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SCAFFOLDING DEVICE

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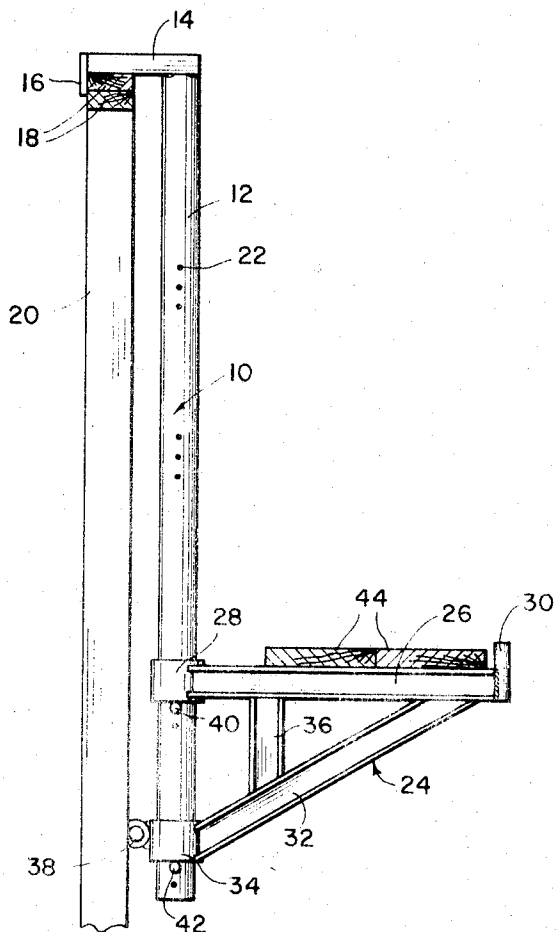


FIG. 1

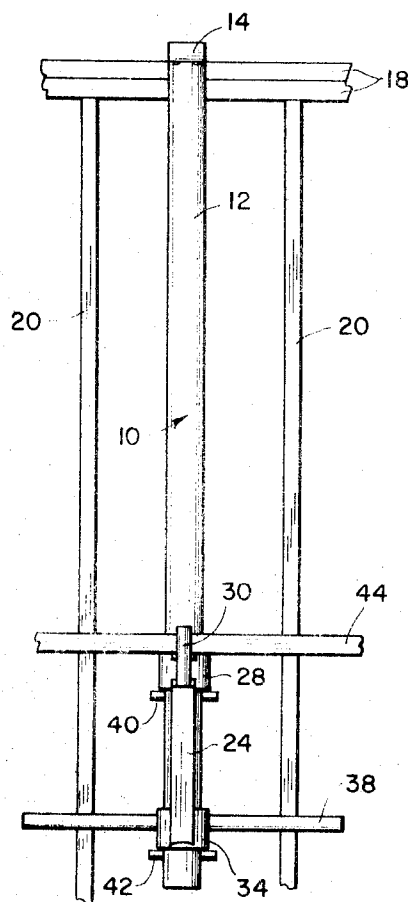


FIG. 2

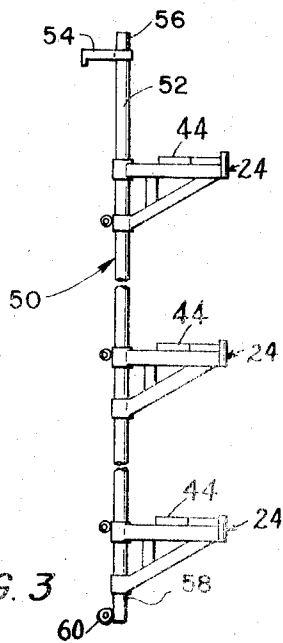


FIG. 3

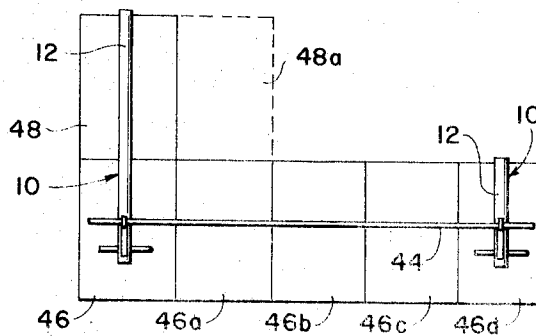


FIG. 4

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1

2

3,515,244

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1 Claim

ABSTRACT OF THE DISCLOSURE

A scaffolding device comprising an upright member having a hook portion for engaging the upper end of a stud or the like of a wall in the building or construction of a dwelling, building, or the like. A bracket member is movably secured to the upright member for receiving one end of the usual plank or scaffolding board whereby a pair or plurality of the scaffolding device may be spaced along the construction wall or the like for supporting the scaffolding boards therebetween.

