



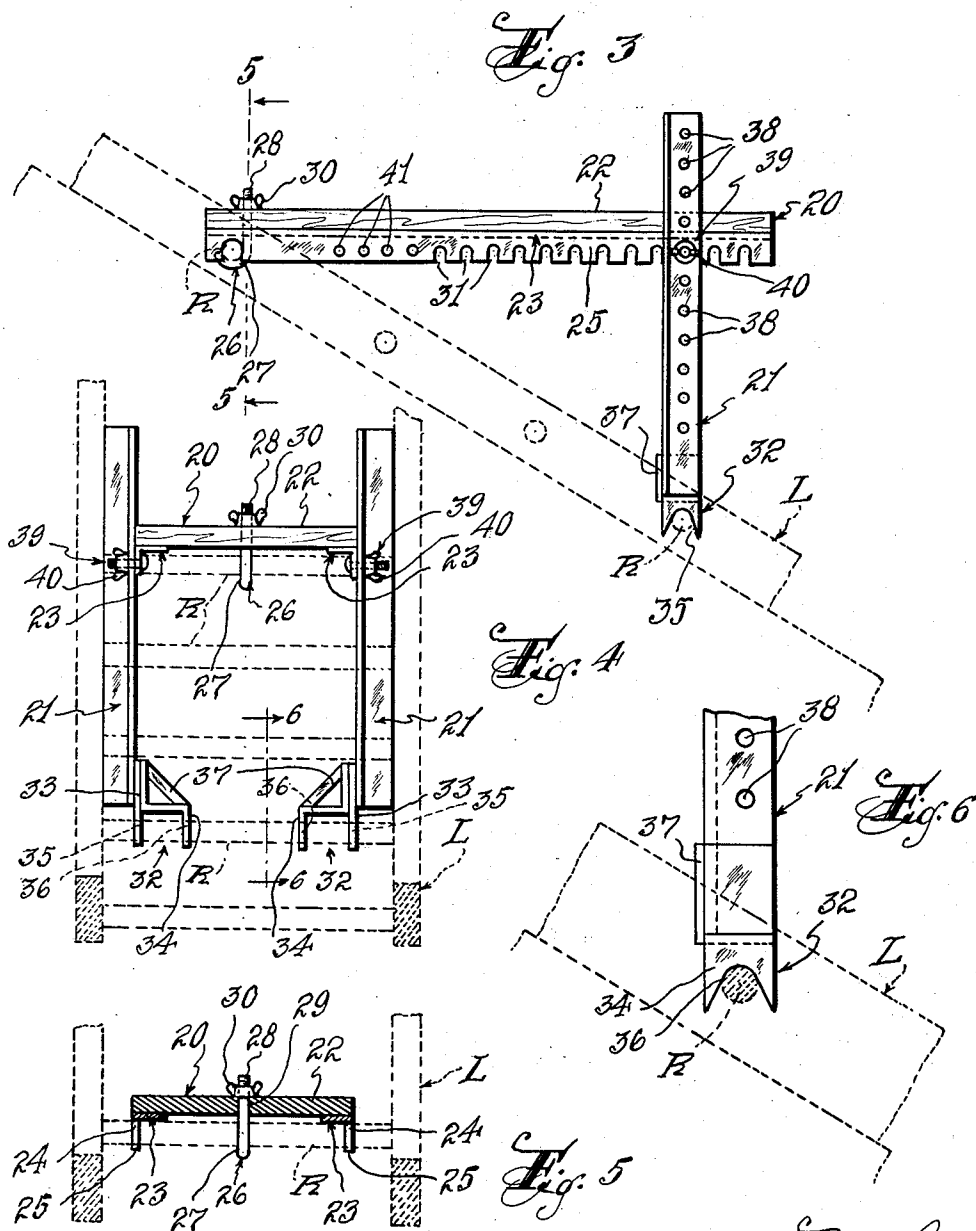
Aug. 19, 1958

W. M. WEBER  
LADDER PLATFORM

2,848,282

Filed Nov. 30, 1955

2 Sheets-Sheet 2



Inventor:  
William M. Weber

By: Dudley B. Howard  
Attorney.

