Jan. 3, 1956 H. COLVIN 2,729,516

ADJUSTABLE SCAFFOLD

Filed Feb. 13, 1952 2 Sheets-Sheet 1

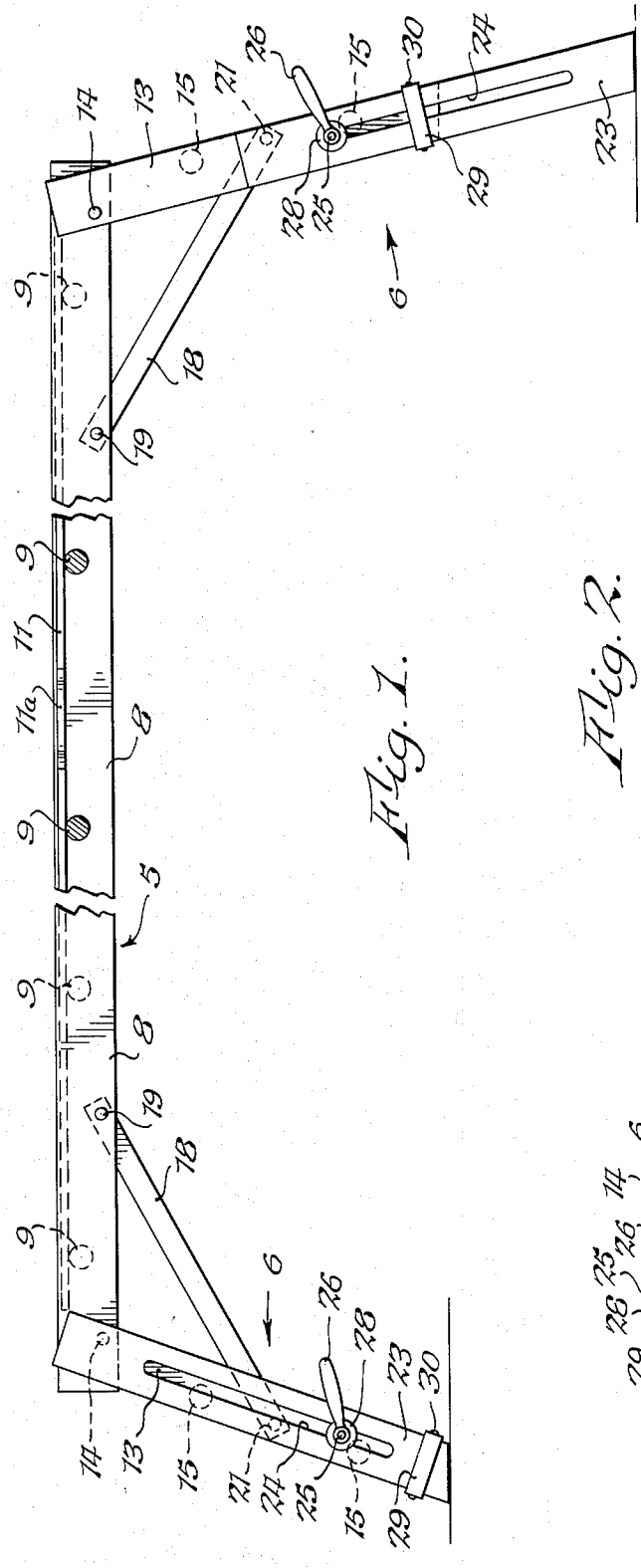


Fig. 1.

