W. G. WINANS.

LADDER JACK.

APPLICATION FILED JULY 27, 1914.

1,143,678. Patented June 22, 1915.

Fig. 1.

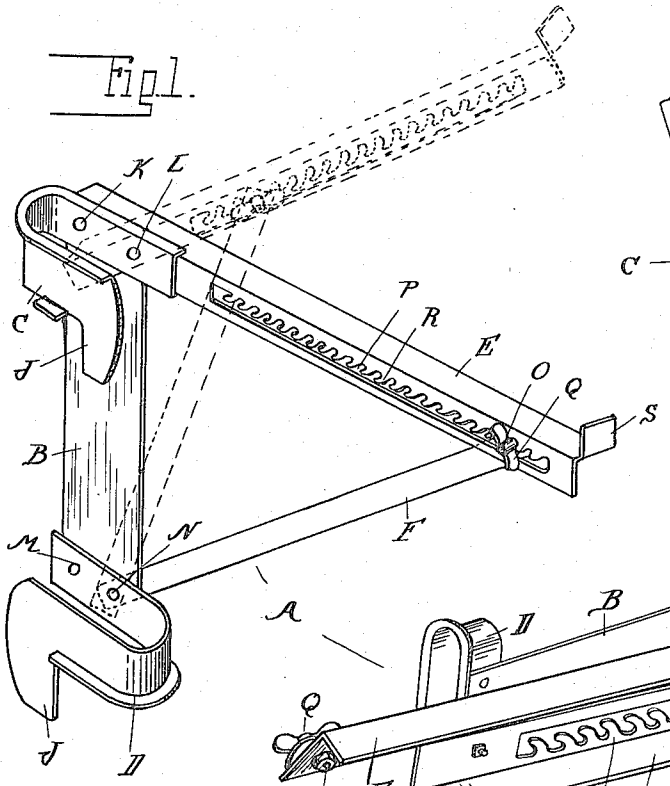
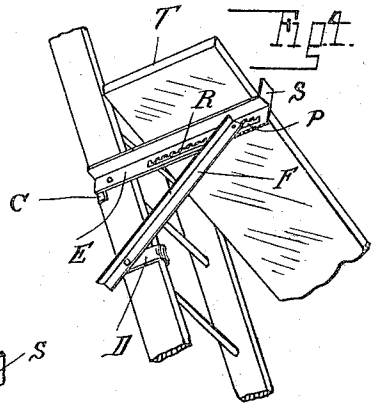


Fig. 4.



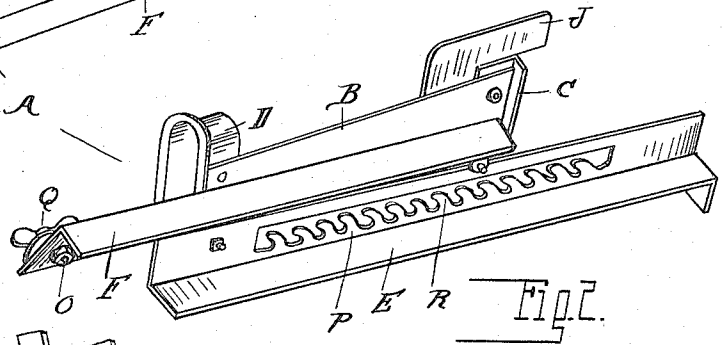
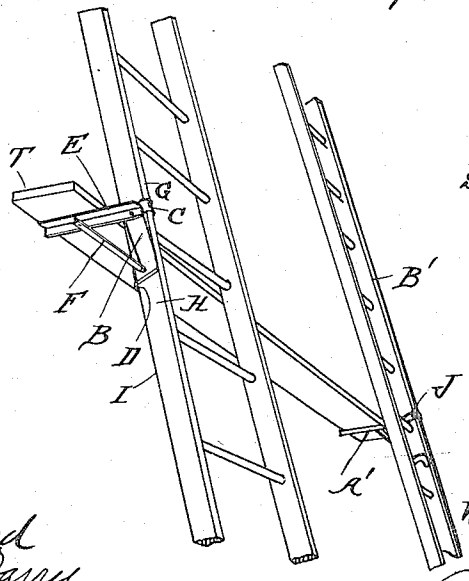


Fig. 2.

Fig. 3.



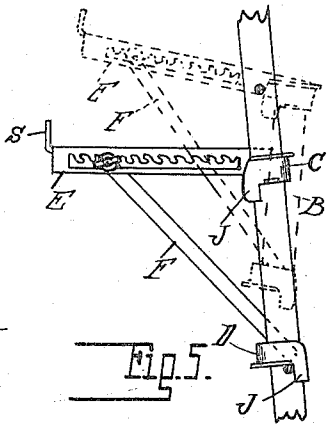


Fig. 5.

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UNITED STATES PATENT OFFICE.

WESLEY G. WINANS, OF DETROIT, MICHIGAN, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO WINANS MANUFACTURING COMPANY, OF DETROIT, MICHIGAN, A CORPORATION OF MICHIGAN.

LADDER-JACK.

1,143,678. Specification of Letters Patent. Patented June 22, 1915.

Application filed July 27, 1914. Serial No. 853,298.

To all whom it may concern:

Be it known that I, WESLEY G. WINANS, a citizen of the United States of America, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Ladder-Jacks, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to ladder jacks, and has among the objects thereof to provide a simple and efficient structure, to provide a ladder jack that may be easily and quickly adjusted upon the ladder and which will be firmly held in its adjusted position, to provide a device in which—irrespective of the angularity of the ladder—the supporting arm may be horizontally arranged, to provide a structure that will not become accidentally disengaged from the ladder, and to provide a jack in which the load carried by the same will be transmitted to the standards of the ladder; further, to provide a ladder jack which is collapsible and which may be compactly folded; and other objects of the invention will more fully hereinafter appear.