1

2,848,282

## LADDER PLATFORM

William M. Weber, Berkeley Heights, N. J.

Application November 30, 1955, Serial No. 549,943

1 Claim. (Cl. 304—31.5)

The invention relates in general to supports for painters, carpenters, bricklayers, and other artisans, while working on elevated exterior areas of the walls or chimneys of buildings, and has particular reference to a portable bracket-type platform adapted to be mounted on a ladder of conventional construction that is laid upon the roof of a lower part of a building for use as a platform to support another ladder which rises therefrom to permit the workman to reach a so-called "blind spot" on a higher part of the building.

It may be explained that a "blind spot" is an elevated area of the building structure which cannot be reached by a ladder standing on the ground nor by a single ladder erected upon the roof of some lower part of the building due to the lack of a safe resting place for the base end of the ladder.

Prior to my present invention, there has been no supporting device available for the intended purpose that is sufficiently light in weight to be operable in use by one man. Although I am aware of one ladder platform in the prior art, that particular device includes long, heavy base members that have to be mounted upon the supporting roof-laid ladder and other massive parts which add prohibitively to the weight. The supports for workmen heretofore generally used are scaffolds that require two men to assemble them on the building, to shift them when necessary, and to take them down afterwards.

It therefore is the primary object of my invention to provide a ladder-supported platform for the support of a second ladder, which bracket is of such light weight and simple construction that one man can perform very easily all of the manual operations involved in its use to include carrying it up to the roof upon which the supporting ladder is laid.

A further object of the invention is to provide a ladder platform of such construction that it may be erected upon the rungs of a primary roof-laid supporting ladder in an instant of time and without the employment of any accessory hand tools.

Other objects, features and advantages of the invention will become apparent as the following specific description is read in connection with the accompanying drawings, in which:

Fig. 1 is a fragmentary side elevational view of a house, illustrating the operational use of the invention, wherein the ladder platform is supported by a primary ladder laid upon the roof of an extension of the house and in its turn supports a secondary ladder, the accessory ladders being represented in broken lines.

Fig. 2 is a large-scale detail plan view of the ladder platform in ladder-attached conditions;

Fig. 3 is a side elevation of the same;

Fig. 4 is a front elevation;

Fig. 5 is a vertical section on line 5—5 of Fig. 3;

Fig. 6 is a fragmentary, larger scale vertical section on line 6—6 of Fig. 4; and

Fig. 7 is a view similar to Fig. 6, showing what happens when a rung of the primary supporting ladder fails.

Referring now in detail to the drawings, wherein like reference characters designate corresponding parts in the several views, Fig. 1 discloses the manner in which my

2

ladder platform is capable of being used to support a secondary ladder in order to reach a blind spot of a building. The other figures of drawing represent on a larger scale the specific structure of the device and the mode of attachment to a primary supporting ladder L.

The extreme simplicity of the invention should be appreciated when it is stated that it comprises only four essential elements, viz: platform 20, a pair of struts 21—21, and means, which will be numerically designated later herein, to connect the upper end portions of the struts adjustably to the platform. The weight of the complete unit is only eighteen pounds.

Platform 20 might consist entirely of a particularly wide piece of channel iron, but it is preferred to rest the lower ends of the side bars of a supported secondary ladder L' on a wooden surface instead of a metallic surface, which latter would not offer as much frictional resistance to slipping as wood, so I use a board 22, which may be composed of plywood, having attached angle irons 23—23 of L-shaped cross-section extending along its under face in contiguous relation to the side edges thereof for a purpose to be described presently. The combined board 22 and angle irons 23—23 thus form a horizontally wide channel construction.