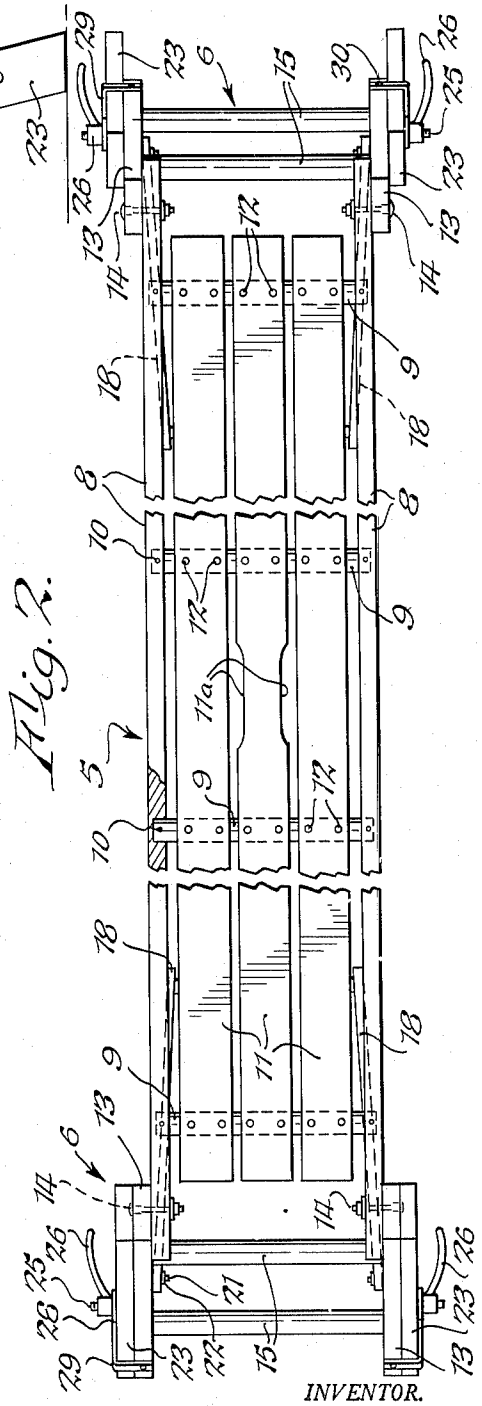


Fig. 2.

INVENTOR.
Harry Colvin
BY
Popp and Sommer
Attorneys.

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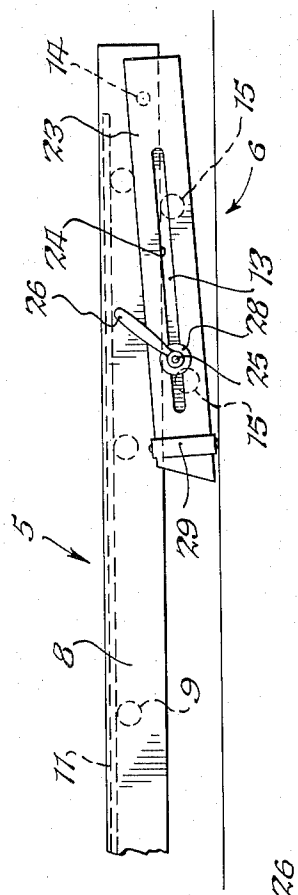


Fig. 4.

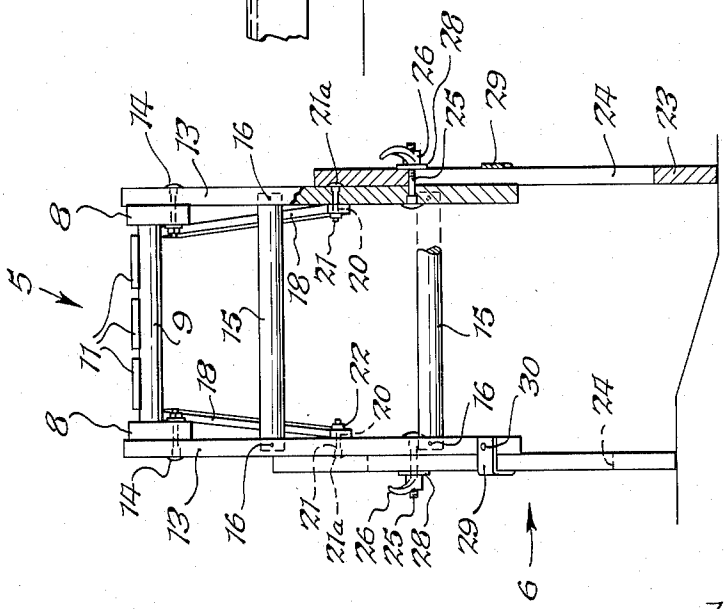


Fig. 3.

