Jan. 12, 1965 J. H. JACKSON 3,165,288

SCAFFOLD BRACKET WITH SPACERS

Filed Oct. 2, 1962 3 Sheets-Sheet 1

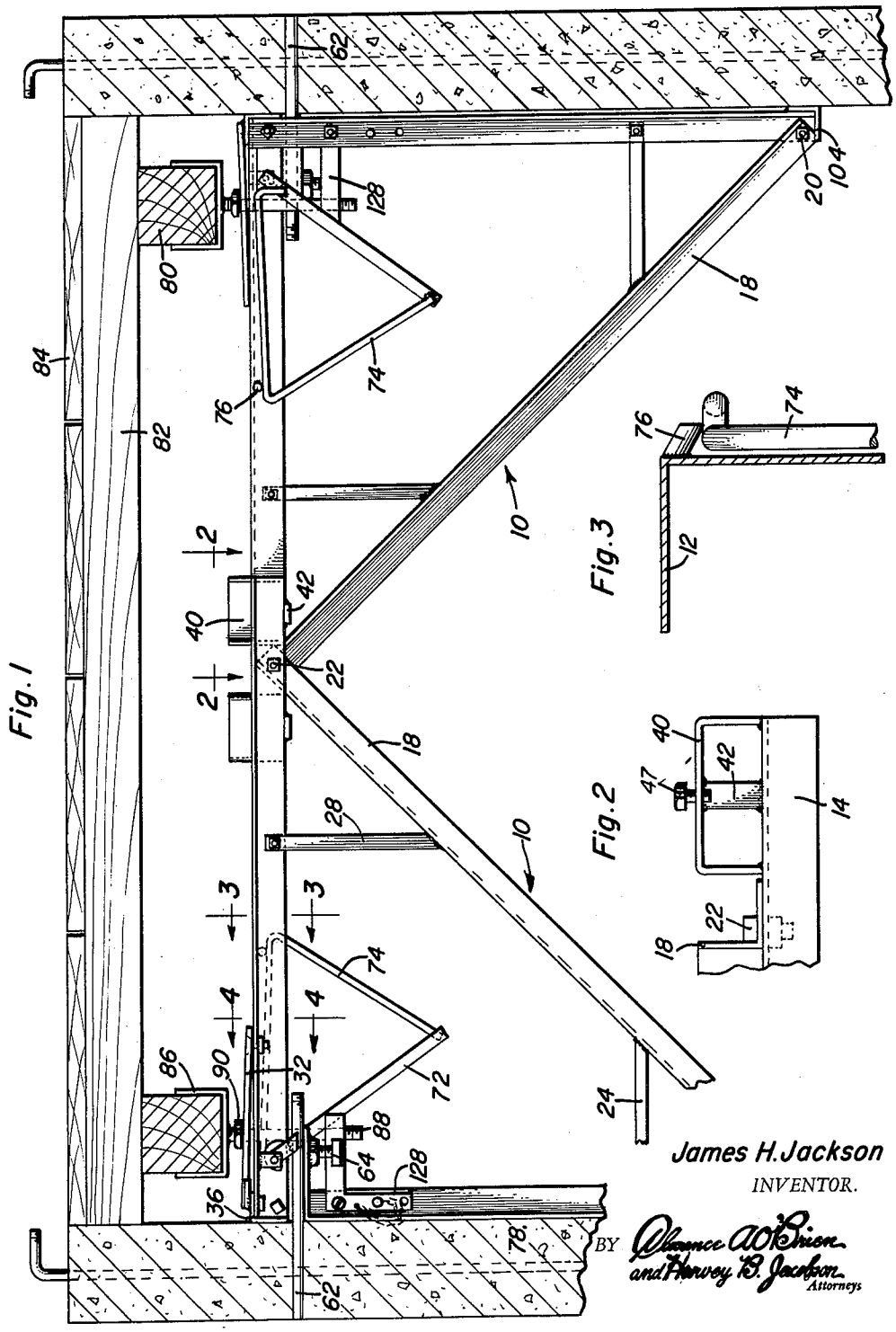


Fig. 1

Fig. 3

Fig. 2

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Jan. 12, 1965 J. H. JACKSON 3,165,288