This invention relates to improvements in construction devices and more particularly, but not by way of limitation, to a scaffolding device adapted to be supported from the upper edge of a building construction member.

During the building or erection of a house, building, or other wall type constructions, it is common to use scaffolding devices wherein the workmen may have a walking platform elevated with respect to the ground to facilitate access to those portions of the work area disposed overhead or at considerable heights above the ground. For example, during the building of a house, the studding plasterboard portion is usually constructed prior to the installing of the exterior finish such as bricks, stone, or the like, and prior to putting the exterior finish on the walls the overhanging eaves are usually completed. The eaves are usually disposed at a substantially great distance above the ground and ladders and such are usually extended or other scaffolding devices are used in order that the workmen may reach the eaves for construction or completion thereof. The use of the ladders is inconvenient and the normal scaffolding equipment available today must be erected from the ground and requires considerable time to install in the usable positions.

The present invention contemplates a scaffolding device which is suspended or hung from the upper edge of the partially completed wall or other building structure. A plurality of the scaffolding devices may be hung from the upper edge of the wall in spaced relationship for supporting the usual scaffolding boards thereon. The devices may be quickly installed to greatly facilitate erection of the scaffolding boards and may be readily removed for replacement in a new location as the work progresses. Each scaffolding device comprises an elongated support member having an angular portion at the upper end thereof adapted to span the upper edge of the wall wherein the device is to be installed. A bracket member is movably or slidably disposed on the elongated support member and extends outwardly therefrom at substantially right angles with respect to the wall. The bracket member may be positioned on the support member at substantially any desired elevation whereby scaffolding boards may be installed along the wall in substantially any desired position for facilitating the operation of the workmen during the construction process.

It is an important object of this invention to provide a scaffolding device which will be suspended from the upper edge of a partially completed wall or the like.

It is another object of this invention to provide a novel suspension type scaffolding device having adjustable sup-

port means for a scaffolding board for facilitating disposition of the board at substantially any desired elevation.

It is another object of this invention to provide a suspension type scaffolding device which is simple and efficient in operation and economical and durable in construction.

Other and further objects and advantageous features of the present invention will hereinafter more fully appear in connection with a detailed description of the drawings in which:

FIG. 1 is a side elevational view of a scaffolding device embodying the invention and disposed on a partially completed wall.

FIG. 2 is a front elevational view of a scaffolding device embodying the invention disposed on a partially completed wall.

FIG. 3 is a side elevational view of a modified form of a scaffolding device.

FIG. 4 is a front elevational view of the forms for a poured concrete wall under construction showing one method of utilization of scaffolding device embodying the invention.

Referring to the drawings in detail, reference character 10 generally indicates a scaffolding device comprising an elongated tube or pipe 12 having a transversely extending hanger member 14 secured to the upper end thereof in any suitable manner. For example, the cross arm 14 may be bolted or rigidly welded to the upper end of the pipe 12 or may be telescopically arranged with respect thereto to provide an adjustable overall height or length of the rod 12. A downwardly projecting tongue member 16 is carried by the cross bar 14 for engaging the rear portion of the upper cross members 18 spanning the studs 20 of a partially completed wall as is well known. A plurality of apertures or bores 22 are longitudinally spaced along the rod 12 and are preferably in alignment with similar apertures oppositely disposed with respect thereto for a purpose as will be hereinafter set forth.

A support bracket generally indicated at 24, is slidably disposed on the tube 12 in any suitable manner. As shown herein, the support bracket 24 comprises a substantially horizontal outwardly extending arm 26 preferably constructed from an I-beam or the like but not limited thereto. A collar member or cylindrical sleeve 28 is suitably rigidly secured at one end of the arm 26 and an upstanding or upright retainer or keeper member 30 is suitably rigidly secured to the opposite end of the arm 30. An angularly disposed brace member 32 preferably constructed from an I-beam, but not limited thereto, has one end rigidly secured to the lower surface of the arm 26 as viewed in FIG. 1, and a second collar member or sleeve 34, similar to the sleeve 28, is suitably rigidly secured to the opposite end of the brace 32. The sleeves 28 and 34 are preferably in substantial axial alignment and are of a size for slidable engagement with the outer diameter of the tube 12. A cross bar 36 is preferably welded or otherwise suitably secured between the spaced ends of the arm 26 and brace 32 as shown in FIG. 1 to provide rigidity for the bracket 24 as is well known. The cross bar 36 may also be constructed from a suitable I-beam or the like, but is not limited thereto. A transversely extending rod 38 is welded or otherwise rigidly secured to the collar 34 and extends substantially perpendicular to the plane established by the arm 26 and brace 32 for a purpose as will be hereinafter set forth.