INVENTOR.
Harry Colvin
BY
Popp and Sommer
Attorneys.

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2,729,516

ADJUSTABLE SCAFFOLD

Harry Colvin, Mayville, N. Y.

Application February 13, 1952, Serial No. 271,349

1 Claim. (Cl. 304—6)

This invention relates to an adjustable scaffold and more particularly to a scaffold the four legs of which are individually adjustable as to height so that the scaffold can be supported on different base levels, such as one end being supported on the floor of a room while its other end is supported on the stair of a stairway at a higher elevation.

One of the principal objects of the present invention is to provide such a foldable scaffold which can readily be adjusted to have each of the pair of legs at its opposite ends adjustable to different lengths to meet the varying conditions encountered in a home and have the platform of the scaffold level to receive planks or the like.

Another most important object of the invention is to provide such a foldable scaffold with adjustable legs which is secure and sturdy and rigidly braced so that there is no danger of the same collapsing while in use.

Another important object of the invention is to provide such a foldable scaffold in which the legs and braces fold against the platform of the scaffold so that it can be readily transported from place to place.

Another object is to provide such a foldable scaffold which is light in weight without sacrifice of strength.

Another object is to provide such a foldable scaffold which is low in cost and at the same time will stand up under conditions of adverse and constant use without getting out of order or requiring repairs.

Other objects and advantages of the invention will be apparent from the following description and drawings in which:

Fig. 1 is a side elevation of the foldable scaffold embodying the present invention and showing the pairs of legs at opposite ends thereof adjusted to different lengths with the shorter length supported on an elevated surface such as the stair of a stairway. The rear elevational view of the scaffold is substantially identical to the front elevation illustrated in Fig. 1.

Fig. 2 is a top plan view of Fig. 1 with a portion broken away.

Fig. 3 is an end elevational view with parts broken away and showing one of the adjacent pair of legs shorter than the other.

Fig. 4 is a side elevational view with the leg structures and braces folded.

The scaffold forming the subject of the present invention includes an upper elongated platform structure **5** supported at its opposite ends on both extensible and foldable leg structures indicated generally at **6**. For lightness the upper elongated platform structure **5** is preferably specially constructed as follows:

The platform structure **5** comprises two wooden rectangular side rails **8, 8** which extend the full length of the platform and have a greater depth than horizontal thickness so as to provide the necessary strength required of a span. These side rails are connected at intervals by round cross bars or members **9** and which are preferably secured to the side rails in the manner of ladder rungs. To this end these round cross bars are preferably doweled

into the opposing faces of the side rails **8, 8** and secured by nails **10** driven through the top faces of the rails into the imbedded ends of the round cross bars **9**. These cross bars are preferably arranged below the upper surfaces of the side rails a distance equal to the thickness of deck boards **11** which run lengthwise of the platform and are supported on the round cross rods. Accordingly it will be seen that the upper surfaces of these deck boards **11** are flush with the upper edges of the side rails **8**. These deck boards are preferably spaced from each other and from the side rails and can be secured to the round cross bars **9** by nails **12**. In order to conveniently move the scaffold, when collapsed, from place to place the center deck board **11** is preferably indented along its opposite edges at its center, as indicated at **11*a***, these indentations providing convenient finger and thumb holes for lifting the scaffold.