SCAFFOLD BRACKET WITH SPACERS

Filed Oct. 2, 1962 3 Sheets-Sheet 2

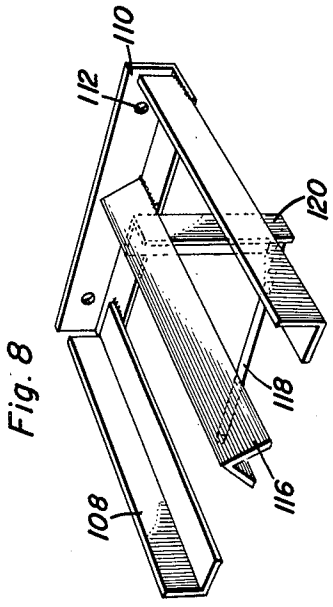


Fig. 8

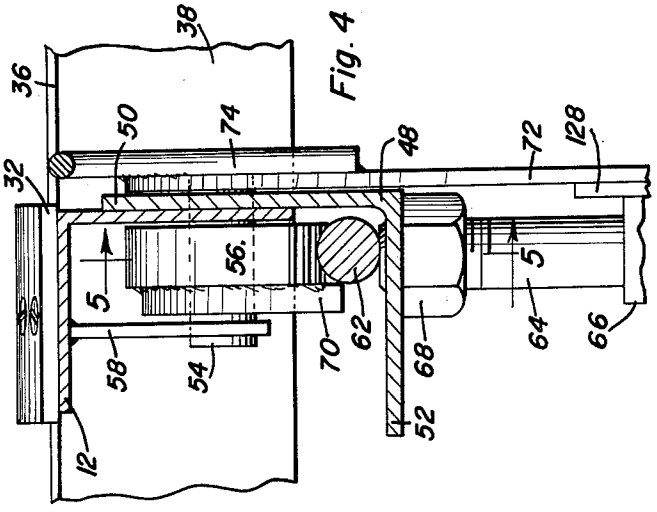


Fig. 4

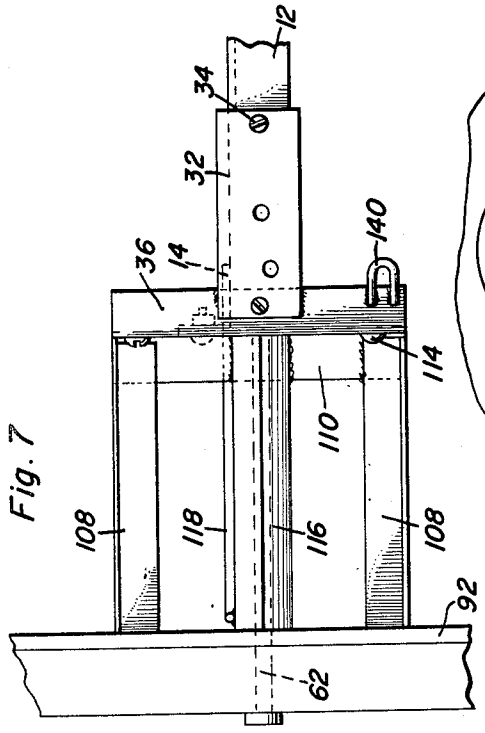


Fig. 7

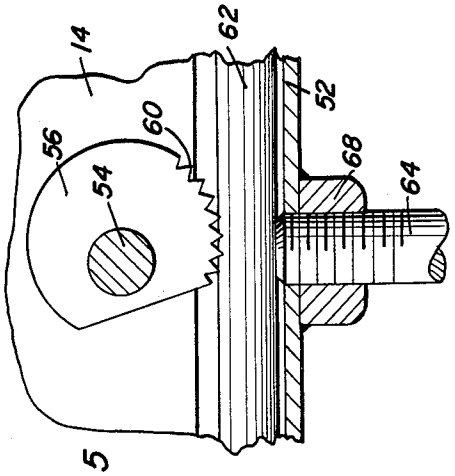


Fig. 5

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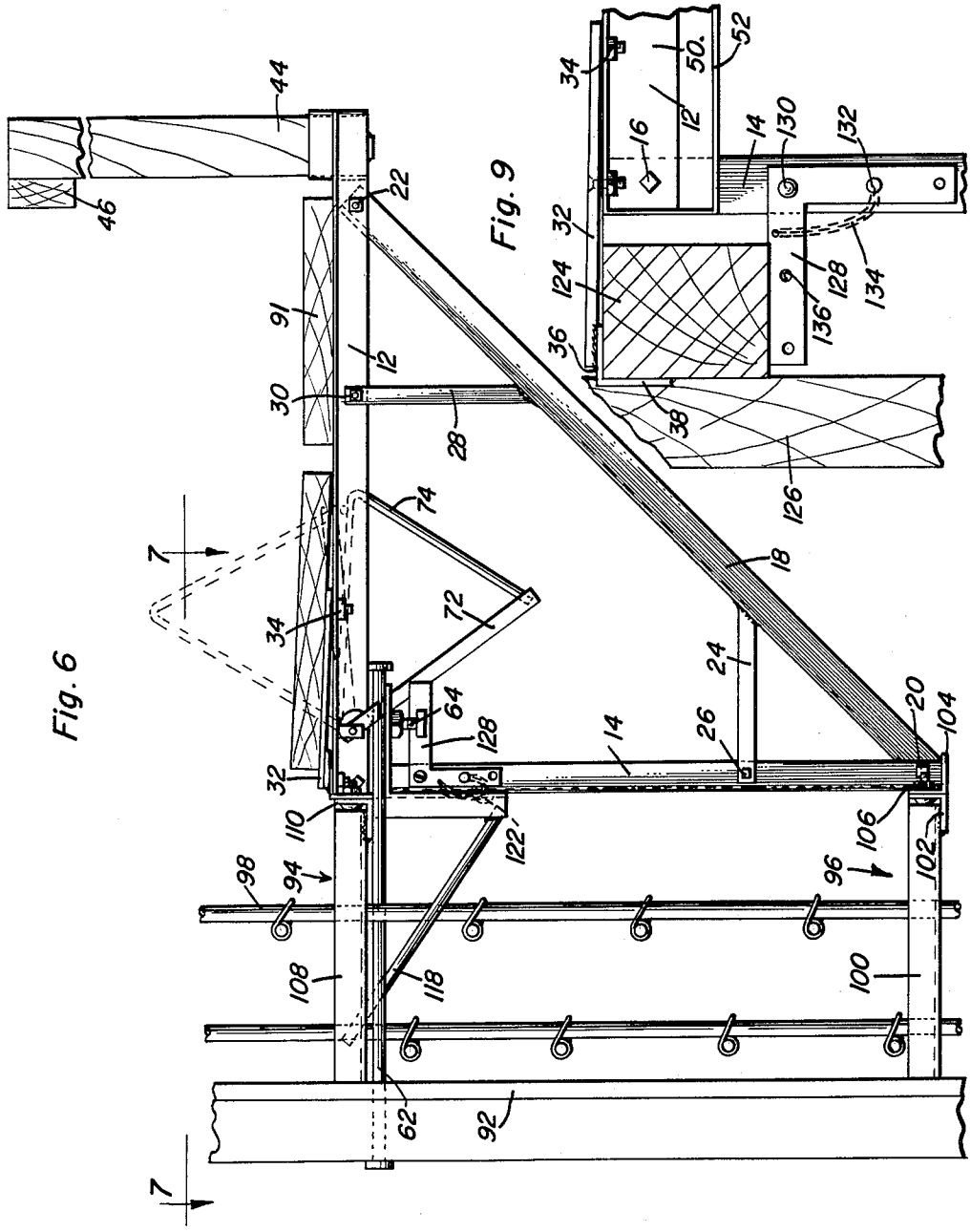
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SCAFFOLD BRACKET WITH SPACERS

Filed Oct. 2, 1962 3 Sheets-Sheet 3



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3,165,288

SCAFFOLD BRACKET WITH SPACERS

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5 Claims. (Cl. 248—226)

The present invention generally relates to scaffold brackets and more particularly to certain improvements on that type of scaffold bracket disclosed in my prior Patent No. 3,044,573, issued July 17, 1962.

