April 30, 1957 G. H. SPRINKEL 2,790,684

SCAFFOLD BRACKET

Filed Feb. 23, 1954 2 Sheets-Sheet 1

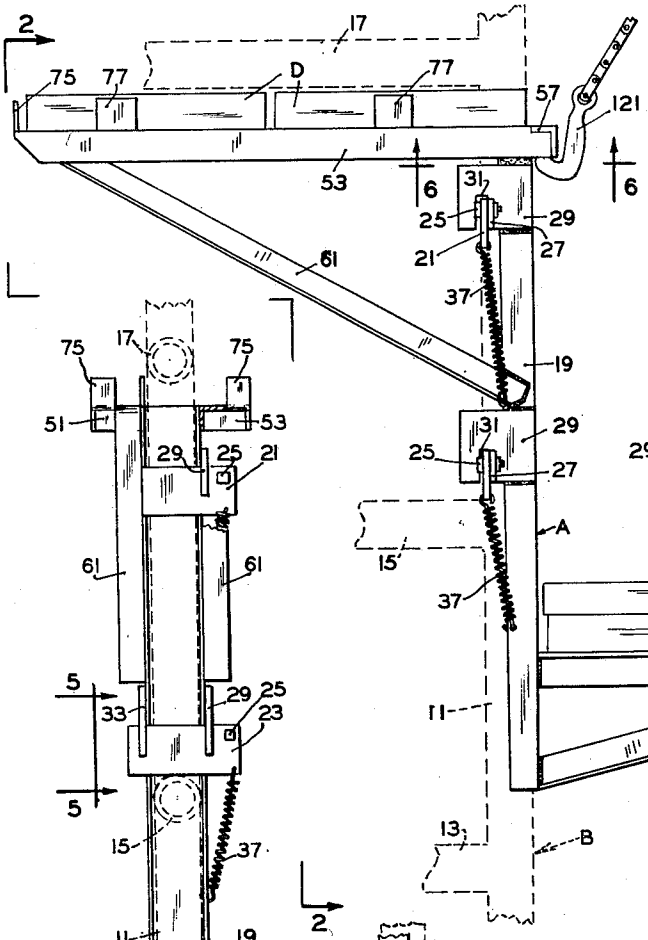


FIG. 2

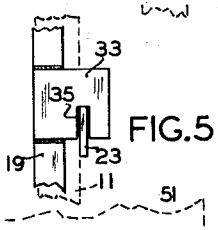


FIG. 5

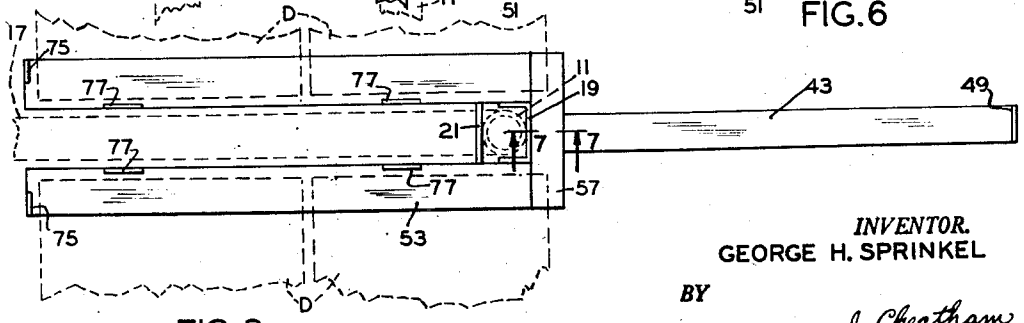


FIG. 3

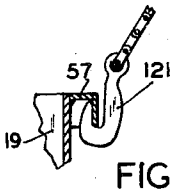


FIG. 7

