

Feb. 28, 1950

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2,498,944

ANGLE BRACKET FOR LADDERS

Filed March 12, 1947

2 Sheets-Sheet 1

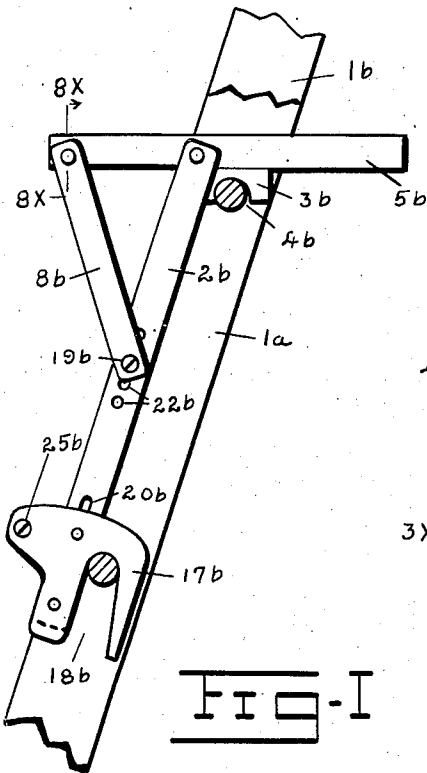


FIG-1

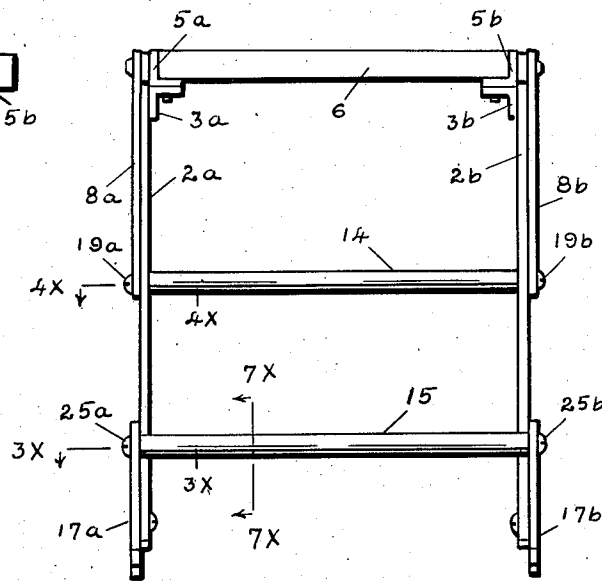


FIG-2

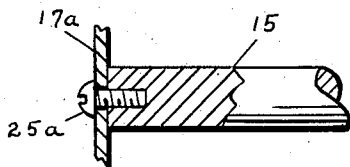


FIG-3

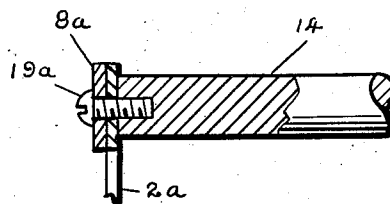


FIG-4

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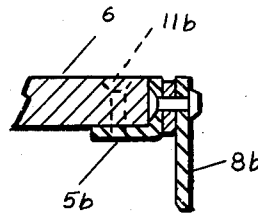
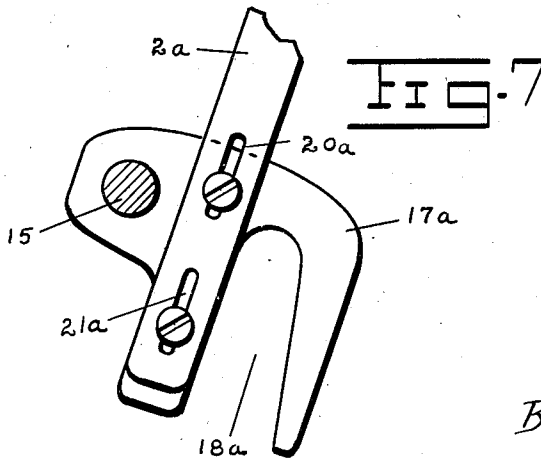
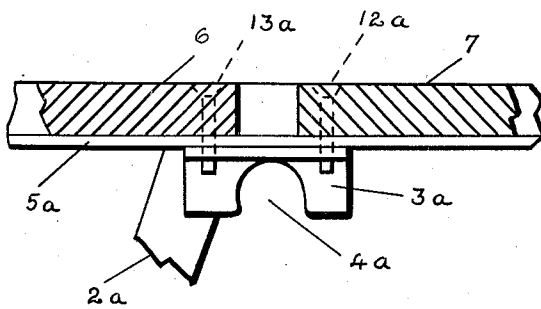
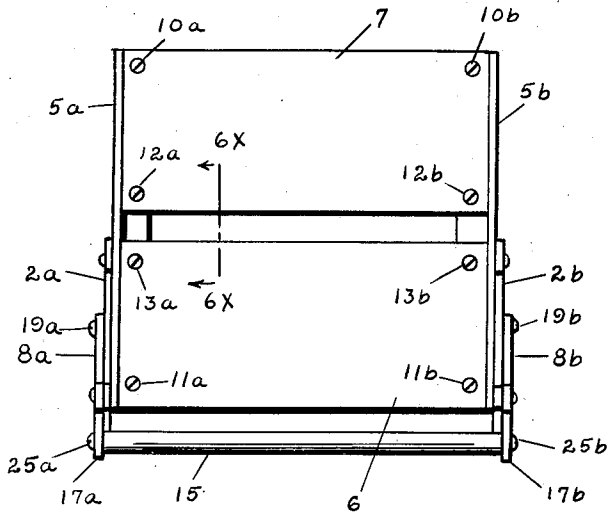
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ANGLE BRACKET FOR LADDERS

