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2,569,450

CLAMP

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Fig. 1

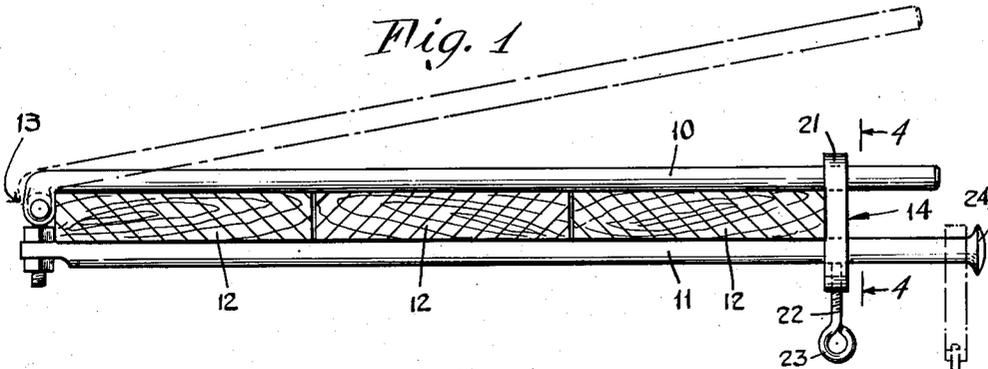


Fig. 2

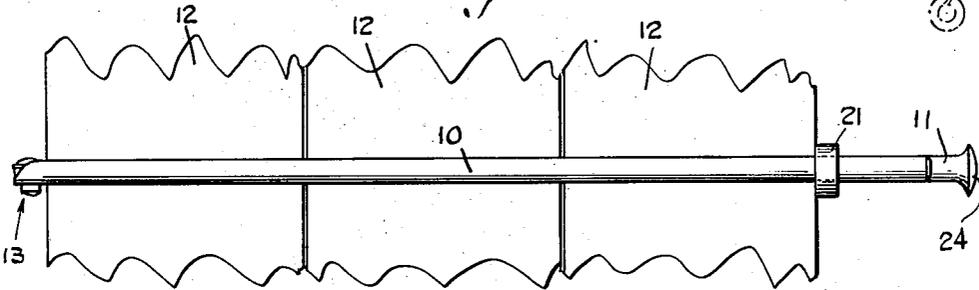


Fig. 3

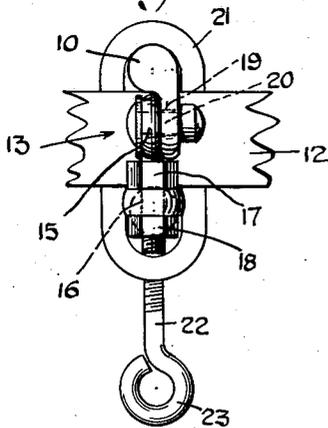
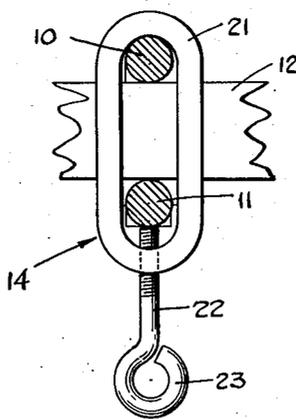


Fig. 4



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UNITED STATES PATENT OFFICE

2,569,450

CLAMP

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1 Claim. (Cl. 24—251)

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The present invention relates to clamps and particularly to clamps which may be employed for securing together the boards or planks forming the floor of scaffolding to provide a platform thereon.

Heretofore in erecting scaffolding the boards or planks forming the platform have been secured together in side-by-side relation, preferably with a space between the boards, by means of a cleat extending across the platform and nailed to the boards. This required a substantial amount of time in both the installation and in the removal of the scaffolding.

The present invention avoids this difficulty by providing a novel clamp which can be easily and quickly applied to the platform to hold the boards in desired relation and may be readily removed when it is desired to knock down the scaffolding.

The clamp of the present invention extends over the upper and lower surface of the platform and when drawn into clamping relation holds the boards against lateral movement.

A feature of the clamp of the present invention resides in the structure wherein platforms having boards or planks of various widths may be employed and clamped together with the required space between them or in edge-to-edge relationship and can be used for platforms of various widths.

Furthermore the clamp of the present invention is adjustable to accommodate planks of various thicknesses.

The clamp of the present invention is simple of construction, cheap to manufacture, and easy to install and remove.

Other features and advantages of the invention will be apparent from the specification and claim when considered in connection with the drawings wherein:

Figure 1 shows a side view of the clamp in clamped relation and in released position in dotted lines.

Fig. 2 is a plan view of the clamp.

