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COMBINED LADDER AND SCAFFOLD SLING SUPPORT

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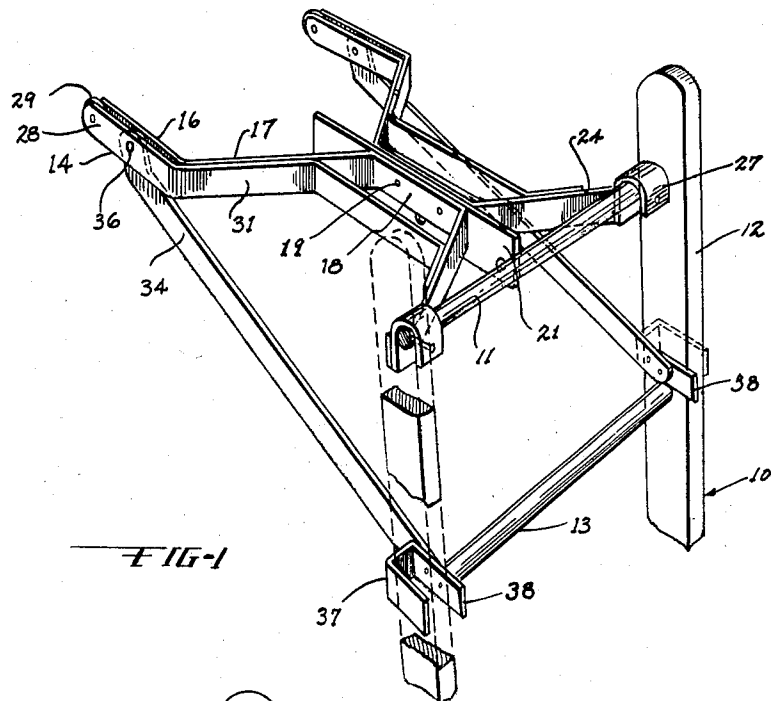


FIG-1

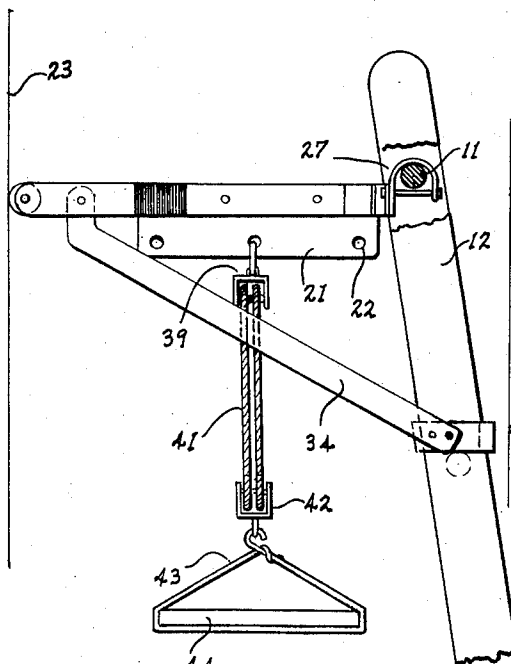


FIG-2

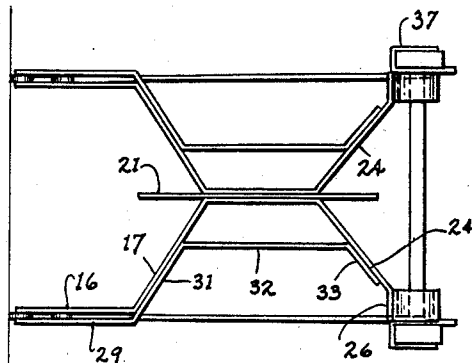


FIG-3

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COMBINED LADDER AND SCAFFOLD SLING SUPPORT

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1 Claim. (Cl. 182—214)

This invention relates to devices that are of the nature of supports for scaffolding generally required in the painting and repair of building walls. More particularly, the invention is directed to devices that may be attached to conventional ladders of the single or extension type and serve as means by which to suspend slings that carry planks or other scaffolding.