The primary object of the present invention is to provide a scaffold bracket incorporating in its construction spacer arrangements whereby the scaffold bracket may be spaced away from the form with which the bracket is associated thereby enabling insertion of items such as reinforcing steel or the like between the scaffold bracket and the form.

Another object of the present invention is to provide an adjustment assembly for enabling the brackets to be attached to various sizes of ties or bolts.

Yet another object of the present invention is to provide an attachment in the form of a guide carried by the clamping eccentric for insuring the proper placing of the bracket on the tie or bolt.

Still another feature of the present invention is to provide a scaffold bracket having a pin for holding the eccentric operating rod in locked position thereby holding the device more securely when scaffold boards are not used.

Still another important feature of the present invention is to provide a novel safety lock for use with the device when used in conjunction with a waler whereby the device cannot be lifted off of the waler along as the safety lock is effective.

Still another object of the present invention is to provide a scaffold bracket having a novel structural arrangement of bracing which enables it to be easily assembled from readily accessible components and which includes a novel socket arrangement for receiving an upright support for a handrail when supporting scaffold boards.

Still another important feature of the present invention is to provide a scaffold bracket having various novel features whereby the device may be supported from the ties employed in concrete wall structures for supporting scaffold boards or for supporting any desired platform and further including means for supporting the bracket from a waler and for supporting the bracket in spaced relation to a form for ease of installation of reinforcing rods, electrical conduits or the like. The entire assembly is quite easily employed, inexpensive to manufacture and quite efficient for its particular purposes.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

FIGURE 1 is an elevational view of the scaffold bracket of the present invention in which the brackets are employed and operatively disposed in relation for supporting a decking or platform;

FIGURE 2 is a detailed sectional view taken substantially upon a plane passing along section line 2—2 of FIGURE 1 illustrating the hand rail socket;

FIGURE 3 is a detailed sectional view taken substantially upon a plane passing along section line 3—3 of FIGURE 1 illustrating the orientation of the operating rod and the lock therefor for the eccentric;

FIGURE 4 is a detailed sectional view taken substantially upon a plane passing along section line 4—4 of

FIGURE 1 illustrating further structural details of the eccentric including the attachment thereon and the adjustable abutment for enabling differen sizes of tires to be clamped;

FIGURE 5 is a detailed sectional view taken substantially upon a plane passing along section line 5—5 of FIGURE 4 illustrating further details of the clamping eccentric;

FIGURE 6 is a side elevational view illustrating the scaffold bracket employing upper and lower spacers for spacing the bracket from the form;

FIGURE 7 is a top plan view taken substantially upon a plane passing along section line 7—7 of FIGURE 6 illustrating further structural details of the spacers;

FIGURE 8 is a perspective view of the upper spacer; and

FIGURE 9 is a detailed sectional view illustrating the manner in which the scaffold bracket of the present invention is supported from a waler.

Referring now specifically to the drawings, the numeral **10** generally designates the scaffold bracket of the present invention which has many uses including the use for supporting a decking on which a concrete floor or the like may be poured as illustrated in FIGURE 1, the use for supporting scaffold boards from a wall form as illustrated in FIGURE 6 and the user being supported from a waler as illustrated in FIGURE 9.

The scaffold bracket **10** includes a top member **12** of angle iron construction and which is normally horizontally disposed and which has the top flange thereof disposed laterally or horizontally. Attached to one end of the horizontal top member **12** is a depending vertical member **14** also preferably of angle iron construction with the two members being secured together by a bolt **16**. The angle iron vertical member **14** has one flange thereof projecting laterally outwardly in opposed relation to the top flange of the member **12**. A brace **18** interconnects the ends of the top member **12** and the vertical member **14** in remote relation to the bolt **16**. The brace **18** is also preferably of an angle iron construction and is adhered to the bottom end of the vertical member **14** by a bolt **20** and is secured to the outer end portion of the top member **12** by virtue of a bolt **22** thereby enabling complete disassembly of the bracket and providing rigidity thereto due to the triangle formed by the top member **12**, the vertical member **14** and the brace **18**.