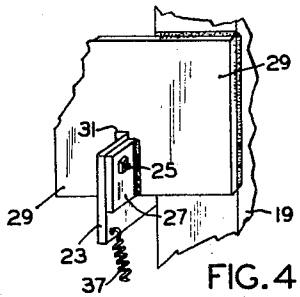


FIG. 4

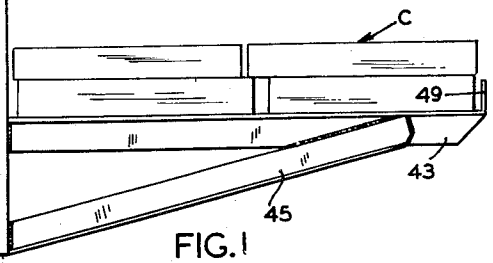


FIG. 1

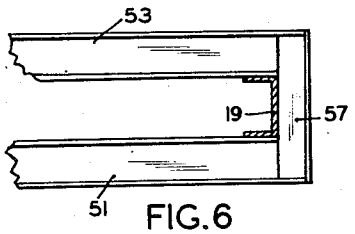


FIG. 6

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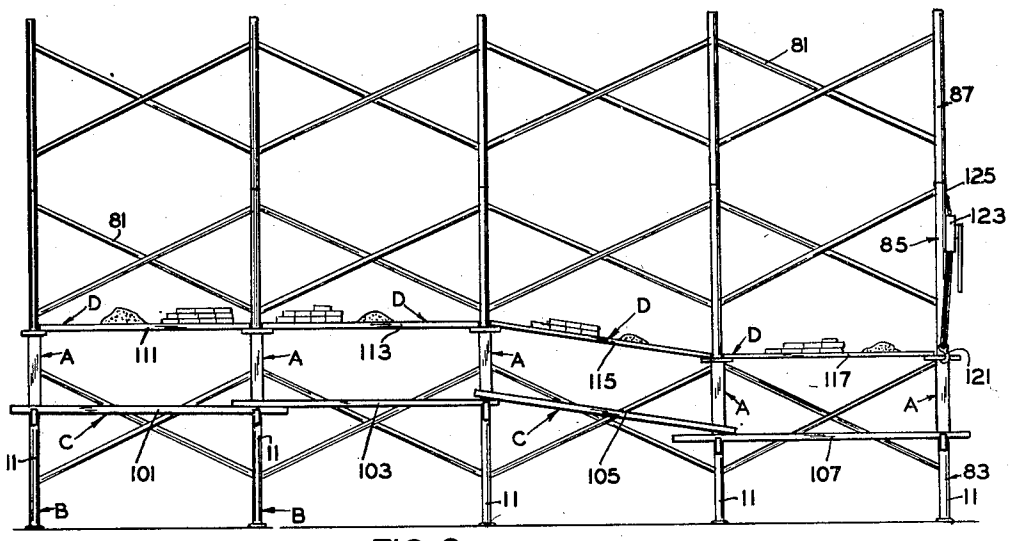


FIG. 8

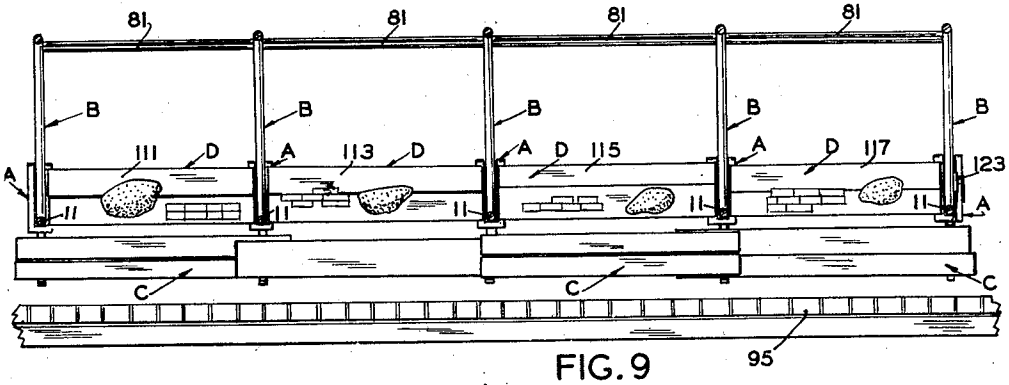
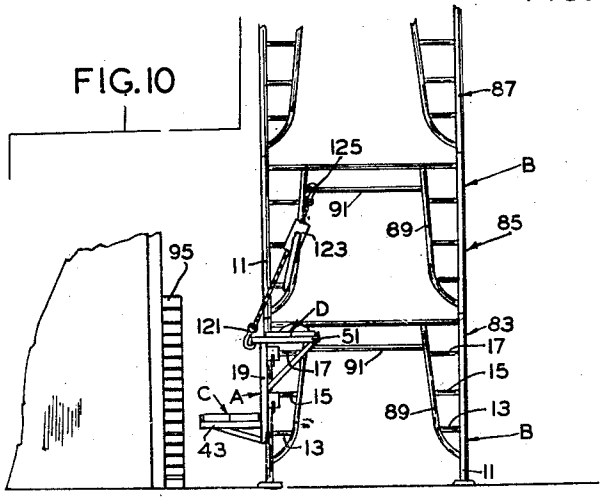