The bracket 24 may be disposed on the tube 12 at substantially any desired position thereon by slipping the collars 28 and 34 over the tube 12 and sliding the bracket to the desired position. Alternately, of course, the tube 12 may be inserted through the sleeves 28 and 34 and adjusted to provide the desired spacing for the bracket 24

thereon. In order to retain the bracket 24 in the selected position with respect to the tube 12, locking pins 40 and 42 may be inserted through the bores 22 disposed immediately below the collars 28 and 34 respectively. The pins 40 and 42 may be securely retained in position in any suitable manner (not shown) as is well known. Of course, when it is desired to alter the position of the bracket 24 with respect to the tube 12, the pins 40 and 42 may be easily removed and replaced in the apertures 22 in association with the newly selected position for the bracket 24. It will be apparent that it is possible to use only one pin, such as 40 or 42, if desired.

Referring particularly to FIG. 2, one specific use for the scaffolding device 10 is depicted wherein the scaffolding device is suspended from the cross members 18 spanning the usual spaced upright studs 20 of a partially completed wall or a dwelling, or other building. The studs 20 of this type of wall are usually spaced apart a distance of approximately sixteen to twenty-four inches. Accordingly, it is to be noted that the overall length of the bar 38 is somewhat greater than the maximum spacing between the studs 20 as is clearly shown in FIG. 2. When the hanger portion 14 is disposed over the cross members 18, a downwardly extending finger 16 retains the hanger 14 in position thereon and the upright or vertical rod 12 extends downwardly on the exterior surface of the partially completed wall, and spaced slightly from the plane determined by the exteriorly exposed edges of the studs 20. The rod 38 lays or bears against the exposed surfaces of at least two adjacent studs 20 and precludes any rearward movement of the rod 12 or any pivotal action thereof about the hanger connection 14. The bracket 24 may be disposed on the rod 12 at the desired distance from the cross members 18 in the manner hereinbefore set forth. It is preferable to use at least two of the devices 12 and, of course, substantially any desired number thereof may be used and spaced along the cross member 18 with substantially any spacing or distance therebetween. A plurality of the usual planks or scaffolding boards 44 may be disposed on the upper edges of the arms 26 of the spaced scaffolding devices 10 whereby the planks 44 are securely supported in order to provide a walking platform or working platform for use by the construction personnel or the like. Of course, when the construction on the exterior of the wall at the particular site wherein the devices 10 have been installed has been completed, or been finished to the desired stage, the planks 44 may be removed and the devices 10 may be removed by lifting the device sufficiently for the member 16 to clear the cross bars 18, and then rotating the device about the longitudinal axis for precluding interference between the hanger 14 and the wall. The device 10 may then be repositioned at some new location for further work. It will be readily apparent that the upstanding member 30 of the bracket 24 precludes accidental dislodging of the planks 44 from the arms 26, thus providing a secure and safe arrangement for the scaffolding boards 44. In addition, work on the exterior of the wall may be done in the usual manner without hindrance from the scaffolding device.

Another type of use for the devices 10 is depicted in FIG. 4. In the construction of concrete walls or the like, it is usually the practice to erect a first layer of forms for concrete sections, as shown at 46, 46a, 46b, 46c, and 46d, of approximately four feet in height and substantially any desired width. Of course, the usual forms for pouring of concrete (not shown) are normally utilized in the construction of each concrete section for the first layer. Subsequent to the completion of the first layer, it is the usual practice to erect or construct a second layer immediately on top of the first layer. The second layer is usually constructed by forming a first section 48 immediately above the section 46. When the section 48 is completed, a second section 48a as shown in dotted lines in FIG. 4, is constructed adjacent to the section 48 and on top of the section 46a. These second sections are quite

difficult for the workmen to reach. The scaffolding device 10 facilitates this type construction in that a first device 10 may be suspended in the manner as hereinbefore set forth by hanging over the upper edge of the completed section 48. A second device 10 may be suspended over the upper edge of substantially any one of the completed sections of the first layer such as the section 46d. The scaffolding boards 44, supported by the spaced scaffolding devices 10, provide a safe and convenient walking or working area for the workmen during the construction of the next few succeeding sections of the upper layer. Of course, it will be apparent that the upright member 12 of the first or left hand device 10, shown in FIG. 4, is of a greater overall length than the member 12 of the right hand scaffolding device 10.

When the next few succeeding sections of the upper layer (not shown) have been completed, for example, when the upper sections above the sections 46a, 46b, and 46c have been completed, the left hand or longer scaffolding device 10 may be removed from the section 48 and suspended from the newly completed upper section above the section 46c. The right hand or shorter device 10 may be removed from the section 46d and moved along the first layer and suspended on the section of the first layer at the desired spacing from the moved longer device 10. The operation may be continued and repeated until the concrete wall has been completed.

