Aug. 22, 1961 C. F. DIMMITT 2,997,268

SCAFFOLD JACK

Filed Nov. 5, 1959

Fig. 1

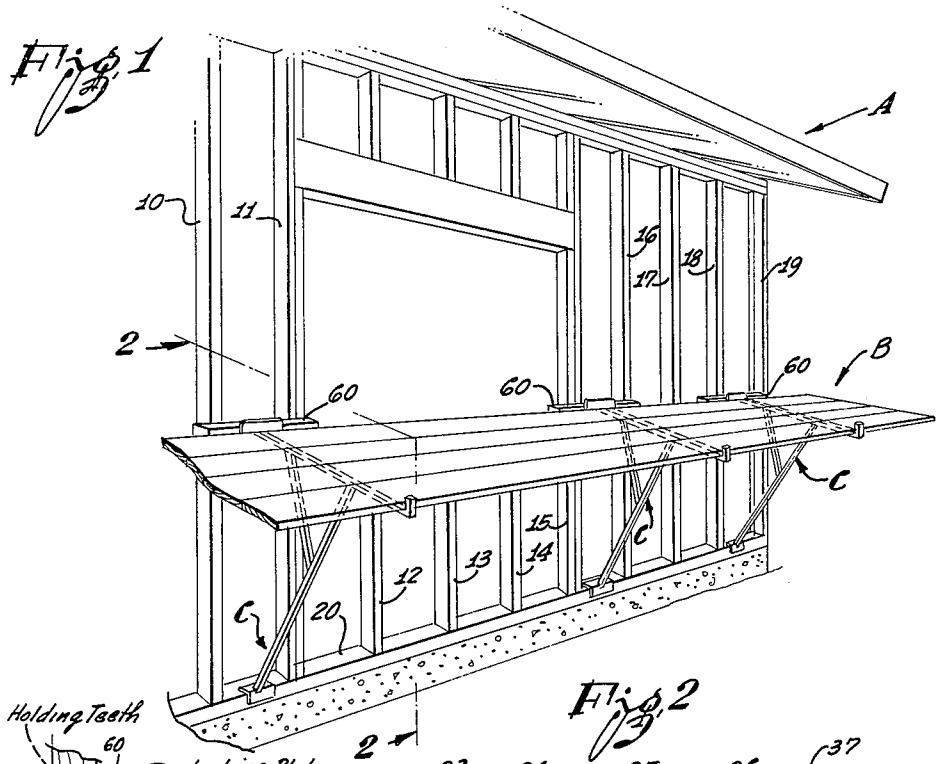


Fig. 2

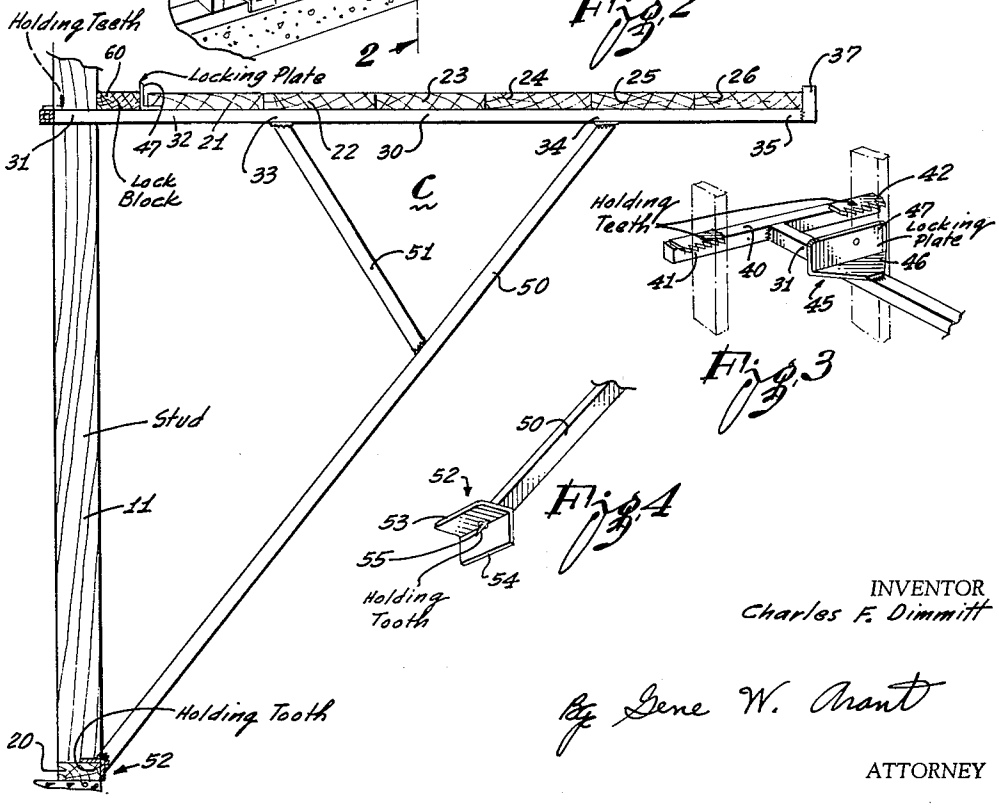


Fig. 3

Fig. 4

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SCAFFOLD JACK

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The present invention relates to a scaffold jack adapted to be supported from a parallel pair of vertical studs of a frame structure.