For additional bracing of the scaffold bracket, an auxiliary horizontal brace **24** is welded to the inclined brace **18** adjacent the lower end thereof and extends to and is detachably connected to the vertical member **14** by a bolt **26** as illustrated in FIGURES 1 and 6. An auxiliary vertical brace **28** is welded to the brace **18** in spaced relation to the bolt **22** and the brace **28** is secured to the top member **12** by virtue of a removable bolt **30**.

Attached to the top flange of the top member **12** is a horizontally disposed strap-like member **32** which is secured in place by a plurality of fastening bolts **34** which extend through selective ones of a plurality of apertures formed in the top flange of the top member **12**. The forward end of the strap or plate **32** is provided with an angle iron member **36** having a depending flange **38** thereon which is normally disposed against the outer surface of the lateral flange of the vertical member **14**. The outer end of the top member **12** is provided with a U-shaped strap **40** mounted thereon and disposed alongside of the vertical flange of the top member **12**. The bottom edge of the U-shaped member **40** terminates substantially flush with the bottom surface of the top member **12** and a transverse strap **42** is welded across the space between the strap **40** and the member **12** as

illustrated in FIGURE 2 for receiving a vertical supporting post or rail 44 for a hand rail 46 or the like. A setscrew or clamp screw 47 is provided through the strap 40 for securing the supporting post or rail 44 in place.

Also attached to the vertical flange of the top member 12 is an angle iron member 48 having a vertical flange 50 and a horizontal flange 52. The vertical flange 50 extends upwardly alongside of the vertical flange of the member 12 and is disposed between the vertical flange of the top member 12 and the adjacent flange of the vertical member 14 and the horizontal flange 52 underlies and is spaced from the top flange of the top member 12.

Journalled in the rear portion of the vertical flange 50 is a stub axle or shaft 54 which also has an eccentric 56 secured thereto. One end of the shaft 54 is journalled in a depending bracket 58 carried by the horizontal flange of the top member 12 thereby providing support for both ends of the axle or shaft 54 and the axle or shaft 54 also serves to interconnect the vertical flange 50 of the member 48 and the depending flange of the horizontal top member 12. The eccentric 56 is provided with serrations 60 on the periphery thereof for grippingly engaging a tie 62 received between the periphery of the eccentric 56 and the horizontal flange 52 as illustrated in FIGURES 4 and 5.

In order to enable different size ties 62 to be effectively gripped by the eccentric member 56, there is provided an adjusting bolt 64 having a head 66 on the lower end and having the threaded ends screw threaded through a nut 68 welded to the horizontal flange 52 in alignment with an opening therein whereby the top end of the bolt 64 forms an adjustable abutment for engaging the tie 62 thereby enabling different diameter ties to be effectively gripped by the eccentric member.

In order to eliminate any possibility of the tie 62 slipping off of the abutment or slipping out from between the eccentric 56 and the aligned surface of the member 52, there is provided a retaining bar or plate 70 on the eccentric 56 as illustrated in FIGURE 4 which plate serves the purpose of depending below the periphery of the cam or eccentric 56 for preventing the tie 62 from slipping laterally sidewise and also serving to cam the tie 62 into proper underlying relation to the eccentric 56.

The end of the shaft or axle which extends through the vertical flange 50 of the angle iron member 48 is provided with a rigid elongated handle 72 carried thereby. Attached to the handle 72 is an angulated rod 74 which cooperates and is secured to the ends of the handle 72 to form generally a triangular operating member for the eccentric and also to provide a counterbalancing weight thereto so that when the handle is released, the eccentric will gravitate so that it will effectively grip the tie 62 in substantially the same manner as in Patent No. 3,044,573 mentioned previously.

