D. F. McHALE.

LADDER JACK.

APPLICATION FILED SEPT. 8, 1913.

1,104,996.

Patented July 28, 1914.

2 SHEETS—SHEET 1.

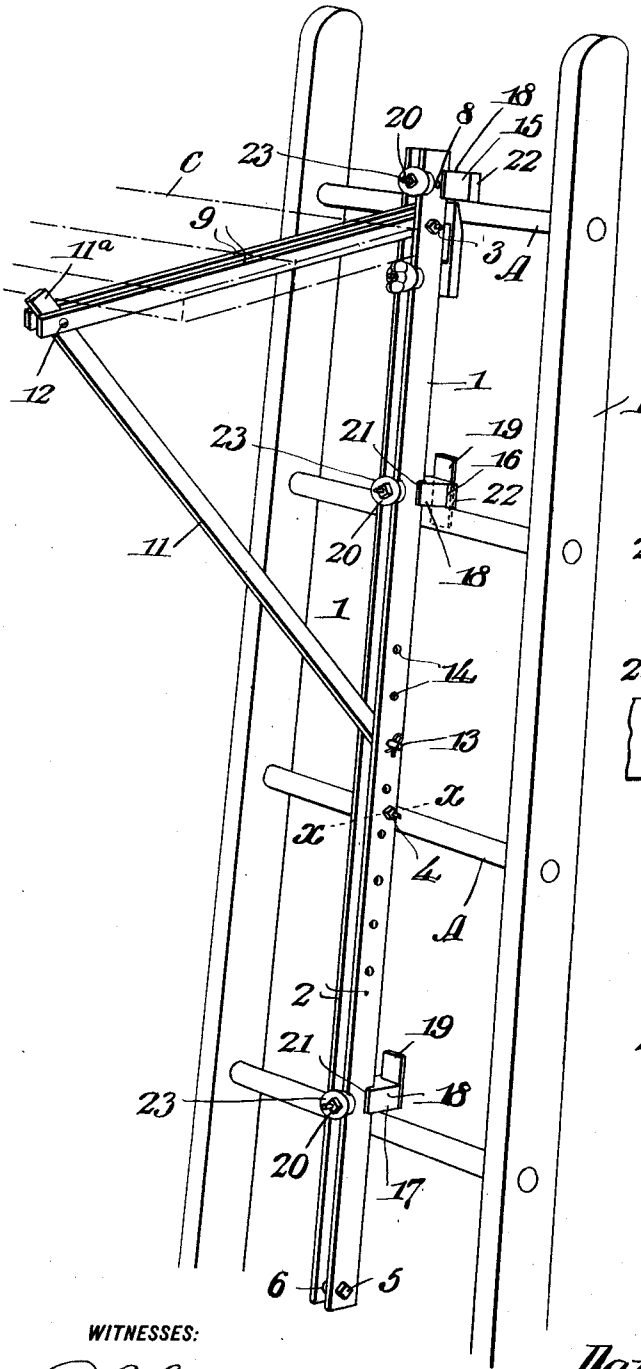


Fig. 1.

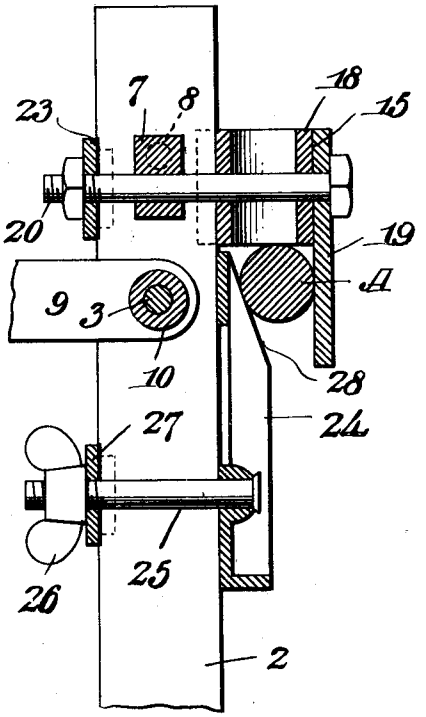


Fig. 3.

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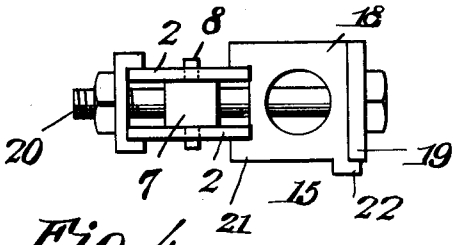


Fig. 4.