Fig. 3 is a hinged end view.

Fig. 4 is a section taken along line 4—4 of Fig. 1.

As shown in the drawings, the clamp of the present invention comprises an upper bar 10 and a lower bar 11 of suitable rigid material adapted to extend across the planks or boards 12 arranged in side-by-side relation and forming the flooring or platform of the scaffold.

At one end, the bars 10, 11 are hinged together at 13 and at the other end a clamping means 14 is provided for drawing the bars into clamped

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relation with the upper and lower surface of the planks.

While the hinge may take several forms, in the preferred form of the invention it comprises an eye bolt 15 mounted in an aperture 16 in the bar 11 and secured therein by nuts 17, 18 threaded on the bolt and into engagement with the opposite sides of the bar. The upper bar 10 is pivotally mounted on the eye of the eye bolt. As herein illustrated the bar 10 is provided with an aperture 19 and a shaft 20, which may be a stud, rivet or the like, passes through the aperture 19 and the eye of the eye bolt and provides a pivot for the upper bar so that it may be swung from clamped position, shown in full lines, to the dotted line position in Fig. 1, to enable it to be readily moved into or out of assembled relation with the planks.

The thickness of the planks used in forming the platform may vary. In order that the clamp may be used to clamp such planks, provision is made whereby the spacing between the two bars can be adjusted to receive the planks. This is accomplished at the hinged end by varying the position of the eye bolt with respect to the bar 11, by proper adjustment of the nuts 17, 18 thereon.

While the clamping means 13 may take various forms, in the preferred form of the invention it comprises a rigid collar 21 slidable along the two bars, when the bars are in assembled relation about the planks, with the upper section of the collar engaging the bar 10 and the lower section provided with a clamping bolt 22 threaded therein and which is screwed into engagement with the underside of the bar 11. As the clamping bolt is tightened the collar is drawn into firm engagement with the upper side of bar 10 and the two bars are moved to clamp the planks between them. This clamping means will accommodate the various spacing of the bars as determined by the hinge means.

The bolt 22 may have various means whereby it may be tightened up. In the herein illustrated form of the invention it has an eye 23 through which an instrument may be inserted to apply turning force to the bolt. However, other equivalent structure may be employed to enable the clamp to draw the bars tightly into clamping relation with the upper and lower surface of the planks.

According to the present invention, means are provided whereby the clamping means will be held on the bars against accidental separation from the clamp and in a position wherein it can

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be readily moved into clamping position. This is accomplished in the preferred form of the invention, by extending one of the bars beyond the other and providing the extended bar with an enlargement. As shown in Fig. 1, the lower bar is extended and the end of the bar is headed, as indicated at 24, and prevents the collar from slipping off the end of the bar during handling of the clamp. The extension of the lower bar provides a means for holding the collar in the dot-and-dash line position of Fig. 1 and after the two bars are in proper position the collar can be raised and slipped over the shorter end of the upper bar and in proper location thereon and the clamp then tightened.

In laying up a scaffold it is at present preferred to lay the planks side-by-side and leave a slight space therebetween since this prevents binding of the boards as they are walked upon and also permits small pieces of material which might fall on the scaffold to pass therethrough. The clamp bars, if they do not have the proper spacing for the thickness of the planks, are adjusted and the clamp swung in position about the planks and the collar moved over the bars and tightened to lock the planks in place.

While the clamp of the present invention can be used with spaced planks it can also be used with planks placed in edge-to-edge relation since the clamping pressure is exerted on the top and bottom of the boards and will hold them in any desired spaced relation.

Furthermore, the clamp of the present invention can be used to provide scaffold platforms of various widths as required because as above stated the clamping action is against the top and bottom of the boards. If, for example, two planks are used instead of the three planks, as shown in Fig. 1, the clamping collar can be moved into proper position on the bars and accurately hold the planks in place.

The clamp of the present invention, because of the simplicity of its structure can be readily ac-

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commodated to variations normally found in practice in scaffolding, can be easily installed and removed, and can be manufactured cheaply.

Variations and modifications may be made within the scope of this invention and portions of the improvements may be used without others.

I claim:

A clamp for securing together a plurality of planks in side-by-side relation comprising a pair of rigid bars extending across the planks and adjustably hinged together at one end by hinge means including a rigid member having a pivoted connection to one of the bars whereby the bars may be readily swung open for easy insertion of the planks therebetween, said hinge means fixing the spacing between the bars at said end in accordance with the thickness of the planks; and means embracing the other ends of the bars and slidable thereon into engagement with the edges of plank assemblies of various widths to prevent lateral movement of said planks and having means for drawing said bars together and clamping said planks therebetween to prevent longitudinal movement of said planks.

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