Dec. 18, 1951 T. C. TIMS 2,578,862

LADDER JACK

Filed Aug. 8, 1947

Fig. 1.

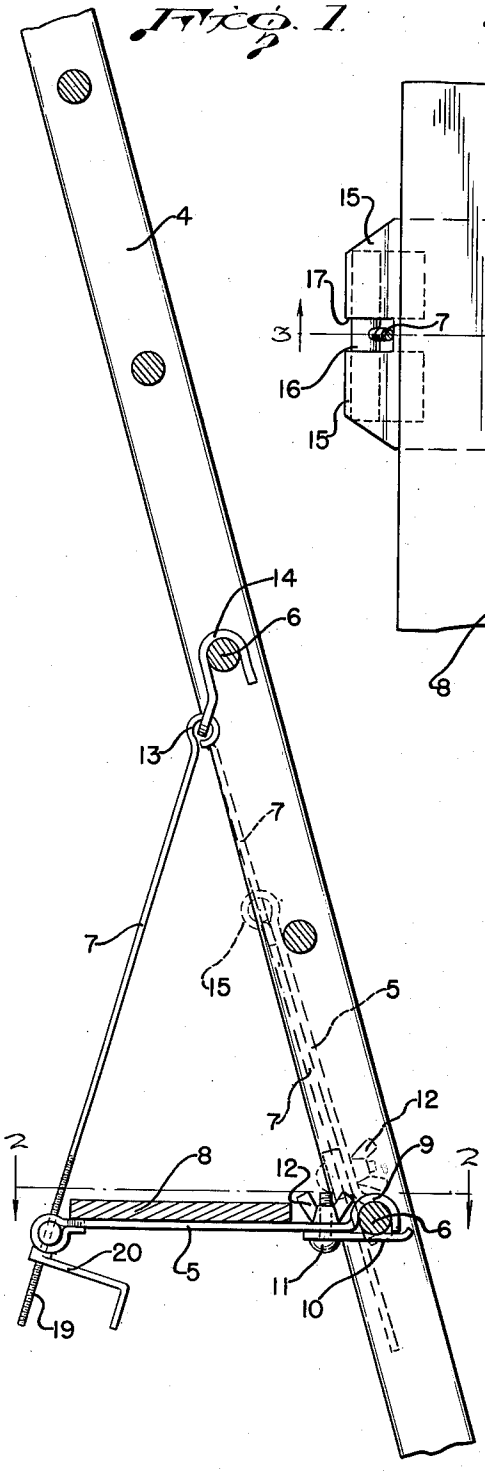



Fig. 2.

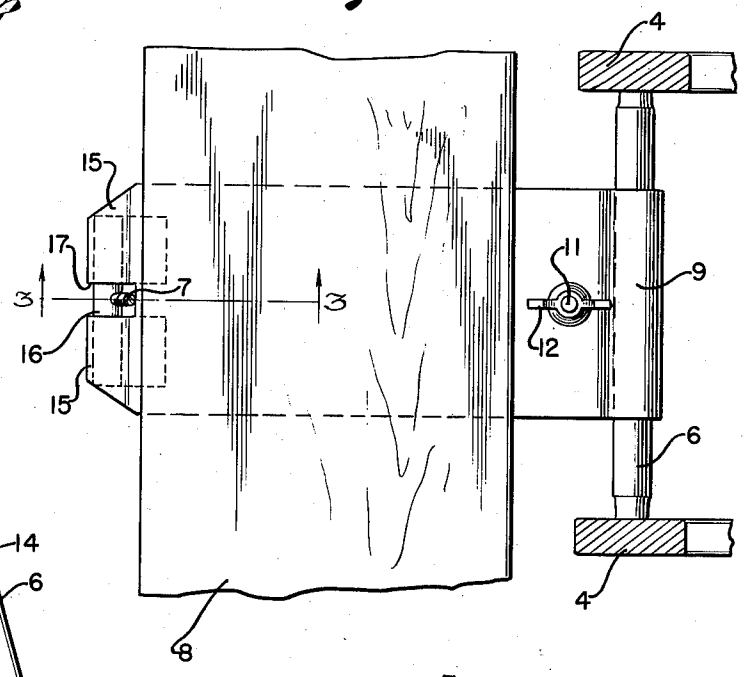
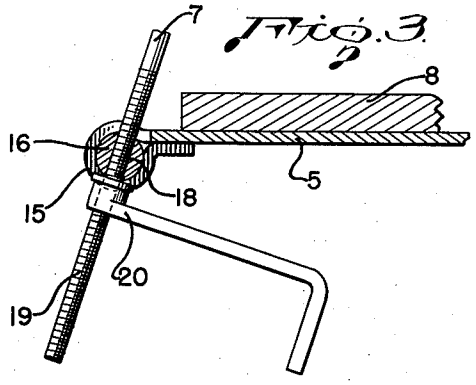



