

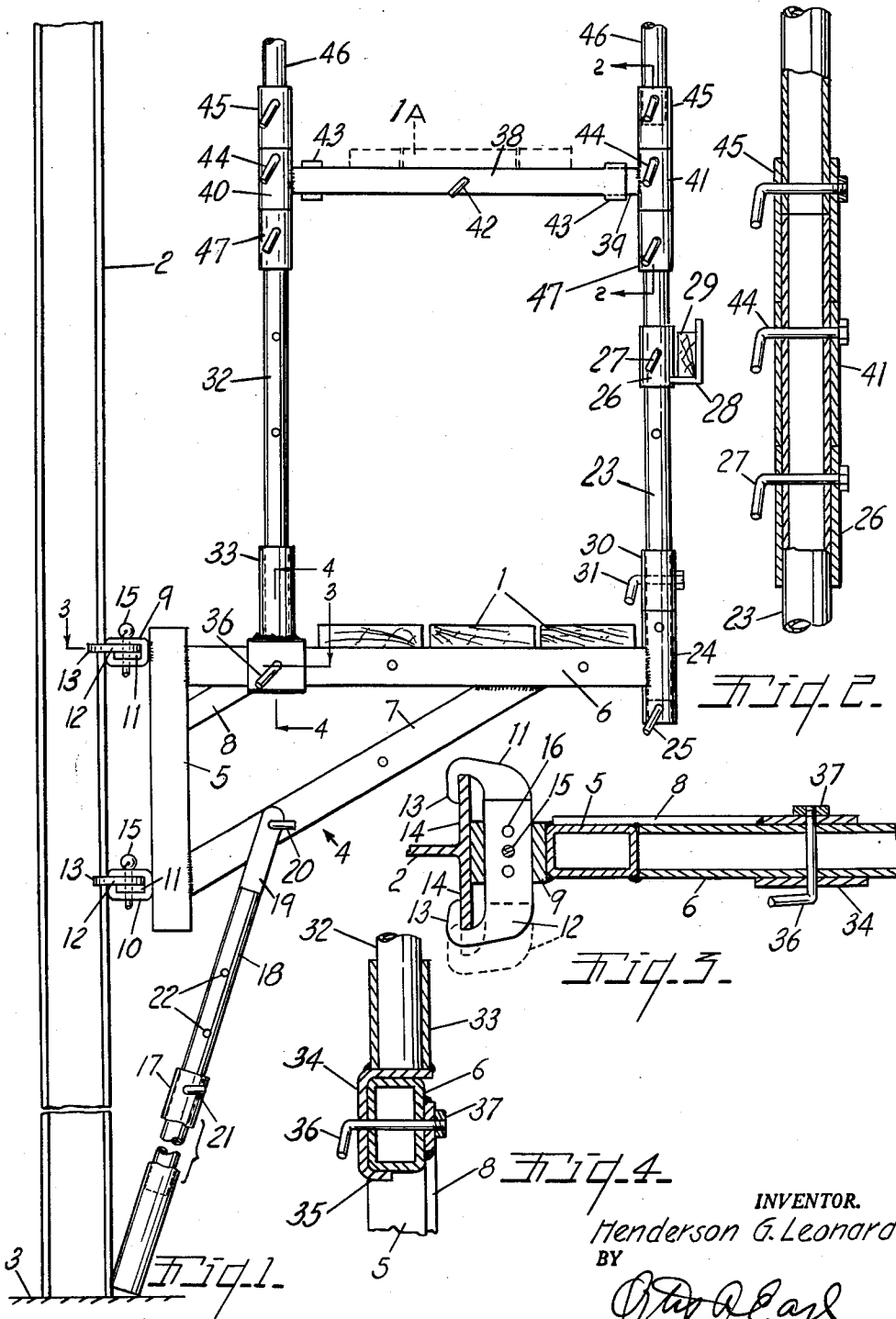
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DEMOUNTABLE SCAFFOLDING FOR SIDE MOUNTING ON COLUMNS

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DEMOUNTABLE SCAFFOLDING FOR SIDE MOUNTING ON COLUMNS

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4 Claims. (Cl. 182-82)

This invention relates to improvements in demountable scaffolding for side mounting on columns. The principal objects of this invention are:

First, to provide a novel form of demountable scaffolding which can be easily and quickly erected on the sides of spaced upright columns to provide level platforms at various elevations regardless of the level of the lower ends of the columns.