The invention resides in the peculiar construction, arrangement and combination of parts, as hereinafter set forth and as particularly pointed out in the claims.

In the drawings,—Figure 1 is a perspective view of a device embodying the invention; Fig. 2 is a similar view showing the jack collapsed; Figs. 3 and 4 illustrate the manner of applying the jack to the ladder; Fig. 5 shows a position of the jack for adjusting its position upon the ladder.

Referring to the one embodiment of the invention illustrated in the drawing, A illustrates the jack, composed of a section B having spaced bearings C and D for engaging a standard of the ladder, a laterally-extending arm E, and a brace F. The bearings C D are composed of U-shaped strips secured to the section B to face in an opposite direction, so that when the base of the U-shaped member C engages the outer edge G of the ladder standard H the base of the member D will engage the under edge I of said standard. Each of the members C D is provided with a downwardly-extending lug or projection J, forming a retainer for engaging the ladder rung to prevent disengagement of the U-shaped members during adjustment of the arm E. However, no appreciable stress is transmitted to the rung of the ladder, but the load is transmitted to the edges of the standard through the bearings C D, as will be readily understood.

The bearing C is secured to the section B by bolts K L or other suitable securing means, and the member D is similarly attached to the section B by bolts M N, though the manner of attaching the members C D may be varied as desired, or these members formed integral with the section B. In order that the arm E may be horizontally arranged in various positions of angularity of the ladder, the inner end of the arm E is adjustably attached to the section B, as by being pivotally connected thereto through the medium of the bolt L. The brace F in the structure shown is pivotally connected to the member B through the medium of the bolt N. The outer end of the brace F carries a bolt O that is arranged within a longitudinal slot P in the arm E. Q is a thumb nut upon the bolt O, which may be tightened to clamp the outer end of the brace F to the arm E in its different positions of adjustment. Preferably, the slotted portion P is provided with a plurality of spaced teeth R, forming bearings for the bolt O.

Preferably, the brace F and arm E are formed of angle-shaped cross section, as shown,—the slotted portion P being formed in the downwardly-extending flange of the arm E, while the other flange of said arm terminates in an upwardly-extending lug S, forming a stop for the edge of the flange T or other support carried by the jack.

In use, assuming the jack is to be applied to the ladder to extend inwardly, as shown in Fig. 3, the bearings C D are engaged with the standard of the ladder preferably so that one of the projections J engages over a rung. The brace F is then adjusted to engage the arm E horizontally. The coöperating jack A′ is similarly arranged upon the second ladder B′, as shown in Fig. 3, and the plank or like support placed upon the arms E.

As will be noted, the jack is applied to the outer standard of the ladder, since by so arranging the jack it may be adjusted either up or down upon the standard, without

being removed therefrom, by merely turning the section B so that the ends of the U-shaped bearings will clear the rungs, as shown in Fig. 5.

If the jack is to be applied to the ladder to extend outwardly, it is arranged as shown in Fig. 4. When not in use, by removing the thumb nut Q from the bolt O and withdrawing the latter from the slotted portion P, the parts may be compactly folded as shown in Fig. 2. In this figure, it will be noted that the members E F B are substantially parallel with one another.

From the foregoing description, it will be apparent that my improved construction of ladder jack is one that may be easily and quickly applied to the ladder, may be readily adjusted to properly support the plank or the like in a horizontal position, and that while the structure is simple it has the requisite strength and rigidity.

What I claim as my invention is,—

1. A ladder jack, comprising a section having U-shaped bearings facing in opposite directions secured thereto adjacent opposite ends thereof, said bearings adapted to engage the ladder standards, an arm pivotally connected to said section adjacent one end of the latter, a brace pivotally connected to the section adjacent the opposite end, and an adjustable connection between the other end of said brace and said arm.

2. A ladder jack, comprising a section having oppositely facing bearings for engaging the standard of the ladder, and a laterally-extending arm carried by said section, said section being adjustable longitudinally of the standard while in engagement therewith.

3. A ladder jack, comprising a section having U-shaped bearings facing in opposite directions adjacent opposite ends thereof, the ends of said bearings terminating in outwardly-extending flanges, an arm pivotally connected to said section adjacent one end of the latter, a brace pivotally connected to the section adjacent the opposite end, and an adjustable connection between the other end of said brace and said arm.

4. A ladder jack, comprising a section having a bearing secured thereto adjacent one end, a second and oppositely facing bearing adjacent the opposite end of said section, said bearings being adapted to engage the same ladder standard, and a laterally-extending arm carried by said section, said jack being adapted to be attached to the ladder irrespective of the angularity thereof.

5. A ladder jack, comprising a section having bearings facing in opposite directions secured thereto, a normally laterally-extending arm formed of angle-shaped cross-section, a slotted portion provided with a plurality of teeth in the downwardly-extending flange of said arm, and a brace pivotally connected to said section and engaging said teeth.

6. A ladder jack, comprising a section having bearings, a laterally-extending arm of angle-shaped cross-section connected to said section, a brace having one end secured to said section and adjustably connected to said laterally-extending arm, and a portion of the horizontal flange of said laterally-extending arm bent up to form a lug on said arm.

7. A ladder jack, comprising a rigid section having oppositely facing bearings for engaging a standard of the ladder, a laterally-extending arm carried by said section, and a brace connected to said section and adjustably engaging said arm.

In testimony whereof I affix my signature in presence of two witnesses.

WESLEY G. WINANS.

Witnesses:
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JAMES P. BARRY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents Washington, D. C."