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SCAFFOLD ERECTING LADDER JACK

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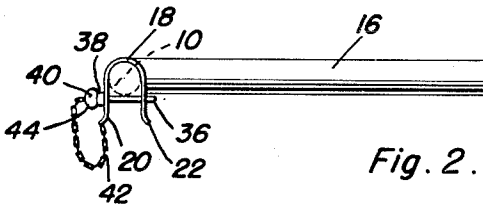


Fig. 2.

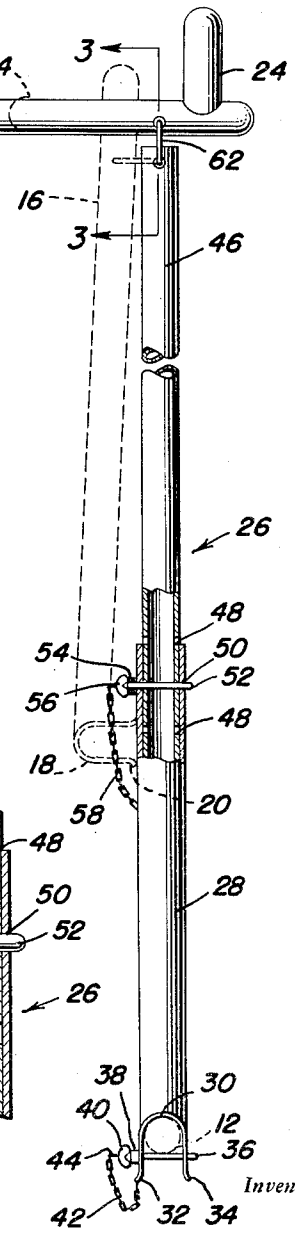


Fig. 1.

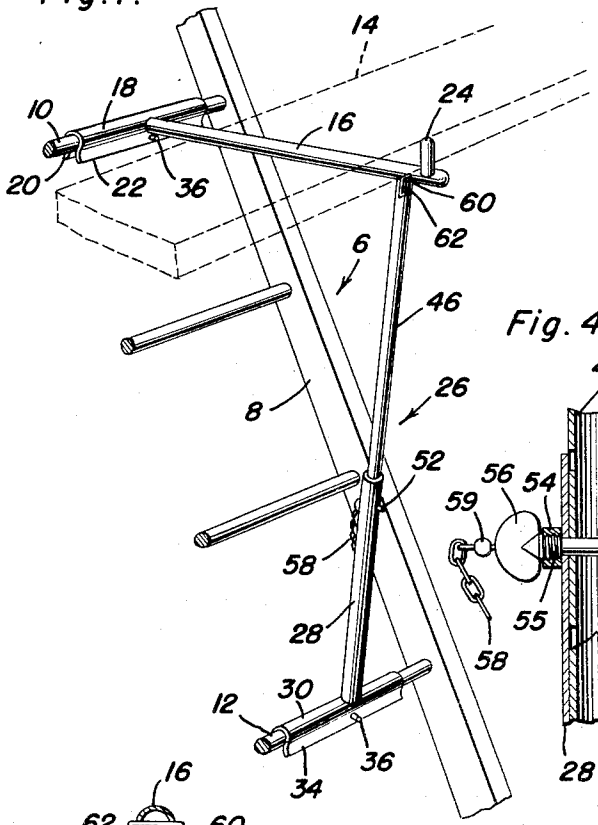


Fig. 4.

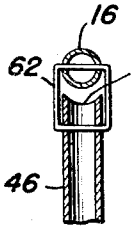


Fig. 3.

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SCAFFOLD ERECTING LADDER JACK

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2 Claims. (Cl. 248—238)

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The present invention relates to ladder attachments some of which are classified as board supporting attachments, plank fixtures, jacks, and so on. The present invention is to be known as a ladder jack, so its purpose is the same as other similar attachments in that it provides a satisfactory device for supporting an end of a plank and temporarily erecting a scaffold for painting, roof work and other similar activities.