Second, to provide a demountable scaffold which can be selectively assembled to provide one or more levels of platforms and which is easily demounted into easily handled parts.

Third, to provide a novel form of platform supporting bracket which can be secured at various heights on the side of a column to support either a work platform and hand rail or two supporting posts at the bottom of a multi-level scaffold.

Fourth, to provide a demountable scaffold structure which is simple and relatively inexpensive to manufacture and which is securely connectable and safe in its erected position.

Other objects and advantages of the invention will be apparent from a consideration of the following description and claims. The drawings, of which there is one sheet, illustrate a highly practical form of the scaffold structure.

FIG. 1 is a fragmentary side elevational view of one bay of the demountable scaffold mounted on the side of an upright column.

FIG. 2 is a fragmentary vertical cross sectional view through the joint between the cross brace and vertical scaffold extension connections of the scaffold taken along the plane of the line 2-2 in FIG. 1.

FIG. 3 is a fragmentary horizontal cross sectional view through the connection between the scaffold supporting bracket and the supporting column taken along the plane of the line 3-3 in FIG. 1.

FIG. 4 is a fragmentary vertical cross sectional view through the demountable connection between the supporting bracket and the upper scaffold supporting pipe taken along the plane of the line 4-4 in FIG. 1.

Scaffold supports have heretofore been proposed which can be mounted on the sides of a column or building. The present scaffold support is designed to coact with upright structural steel columns of I to T cross section and while the support is useful in factory and warehouse buildings having a level floor, it is particularly useful in conjunction with outdoor columns such as are used to support large signs where the ground level at the base of one column may be substantially different than the ground level at an adjacent column. The drawings illustrate only a single column and one supporting bracket or bay of a work scaffolding, but it will be appreciated that the structure is usually used with two or more brackets on adjacent columns to support the boards 1 of a workman's platform alongside of the columns or other structure supported by the columns. A column having an I section of common structural steel shape is indicated at 2 projecting upwardly from a floor or foundation 3. The scaffold support cooperative with this column consists of a triangular bracket indicated generally at 4 and having a hollow upright 5 of rectangular cross section with a laterally projecting horizontal arm 6 and diagonal brace 7. The arm 6 and brace 7 are also of hollow rec-

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tangular cross section and are secured to each other and to the upright as by welding. A second diagonal brace in the form of a flat bar 8 is welded to the side of the arm 6 and to the side of the upright 5 within the larger triangle formed by the outer brace. Secured transversely across the back side of the upright 5 is an upper tubular bearing member 9 of rectangular cross section. A similar lower tubular bearing member 10 is secured near the lower end of the upright 5 and the two bearing members abut against the side of the column 2. Arranged in each of the tubular bearing members 9 and 10 are a pair of oppositely projecting gripper bars 11 and 12 having oppositely inwardly facing hooks 13 on their ends arranged in retaining engagement behind the flanges 14 of the column 2. The bearing members 9 and 10 are vertically bored to receive pins 15 and the gripper bars 11 and 12 have spaced holes 16 formed therein for selectively receiving the pins 15 at different spacings of the hooks 13. It is thus apparent that the bracket 4 can be easily engaged with the side of the column by a workman standing at ground level and that the bracket is attachable to columns of different sizes.

In order to level the bracket 4 to the desired elevation for a particular job, there is provided a telescopic tubular strut having a lower section 17 telescopically receiving and adjustably secured to an upper tubular section 18 having a yoke 19 on its upper end. A pin having a laterally turned handle 20 is removably passed through one arm of the yoke 19 and the angle brace 7 and is desirably threaded into the opposite arm of the yoke 19 to removably connect the strut with the bracket. A second pin 21 having an angularly bent handle selectively fixes the length of the strut 17-18 by engagement in one of a plurality of holes 22 formed in the upper section 18. When the bracket is raised upwardly to the desired level and the length of the strut 17-18 is adjusted, the lower end of the strut is abutted against the lower end of the column 1 and the adjacent foundation 3 to safely support the bracket. As previously noted a similar bracket and strut will be mounted on an adjacent column and the work platform planks 1 can be installed on the horizontal arm 6 to create a simple elevated work platform.