FIG. 9

FIG. 10



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2,790,684

SCAFFOLD BRACKET

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Application February 23, 1954, Serial No. 411,797

5 Claims. (Cl. 304—30)

This invention relates to platform brackets adapted to be detachably connected to scaffolding framework, and particularly to such a platform bracket which, cooperating with one or more similar brackets, is designed to support a workmen's platform at one level and a materials platform at a higher, offset, but adjacent level.

Heretofore, scaffolds including upper and lower platforms of the type mentioned above have been complicated and expensive and for the main part have been extremely specialized structures not fit for general use. This is particularly so where the arrangement is such that the platforms are arranged to be adjusted in unison. Besides the disadvantages above mentioned, these prior scaffolds have required the services of several or more workmen in setting up the platforms on the scaffolding framework and have in most instances required the use of tools for such setting up operations. Furthermore, it has not been possible with prior scaffolds incorporating such platforms for a single workman to adjust the level of the platforms.

It is a main object of the present invention to provide an extremely simple platform bracket which has upper and lower platform supporting arms and is designed to be applied to conventional scaffolding framework without modification thereof.

It is a further object of the present invention to provide a platform bracket of the type just described designed to be applied to conventional scaffolding framework by a single workman without requiring the use of tools, which bracket may be readily adjusted along the scaffolding framework by a single workman with the aid of only a simple, conventional elevating mechanism.

More particularly, it is an important object of the present invention to provide a platform bracket designed to support platforms at two levels and to be applied to one leg of a framework section and to be supported on horizontal bracing extending from such leg.

A still further object of the present invention is to provide a platform bracket of the type indicated above provided with leg straddling portions adapted to be directly applied to a scaffold leg by moving the bracket against the leg from a lateral direction, which bracket includes latch means operable to thereafter retain the bracket in sliding guided relation to said leg and to rest on horizontal bracing extending from the leg to support the bracket from such bracing.

A further particular object of the present invention is to provide a platform bracket of the type indicated in the above paragraph having upper and lower latches operable to be automatically tripped out of the way by horizontal bracing when the bracket is elevated, and then return to retaining and supporting positions behind the leg, wherein the latches are spaced apart a distance different from that of any two upper and lower horizontal braces on the leg, so that one latch will be maintained in its retaining position, during the time that the other latch is being tripped out of the way by engagement with horizontal bracing.

Other objects of the invention include the provision

of a platform bracket adapted to be applied to a scaffold leg and including a lower platform supporting arm projecting away from the leg and at least one, and preferably two, upper platform supporting arms projecting in the opposite direction from the lower arm and being spaced to pass by and straddle the scaffold leg, and operable to support the adjacent ends of two platform sections.