Briefly summarized, the improved jack has to do with a horizontally disposable plank supporting arm having adapter means at its ladder-rung attaching end, and an extensible and retractible prop hingedly connected at its upper end to the outer end of said arm and provided at its lower end with adapter means which is connectable with a second ladder-rung.

In carrying out a preferred embodiment of the invention, the arm is constructed from a single length of pipe and has an upstanding stop at one end to prevent displacement of the plank and has, at the other end, the stated adapter, the latter being preferably in the form of a sheet metal clip which is channel-shaped and adapted to substantially embrace the rung, there being bolt means on the flanges of the channel to securely maintain the clip in place.

It is also an object of the invention to construct the prop or brace from two lengths of pipe, the latter being telescopically connected together for extensible adjustment, the lower pipe having an adapter corresponding to that already mentioned, the upper end of the upper pipe being hingedly linked to the outer end of said arm.

Then, too, novelty is predicated upon the hinged or linked connection between the coacting pipes wherein the pipe forming a part of the prop has a notch in its upper end which provides a keeper seat and which serves to allow the coacting pipe or arm to lodge itself in the seat to provide for a more satisfactory and solid joint between said pipes.

Finally, it is an object of the invention to utilize insertable and removable bolts or pins which are chained to adjacent parts and each pin having a threaded portion which screws into a fixed nut so that, when once the pin is fitted in place, it is securely held against accidental displacement.

Other objects and advantages will become more readily apparent from the following description and the accompanying illustrative drawings.

In the accompanying sheet of drawings, wherein like numerals are employed to designate like parts throughout the views:

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Figure 1 is a fragmentary perspective view showing a portion of a ladder, showing a portion of a plank in dotted lines and showing the improved jack, how it is constructed and how it is applied.

Figure 2 is an enlarged view with the arm shown folded in dotted lines and with portions broken away and shown in section to bring out some of the details of the construction, the jack here being detached from the ladder.

Figure 3 is a section on the line 3—3 of Figure 2, looking in the direction of the arrows.

Figure 4 is another detailed view on a slightly enlarged scale to better illustrate the construction of the locking pins or bolts.

Referring now to Figure 1 of the drawings, the ladder is denoted by the numeral 6 and embodies a stile 8 supporting rungs 10 and 12, with other intervening rungs not referred to. The plank or board which is used at one end of the walk-board of the made up scaffold is denoted by the numeral 14.

The aforementioned arm is a length of pipe and is denoted by the numeral 16 and has a sheet metal clip 18 secured at right angles to one end. The clip is made to embrace the rung 10 and has outstanding apertured flanges 20 and 22. Integral with the outer end of the pipe or arm is a rigid upstanding stop lug 24 to hold the plank in place on said arm.

The extensible and retractible prop or brace-leg is denoted by the numeral 26 and comprises a lower pipe section 28 which is attached to a sheet metal adapter clip 30, the latter being channel shaped and made like clip 18. It has flanges 32 and 34 as shown in Figure 1. While on these adapters it is convenient to mention that the flange portions have aligned holes therein to accommodate the smooth shank portion 36 of the locking pin or bolt. One flange is provided with a fixed nut 38 and the pin is screw threaded at the headed end 40 and the threads are screwed into the nut so that, when the pin is applied, it bridges the channel and underlies the rung and secures the channel firmly in place. The pin is anchored by an attaching chain 42 suitably fastened in place. Preferably there is a swivel connection at 44 between the chain and head of the bolt to facilitate turning the bolt. Referring again to the prop, the upper pipe section is denoted by the numeral 46 and the lower end of this telescopes into pipe 28 and is provided with selectively usable holes 48 which register with bolt holes 50 in the pipe 28 and which serve to accommodate the pin or bolt 52. Here again, a fixed nut 54 serves to accommodate the screw