When additional structure is desired on the scaffold such as a horizontal safety rail, an outer post 23 is passed telescopically into an upright tubular collar 24 welded to the front end of the arm 6. A removable pin 25 passed through the lower end of the collar provides sufficient support for the post when all that is to be supported is a hand rail. A collar 26 selectively sleeved over the upper end of the post 23 and secured in place by a cross pin 27 has an angled arm 28 secured to one side thereof and this arm cooperating with a similar arm on a second scaffold bracket and post functions to support the hand rail 29 at any adjusted level along the post 23.

When it is desired to build the scaffolding higher and support substantial loads above the platform 1, a second collar 30 is sleeved around the lower end of the post 3 and secured thereto by a removable cross pin 31 to provide additional vertical support for the post from the collar 24. A second interior post 32 having a sleeve 33 around its lower end is supported vertically from the arm 6 by a C-shaped bracket 34 welded to the bottom of the sleeve and having an upper flange bearing upon the top of the arm 6 while a lower flange 35 hooks underneath the arm 6. The engagement of the C-shaped bracket with the arm prevents tilting of the post 32 in the vertical plane of the arm and a pin 36 passed through the C-bracket and arm 6 into a nut 37 welded on the side of the angle brace 8 prevents lateral disengagement of the second post from the bracket.

The upper ends of the upright posts 23 and 32 are

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secured together and braced relative to each other by means of two overlapped flat cross bars 38 and 39 each secured by welding to its own collar 40 and 41 respectively. The collars are placed around their supporting posts and rotated to bring the arms 38—39 into lapped relation after which a connecting bolt 42 secures the cross bars together. Laterally projecting flanges 43 on each of the cross bars overlaps the adjacent cross bar to further stiffen the connection. The sleeves 40 and 41 are secured in place by cross bolts 44. The upper ends of the posts 23 and 32 project above the collars 40 and 41 and telescopically receive the connecting sleeves 45 which are pinned to the lower ends of second stage posts 46 for extending the scaffolding higher. The details of the vertical extension of the scaffolding are not disclosed as various vertical scaffold extensions are well known. Should it be desired to utilize the arms 38 for a second stage platform 1A, extra load supporting sleeves 47 may be added below the sleeves 40 and 41.

From the foregoing it will be apparent that the scaffolding is selectively erectable at various heights and with various combinations of platform and guard rail supporting elements. In any arrangement the load of the scaffold is safely supported by the triangular bracket which is prevented from tipping laterally by the grippers 11 and 12 and which is supported vertically by the strut 17—18. None of the parts of the scaffolding are so large or heavy as to prevent ready manual handling during erection or demounting of the scaffold and the connections are all positive to provide a safe and rigid scaffold when erected. What is claimed as new is:

1. A demountable scaffold engageable with an upright column having flanges on its opposite edges comprising a triangular bracket having an upright of hollow rectangular cross section with a horizontal arm and angle brace extending from the front thereof, said arm and said brace also being of hollow rectangular cross section, upper and lower tubular rectangular bearing members arranged transversely on the rear side of said upright to bear against said column, pairs of gripper bars having opposed hooks on their opposite ends and arranged in adjustable overlapping relation in said bearing members, pins passed through said bearing members and selectively through said gripper bars to retain said hooks around said flanges on said column, a telescopically adjustable strut having a yoke at its upper end removably pinned to said angle brace and adapted to abut the ground at the base of said column, an upright tubular collar secured to the front end of said arm, a first tubular post having its lower end received in said collar and removably pinned thereto to project thereabove, a guard rail supporting bracket removably sleeved over said post and pinned thereto, a second tubular post having a C-shaped bracket secured across its lower end to provide a laterally facing opening, said C-shaped bracket being removably secured over the top, bottom and one side of said arm and pinned thereto with said second post projecting thereabove, collars slidably and rotatably engaged over the upper ends of said posts and having laterally projecting cross bars arranged in lapped relation and adjustably pinned together, laterally projecting ears on the ends of each of said cross bars overlapping the top and bottom of the adjacent cross bar to prevent relative vertical displacement of the bars, and other upright posts of additional stages of scaffolding supported upon the upper ends of said first and

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second posts and secured thereon by sleeves telescopically engaging the adjacent ends of the posts.