To prevent any possible accidental disengagement of the eccentric 56, there is provided a locking device which may be in the form of a pin or lug 76 on the top member 12 adjacent the end of the rod 74 so that the rod 74 may be slightly laterally deflected for positioning under the lug 76 as illustrated in FIGURES 1 and 3. If the device is in the form of a lug, the top surface thereof may be inclined to form a camming effect so that the rod may be brought into registry thereunder by merely pushing downwardly on the rod so that it will be automatically deflected laterally and then spring back under the lug 76 in an obvious manner.

It is pointed out that the horizontal flange 52 of the angle iron member 48 is disposed below the depending flange 38 of the angle iron member 36 thus enabling the tie 62 to be brought into registry with the eccentric 56.

As illustrated in FIGURE 1, the ties 62 are disposed in a concrete wall 78 for the purpose of adjustably supporting longitudinal stringers 80 carrying transverse

member 82 which support a horizontal decking 84 on which a concrete floor, roof or the like may be poured. The stringers 80 are supported by U-shaped saddles 86 carried by a depending threaded rod 88 that extends through aligned apertures in the plate 32 and in the top flange of the top member 12 whereby an adjusting nut 90 provided on the threaded shaft 88 may vary the elevational position of the saddles 86 thereby levelling the decking 84 or setting it at any desired position. When this construction is used, the post brackets or straps 40 are not employed and the rods 74 are engaged with the lugs or pins 76 to lock the scaffold brackets in position.

When the device is to be used to support scaffold boards 91 as illustrated in FIGURE 6, the ties 62 are carried by an inner wall form 92 and spacer assemblies 94 and 96 are provided for spacing the scaffold bracket away from the wall form 92 so that reinforcing rods 98, electrical conduits or the like may be installed by those workers skilled in this type of endeavor.

The lower spacer assembly 96 includes a pair of angle iron members 100 which are disposed parallel to each other and which are welded to an angle iron members 102 that is detachably bolted to a lower transverse angle iron member 104 carried by the lower end of the vertical member 14. The bolt for securing the angle iron members 102 and 104 together are designated by numeral 106 thus enabling attachment and detachment of the lower spacer assembly 96. The upper spacer assembly 94 is illustrated in FIGURE 8 and includes a pair of angle iron members 108 parallel to each other and which are secured to an angle iron member 110 having apertures 112 therein for abutting engagement with the flange 38 of the angle iron member 36 and is secured thereto by bolts 114. In addition, the central part of the upper spacer assembly 94 is provided with an inverted or downwardly facing angle iron member 116 also welded to the angle iron member 110 and being braced by a brace rod 118 and a depending brace member 120 attached to the angle iron member 110 and attached to the vertical member 14 by virtue of a suitable bolt 122. The brace rod 118 is attached to the exterior of the edge of the angle iron member 116 and the angle iron member 116 is disposed over and is centralized on the tie 62 whereby the forces on the tie are transferred to the form 92. With the spacer assemblies 94 and 96 in position, the scaffold boards 91 are spaced from the form 92 thus providing a space in which workmen may orientate various iron work such as reinforcing rods, electrical conduits and other similar elements which are to be placed in a concrete wall.

When the device is to be supported from a waler 124 on the exterior of form members 126, the plate 32 is detached from the top member 12 and moved to an extended position as illustrated in FIGURE 9 and re-secured to the top member 12 by the fastening bolts 34. In this orientation, the flange 38 is then spaced from the front flange of the vertical member 14 and may be positioned over the top edge of the waler 124 in substantially the manner of a hook as illustrated in FIGURE 9. For preventing disengagement of the flange 38 from the waler 124, there is provided a latching member 128 in the form of an angle iron member pivotally attached to the vertical member 14 by a pivot bolt or rivet 130 disposed at the apex of the angle iron member 128. The angle iron member 128 is in the form of a strap and has a locking pin 132 tethered thereto by a flexible chain 134 or the like.

The angle strap member 128 is provided with a series of apertures 136 in each leg thereof for selective registry with an aperture in the vertical member 14 thus enabling the pin 132 to be inserted through either an aperture in the vertical leg thereof when the other leg is disposed under the waler 124 as illustrated in FIGURE 9 so that the bracket is locked to the waler or for engaging the vertical leg thereof when the horizontal leg is in juxtaposed relation to the adjusting bolt 64 thus securing the locking lug in retracted out-of-the-way position. As illustrated

in FIGURE 4, when the locking lug is in the retracted position, the horizontal leg thereof extends alongside of and abuts the bolt 64 thus serving as a lock to prevent the bolt 64 from becoming maladjusted accidentally or due to vibrations or the like.