Various other objects of the present invention will be apparent from the following description taken in connection with the accompanying drawings, wherein:

Fig. 1 is a view in side elevation of a platform bracket embodying the concepts of the present invention mounted on a scaffold leg structure, which is shown in phantom lines for convenience in illustration;

Fig. 2 is a view of the platform bracket taken in the direction of the arrows 2—2 in Fig. 1, parts being broken away for convenience in illustration;

Fig. 3 is a plan view of the bracket disclosed in Fig. 1;

Fig. 4 is a fragmentary perspective view showing the manner of mounting a latch;

Fig. 5 is a fragmentary view in side elevation, taken in the direction of the arrows 5—5 in Fig. 2;

Fig. 6 is a fragmentary sectional view taken in the direction of the arrows 6—6 in Fig. 1, showing the underside of the upper portion of a platform bracket;

Fig. 7 is a fragmentary sectional view taken along line 7—7 of Fig. 3;

Fig. 8 is a front elevational view of scaffolding framework having upper and lower platforms supported by brackets of the present invention;

Fig. 9 is a plan view of the arrangement disclosed in Fig. 8, showing in addition the location of a wall under construction next to the scaffold; and

Fig. 10 is an end view of the arrangement disclosed in Fig. 9.

Referring to the accompanying drawings wherein similar reference characters designate similar parts throughout, there is disclosed in Fig. 1 a platform bracket generally indicated at "A," embodying the concepts of the present invention, mounted on one leg of a scaffold framework unit generally indicated at "B," forming part of a conventional open scaffolding framework, as will be discussed hereinafter. For the present, suffice it to say that unit "B" includes a leg 11 having horizontal braces 13, 15 and 17 projecting rearwardly therefrom, or to the left as the parts are depicted in Fig. 1. Conventionally the leg and the braces comprise tubular sections suitably welded or otherwise rigidly joined together.

The platform bracket "A" is adapted to be directly applied to the leg 11 by moving the bracket while in its upright position laterally or horizontally toward the leg. To this end, platform bracket "A" includes an upright channel 19 dimensioned to fit in straddling relation lengthwise of leg 11, and against the outer face of leg 11 as the parts are depicted in Fig. 1.

To retain the channel in such straddling relationship, and yet permit it to be slidably moved along leg 11 for purposes of vertical adjustment, as will be more fully detailed hereinafter, the channel carries upper and lower latches 21 and 23 disposed behind the leg 11. Each latch, in the particular embodiment of the invention shown, comprises a rectangular plate pivoted at 25 to swing downwardly from and upwardly to a horizontal position behind the leg 11. Each pivot 25 is carried by a lug 27 rigid with a plate 29 secured to the exterior of a flange of channel 19, said plate being notched at 31 to accommodate the associated latch. Opposite the plate 29 is a companion plate 33 welded to the exterior of the other flange of channel 19 and being formed with a downwardly opening notch 35, see Fig. 5, arranged to receive the end portion of the associated latch.

The walls of notches **31** and **35** retain the latch from displacement against forces applied thereto tending to dislodge the channel **19** from the leg **11**. Furthermore, each latch, when in its operative position, will bear against the end walls of the notches and thus enable the channel **19** to be supported from a horizontal brace, latch **23** being shown in load supporting position relative to brace **15** in Fig. 1.

A tension spring **37** is provided for each latch and each tension spring is hooked through appropriate openings formed in its latch and the channel to be under tension and to urge its latch to assume its horizontal operative position. The opening in the latch is formed generally beneath pivot **25** of the latch, see Fig. 2.

By reference to Fig. 1, it is apparent that when channel **19** is moved upwardly along leg **11**, each latch will be tripped downwardly upon engagement with a horizontal brace and thus pass by the brace, and thereafter the associated spring will cause it to snap back to its operative position where it may rest upon the brace it has just passed and support the channel and thus the bracket from such brace.

It is pointed out that latches **21** and **23** are spaced apart a distance different than that of any two horizontal braces of the leg on which it is mounted, so that whenever one latch is being tripped downwardly during upward sliding movement of channel **19**, the other latch will remain in its operative position to retain the channel, and therefore the bracket, in a sliding guided relationship with respect to leg **11**, and thus prevent separation of the bracket from the leg during elevation of the bracket.

