United States Patent [19]

Werner et al.

[11] **3,853,203**

[45] **Dec. 10, 1974**

[54] **INDEPENDENT TOEBOARD CONSTRUCTION**

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[52] **U.S. Cl.** **182/113**, 256/65

[51] **Int. Cl.** **E04g 1/26**

[58] **Field of Search** 182/113, 222, 178, 179; 248/72; 256/65

[56] **References Cited**

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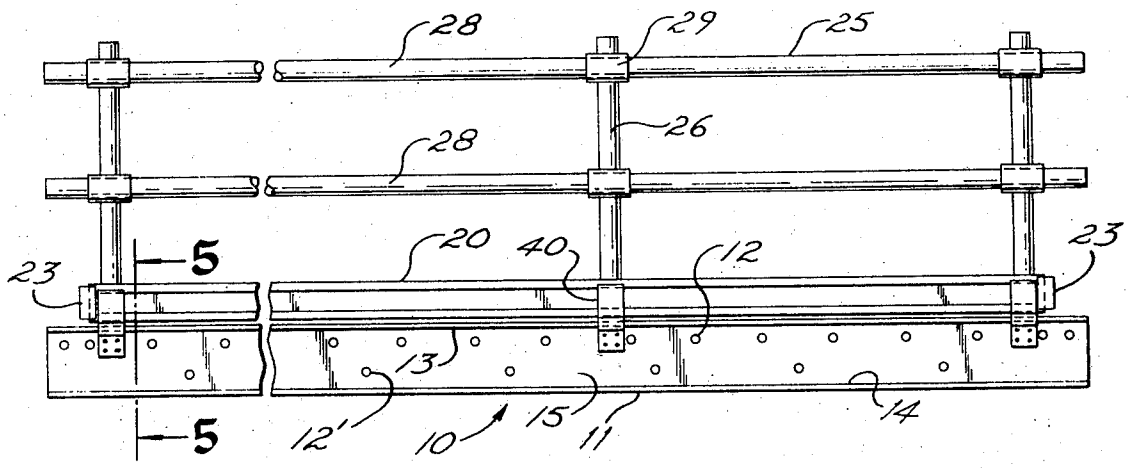
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Primary Examiner—Reinaldo P. Machado

[57] **ABSTRACT**

There is disclosed herein a workmen and material supporting stage having a toeboard around the edge thereof and a handrail along one longer side. A special bracket retains the toeboard along the opposite longer side independently of any handrail.