threaded portion 55 and headed end 56 of the bolt. Also the bolt is chained in place as at 58 and a suitable swivel connection 59 is provided between the chain and head of the bolt. The upper end of the extensible pipe 46 is provided with a semi-circular keeper notch 60 which serves to partially seat and retain the coacting cylindrical end portion of pipe 16, as brought out in Figure 1. The coacting pipes freely secured together by a link 62 which is elongated and provides a satisfactory flexible hinge and allows the pipe 16 to lodge itself in the keeper seat and, what is more important, allows the entire arm 16 to be folded down to an out of the way position as shown in dotted lines in Figure 2; that is, when the jack is not in use (Fig. 2). It will be noted that the prop when in use as shown for example in Figure 1 is directly beneath the arm 16. Also, the notch or seat 60 is at right angles to said arm. Furthermore, the link 62 is in effect a shackle and loosely interconnects the prop with the arm allowing the arm to seat in the notch as shown in Figure 1 or to be spaced from the notch as shown in full lines in Figure 2.

In practice, the adapter clips 18 and 30 are mounted on the rungs 13 and 12 (Fig. 1) and the bolts are applied to secure same in place. This positions the arm 16 in a substantially horizontal plane and locates the prop in a diagonal position underlying the arm. The outer end portion of arm 16 is seated and rests firmly in the keeper notch 60 as permitted by the free folding and hinging link means 62. The length of the prop is adjustable to suit the various circumstances and conditions met in the trade. The jack may be applied to extend outwardly from the inclined ladder 6 as shown in Figure 1; or, it may be applied to the other side of the ladder, that is, so that it will occupy a position between the ladder and the house or other structure against which the ladder is propped (not shown). In any event, by attaching two jacks to spaced ladders and placing a plank across the arms 16, a satisfactory scaffold may be set up to serve the needs of several workmen. Experience has shown that the device will adequately and satisfactorily meet the needs and requirements of all concerned. These jacks, obviously, are sturdy and reliable, easy to apply and remove and are quite inexpensive and will pay for themselves in little or no time.

It is realized, as before mentioned, that various brackets and fixtures are provided by others to serve the same end. Therefore, novelty in the present contribution is directed to the structural refinements and improvements which clearly identifies this jack as differentiated, structurally, functionally and otherwise from competitive types in this same field of endeavor.

A careful consideration of the foregoing description in conjunction with the invention as illustrated in the drawings will enable the reader to obtain a clear understanding and impression of the alleged features of merit and novelty sufficient to clarify the construction of the invention as hereinafter claimed.

Minor changes in shape, size, materials and rearrangement of parts may be resorted to in actual practice so long as no departure is made from the invention as clamied.

Having described the invention, what is claimed as new is as follows:

1. A ladder jack comprising a length of pipe constituting a plank supporting arm and having an integral angular stop lug at one end and rung adapter means at its opposite end, a pair of telescopically connected pipes constituting a prop, the latter having a hingedly attached link hingedly connected at its upper end with said one end of said arm, and rung adapter means on the remaining end of said prop, said last-named adapter means being a one-piece sheet material rung embracing clip channel-shaped in cross-section and provided with resilient snap-on flanges and an assembling and retaining bolt, the upper end of the upper pipe of said pair of pipes having a keeper notch at right angles to and for seating and retaining said one end of said arm.

2. A ladder jack of the class described comprising an arm having means at its inner end for releasable connection with a ladder rung and having an integral upstanding stop lug at its outer end providing for retention of a plank when seated on said arm, an extensible and retractible prop having means at its lower end for detachable connection with a ladder rung, the upper end of said prop being provided with a semi-circular notch located directly beneath and disposed at right angles to the adjacent end portion of said arm, the latter being cylindrical and adapted to partially seat in said notch, an elongated link hingedly connected at one end with the outer end of said arm and hingedly connected at its other end with the notched upper end of said prop, said link being of a length to permit the arm to rest firmly in the notch and also to be spaced from said notched upper end, whereby to permit the arm and prop to separate in spaced relation to allow the arm to fold alongside of the prop when the jack is not in use.

JAMES P. LOWREY.

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