Fig. 3.



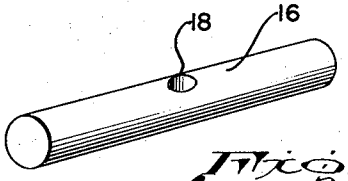




Fig. 4.

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## LADDER JACK

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2 Claims. (Cl. 248—238)

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This invention relates to ladder jacks, that is, scaffold supports of that class which may be attached to ladder rungs and extended therefrom in the form of a bracket to support one end of a plank or board as a footing for workmen at a desired height above the ground, and sometimes referred to as scaffold jacks.

One of the main drawbacks to scaffold hangers or jacks of the type just mentioned, and now known and used, is that when storing the ladder, the jack must be wholly removed therefrom, otherwise it projects from the ladder and interferes with either placing the ladder in stored position against the wall or the like, or in placing several ladders close to one another as is desired for space conservation incident to storing the ladders.

In accordance with this invention, the ladder or scaffold jack may be readily folded in relation to the ladder without disturbing its position thereon. When so folded, the jack lies substantially within the confines of the ladder frame or side rails and hence is without the objections noted in the preceding paragraph as characterizing presently known or used jacks.

Briefly, the jack of this invention comprises a work support equipped so as to be readily applied to a rung of a ladder and to swing relatively to the rung, and a tie rod engaged with a second rung of the ladder and with the work support to retain the latter at a desired position of adjustment, the entire arrangement being such as to permit quick adjustment and the folding of the device to an out-of-the-way position without necessitating the removal of the jack from the ladder.

The jack or scaffold hanger embodying the features of this invention has relatively few parts and lends itself to mass production at low cost.

The invention, together with its objects and advantages will be best understood by reading the following detailed description with reference to the accompanying drawing in which is illustrated what is presently considered a preferred embodiment of the invention, and wherein;

Figure 1 is a side elevational view of a ladder jack embodying the features of the present invention, and illustrating the application thereof to a ladder, of which only a portion is shown, and the rungs of which are shown in cross section;

Figure 2 is an enlarged horizontal sectional view taken substantially on the line 2—2 of Figure 1 and looking in the direction of the arrows;

Figure 3 is an enlarged fragmentary detailed sectional view taken substantially on the line 3—3 of Figure 2; and

Figure 4 is a perspective view of a cross member forming part of the invention.

Referring in detail to the drawings, it will be seen that the reference numerals 4—4 indicate

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the side rails, and the reference numeral 6 indicates the rungs of a conventional ladder. This ladder may be of any suitable type including that type of ladder known as a folding ladder.

My invention is adapted to be mounted on the ladder for swinging movement into either the work position shown in the drawings in full lines or to the folded or storage position shown in broken lines in Figure 1. The jack comprises generally a work support 5 adapted for swinging movement about a selected rung 6 of the ladder and a tie rod 7 adapted to be suspended from a second rung 6 of the ladder located above the first mentioned rung 6 and equipped to co-act, in a manner hereinafter described, with the free end of the work support 5 for securing the latter at the desired position of adjustment when the work support 5 is in the extended position shown in Figures 1 and 2 for supporting a plank or board 8 as a footing for workmen at a desired height above the ground.