Referring now to FIG. 3, a modified scaffolding device 50 is shown wherein a greatly elongated upright or vertical rod 52, similar to the rod 12, is provided with a perpendicularly extending hanger member 54 in the proximity of the upper end 56 thereof as viewed in the drawings. The upper end preferably slidably extends through a bore (not shown) provided in the hanger member 54 whereby the rod 52 may be adjusted with respect to the hanger in order to position the lower end 58 of the rod 52 as desired with respect to the surface of the ground (not shown). A plurality of apertures (not shown) similar to the apertures 22 are longitudinally spaced along the rod 52, and a plurality of the bracket members 24 may be longitudinally spaced along the rod 52 and retained in the preselected position thereon as set forth in connection with the scaffolding device 10. It is preferable that the brackets 24 be spaced at distances of approximately ten feet apart in order that sufficient head room or clearance will be provided wherein a separate group of workmen may stand on the planks or scaffolding boards 44 supported on each of the longitudinally spaced brackets 24, as will be hereinafter set forth.

The scaffolding device 50 is particularly designed for use in connection with steel buildings, or the like, which are often constructed of substantially great heights. For example, aircraft hanger buildings, and the like, may be provided with extremely high sidewalls, and the steel type construction normally requires a riveting operation, or the like, at many elevations or levels of the wall. A plurality of the devices 50 may be suspended from the upper edge of the wall by the hanger member 54 as hereinbefore set forth, and the scaffolding boards 44 may be disposed on the arms 26 of the substantially aligned brackets 24 of the spaced devices 50. It is to be noted that the stabilizing rods 38 may be omitted from the brackets 24 in this embodiment, if desired. In this event, it is preferable to provide a similar cross bar or stabilizer member 60, which may be of a larger diameter than the bars 38 and bears against the exterior of the sheet metal, or the like (not shown), from which the wall is constructed. In addition, the sleeves 28 and 34 of the brackets 24 may be bolted directly to the rod 52, if desired, or only one of the sleeves may be bolted thereto for precluding pivoting of the brackets around the rod. A group of workmen may be supported independently on each of the brackets 24 and complementary boards 44, with each group of workmen being able to work simultaneously, and unhindered by the other groups of workmen.

5

From the foregoing, it will be apparent that the present invention provides a novel scaffolding device wherein a vertical or upright support member may be suspended from the upper edge of a construction element, such as a wall or the like. A support bracket may be secured to the upright member at substantially any desired position thereon, and extends outwardly therefrom for supporting one end or one portion of the usual scaffolding board. Of course, a plurality of the scaffolding devices are suspended on the surface of the construction element for cooperating to support the scaffolding boards whereby a simple and efficient scaffolding walk-way or working surface may be provided for facilitating the construction process. The novel scaffolding device is simple and efficient in operation and economical and durable in construction.

Whereas the present invention has been described in particular relation to the drawings attached hereto, it should be understood that other and further modifications, apart from those shown or suggested herein, may be made within the spirit and scope of the invention.

What is claimed is:

1. A scaffolding device comprising an elongated support member, a hanger member provided at one end of the support member for engaging the upper end of a partially complete wall and suspending the support member substantially adjacent the exterior surface of the wall, a support bracket member movably disposed on the support member and extending outwardly therefrom in a direction away from the wall for supporting plank members thereon, locking means cooperating between the support bracket and the support member for retaining the support bracket at substantially any desired position on the support member, said support bracket member being of a substantially triangular configuration comprising a substantially horizontally disposed arm member for receiving

6

ing the planks thereon, an angularly disposed brace member having one end secured to the arm member, a first sleeve member rigidly secured to one end of the arm member, a second sleeve member rigidly secured to the outer extremity of the angular brace member, said first and second sleeves being disposed in substantial axial alignment for slidably receiving the support member there-through, means provided on the support bracket member for retaining the plank members thereon, means provided on the support bracket for precluding pivoting of the support member in one direction, said hanger member comprising a transversely extending bar member carried at one end of the support member and extending substantially perpendicularly therefrom in a direction toward the wall and through a distance greater than the width of the wall, a depending finger member on the outer end of the transverse bar member for engaging the opposite surface of the wall to facilitate suspending of the scaffolding device during use thereof, said locking means comprising a plurality of longitudinally spaced bores provided on the support member, a plurality of stud members adapted for insertion through preselected pairs of bores for retaining the support bracket thereabove, and a plurality of support bracket members being longitudinally spaced on the support member and removably secured in the preselected positions therefor.

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