An important feature of the present invention is the provision on channel **19** of upper and lower platform supporting arms, whereby the lower arm may, in cooperation with the lower arms of similar brackets, support a workmen's platform, and the upper arm or arms may, in cooperation with the upper arms of similar brackets, support a materials platform, upon which may be placed mortar, brick and the like. Fig. 10 makes apparent the general relationship of such upper and lower platforms to a wall under construction. Such upper and lower platforms, adapted to be vertically adjustable in unison, are broadly old, the novel feature of the present invention, concerning the provision of such platforms, lying in the unique construction of a simple, inexpensive bracket for supporting such platforms.

Referring particularly to Figs. 1 and 3, channel **19** has a lower platform arm **43**, which is an angle shaped member in the particular embodiment of the invention shown, but it is evident that it could have other cross sectional shapes. Arm **43** is rigidly secured, such as by welding, at its inner end to the outer face of the web of channel **19** at a place spaced above the lower end of said channel. Thus, it may be said that the lower platform supporting arm **43** projects in a direction away from leg **11** of the scaffolding framework. A diagonal angle member brace **45** is welded at its opposite ends to the lower end of channel **19** and to the lower arm **43** adjacent the outboard end thereof. Arm **43** is adapted to support, in cooperation with the lower arms of similar brackets, a workmen's platform, which may comprise planking, or equivalent members, such platform being generally indicated by the letter "C" in Fig. 1. A retaining or stop lug **49** is provided at and projects upwardly from the outboard end of lower arm **43** to retain the workmen's platform in place on the lower arm against outward horizontal dislodgement.

Channel **19** carries at its upper end two upper platform supporting arms **51** and **53**, which project at right angles inwardly into the scaffolding framework in the opposite direction from that which lower arm **43** projects, said upper arms being laterally spaced to straddle leg **11**, are parallel to one another and disposed at the same level. It is apparent from the above description that each upper arm is offset laterally with respect to the length of the channel member **19** so as to pass by leg **11**.

More particularly, each upper arm comprises a downwardly facing channel, compare Figs. 2 and 6, engaging the outer faces of the flanges of channel **19** and being welded thereto. Referring to Figs. 1 and 6, the outer flange of each upper arm projects at its inboard end beyond channel **19** and is rabbeted to accommodate the upper flange of an angle piece **57** which extends along the back of the web of channel **19** and along the inboard ends of upper arms **51** and **53** and is welded to the channel and to said inboard ends. Thus, the upper arms are rigidly secured to channel **19** at the upper end of the channel.

A diagonal angle member brace **61** is provided for each upper arm and is welded to the outer face of the inner flange of each upper arm adjacent the outer end thereof, see Fig. 2, and to the outer face of the associated flange of channel **19**. It is apparent from Fig. 1 that braces **61** extend downwardly at a greater angle than does brace **45**. This arrangement permits the workmen's platform C to be arranged closely adjacent ground level at the commencement of the construction of a wall.

The upper arms **51** and **53** are adapted, in cooperation with the upper arms of similar brackets, to support a materials platform, generally indicated by the letter "D," about which more will be presently explained. Platform retaining or abutment lugs **75** are provided along the upper faces of the upper arms at the opposite ends thereof, and similar lugs **77** are provided on said upper faces along the inner edges thereof.

A detailed explanation of the construction of a platform bracket embodying the concepts of the present invention has heretofore been given, and now the manner in which the platform bracket will normally be used will be set forth. Referring particularly to Figs. 8, 9 and 10, there is disclosed a scaffolding framework of conventional construction including a plurality of upright, parallel, laterally aligned, generally rectangular scaffolding framework units indicated in each instance by the letter "B." Each upright unit is connected to the adjacent unit by detachable cross bracing **81**, the ends of the bracing conventionally being detachably connected to the rear or inner faces of the scaffolding legs. Each scaffolding unit is conventionally made up of a plurality of superimposed sections which have portions of their legs telescoping one within the other to provide a substantially rigid unit. Three of such sections are shown in Fig. 10 and are indicated by the reference numerals **83, 85** and **87**. Each section has the horizontal braces **13, 15** and **17** thereof connected at their inner ends by a generally vertically extending brace **89**, the opposed braces **89** associated with the two legs of a section being joined by horizontal brace **91**. Such sections are disclosed for instance in the patent to Boedecker, 2,569,653.