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2 Sheets-Sheet 2



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ANGLE BRACKET FOR LADDERS

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6 Claims. (Cl. 304—31.5)

1

Ladders are in common use and need not be described or illustrated for the purpose of disclosing this invention. Ladders are of various widths between the uprights and on different ladders the rungs are spaced apart various distances between centers, and ladders are not ordinarily provided with bracket platform supports.

The object of this invention is to provide a bracket platform support that is rigid in itself and can be adjusted to fit the distance between centers of rungs on a ladder and can be easily and positively attached to a ladder and easily removed therefrom, and which when in position on the ladder will provide a platform or deck that is substantially horizontal and on which the workman can stand or can lay his tools while working.

Another object of the invention is to provide a bracket platform that is easily adjusted to fit the rungs of the ladder and can be attached to and removed from the average ladder as a rigid structure.

Another object of the invention is to provide certain adjustments on the bracket support that will make it fit on the rungs of the ladder itself or hold the deck or platform in any desired position, more especially level.

Another object of the invention is to make a bracket support which when suitably placed on the ladder becomes an integral part thereof and will hold itself in place by gravity and is as strong as the ladder itself.

These and other objects of the invention will be illustrated in the drawings, described in the specification and pointed out in the claims at the end thereof.

In the drawings:

Figure 1 is a side elevation of the bracket support shown in position on the ladder with one side of the ladder broken away.

Figure 2 is a front elevation of the bracket support shown in Figure 1, the ladder being omitted.

Figure 3 is an enlarged section on the line 3x, 3x of Figure 2, showing the lower bracket plate in section and attached to the lower tie rod.

Figure 4 is an enlarged section through the upright member and the brace and the intermediate tie rod, the section being taken on the line 4x, 4x of Figure 2.

Figure 5 is a top plan view of the assembly looking down on it from above as shown more especially in Figure 2.

Figure 6 is a vertical section on the line 6x, 6x of Figure 5 through the deck and the metal parts attached to the under side thereof; namely, the

2

long angle bar and the short angle bracket plate, also showing the upright strap member partly broken away, the parts being shown on an enlarged scale.

Figure 7 shows an enlarged section on the line 7x, 7x of Figure 2, the parts; namely, the upright strap and the flat recessed plate being shown on an enlarged scale as compared with Figure 1, the upright member being broken away at the top.

Figure 8 is an enlarged section on the line 8x, 8x of Figure 1 showing the inclined brace, the deck, the long angle iron supporting the deck and the washer spacing the angle iron from the brace.

In the drawings, like reference numerals indicate like parts.

This invention consists of a platform in the form of a wooden deck supported from two rungs of a ladder by metal parts in the form of a bracket and it will be also understood that the metal parts on each side of the bracket platform are the same and are placed symmetrical with the corresponding parts on the other side and in the specification the parts on one side are indicated by the letter "a" and on the other side are indicated by the letter "b," the same numeral being used on both sides for the corresponding part.

In the drawings reference numeral 1a indicates the upright on the far side of a ladder and 1b represents the upright on the near side of the ladder. Both of these uprights are broken away as shown in Figure 1.

2a and 2b indicate the long uprights or straps of my bracket support, and 3a and 3b indicate the short angle brackets which are placed centrally under each side of the deck. Each of these short angles is cut away at 4a and 4b to form a socket or recess which can engage with the upper rung of the two rungs of the ladder with which my bracket support is engaged.

