March 30, 1926. 1,578,529

C. E. KRAMER

LADDER JACK

Filed Oct. 4, 1921

Fig. 1.

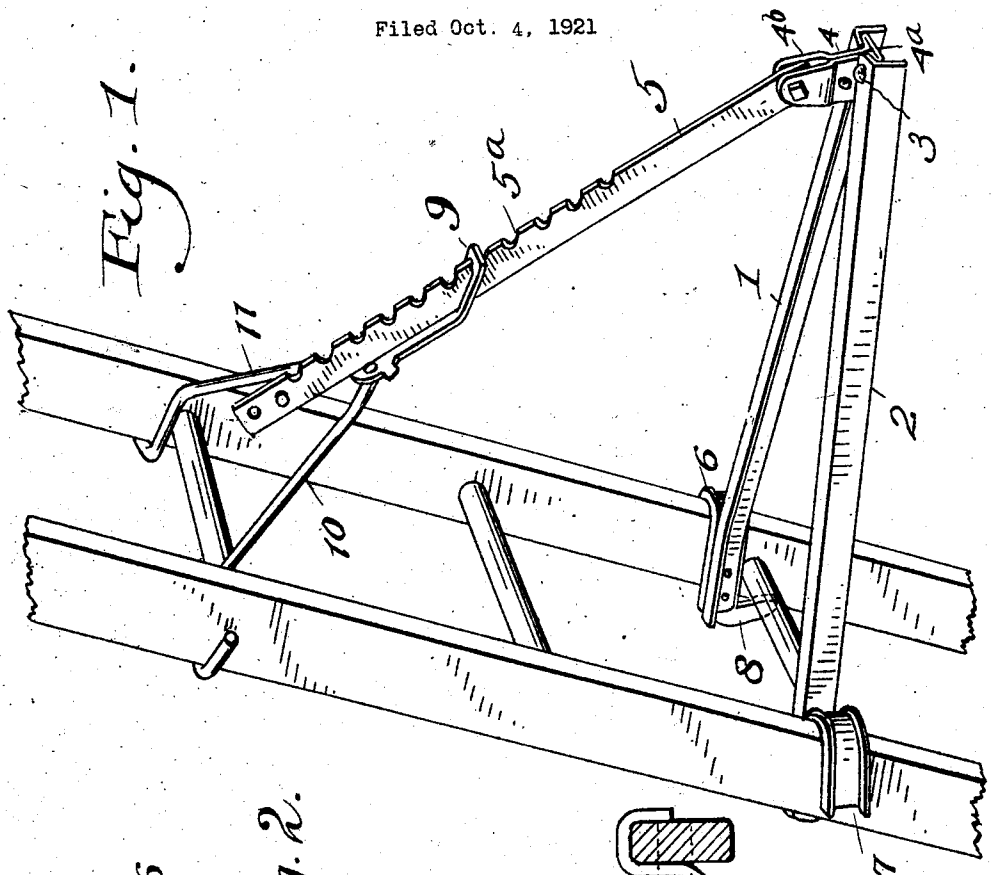


Fig. 2.

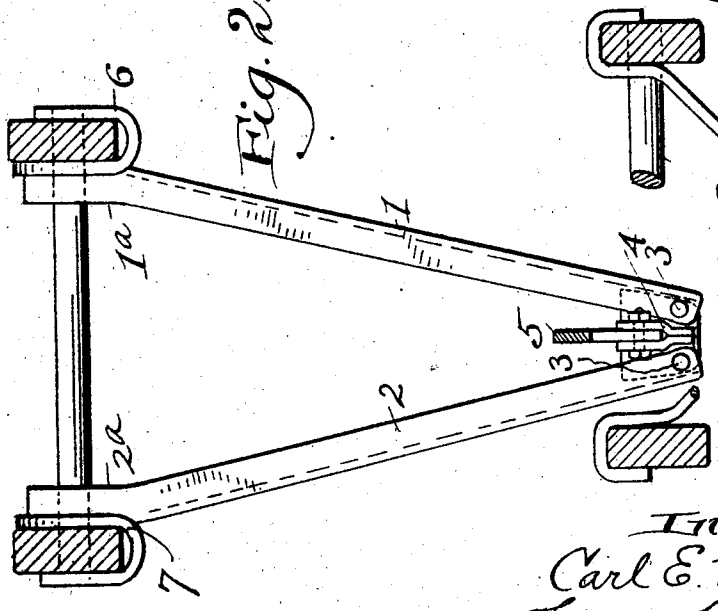
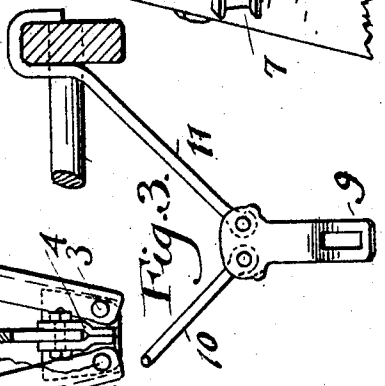


Fig. 3.



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UNITED STATES PATENT OFFICE.

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LADDER JACK.

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To all whom it may concern:

Be it known that I, CARL E. KRAMER, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and useful Improvement in Ladder Jacks, of which the following is a full, clear, and exact description.