The scaffolding framework will be erected along a wall line, and Fig. 10 shows the general relationship of a scaffolding framework, of the type above described, arranged next to and in spaced relation to a partially completed wall **95**. After the scaffolding framework has been erected, a platform bracket A of the present invention will be applied to the left-hand edge of each framework unit B, as the parts are depicted in Fig. 10, and arranged at their lowest levels on such units. The platforms C and D, which conventionally will comprise wooden planks, are then placed on the platform supporting arms of the brackets. For the lower arms, the planks, indicated at **101, 103, 105** and **107**, can be merely arranged in overlapping relationship as shown in Fig. 8. However, for the upper arms, the planks, indicated at **111, 113, 115** and **117**, are specially designed to fit between adjacent framework units, see Fig. 9, and to rest on the adjacent arms of two adjacent platform brackets,

compare Figs. 3 and 9. Thus, there will be no interference between the upper platform planks and the bracing, such as **13**, **15**, **17**, **89** and **91**, extending between the opposite legs of framework unit. This is particularly important during elevation of the brackets.

Any suitable means for elevating the brackets may be provided and the particular means shown is merely illustrative. To permit ready elevation, the lower hook **121** of an elevating mechanism **123** may be hooked onto the depending flange of member **57**, see Fig. 7, and the upper hook **125** hooked onto upper bracing, whereafter the operating handle of the elevating mechanism can be operated to elevate a bracket. A single workman may perform this operation serially on the brackets.

Although each platform may be arranged at only one level, Fig. 8 shows that each platform may be disposed at two levels. This is entirely possible with the brackets of the present invention, since the brackets are independently adjustable and the overlap of the planks on the lower plank supporting arms is sufficient to prevent their disengagement during reasonable elevation of one bracket relative to the adjacent bracket, and the upper arms are made to have such a width that the overlap between the upper platforms or planks and the upper arms is sufficient to prevent disengagement upon reasonable elevation of one bracket relative to an adjacent bracket. It is pointed out that the elevating mechanism or mechanisms do not function to suspend the brackets, since the brackets are designed to be self-supporting on the leg structures of the framework units.

The advantages of the present invention may be summed up as follows: the present invention has provided an extremely simple platform bracket for supporting upper and lower platforms. This bracket is designed to be directly applied to a scaffold leg by swinging the latches **21** and **23** to inoperative positions, the latches thereafter being operative to return to operative positions to retain the bracket in a slided guided relationship on the leg, and also one latch is adapted to rest on a horizontal brace to support the bracket from the leg. The brackets are designed to be applied by a single workman without the use of tools or any sort of hoisting mechanism. It is particularly important to note that a single workman can elevate platforms C and D disclosed in Fig. 8, by adjusting each platform bracket to the desired level in turn, beginning at one end of the scaffold and proceeding to the other. By the provision of upper offset platform supporting arms, the upper platform of planking is so supported as to permit elevation of a scaffold bracket without interference between the platform planking and any fixed bracing connecting and extending between the two legs of a framework unit.

It is pointed out that where the legs of scaffold sections having laterally protruding rivet heads or the like, the channel **19** will be dimensioned to fit the leg with sufficient looseness to permit the channel to slide past such protrusions. It is further pointed out that the scaffolding framework bracing **81** above the level of the platforms may be simplified to include less pieces, which may be arranged horizontally. This is because the portion of the scaffolding framework above the platforms does not support the platforms. This simplified arrangement makes elevation of the brackets easier and provides better access to the materials platform. As the brackets are raised, other bracing pieces may be added and a cross bracing arrangement provided below the brackets to stably support the brackets and platforms.

Having described the invention in what is considered to be the preferred embodiment thereof, it is desired that it be understood that the invention is not to be limited by the specific details shown unless they constitute critical features of the present invention, all of which will be apparent by reference to the following claims.

