuts K, by means of which the said extension-bars may be adjusted to lengthen or shorten the legs A, as circumstances may require.

The inner faces of the legs A are preferably provided with metallic plates L, wherein are arranged a plurality of holes or openings M, adapted to receive the laterally-projecting pivots N of a plurality of steps P, which are hinged at their rear ends to a bar Q, which latter serves to move all the steps simultaneously when opening or closing the same.

R designates latch-bolts preferably countersunk within the sides of the upper pivoted step, the same being designed to engage openings S, formed in the upper ends of the legs B, and so lock the steps against movement when the same are adjusted for use as a step-ladder, as shown in Fig. 1. Openings T are also formed in the inner upper faces of the legs A, wherein the bolts R are pressed when the steps have been closed, thus serving to lock the same against movement when they are in that position, as indicated in Fig. 2.

U designates slotted extension-bars arranged adjacent the lower inner faces of the rear legs through the slots V, in which a cross-bar W, secured to each of the legs B, passes
 5 and serves to retain the same against displacement, and screw-bolts X are also provided at the lower extremities of said legs, the same passing through said slots V and receiving thereon thumb-screws Y, by means of
 10 which the said extension-bars may be adjusted, as will be evident.

Bars A' are pivotally secured to the legs A and are provided near their outer ends with perforations adapted to receive therein laterally-projecting screw-bolts B', which are embedded in the front legs A and whereon thumb-nuts C' are placed, the whole serving to brace the parts when adjusted for use as a
 15 ladder and to form a substantial support to the rear legs when adjusted for use as a jack, in which latter event the extension-bars G and U will be moved out of the way and upon their respective legs, where they are retained by the thumb-nuts K and C', as clearly
 20 shown in Fig. 2.

As will be observed by reference to Fig. 2, the steps when folded form a perfectly even and smooth platform, being so arranged that the abutting edges thereof will closely fit each
 30 other, and when the ladder is wholly folded for transportation the hooks D' will engage the eyes E' and so keep the legs B folded against the under side of the steps, while the brace-bars A' are moved upon their pivots
 35 so as to lie up against the sides of the legs A, thus forming a compact and easily-moved ladder. The extension-bars, as will be obvious, may be moved so that they may rest upon supports at different elevations, as in the in-
 40 stance of stairs, where the front legs may rest upon the ground or floor, while the rear legs may be adjusted to rest upon the next succeeding step, or vice versa.

In practice it may be found desirable to
 45 use two bars Q, one at each side of the steps, although we prefer to use one bar centrally located, and we reserve the right to make this

alteration and such others as may be held to fairly lie within the spirit and scope of our invention.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. A combined ladder and jack comprising the front and rear legs pivotally secured to each other, said front legs being provided with perforations near the lower extremities, adjustable extension-bars movably mounted on said legs, a plurality of pivotally-secured steps, a bar hinged to said steps adapted to
 55 operate the same simultaneously, means for locking said steps in either open or closed condition and brace-bars to hold the legs apart.

2. A combined ladder and jack comprising the front and rear legs, pivotally secured to each other, adjustable extension-bars arranged at the lower extremities thereof, said front legs having perforations in the lower extremities, a plurality of pivotally-secured steps, a bar hinged to said steps adapted to
 65 close the same simultaneously, bolts secured to said steps, said legs having openings adapted to receive said bolts and brace-bars to hold the legs apart.

3. A combined ladder and jack comprising the front and rear legs pivotally secured to each other, slotted extension-bars arranged at the lower extremities of said legs, screw-bolts and nuts for said slots whereby the said extension-bars may be adjusted, perforated
 80 plates located at the lower extremities of the front legs and adapted to receive fastening devices, a plurality of pivotally-secured steps, means for moving said steps and for locking the same in open and closed position, pivoted brace-bars to brace said legs, and hooks adapted to engage eyes and keep the said legs closed when the ladder is completely folded for transportation.

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Witnesses:

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