5a and 5b indicate the long angles which support the boards 6 and 7 that constitute the deck of the bracket platform. The long uprights 2a and 2b are pivotally connected to these long angles.

8a and 8b indicate the inclined braces of strap iron that connect the outer ends of the long angles 5a and 5b with the intermediate parts of the long upright straps or members 2a and 2b. The angles 5a and 5b are connected at the forward end to the corresponding braces 8a and 8b by rivets, which permit each brace to swing on its corresponding angle.

The boards 6 and 7 that form the platform or deck, space the long angles 5a and 5b apart. The boards are fastened to the angles 5a and 5b by

screws 10a and 10b, 11a and 11b, which screws pass through the boards and are threaded into the long angles near the ends of the angles. Corresponding screws 12a and 12b, 13a and 13b pass through the boards 6 and 7 and through the long angles 5a and 5b and into the short angles 3a and 3b into which they are threaded. These screws firmly hold the metal parts to the boards of the deck.

The upright strap members 2a and 2b are spaced apart intermediate of their ends by the tie rod 14.

The tie rod 14 is held in place by screws 19a and 19b at each end thereof, which screws pass idly through the lower ends of the braces or links 8a and 8b and through the upright strap members 2a and 2b and are threaded into the ends of the tie rod 14 itself.

At the bottom, the tie rod 15 engages with the plate 17a and 17b and spaces them and the long links 2a and 2b apart. The tie rod 15 is held in place by screws 25a and 25b that pass idly through plates 17a and 17b and are threaded into the ends of the tie rod.

It will also be understood that the plates 17a or 17b are fastened to the long straps 2a and 2b with a sliding engagement that will presently be explained. These plates 17a and 17b are cut away from the bottom up with elongated tapered slots 18a and 18b which slots on one side run substantially parallel to the upright members 2a and 2b and are wider at the bottom than they are at the top. This facilitates engagement between the plates 17a and 17b and the lower rung of the ladder to which the bracket is attached as shown in Figure 1. It also facilitates engagement with rungs of different thicknesses.

In this manner the side members of the structure are spaced apart and are firmly held together by the boards 6 and 7 and by the tie rods 14 and 15. The tie rod 15 together with the rung of the ladder adjacent thereto forms a step by which the workman can be supported in stepping therefrom to the deck of the angle bracket, it being offset from the rung of the ladder and the upright of the ladder for this purpose.

It will also be seen that the plates 17a and 17b are connected to the upright 2a and 2b by screws that pass through slots 20a and 21a on one side of the assembly and 20b and 21b on the other side of the assembly. These screws are threaded into the plates 17a and 17b. By loosening the screws, the plate 17a and 17b can be adjusted up or down on the uprights so that the angle plates 3a and 3b will snugly fit on the upper rung of the ladder with which they are supposed to be engaged. This makes it certain that the weight of the bracket support, if necessary, will rest evenly upon the two rungs of the ladder.

The upright members 2a and 2b are perforated midway with a series of holes 22a and 22b so that the lower end of the link or brace 8a or 8b can be fastened at any of several elevations by a screw that goes into any one of those holes which screws engage with the ends of tie rod 14. This makes it possible to level up the deck formed by the boards 6 and 7 regardless of the pitch of the ladder.

With the assembly thus formed it is engaged with two rungs of the ladder. The lower plates 17a and 17b are adjusted up or down to correspond with the distance between centers of the rungs of the ladder, and if the rungs are evenly spaced between centers as they should be on any one ladder, the bracket supports will fit at any

elevation on the ladder and will hold the deck in a position that is horizontal or nearly so.

With the angle bracket support assembled in this way, it will be found to be a rigid structure that can be placed on the ladder at any desired elevation and can be easily removed therefrom and can be easily changed to fit ladders having different distances between the centers of the rungs.

It will also be understood that while I have described the deck at the top being made of wood and the other members of this angle bracket support for the deck being made of metal, all the members can be made of wood, if so desired.

I claim:

1. In an angle bracket for a ladder, the combination of upright members running substantially parallel to the uprights of the ladder, long horizontally extending angle irons at the top of the upright members and pivotally connected thereto and having inwardly and upwardly extending flanges, short angle irons attached to the under side of said long angle irons midway between the ends thereof, said short angle irons having inwardly and downwardly extending flanges, downwardly opening recesses cut in the downwardly extending flanges of said short angle irons, said downwardly extending flanges with their recesses being adapted to engage with the rungs of a ladder, plates engaged with the upright members near the bottom thereof, each of said plates having a slot therein extending upwardly therein from the bottom and being open at the bottom, said slots also being adapted to engage the rungs of the ladder, means for spacing said upright members and said angle irons apart, a deck supported by the inwardly extending flanges of the long angle irons.