The work support 5 of the ladder jack is preferably formed from a single blank of metal, cut, shaped and dimensioned to provide a substantially broad, flat, elongated body that at one end is offset and shaped to provide a transversely extending clamping jaw 9 that is substantially channel-shape in cross section and adapted to engage over the rung 6 of the ladder in the manner shown to advantage in Figure 1. Complementing the jaw 9 is a jaw member 10 that is adapted to engage the rung 6 at the underside of the latter. Jaw 6 is detachably secured in operative position with respect to the jaw 9 on the work support 5 through the medium of a bolt 11 that is preferably passed upwardly through apertures in the jaw 10 and work support 5, and a wing nut 12 threadedly engaged with the bolt 11.

As will be appreciated, through the medium of the clamp composed of the jaws 9 and 10, work support 5 may be readily attached to the selected rung 6 to swing vertically on the rung as an axis.

The tie rod 7 is provided at one end with an eye 13 with which is engaged the eye-equipped end of a suspension hook 14. Hook 14 is adapted to engage over a second rung 6 above the work support 5, as shown to advantage in Figure 1, for suspending the tie rod 7 from the ladder.

At its free end, the work support 5 is slotted as at 17 and portions of the material forming the work support 5 at opposite sides of the slot, are rolled into eyes or bearing sleeves 15 to accommodate the end portions of a round or rod 16. Rod 16 is free to rotate relative to the work support 5 as is believed to be apparent. This rod 16 has the intermediate portion thereof exposed through the slot 17 and the exposed portion thereof is provided with a through opening 18

through which the tie rod 7 is trained, as shown.

The free end of the tie rod 7 is threaded as at 19 to accommodate a hand nut 20. Nut 20 acts as a stop against which the rod 16 abuts and in this manner co-acts with the tie rod 7 for supporting the work support 5 in extended position on the ladder.

When the ladder is set up for use, the parts of the jack are substantially in the position disclosed in the drawings to accommodate and support one end of the plank or board 8. In this connection, it will, of course, be understood that two or more spaced ladders supported in upright position, and each equipped with a ladder jack embodying the features of the present invention, will be employed for supporting the plank 8 as a footing for the workmen. Also, by threading the nuts 20 upwardly on the tie rods 7, the work supports 5 may be adjusted as required to compensate for the slope of either or both of the ladders in order to hold the scaffold plank in the desired horizontal position.

When the ladder jack is not to be used, as for example when the ladder in connection with which it is employed is to be temporarily stored, the round or rod 16 may be readily moved upwardly on the tie rod 7 permitting the work support 5 and rod 7 to swing relative to one another and to the ladder from the full line position shown in Figure 1, to a folded position substantially within the confines of the ladder rails 5, and shown by broken lines in Figure 1. With the parts in this last named position, it will be apparent that the ladder may be readily placed substantially flatly against a wall, or several ladders placed substantially flatly against one another, for storage purposes. Also, in this connection, if the ladder be of the folding type, with the ladder jack in the folded dotted line position of Figure 1, the usual supporting structure of such type of ladder may be then folded against the rails of the ladder in substantially the same manner as if the ladder was not equipped with the jack.

While I have herein described a specific form of this invention, it is nevertheless to be understood that various changes may be made therein, without departing from the scope of the claims hereto appended.



What I claim is:

1. In a combination with a ladder, a scaffold jack comprising a work support equipped at one end for pivotal attachment thereof to a ladder rung, a tie rod provided at one end with means to engage a rung of the ladder above the work support, said work support having apertured means rotatably mounted on the free end thereof through which the free end of the tie rod is trained, and a hand nut threadedly engaged with the last mentioned end of the tie rod.

2. In combination with a ladder, a scaffold jack comprising a relatively flat work support mounted for swinging movement about a rung of the ladder, a tie rod pendently supported by the ladder above the work support, and inter-engaging means rotatably mounted on the work support and threaded on the tie rod respectively whereby the work support is supported in extended position relative to the ladder at a desired position of adjustment and the work support and the rod disposed in folded retracted position within the confines of the ladder frame without disengaging the jack from the ladder, at the option of the user.

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