The leg structures **6** at opposite ends of the platform **5** are identical in construction and hence a description of one will be deemed to apply to both. Each of these leg structures comprises a rectangular wooden leg bar **13** which is pivotally secured at its upper end, as by a bolt **14**, to the outer face of the corresponding side rail **8** near the end of this side rail. The rounding head of each bolt **14** projects from the outer face of the corresponding leg bar **13**. The two legs **13** of each leg structure pivot on these bolts **14** and are cross connected by a pair of round cross bars **15**. These cross bars **15** are preferably secured in the same manner as the round cross bars **9** of the platform structure, that is, the ends of these cross bars are doweled into the legs **13** and secured against displacement by nails **16**.

The leg structures, when the scaffold is set up, are arranged in downwardly diverging relation to obtain maximum stability. To this end the scaffold is provided with a brace bar **18** which is pivotally connected at its upper end to the platform **5** and at its other end is removably connetced to the corresponding leg bar **13**. Each of these braces is identical in construction, being in the form of a rectangular wooden bar secured at its upper end by means of a pivot bolt **19** to the inner face of a corresponding side rail **8** a short distance from the end thereof. The other end of each of these brace bars **18** is provided with a hole **20** fitting a bolt **21** the shank of which projects horizontally inwardly from the corresponding leg **13**. The rounding head **21*a*** of each bolt **21** protrudes from the outer face of the corresponding leg bar **13** for a purpose which will presently appear and each bolt **21** is provided with a removable nut **22**. Upon removing the nut **22** it will be seen that the hole **20** of the brace **18** can be fitted over the projecting end of the bolt **21** and that upon replacing the nut the leg will be adequately braced in its operative position.

A feature of the invention resides in the individual extensibility of each of the legs **13**. To this end an extension piece or bar **23** is adjustably secured to each of the legs **13**, the parts being identical in construction for each leg.

Each extension piece or bar **23** is in the form of a rectangular wooden bar of approximately the same dimensions as the leg **13** and having a longitudinal slot **24** extending therethrough perpendicular to the mating faces of the leg bar and extension bar. In this longitudinal slot is arranged a bolt **25** which is anchored in the leg **13**, this bolt having a threaded end projecting out through the slot **24**. A wing or handled clamping nut **26** is secured to each of the projecting ends of each bolt **25** and screws against a washer **28** which in turn bears against the outer face of the corresponding extension piece or bar **23**.

Near its extremity each leg **13** is provided with a U-shaped strap **29** the legs of which are secured, as by rivets

30, to the edges of the corresponding legs 13 and the cross part of which slidingly embraces the extension piece 23. It will be seen that each of these U-shaped straps provides a slideway and abutment, at the lower end of each leg 13, for the corresponding extension piece 23 and at the same time permits the extension piece to be moved along the leg 13 and secured at any desired position of extension by tightening the corresponding handled or wing bolt 26.

It will be noted that in all positions of the extension piece 23 the projecting head 21*a* of the bolt 21 to which the corresponding brace 18 is secured is out of line with the slot 24 and is in contact with the inner face of the extension piece 23. Accordingly, not only are these bolts 21 prevented from slipping out and being lost but the projecting head 21*a* is in position to embed itself in the extension piece 23 as clearly shown in Fig. 3 when the clamping nut 26 is tightened. Such indentation, of course, provides insurance against slipping of each extension piece 23 along its leg 13 when a load is placed on the platform 5. It will further be noted that the pivot bolt 14 for each leg 13 is located toward the bottom of the side rails 8 and inwardly of the center line of the corresponding leg 13. By this means, when the structure is collapsed, the cross bars 15 of the leg structures 6 lay alongside the lower edges of the side rails 8 and these leg structures are substantially parallel with these side rails.

In use, in the collapsed condition of the scaffold the brace bars 18 are disconnected from the bolts 21 of the legs 13 and are folded against the inner faces of the side rails 8. In the collapsed condition each leg structure 6 is also swung around the pivot bolts 14 so that its round cross bars 15 lay in closely spaced relation to the lower edges of the side rails 8 and so that the legs 13 are generally parallel with these side rails to provide a compact structure. It will also be noted that the lower cross bar 15 of each leg structure 6 is arranged against the folded brace bar 18 so that this brace bar 18 cannot swing out and is held in its nested condition. In the folded condition of the platform the extension pieces 23 for the leg 13 can be in any position of adjustment since these extension pieces are arranged parallel with the legs and hence whether they project or not does not materially affect the compactness of the structure.