In erecting frame structures, such as houses, it is often necessary to provide scaffolds along the exterior walls for the convenience of the workmen. Such scaffolds are often specially constructed on the site of each job, using earth as a foundation, but this procedure is both time consuming and expensive.

Various arrangements have also been devised for supporting the scaffolding from the wall of the structure itself. Support apparatus of this type is generally disassembled after use and then moved to another job location.

The apparent advantage of the re-usable support apparatus has in fact been illusory, however, so far as prior devices of this type have been concerned. Many difficulties have arisen, primarily from the safety standpoint. If the scaffold support apparatus has been capable of adequately supporting the scaffold, then it has imposed an excessive load on the frame of the structure, with resultant damaging or breaking of the studs. On the other hand, if the support apparatus has been designed in such a way as not to impose an excessive load on the wall of the structure, then it has proven inadequate to provide safe and reliable support for the scaffold.

One object of the invention, therefore, is to provide re-usable scaffold support means which is safe and reliable.

Another object of the invention is to provide a scaffold jack adapted to be removably supported from a parallel pair of vertical studs of a frame structure.

A further object of the invention is to provide a re-usable scaffold jack having no moving parts.

The above and other objects and advantages of the invention will be more readily understood from the following description considered in conjunction with the accompanying drawing, in which:

FIGURE 1 is a perspective view of a scaffold supported on the outer wall of a frame structure in accordance with the invention;

FIGURE 2 is a vertical cross-sectional view of the scaffold of FIGURE 1 taken on line 2—2 thereof;

FIGURE 3 is a perspective view illustrating the upper end support for the scaffold jack of FIGURE 2; and

FIGURE 4 is a perspective view illustrating the lower end support of the scaffold jack.

Referring now to the drawing, and particularly to FIGURE 1, it will be seen that a frame structure A has an outer wall from which a scaffold B is supported by means of several scaffold jacks C, all in accordance with the invention. The outer wall of structure A includes vertically disposed, parallel studs **10, 11, . . . 19**. The lower ends of all the studs are supported upon a horizontally extending bottom plate **20**. As shown in FIGURE 1, one of the scaffold jacks C is supported from studs **10** and **11**, another from studs **15** and **16**, and the remaining scaffold jack from studs **18** and **9**.

Scaffold B is seen to include a horizontal walkway comprising a plurality of planks extending parallel to the structure wall. In FIGURE 2 the planks are identified by respective reference numerals **21 . . . 26**. It will also be seen, in FIGURES 1 and 2, that a lock block **60** is utilized in conjunction with each scaffold jack C, for maintaining the scaffold jack in fixed position relative to the structure wall from which it is supported.

The structure of one of the scaffold jacks C will now be described.

Scaffold jack C includes a horizontally disposed beam **30** having one end **31** inserted between two adjacent studs, such as **10, 11**. A cross bar **40** is fastened to end **31** of beam **30**, at a right angle thereto, and extends horizontally behind the studs **10, 11**. At the front or outward side of the structure wall a cross piece **45** is fastened to beam **30** at portion **32** thereof. Outer end **35** of beam **30** carries a vertically aligned post support **37**.

Cross bar **40** on the ends of its forward edge carries teeth **41, 42**, adapted to bite into the rear faces of studs **10, 11**. Cross piece **45** is rigidly fastened to beam **30** and is spaced from cross bar **40** a distance more than sufficient to accommodate the studs therebetween. Cross piece **45** is adapted to firmly engage the lock block **60**, when driven in front of the studs for forcing teeth **41, 42**, to bite into the rear stud faces.

Each tooth section, such as **41**, is preferably formed from a section of flat metal plate, as illustrated, with the teeth provided on one longitudinal edge thereof, and the plate then being sceurely welded to the upper surface of cross bar **40** to form a row of teeth parallel to the cross bar and which face toward cross piece **45**. Each row of teeth **41, 42**, is preferably long enough to permit some lateral movement of the scaffold jack, while still engaging the full width of the rear stud face. Cross piece **45** includes a flat plate **46** resting upon beam **30**, and secured thereto as by welding, and a plate section **47** which is turned upward at a right angle to plate section **46**. Assuming that the studs are made of two-by-four inch lumber it is convenient to make lock blocks **60** of the same material. Each block **60**, like cross bar **40**, is of sufficient length to simultaneously engage two adjacent studs, while permitting some lateral adjustment if desired.

A rigid support leg **50** has a foot piece **52** fastened to its lower end, the foot piece in turn being adapted to rest upon the plate **20**. Support leg **50** extends upward from plate **20** at an angle of approximately 40 degrees from the vertical, and has its upper end rigidly fastened, as by welding, to portion **34** of the beam **30**. A rigid brace **51** has its upper end fastened to beam **30** at **33** while its lower end is rigidly fastened to the mid-portion of support leg **50**, at approximately a right angle thereto.