It is well known that brackets of various kinds have heretofore been attached to ladders to provide support for a platform of boards that would serve as a footing for workmen at one given height or another. This kind of board support is disadvantageous at least to the extent that during an operation of shingling, painting, cleaning, etc., a building wall, a workman must be easily able to move upwardly or downwardly, as well as from one end of the platform to the other. Even though some of the brackets of this type may be readily removed and reattached at different heights, it, nevertheless, is necessary for a workman to periodically stop work, remove the platform, and change the location of the brackets on the ladder to enable continuing work at a higher or lower level.

It is also well known that vertically adjustable slings for supporting platform planks have heretofore been suspended from a building cornice and, also, that sling supporting posts or poles have been disclosed and possibly used, such, for example, as shown in Patent No. 1,896,688, dated February 3, 1933. Cornice suspended slings, however, are unsuited for use on many buildings, particularly those having sloped roofs, such as found on the majority of houses, barns, etc., now in existence. The reason for this is that only gutters attached to or formed in the roof overhang could provide anchorage for the hooks that support the slings. Also, sling supporting posts or poles have no other use and must constitute additional equipment to be moved and set up beyond the usually required ladders.

It is a purpose and object of the present invention to provide devices that are mounted on conventional ladders and serve as suspensions for plank or platform carrying slings.

Another object of the invention lies in the provision of devices that are readily attachable to or removable from conventional ladders and are of such proportions and weight as to enable convenient manipulation and transportation.

Another object of the invention lies in the provision of a sling suspending device that is attached to a ladder in such manner that the entire weight of the sling platform and workmen is carried in part by the ladder rails rather than subjecting the entire weight to one or more rungs of the ladder.

Another and important object of the invention lies in the provision of a sling suspending device that, when attached to a ladder at any given point thereon, nullifies any possibility of collapse, twisting, or displacement of either the ladder or the device due to the manner of mounting and the angularity of contact provided for the ladder with respect to a building wall.

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Other objects and advantages of the invention will be more fully understood from a consideration of the following specification, taken in conjunction with the accompanying drawing; in which—

Fig. 1 is a perspective view of a device embodying one form of the invention, being shown attached to a ladder and in position for contact with a building wall;

Fig. 2 is a fragmentary side elevational view of the structure in Fig. 1 and shows the ladder to be supported in spaced relation to a building wall; and

Fig. 3 is a top plan view of the device.

Referring more particularly to the drawing, the reference numeral 10 is employed to generally designate a ladder of the conventional rail and rung type. Since the device embodying the invention is intended to suspend, thru a suitable block and tackle, a sling for mounting a plank or other platform, it is generally desirable to locate the device at the uppermost end of the ladder in order that a workman may derive the benefit of being able to operate on a building wall to an extent substantially equal to the height of the ladder employed. For this reason, the device is shown to be carried by the top rung 11 of a ladder and derives further support from the rails 12 thereof at a point directly above the next beneath rung 13. It will be apparent that the supporting device may be mounted at any other point thruout the length of the ladder as might be found necessary.

The device of the invention, generally indicated by the numeral 14, has been designed to provide the fullest measure of support without twisting, bowing, or bending, or without in any way tending to displace the ladder, regardless of the extent of movement of a workman on a platform suspended by a sling attached to said device. To accomplish this, applicant provides a pair of identical, opposed, metal rails. Each of these rails consists of an arm 16 that continues in an inclined flange 17 to a point such that wall portions 18 thereof are parallel and abut and are joined by suitable bolts or rivets 19. For convenience, a tackle block carrier 21 is placed between the wall portions 18 prior to their being secured together. This carrier is provided with several openings 22 to enable mounting the tackle block a desired distance away from either a building wall 23 or the ladder 10, as found most convenient. From the wall portions 18, each rail extends angularly away from the other in the form of flanges 24, and these flanges terminate in right angle ends 26 and provide suitable surfaces for the permanent attachment of downwardly opening hooks 27. The span of hooks 27 is approximately equal to the space between the rails 12 of the ladder and these hooks are therefore enabled to engage a ladder rail, such as rail 11, and prevent any lateral movement of the device with respect to the ladder.