At one end of platform 20, which will be termed its "ladder-attachment" end to distinguish from the opposite "distal" end, downwardly opening laterally registering hinge recesses 24—24 are provided in depending flanges 25—25 of angle irons 23—23. These hinge recesses 24—24 are intended to engage an upper rung R of primary ladder L and preferably are marginally rounded for even bearing contact with said rung in a manner to mount platform 20 on a hinged joint, which will permit said platform to be swung freely upward or downward into level position. The depth of each hinge recess should be such that its inner margin will be substantially flush with the plane of the bottom face of the horizontal base flange of the corresponding angle iron 23. Due to this structural feature, the base flanges of both angle irons 23—23 will bear directly upon the ladder rung and thereby present a bearing contact of desirable area. In order to insure against accidental disengagement of hinge recesses 24—24 from upper rung R, suitable clamping means is provided. This clamping means may be of any desired construction, but it is preferred to employ a J-shaped bolt 26 as clamping means. This clamping bolt 26 includes a hook portion 27 for pivotal confining engagement with upper rung R of ladder L and a straight stem, or shank, 28 to penetrate a centrally located hole 29 provided in the ladder-attachment end of platform 20. By threading a wing nut 30 onto the upwardly protruding end of stem 28 of clamping bolt 26, the marginal edges of recesses 24—24 and the under faces of the horizontal base flanges of angle irons 23—23 may be drawn into secure engagement with the ladder rung.

Plural adjustment recesses 31 are formed in laterally registering pairs in depending vertical flanges 25—25 of platform angle irons 23—23. A suitable number of these pairs of adjustment recesses 31 extend longitudinally inwardly from the distal end of platform 20 in preferably uniformly spaced relation.

The struts 21—21 that are to support the distal end portion of platform 20 upon a selected lower rung R of primary ladder L preferably are of angle-iron construction like angle-irons 23—23 and are provided with feet 32—32 that preferably toe inward in lateral alignment. Each foot 32 preferably has a heel cleat 33 and a toe cleat 34 respectively provided with downwardly opening hinge recesses 35 and 36 of marginally rounded form to pivotally engage the selected ladder rung. Each foot 32 may have its toe rigidly reinforced by being connect-

ed to its corresponding strut 21 by a diagonal brace bar 37.

Each strut 21 is provided with a longitudinal row of preferably uniformly spaced bolt holes 38 in those flanges thereof which are arranged parallel to flanges 25—25 of platform 20. Bolt holes 38 are located so that they will be in horizontally registering pairs when strut feet 32—32 are resting upon the ladder rung. A pair of recess-engaging support members 39—39, which preferably are in the form of bolts having wing nuts 40—40, are adapted to be engaged separately with selected bolt holes 38—38 in the respective struts 21—21 and thereafter to be selectively engaged with that pair of adjustment recesses 31—31 of platform 20 which will cause the latter to be supported in level position regardless of the angular slope of the roof upon which ladder L is laid.

By using bolts having wing nuts in the manufacture of clamping means 26 and support members 39—39, it is practicable for the workman to assemble, adjust, and disassemble the ladder bracket without having to use any hand tools. The advantages of this feature should be obvious.

As an alternative means for connecting struts 21—21 to flanges 25—25 of platform 20, a row of preferably uniformly spaced adjustment bolt holes 41 have been provided in said flanges in inward prolongation of adjustment recesses 31—31. These bolt holes 41 are conveniently located for use in bolting struts 21—21 in parallel abutment against platform flanges 25—25 in the inoperative condition of the unit, as when it is to occupy minimum space in a transporting vehicle, in a shop, or in a merchandising package.

The operation of the invention will now be described. After a primary supporting ladder L has been laid in a suitable location on the roof from which a secondary ladder L' is to be erected in order to reach a blind spot on a higher part of a building, platform 20 is placed with the hinge recesses 24—24 in engagement with a selected upper rung R of ladder L. Then, the distal end of platform 20 is lifted into level position, one of the struts 21 is placed against a side flange 25 of the platform preferably in a vertical position and is arranged with its foot 32 resting upon a suitably located lower rung R of the ladder with the respective recesses 35 and 36 of its cleats 33 and 34 embracingly engaging said rung. While platform 20 and strut 21 are held together with one hand, the other hand may be used to engage a support bolt 39 with the appropriate bolt hole 38 in the strut and adjustment recess 31 in platform flange 25. After support bolt 39 has been tightened by application of wing nut 40, the other strut 21 may be erected in a similar manner. If it should be discovered that platform 20 is not perfectly level due to error in initially gauging its position, the wing nuts 40—40 of support bolts 39—39 may be loosened just enough to permit these bolts to be shifted inward or outward, as the case may be, into engagement with adjustment recesses 31—31 which will afford more precise leveling of the platform. Then, wing nuts 40—40 are re-tightened.