I claim:

1. A platform bracket adapted to be applied to a scaffold leg structure of the type including a leg from one side of which projects a generally horizontal brace, said bracket comprising an upright channel adapted to fit in straddling relation lengthwise against the side of said leg opposite the side from which said brace projects, at least one platform supporting arm projecting from said upright channel, a latch element mounted on one flange of said channel for swinging movement toward the other flange along a path adjacent the side of said leg from which said brace projects, said other flange having means providing a downwardly opening notch arranged to receive said latch element and hold it in a generally horizontal position against upward forces, spring means urging said latch element to remain in said notch whereby as said upright channel is moved upwardly along said leg said latch element will be tripped downwardly by said brace and after passing said brace will be caused to resume its position in said notch and may then rest on said brace to support said upright channel.

2. In combination with a scaffold leg structure of the type having a leg from one side of which project generally horizontal braces at different levels, a platform bracket including an upright member arranged lengthwise of the leg against the side thereof opposite the braces and having portions straddling said leg, at least one platform supporting arm projecting from said upright member, a pair of latches pivotally carried by said upright member and disposed next to the side of the leg from which the braces project to retain said upright member in a guided sliding relationship with respect to said leg, means urging said latches to remain in horizontal positions, said latches being disposed at different levels and being spaced apart a distance different from that of any two horizontal braces whereby when the bracket is slid upwardly along said leg, one latch will always be disposed in a retaining position while the other latch is being tripped downwardly by a horizontal brace.

3. A scaffold bracket for application to scaffolding having a vertical leg from one side of which projects generally horizontal braces spaced along said leg on said one side, said bracket comprising a vertical leg engaging member having a portion for sliding engagement with the side of said leg opposite the braces and having other portions for straddling said leg in sliding engagement therewith, platform supporting arms extending horizontally from said leg engaging member, and retaining means carried by said leg engaging member for retaining said bracket on said leg while providing for upward movement of said bracket along said leg and past said braces, said retaining means including a retaining portion arranged to engage the side of the leg from which the braces project to normally retain said members on said leg, said retaining portion being mounted on said member for retracing movement to a nonretaining position for passing a brace upon engagement therewith during upward movement of said member along the leg, and at least one other similar retaining portion similarly mounted and operable to retain said member on said member when the first retaining portion is retracted.

4. A scaffold bracket for application to scaffolding having a vertical leg from one side of which projects generally horizontal braces spaced along said leg on said one side, said bracket comprising a vertical leg engaging member having a portion for sliding engagement with the side of said leg opposite the braces and having other portions for straddling said leg in sliding engagement therewith, platform supporting arms extending horizontally from said leg engaging member, and retaining means carried by said leg engaging member for retaining said bracket on said leg while providing for upward movement of said bracket along said leg and past said braces, said retaining means including a retaining portion arranged to engage the side

of the leg from which the braces project to normally retain said members on said leg, said retaining portion being mounted on said member for retracing movement to a nonretaining position for passing a brace upon engagement therewith during upward movement of said member along the leg, and at least one other similar retaining portion similarly mounted and operable to retain said member on said member when the first retaining portion is retracted, said means including mechanism for normally holding said retaining portions in operative positions but providing for movement of said parts simultaneously to inoperative positions.

5. A scaffold bracket for application to scaffolding having a vertical leg from one side of which projects generally horizontal braces spaced along said leg on said one side, said bracket comprising a vertical leg engaging member having a portion for sliding engagement with the side of said leg opposite the braces and having other portions for straddling said leg in sliding engagement therewith, platform supporting arms extending horizontally from said leg engaging member, said other portions being spaced apart a distance greater than the thickness of said leg to provide for application of said member to or removal of said member from the leg in a direction at right angles to the leg, and retaining means carried by said leg engaging member for retaining said bracket on said leg while providing for upward movement of said bracket along said leg and past said braces, said retaining means including a retaining portion arranged to engage the side of the leg from which the braces project to normally retain said members on said leg, said retaining portion being mounted on said member for retracing movement to a nonretaining position for passing a brace upon engagement therewith during upward movement of said member along the leg, and at least one other similar retaining portion similarly mounted and operable to retain said member on said member when the first mentioned retaining portion is retracted.

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