Reinforcing straps are provided for the rails above described. Each of these straps include a flange 28 that parallels, and is spaced slightly from, the arm 16. Between the flange and arm is a roller 29 that is intended to contact a building wall to enable proper positioning of the support and the ladder. Beyond the arm, each flange 28 is bent inwardly to form a flange 31 which parallels and is in contact with flange 17. Continuing from the flange 31 is a further flange 32 that is parallel to, but spaced somewhat from, the wall portion 18. Flange 32 is formed with an end piece 33 that is permanently secured to the flange 24 heretofore described. These additional straps, being of light weight material, add very little to the weight of the entire device and yet serve to so brace it that no twisting can occur.

In the space in which the roller 29 is located, one end of a brace inclines downwardly and mounts, at its lower end, a U-shaped bracket 37. Examination of Fig. 3 shows the braces to extend lengthwise of the device and, since the width of the device is approximately the space

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between the rungs of the ladder 10, the brackets attach to the outer faces of the braces. In this manner, the brackets 37 are caused to enclose the rails 12, the inner flange 38 of each bracket resting on rung 13 which, as above mentioned, is the next rung beneath that with which the hooks 27 are engaged.

Engaged with the carrier 21 is a pulley block 39. A cable 41, engaged with this block, passes through a further block 42, to which is attached a sling 43. Sling 43 is designed to support one end of a scaffolding plank or platform 44. From the foregoing description of the structure of the invention, as well as the disclosure in the drawing, it will be evident that two of the devices embodying the invention, together with two ladders 10, are required to support a plank or other platform by means of block and tackle slings. After attaching one device to each of two ladders, preferably at the top of said ladders, as suggested in the drawing, the ladders are leaned towards the building wall 23 and occupy an inclined position with respect thereto, substantially as shown in Fig. 2. In this position, the devices are horizontal and may be used of themselves to support the ends of a plank or other platform, should it be found necessary to work on the building wall 23 at some point above the top of the ladders 10. Generally speaking, however, work on the building wall is contemplated as being somewhat beneath the ladder height and the sling carrying platform is utilized. It may be noted that in shingling a building wall the operation commences at the bottom of the wall and the platform carrying slings may be moved gradually upwardly as a shingling operation progresses. Conversely, if the wall 23 is to be painted, the painting operation generally starts at the top and, so, the sling suspending platform would be in position near the top of the ladder and adjusted downwardly as the painting operation progressed. It will, of course, be understood that the portion of the ladder shown in the drawing may be the upper section of an extension ladder and, thus, a considerable area of a building wall may be worked upon with no more time loss by the workman than is necessary to raise or lower the slings 43.

It is to be noted that the devices are so attached to the ladders as to provide secure and stable support for the slings and platform. In other words, even a slight swaying movement of the platform as an operation is carried out on the building wall 23 in nowise tends to dislodge the devices from the ladders or cause the ladders to twist or change their initial incline with respect to the building wall. In other words, it is believed that without the aid of special ladder anchoring devices, cornice hooks, or other equipment commonly found necessary in work of this kind, the present invention is fully adequate and en-

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tirely safe. Of course, it is evident from the proportions of the devices that they may be readily transported to and from a given job, set up or removed by a single workman, and constitute only a small portion of the expense and bother of erecting conventional type supports for platform or plank scaffolding.

Although applicant has shown and described only one form of his invention, it will be understood that modifications in the proportions, bracing, etc., may be made and are contemplated as being within the spirit and scope of the invention insofar as they are defined in the annexed claim.

Having thus set forth my invention, what I claim as new and for which I desire protection by Letters Patent is:

A device for combinedly positioning a ladder adjacent a building wall and providing support for a scaffold sling, said device comprising a member, separated portions at one end of said member forming plane continuations thereof and including individual terminals suitable for engagement with said wall, diverging flanges at the other end of said member, downwardly opening hooks at the ends of said flanges engageable with a rung of said ladder, reinforcing straps in the plane of said member rigidly connecting said separated portions with said diverging flanges, the parts of said straps at said terminals being spaced from and parallel thereto and cooperating therewith to provide enclosed areas, braces for said member, common ends of said braces projecting into said areas, said ends being carried by pivot pins secured jointly to said terminals and said straps, and brackets secured to the other ends of said braces, said brackets including portions engageable with another rung of said ladder and adjacent portions of the rails thereof.

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