2. A demountable scaffold engageable with an upright column having flanges on its opposite edges comprising a triangular bracket having an upright with a horizontal arm and angle brace extending from the front thereof, upper and lower tubular rectangular bearing members arranged transversely on the rear side of said upright to bear against said column, pairs of gripper bars having opposed hooks on their opposite ends and arranged in adjustable overlapping relation in said bearing members, pins passed through said bearing members and selectively through said gripper bars to retain said hooks around said flanges on said column, a telescopically adjustable strut having its upper end removably pinned to said angle brace and adapted to abut the ground at the base of said column, an upright tubular collar secured to the front end of said arm, a first tubular post having its lower end received in said collar to project thereabove, a guard rail supporting bracket removably sleeved over said post, a second tubular post having a C-shaped bracket secured across its lower end to provide a laterally facing opening, said C-shaped bracket being removably secured over the top, bottom and one side of said arm and pinned thereto with said second post projecting thereabove, collars slidably and rotatably engaged over the upper ends of said posts and having laterally projecting cross bars arranged in lapped relation and adjustably pinned together, laterally projecting ears on the ends of each of said cross bars overlapping the top and bottom of the adjacent cross bar to prevent relative vertical displacement of the bars, and other upright posts of additional stages of scaffolding supported upon the upper ends of said first and second posts and secured thereon by sleeves telescopically engaging the adjacent ends of the posts.

3. A demountable scaffold engageable with an upright column having flanges on its opposite edges comprising a triangular bracket having an upright of hollow rectangular cross section with a horizontal arm and angle brace extending from the front thereof, said arm and said brace also being of hollow rectangular cross section, upper and lower bearing members arranged transversely on the rear side of said upright to bear against said column, the upper member being a transversely opening tube, a pair of gripper bars having opposed hooks on their opposite ends and arranged in adjustable overlapping relation in said upper bearing member, a pin passed through said bearing member and selectively through said gripper bars to retain said hooks around said flanges on said column, a telescopically adjustable strut having its upper end removably pinned to said angle brace and adapted to abut the ground below said bracket, an upright tubular collar secured to the front end of said arm, a first tubular post having its lower end received in said collar and removably pinned thereto to project thereabove, a guard rail supporting bracket removably sleeved over said post and pinned thereto, a second tubular post having a C-shaped bracket secured across its lower end to provide a laterally facing opening, said C-shaped bracket being removably secured over the top, bottom and one side of said arm and pinned

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through the side of said arm with said second post projecting thereabove,
collars slidably and rotatably engaged over the upper ends of said posts and having laterally projecting cross bars arranged in lapped relation and releasably pinned together,

and laterally projecting ears on the ends of each of said cross bars overlapping a portion of the adjacent cross bar to prevent relative vertical displacement of the bars.

4. A demountable scaffold engageable with an upright column having flanges on its opposite edges comprising a triangular bracket having an upright of hollow rectangular cross section with a horizontal arm and angle brace extending from the front thereof,

upper and lower bearing members arranged transversely on the rear side of said upright to bear against said column,

the upper member being a transversely opening tube,

a pair of gripper bars having opposed hooks on their opposite ends and arranged in adjustable overlapping relation in said upper bearing member,

a pin passed through said bearing member and selectively through said gripper bars to retain said hooks around said flanges on said column,

a telescopically adjustable strut having its upper end removably pinned to said angle brace and adapted to abut the ground below said bracket,

an upright anchor secured to the front end of said arm,

a first tubular post having its lower end telescopically engaged with said upright anchor and removably pinned thereto to project thereabove,

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a guard rail supporting bracket removably sleeved over said post and pinned thereto,

a second tubular post having a C-shaped bracket secured across its lower end to provide a laterally facing opening,

said C-shaped bracket being removably secured over the top, bottom and one side of said arm and pinned through the side of said arm with said second post projecting thereabove,

collars slidably and rotatably engaged over the upper ends of said posts and having laterally projecting cross bars arranged in lapped relation and releasably pinned together.

and laterally projecting ears on the ends of each of said cross bars overlapping a portion of the adjacent cross bar to prevent relative vertical displacement of the bars.

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