When it is desired to set up the scaffold the leg structure 6 at each end of the platform 5 is swung out on its pair of pivot bolts 14 and at the same time the corresponding pair of brace bars 18 are swung out about their pivot bolts 19. The nuts 22 of the bolts 21 on the legs 13 are then removed and each of these bolts is inserted in the hole 20 of the companion brace bar 18. The nuts 22 are then replaced and it will be seen that a rigid scaffold is provided having divergent legs for greater stability.

If the scaffold is to be used on a flat floor each of the extension pieces 23 would be adjusted to have the same degree of extension from the companion leg 13. This extension is obtained by loosening the handled clamping nuts 26 and sliding the extension pieces 23 outwardly so that upon tightening the clamping nut 26 the extension pieces are secured to the legs 13 to have the same degree of extension. It will be seen that these extension pieces are reliably clamped in any position of adjustment, the U-shaped straps 29 providing a positive abutment and slideway at the lower end of each leg 13 and the clamping nuts 26 securing each extension 23 to the leg 13 so as to embed the heads 21*a* of bolts 21 in the extension bars 23, these heads being out of line with the slots 24.

It will particularly be noted that by having each individual leg 13 extensible through outward adjustment

of its extension piece 23 the scaffold can be arranged with its platform 5 level regardless of variations of special conditions encountered. For example, as illustrated in Figs. 1 and 2, it may be desirable to set one end of the scaffold on a stairway in which event the extension pieces 23 of the leg structure at one end of the scaffold would be adjusted outwardly whereas the extension pieces 23 of the leg structure at the opposite end of the scaffold would be adjusted to provide a shorter leg structure. It will be appreciated that conditions are encountered where one leg of the leg structure 6 at one end of this scaffold would be desirably shorter than its companion leg and in such event the extension pieces 23 of these two legs would be adjusted accordingly, as illustrated in Fig. 3.

From the foregoing it will be seen that the present invention provides a very lightweight and at the same time sturdy and secure scaffold which can readily be collapsed to provide a very compact and easily handled structure and at the same time has each of its four legs conveniently and securely extensible so as to be adaptable to the varying levels encountered in the use of scaffolding within a building.

I claim:

A foldable scaffold, comprising a platform structure having a pair of longitudinal side rails and cross bars rigidly connecting said side rails, a leg structure at each end of said platform structure and comprising a pair of leg bars with their opposing faces severally opposing the outer side faces of said side rails, a horizontal pivot securing the upper end of each leg bar to the corresponding end of a companion side rail, and a cross member connecting each companion pair of leg bars and foldable with said leg structure into engagement with the lower edges of said side rails, a diagonal brace for each leg bar with its upper end arranged against the inner vertical face of the companion side rail, a pivot connecting said upper end of each brace with the companion side rail at a point to permit engagement between each brace with the cross member of the companion leg structure to retain said brace in generally parallel relation to said side rail when the scaffold is folded, a bolt extending horizontally of each leg bar with its head disposed against and projecting from the outer face thereof and removably extending through a bolt hole at the lower end of the companion brace, an independently extensible extension bar arranged against and parallel with each leg bar and alongside the outer face thereof and extending over and adapted to embed said bolt head, a U-shaped metal strap having its legs secured to the lower end of one of said bars and slidingly embracing the other of said bars, a longitudinal slot provided in each of one of said bars out of line with said bolt head and generally perpendicular to the mating faces of said bars, a stud bolt secured to the other of said bars and having a threaded end extending through and projecting from said slot, and a handled nut on the threaded end of said stud bolt and arranged to clamp each pair of leg and extension bars together and to embed said bolt heads in said extension bars.

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