2. In an angle bracket for a ladder, the combination of upright members running substantially parallel to the uprights of the ladder, long horizontally extending angle irons at the top of the upright members and pivotally connected thereto and having inwardly and upwardly extending flanges, short angle irons attached to the under side of said long angle irons midway between the ends thereof, said short angle irons having inwardly and downwardly extending flanges, downwardly opening recesses cut in the downwardly extending flanges of said short angle irons, said downwardly extending flanges with their recesses being adapted to engage with the rungs of a ladder, plates engaged with the upright members near the bottom thereof, each of said plates having a slot therein extending upwardly therein from the bottom and being open at the bottom, said slots also being adapted to engage the rungs of the ladder, means for spacing said upright members and said angle irons apart, a deck supported by the inwardly extending flanges of the long angle irons, means by which the plates at the bottom of the long members can be adjusted up and down thereon.

3. In an angle bracket for a ladder, the combination of upright members running substantially parallel to the uprights of the ladder, long horizontally extending angle irons at the top of the upright members and pivotally connected thereto and having inwardly and upwardly extending flanges, short angle irons attached to the under side of said long angle irons midway between the ends thereof, said short angle irons having inwardly and downwardly extending flanges, downwardly opening recesses cut in the downwardly extending flanges of said short angle

5

irons, said downwardly extending flanges with their recesses being adapted to engage with the rungs of a ladder, plates engaged with the upright members near the bottom thereof, each of said plates having a slot therein extending upwardly therein from the bottom and being open at the bottom, said slots also being adapted to engage the rungs of the ladder, means for spacing said upright members and said angle irons apart, a deck supported by the inwardly extending flanges of the long angle irons, a link attached to the forward end of each of the long angle irons and extending downwardly to the corresponding upright member, a series of holes in each upright member to a selected one of which the end of the link may be connected for the purpose of changing the angle between the deck and the upright members.

4. In an angle bracket for a ladder, the combination of two upright members running substantially parallel to the uprights of the ladder, two long horizontally extending angle irons at the top of the upright members and pivotally connected thereto and having inwardly and upwardly extending flanges, a deck supported by said long angle irons and spacing them apart, short angle irons attached to the underside of the long angle irons midway between the ends thereof, said short angle irons having inwardly and downwardly extending flanges, and downwardly opening recesses cut in the downwardly extending flanges of said short angle irons, said downwardly extending flanges with their recesses being adapted to engage with the rungs of the ladder, plates engaged with the upright members near the bottom thereof, each of said plates having a slot therein open at the bottom, said slots being adapted to engage the rungs of the ladder, said slots being behind the upright members, means for spacing said upright members apart at the bottom thereof and at an intermediate point between the bottom and top thereof, the first named spacing means at the bottom being placed in front of the upright member.

5. In an angle bracket for a ladder, the combination of two upright members running substantially parallel to the uprights of the ladder, two long horizontally extending angle irons at

6

the top of the upright members and pivotally connected thereto and having inwardly and upwardly extending flanges, a deck supported by said long angle irons and spacing them apart, short angle irons attached to the underside of the long angle irons midway between the ends thereof, said short angle irons having inwardly and downwardly extending flanges, and downwardly opening recesses cut in the flanges of said short angle irons, said downwardly extending flanges with their recesses being adapted to engage with the rungs of the ladder, plates engaged with the upright members near the bottom thereof, each of said plates having a slot therein open at the bottom, said slots being adapted to engage the rungs of the ladder, said slots being behind the upright members, means for spacing said upright members apart at the bottom thereof and at an intermediate point between the bottom and top thereof, the first named spacing means at the bottom being placed in front of the upright member, braces attached to the intermediate spacing members and at the top to the forward ends of the long angle members.

6. An angle bracket for a ladder comprising two upright members running substantially parallel to the uprights of the ladder, means connected thereto at the top thereof for engaging with an upper rung of the ladder, an upright plate attached to each of the upright members at the bottom thereof, each of said plates having a downwardly opening slot on one side of said upright member adapted to engage with a lower rung of the ladder, a tie rod connecting each of said plates in front of said upright members, said tie rod forming a step with the adjacent rung of the ladder.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
328,999	Ballmann	Oct. 27, 1885
567,755	Stillman	Sept. 15, 1896
1,187,437	Lucas	June 13, 1916