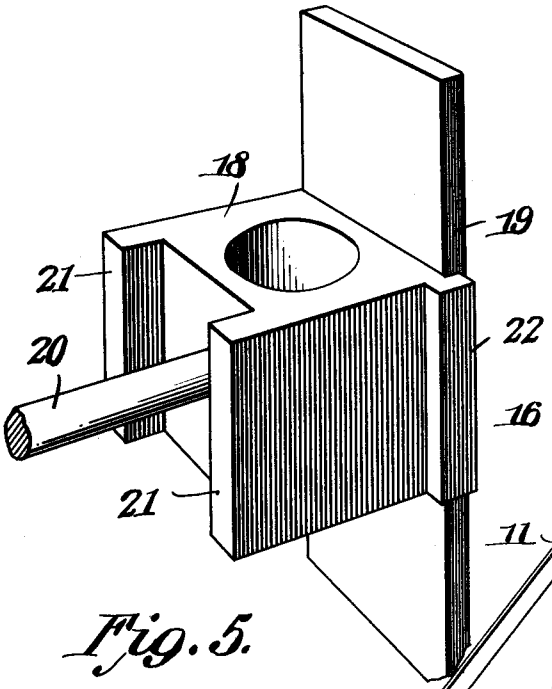


Fig. 5.

Fig. 6.

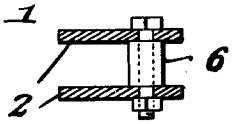


Fig. 2.

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LADDER-JACK.

1,104,996. Specification of Letters Patent. Patented July 28, 1914.

Application filed September 8, 1913. Serial No. 788,598.

To all whom it may concern:

Be it known that I, DAVID F. McHALE, a citizen of the United States, residing at Dunmore, county of Lackawanna, and State of Pennsylvania, have invented certain new and useful Improvements in Ladder-Jacks, of which the following is a specification.

My invention relates to ladder jacks, that is to brackets adapted to be secured to ladders for the purpose of supporting staging for the use of painters or other artisans.

The primary object of my invention is to provide a device of the class mentioned which will hold the staging securely under all conditions.

A further object of my invention is to provide a device of the class mentioned which may be readily adjusted to fit the ladder, it being understood that ladders vary in regard to the distances between the rungs.

A further object of my invention is to provide a ladder jack which may be adjusted for use with any ladder and which, after adjustment, may be continuously used with the ladder without further adjustment.

A further object of my invention is to provide a device of the character mentioned equipped with means whereby the device may be readily and securely locked or clamped to the ladder.

A further object of my invention is to provide an adjustable ladder jack as mentioned which, when desired, may be readily applied to the ladder either in upright or inverted position.

A further object of my invention is to provide a jack as mentioned in which the staging support may be adjusted to hold the staging in horizontal position irrespective of the angle of inclination of the ladder.

Other objects will appear hereinafter.

With these objects in view my invention consists generally in an elongated body portion of sufficient length to extend over the distance between a plurality of ladder rungs, means for attaching said body portion securely to a plurality of rungs, an arm pivotally connected to the body portion and adapted to support the staging, a brace connected to said arm and adjustably connected to the bracket.

My invention further consists in a device as mentioned and further characterized by having the end of the brace which is attached to the arm elongated to prevent slipping of the staging on the arm.

My invention further consists in a ladder jack comprising the elongated body portion and adjustable staging support, rung engaging devices adjustably mounted on the body portion and an adjustable device adapted to coöperate with one of the rung engaging devices for clamping the jack to one of the rungs.

My invention further consists in various details of construction and arrangements of parts, all of which will be fully described hereinafter and particularly pointed out in the claims.

My invention will be more readily understood by reference to the accompanying drawings forming a part of this specification and in which,

Figure 1 is a perspective view illustrating a ladder jack embodying my invention arranged in position upon a ladder to support the staging, Fig. 2 is a similar view illustrating the device secured to a ladder in inverted position, Fig. 3 is a detailed vertical section through the end of the device to which the staging supporting arm is connected, Fig. 4 is a detail plan view of the same, Fig. 5 is a perspective view of one of the adjustable rung engaging devices, Fig. 6 is a detail transverse section on substantially the line x—x of Fig. 1.