The present invention relates to what is termed a ladder-jack and is intended to be used in connection with a ladder for the purpose of supporting one end of a plank or platform.

One object of the invention is to provide a ladder-jack in which the jack engages with and is secured to the side rails of a ladder rather than to the rungs. An additional object is to provide a ladder-jack in which the jack when attached to a ladder becomes substantially rigidly secured thereto. A further object is to provide a jack which has four points of attachment to the ladder in connection with which it is used so that if one side of the jack becomes disengaged it will still support the plank or platform which cooperates therewith.

Reference should be had to the accompanying drawings forming a part of this specification in which Fig. 1 is a perspective view of a ladder and a jack mounted thereon; Fig. 2 is a top plan view of the jack with portions omitted; Fig. 3 is a top plan view of the upper part of the jack.

Referring to the drawings, 1 and 2 indicate side members which at their forward ends are pivoted as indicated at 3 upon a post 4. This post may conveniently be made as a sheet metal member which is folded upon itself to form a T-base 4^a and has upwardly projecting ears which at their upper ends are spaced apart as indicated at 4^b to receive between them a pivoted bar 5. The ends of the side members 1 and 2 are pivoted on the side flanges of the base 4^a.

At the opposite ends of the side members 1 and 2 there are secured U-shaped yokes 6 and 7 which are adapted to pass around the opposite side rails of a ladder. In order that the yokes 6 and 7 may properly engage with the side rails of the ladder, the members 1 and 2 are bent at a slight angle as indicated at 1^a and 2^a and to this bent portion one side of each U-shaped yoke is attached.

In order to prevent the side members 1 and 2 from moving away from the ladder when once mounted thereon, at least one of the side members is provided with a downwardly extending hook 8 which will extend behind one of the rungs of the ladder and thus position and retain the side members against moving away from the ladder.

The bar 5 extends through a slot which is formed in a member 9, which member has pivotally secured to it, two diverging members 10 and 11. These members 10 and 11 at their outer ends are provided with hook-shaped portions which are adapted to extend around the side rails of a ladder and to rest upon one of the rungs of the ladder. The bar 5 is provided with a plurality of notches 5^a and the member 9 engages in these slots and so holds or supports the pivoted ends of the side members 1 and 2.

These ladder jacks are in practice used in pairs, each jack being mounted upon one of a pair of ladders which are spaced apart. Between the jacks there extends a platform or plank. The side members 1 and 2 are adapted to receive and support one end of such a platform or plank.

When the jack is used as above described the load on the platform or plank and the bending moments incident thereto are transmitted in large part directly to the side rails of the ladder, which portions of the ladder are the strongest portions and will withstand greater stresses and strains than the rung of the ladder could possible stand.

The adjustability of the strap 5 with respect to the member 9 permits the jack to be adjusted with respect to the ladder so as to have the side members 1 and 2 in a substantially horizontal plane and thus provide for different angular positions of the ladder with respect to the wall or smaller object against which the upper end of the ladder is placed.

Due to the pivoted construction the jack may be completely folded so that when not in use it will occupy but a limited amount of space.

It will be apparent that there can be substantially no side sway to the jack because when the side members 1 and 2 are caused to engage with the side rails of the ladder and the hooks 8 pass over the adjacent round, the side members 1 and 2 and the ladder form in effect a triangle and a stiff resisting structure.

Additionally the U-shaped members 6 and 7 engage with the side rails very snugly and therefore turning of the members 6 and 7 on the side rails of the ladder is prevented.

Having described my invention, I claim:

1. A ladder-jack having a pair of side members pivotally connected at one end which at the opposite free ends are provided with U-shaped engaging members adapted to engage the side rails of a ladder, and also with retaining members adapted to engage a rung of a ladder, a bar which is pivotally secured at the opposite ends of said side members, a hook member which is adapted to engage with the ladder, and co-operating means carried by the hook and said bar for adjusting the position of the hook with respect to the bar.

2. A ladder-jack comprising a pair of side members pivotally connected at their outer ends and having their inner free ends movable toward and from each other, said members being provided at their free ends with U-shaped ladder rail engaging members and hook members adapted to engage with portions of the ladder which are oppositely disposed with respect to the portions of the rails engaged by the bottoms of the U-shaped members, a bar pivotally secured to the connected ends of the said side members, hook members pivotally connected and adapted to engage with side rails of a ladder and means for adjustably connecting said hooks to said bar.

3. A ladder-jack having a pair of side members, a support to which the side members are pivoted at one of their ends, ladder rail engaging members at the opposite ends of the side members, a bar pivotally secured to said support, said bar being provided with notches, a retainer member having a slot through which said bar extends and having a portion adapted to engage with a selected notch, pivoted hook members carried by said retainer member, said hook members being adapted to engage with the side rails of a ladder.

4. A ladder-jack having a pair of side members, a support to which the side members are pivoted at one of their ends, U-shaped ladder rail engaging members which are secured to the side members at the ends opposite to that at which they are pivoted, a bar pivotally mounted upon said support and provided with a plurality of notches, a retaining member adapted to cooperate with a selected notch in said bar, hook members pivotally carried by the retaining member, said hook members being adapted to engage with the side rails of a ladder.

In testimony whereof I hereunto affix my signature.

CARL E. KRAMER.