Foot piece **52** includes a horizontal plate **53** and a vertical plate **54** joined together to form an L-shaped member for engaging the upper surface and outer side wall surface of the plate **20**. A sharp spike **55** extends downwardly from the juncture of plates **53, 54**, at such an angle as to constitute an extension of support leg **50**, and serves to penetrate the plate **20** so as to secure foot piece **52** firmly in position. Post support **37** is preferably a section of hollow steel tubing, welded to the end of beam **30** so as to support a post in vertical position. The other structural members may be tubing, or solid material, as desired.

The operation of the invention is quite simple. First, the scaffold jack is held in its normal position, with cross bar **40** being on the outer side of two adjacent studs of the structural wall. Then the scaffold jack is rotated slightly about the longitudinal axis of beam **30** so that foot piece **52** swings substantially to one side, and cross bar **40** becomes inclined at a sufficient angle with respect to the horizontal so that it may be inserted between the two adjacent studs. The scaffold jack is again pivoted back to its normal position, and foot piece **52** is placed upon plate **20** intermediate the two supporting studs, with spike **55** penetrating plate **20** to maintain the position of the foot piece. The weight of the scaffold jack causes the upper portion thereof to swing out-

ward which in turn causes teeth **41**, **42**, to bear upon the rear stud faces. The next step is to insert the lock block **60** between the front stud faces and the vertical face of plate **47** of the cross piece **45**. The spacing between cross bar **40** and cross piece **45**, and the dimensions of the studs and of lock block **60**, are so selected that the lock block must initially be inserted at an angle. Finally, the lock block is hammered or driven down (not shown), so as to force cross piece **45** away from the studs and at the same time force the teeth **41**, **42** to bite into the rear stud faces.

In using the invention as illustrated a principal part of the load is applied via support leg **50** to the plate **20**. A certain amount of horizontal stress is applied to the studs but this is kept well within safe limits. The locking action of the lock block and teeth prevents vertical movement of end **31** of the beam **30**, hence structural rigidity of the scaffold jack is maintained at all times. Furthermore, the cooperative effect of the locking action, and the structural arrangement of the scaffold planks and scaffold jacks, is such as to inhibit each scaffold jack from exhibiting any substantial tendency to pivot around a vertical axis parallel to the studs from which it is suspended.

While only one form of the invention has been illustrated it is apparent that many modifications may be made if so desired. For example, post support **37** at the outer end of beam **30** may be omitted if desired. Also, the upper end of support leg **50** may be hinged to beam **30**, and brace **51** may be hinged at one end and detachable at the other, so that the entire scaffold jack may be collapsed for purposes of transportation. Another modification which may be desired is to omit spike **55** and provide a suitable hole either in plate **53** or in plate **54** through which a nail may be driven to accomplish the same end result. Still another modification is to lengthen cross bar **40** so as to simultaneously engage four or more studs in supporting relationship.

In some applications of the invention it may be desired to provide vertical support of beam **30** by means of legs which rest on the ground, and whose vertical length is adjustable. Foot piece **52** may then be unnecessary. In other applications of the invention it may be desired to support both the upper and lower ends of the scaffold jack direct from the studs, using a fastening means including a crossbar **40** and a cross piece **45** at the bottom as well as at the top.

The invention has been described in considerable detail in order to comply with the patent laws by providing a full public disclosure of at least one of its forms. However, such detailed description is not intended in any way to limit the broad features or principles of the invention, or the scope of patent monopoly to be granted.

What I claim is:

1. In a scaffold jack having a normally horizontally disposed beam, means for supporting one end of said beam between a parallel pair of vertical studs of a frame structure, said means comprising: a crossbar carried on said one end of said beam, adapted to extend behind said studs, and having teeth on each end of its forward edge for engaging the rear faces of said studs; and a cross piece carried on said beam parallel to said crossbar and spaced from said crossbar a distance more than sufficient to accommodate said studs therebetween, said cross piece being adapted to engage a block driven in front of said studs for forcing said teeth to bite into said rear faces thereof.

2. A scaffold jack as claimed in claim 1 which further includes a support leg fastened to the outer end portion of said beam and extending downwardly and inwardly therefrom, and a foot piece on the lower end of said support leg adapted to be removably attached intermediate said studs to a horizontal plate on which the lower ends of said studs are supported.

3. A scaffold jack as claimed in claim 2 in which said foot piece includes a length of angle iron having a horizontal portion adapted to rest upon the horizontal upper surface of the plate and a vertical portion adapted to engage the vertical outer surface of the plate, and a spike fastened underneath said angle iron in longitudinal alignment with said support leg and adapted to pierce the plate so as to prevent horizontal movement of said foot piece.

4. A scaffold jack as claimed in claim 1 in which both said crossbar and said cross piece are rigidly affixed to said beam.

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