Referring now to the drawings, 1 indicates divided portion of the device which comprises two parallel bars 2—2 of sufficient length to extend over a plurality of rungs A of a ladder B. The bars 2—2 are secured together by a plurality of bolts 3, 4, and 5, and sleeves 6 are arranged upon the bolts 4 and 5 for spacing said bars apart. The normal upper ends of the bars are spaced apart by a block 7 having lateral bosses 8 which project through apertures in the bars adjacent the ends. 9 indicates the staging supporting arm which consists of a pair of parallel guards pivotally mounted at one end upon the bolt 3. A washer 10 is interposed between the inner ends of said bars to space the same apart, and it is to be understood that the width of the block 7 is slightly greater than the combined thickness of the bars 9 and washer 10 so as to permit the said arm to be freely adjusted. A brace bar 11 is pivotally connected at 12 between the outer ends of the bars 9 and the opposite end of the bar 11 is perforated to receive a pin 13. In order to adjustably secure the brace bar 11 to the body portion 1, the bars 2 are pro-

vided with a series of readjusting apertures 14, adapted to receive the pin 13. The adjustment of the brace 11 and arm 9 through the medium of the pin 13 and apertures 14 to vary the angle of the arm 9 with relation to the body is obvious. By this arrangement the arm 9 may be arranged in horizontal position irrespective of the angle of inclination of the ladder. It will be noted that the outer end of the bar 11 is elongated as at 11ª to project above the upper edge of the arm 9, thus serving as a stop to limit the outward movement of the staging C to prevent the same from slipping from the arm 9.

To attach the device to a ladder I provide a plurality of rung engaging devices 15, 16 and 17, each of which comprises a block 18 and a plate or tongue 19, both of which are secured in position by a bolt 20. I prefer that the end device 15 should be rigid with relation to the body portion and to this end the respective bolt 20 extends through an aperture in the block 7, as shown clearly in Fig. 3. The blocks 18 are provided with a pair of parallel flanges 21 which engage the outer faces of the bars 2 to prevent the blocks from turning on the body, and are further equipped with a vertically disposed flange 22 on one of its outer edges to engage the lateral edge of the plate 19 to prevent the same from turning with relation to the block. The plates 19 are adapted to engage over the rungs of the ladder as indicated in the several figures of the drawing. It will be noted that the tongues 19 on the devices 16 extend both above and below the block forming a double hook. The devices 16 and 17 are adjustably secured to the body portion 1 by their respective bolts 20 so that the same may be adjusted to engage the rungs of the ladder. By this construction and arrangement the weight of the staging is supported by three rungs of the ladder and furthermore after the device is adjusted for use with a particular ladder it may be subsequently and continually used with the same without readjustment, and that, either in the position shown in Fig. 1 or inverted as shown in Fig. 2. 23 indicates washers arranged upon the opposite side of the bars from the blocks 18 to receive the ends of the bolts and against which the nuts thereof are adapted to impinge.

To securely lock the device to a ladder when desired, I provide a sliding member 24 adjustably secured to the bars 2 by a bolt 25 equipped with a thumb nut 26 which impinges against a washer 27 similar to the washers 23. The member 24 is provided with a tapered end 28 forming a wedge between which and the tongue 19 the rung A is attached to be clamped as indicated in Fig. 3 of the drawings. When the device is inverted the member 24 may be turned on the bolt 25 and adjusted to coöperate with the plate 19 of the intermediate rung engaging device 16, as shown clearly in Fig. 2.

I claim:

1. In a ladder jack an elongated body, a supporting arm thereon, a pair of blocks secured to said body and provided with inwardly extending tongues, an intermediate block on said body provided with oppositely extending tongues, one of the first said blocks and said intermediate block being slidably mounted on said body, and means for securing said slidably mounted blocks in position.

2. In a ladder jack an elongated body, a block on said body, a tongue on said block substantially parallel with said body and spaced therefrom a sufficient distance to receive a ladder rung between them, a slidably mounted wedge-shaped member adapted to coöperate with said block and tongue to clamp upon a rung, and a supporting arm on said body.

3. In a device of the class described, an elongated body portion comprising a pair of parallel spaced bars, an arm pivotally mounted between said bars adjacent one end thereof, a spacing block arranged between said bars adjacent the ends, means preventing movement of said block with relation to said bars, a rung engaging device, and a bolt extending through said device and said spacing block, substantially as described.

4. In a device of the class described, an elongated body, a supporting arm thereon, a rung engaging block slidably mounted thereon, said block being provided with a lateral flange engaging the side of said body, a plate on said block and projecting beyond the end face thereof, there being a lateral flange on said block engaging the edge of said plate and a bolt securing said plate to said block and said block to said body, substantially as described.

5. In a device of the class described, an elongated body portion comprising spaced parallel bars, a supporting arm thereon, rung engaging blocks slidably mounted on said body, said blocks being provided with lateral flanges engaging said body and a bolt extending through each of said blocks and between the spaced parallel bars for clamping said blocks in adjusted position.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

DAVID F. McHALE.

Witnesses:

PATRICK M. JORDAN,

JAMES T. HOLLERAN.

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