If clamping bolt 26 was not engaged with the upper rung of the ladder when the attachment-end of platform 20 was placed in position thereon, it may now be installed to secure the platform in hinged relation to the ladder.

Ladders are not all of uniform width. Therefore, whenever it becomes necessary to apply the ladder platform to an especially wide ladder, the struts 21—21 may be reversed in position to cause the feet 32—32 thereof to toe outward so as to afford support for the struts as close as possible to the base ends of ladder rung R.

It should be apparent that my improved ladder platform is readily adaptable to the various situations encountered in actual use. Due to the length of struts 21—21 and the wide range of adjustments between the same and the distal end of platform 20, the difference in slope or pitch of the roofs on which the device may be

mounted does not present any problem. Moreover, the two feet of struts 21—21 may be planted upon different adjacent ladder rungs if that should be desired for any reason, such as weight distribution, particularly when it is found that a chosen rung has become broken or weakened at one end.

Fig. 7 depicts a safety feature of the invention which could prevent an accident in the event that the strut-supporting rung of the primary ladder should happen to break under the weight of the workman who is standing upon the supported secondary ladder. Due to the specific structure of feet 32—32 of struts 21—21, the cleats 33 and 34 thereof will be lowered a fraction of an inch onto the roof that supports the primary ladder. Lowering of the distal end of platform 20 no further than that will not cause the secondary ladder to slip, but complete collapse of the device would be disastrous. Such collapse will be prevented because cleats 33 and 34 will dig into the roof shingles just enough to secure the strut feet against dangerous slipping.

It will be understood that it is intended to cover all changes and modifications of the example of the invention herein chosen for the purpose of illustration which do not constitute departures from the spirit of the invention and scope of the appended claim.

I claim:

A ladder platform adapted to be supported by the rungs of a roof-laid primary ladder for the support of a secondary ladder, said platform comprising: an elongated platform having a ladder-attachment end and a distal end, said platform being adapted to be arranged in level position with its ladder-attachment end resting upon an upper rung of the primary ladder and being of channel construction having depending flanges along the side edges thereof provided at the ladder-attachment end of the platform with laterally aligned downwardly opening recesses in said flanges to embracingly engage said upper rung of the primary ladder in the manner of a substantially ladder-wide hinge connection; the depending flanges of the platform being provided further with plural longitudinally spaced pairs of laterally aligned downwardly presented adjustment recesses; a pair of struts adapted to be arranged side by side at said distal end of the platform in straddling and slidably overlapping relation thereto and being of sufficient length in relation to the spacing between rungs of a standard ladder that either strut of the pair will overlap the sides of the ladder platform while in level position and reach downward in vertical position to a lower rung of the primary ladder while the other strut reaches downward in obliquely inclined position to the next downwardly adjacent rung; feet provided on the lower ends of said struts and having downwardly facing recesses to embracingly engage and rest upon selected lower rungs of the primary ladder; and horizontally projecting separately vertically adjustable support members provided on the respective struts for selective engagement with the laterally aligned adjustment recesses of any pair in the platform flanges to erect the platform in level position.

#### References Cited in the file of this patent

##### UNITED STATES PATENTS

|           |          |                |
|-----------|----------|----------------|
| 69,049    | Turner   | Sept. 17, 1867 |
| 403,636   | Bitterly | May 21, 1889   |
| 510,194   | Sellers  | Dec. 5, 1893   |
| 662,566   | Jones    | Nov. 27, 1900  |
| 743,899   | Lynch    | Nov. 10, 1903  |
| 1,028,362 | King     | June 4, 1912   |
| 1,142,694 | Gilbert  | June 8, 1915   |
| 1,578,388 | Bower    | Mar. 30, 1926  |
| 2,448,746 | Sundeen  | Sept. 7, 1948  |

##### FOREIGN PATENTS

|         |             |               |
|---------|-------------|---------------|
| 272,180 | Switzerland | Dec. 15, 1950 |
|---------|-------------|---------------|