The scaffold bracket is also capable of being applied from an elevated position in the same manner as in the device illustrated in Patent No. 3,044,573 and a similar type of operating cord may be attached to the rod in the same manner. FIGURE 7 illustrates a guide loop 140 on the angle iron member 36 for guiding a cord which also may be attached to the outer end of the handle 72 merely tying the cord thereto or by running the cord through a suitable aperture provided thereon. Other suitable loops may be provided for the operating cord and this enables the bracket to be dropped down from an elevated position into engagement with a projecting tie or reinforcing rod in a concrete wall for the purpose of supporting the bracket therefrom whereby release of the cord will automatically cause the eccentric 56 to grip the tie so that the scaffold boards may then be placed directly on the scaffold bracket as required or desired.

With the present invention, the device may be effectively employed for supporting scaffold boards in the position illustrated in FIGURE 6 in spaced relation to a wall form or from a wall and also may be employed without the spacers for supporting scaffold brackets adjacent a wall form or adjacent a wall and may also be supported from a waler or from a wall tie structure for carrying an overhead decking which may be employed as a bottom of a form for a concrete floor or roof structure.

With the safety factors incorporated into the present invention, substantially all possible hazards have been removed since there is nothing that can become accidentally disengaged and accordingly, the bracket of the present invention is not only extremely safe but also effective for its particular purposes and relatively inexpensive to manufacture.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. A scaffold bracket adapted to be mounted on a wall tie projecting outwardly from a forming wall in outwardly spaced relation to the wall, said bracket including an elongated vertical member positionable parallel to the wall, an elongated horizontal member rigid at one end with the upper end of the vertical member and projecting outwardly at generally a right angle therefrom, upper and lower generally equal length spacers fixed to the vertical member and projecting therefrom in a direction opposite from the horizontal member for abutting engagement against the forming wall, and means on the horizontal member for receiving and clampingly engaging the wall tie with the spacers abutted against the wall, said means consisting of a horizontal surface fixed to the bracket below the horizontal member and adjacent the vertical member, an eccentric pivoted to the bracket above the horizontal surface for clamping the tie between the eccentric and the horizontal surface, an operating lever fixed to the eccentric and movable in a vertical plane adjacent the horizontal member between an unlocked position orientated above the horizontal member and a locked position orientated slightly below the upper surface of the horizontal member, and a locking pin projecting laterally from the horizontal member for engaging the lever and retaining the lever in its locked position, said lever being capable of slight lateral deflection so as to pass beyond and behind said pin, said locking pin including a camming surface for effecting a lateral flexing of the lever upon contact of the lever with this surface, said lever being automatically engaged behind the pin upon movement of the lever beyond the outer end of the pin.

2. The scaffold bracket of claim 1 wherein each spacer consists of a first member fixed transversely across the vertical member and projecting a substantial distance beyond both sides thereof, and a pair of spaced parallel members secured to the outer ends of the transverse member and projecting therefrom for independent engagement with the wall.

3. The structure as defined in claim 1 wherein said horizontal member includes a plate having a depending flange at the outer end thereof, said flange normally being disposed against the vertical member, fastening means adjustably interconnecting the plate and the horizontal member whereby the depending flange may be spaced from the vertical member for engagement over a waler for supporting the bracket from a waler, said vertical member including a pivotal lock means mounted thereon for engagement under the waler to prevent disengagement of the flange from the waler thereby securing the bracket to the waler.

4. The structure as defined in claim 1 wherein said eccentric includes an attached plate for preventing disengagement of a tie with the eccentric after the eccentric begins movement toward its clamped position.

5. The structure as defined in claim 4 wherein adjustable abutment means is mounted on said horizontal surface for receiving the tie in opposed relation to the eccentric, said abutment including a screw-threaded bolt extending into engagement with the surface of the tie opposite to the eccentric.

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