4 Claims, 6 Drawing Figures



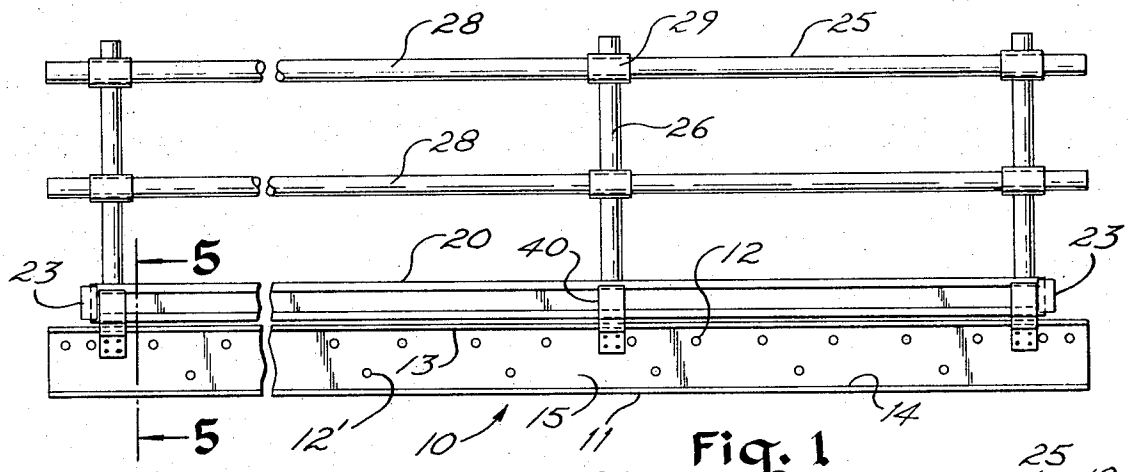


Fig. 1

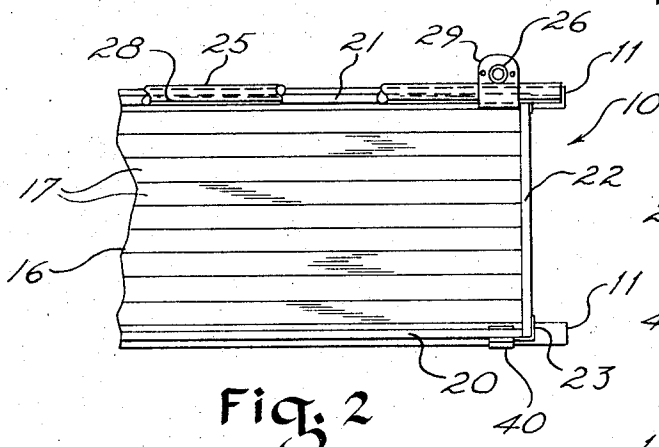


Fig. 2

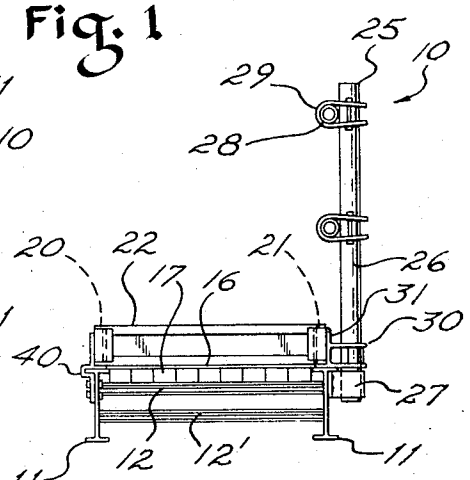


Fig. 3

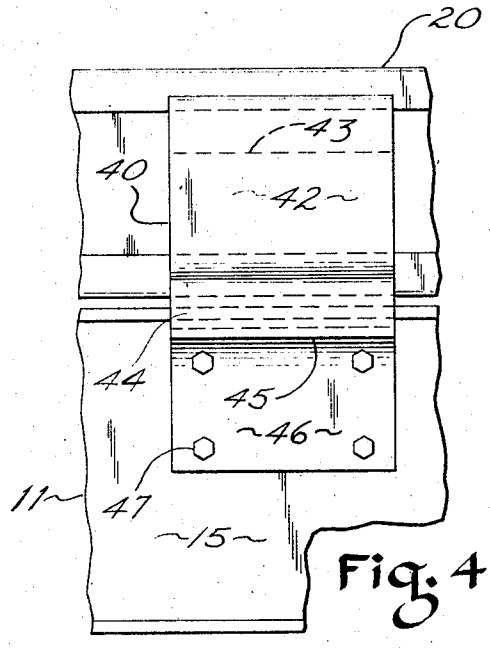


Fig. 4

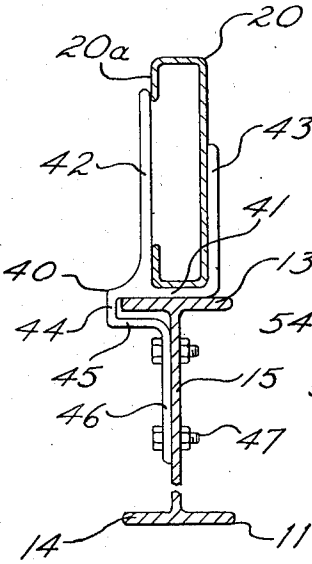


Fig. 5

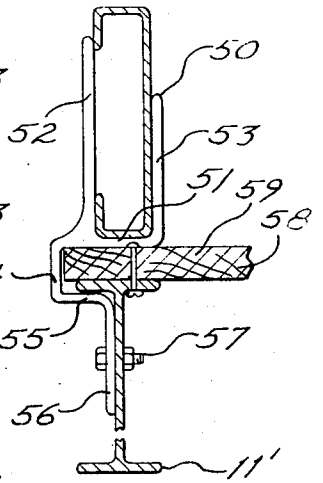


Fig. 6

INDEPENDENT TOEBOARD CONSTRUCTION

This invention relates to scaffolds and staging for supporting workmen and materials during the erecting, repairing, painting, and the like of a building, and particularly to a toeboard assembly having a bracket for supporting a toeboard independently of any vertical supports or handrail stanchions.

As is well known in the art, a horizontal work platform or stage, whether suspended by cables or as part of a larger support structure or scaffold, is preferably provided with an upright toeboard at the edges thereof as a safety measure to prevent tools and materials from slipping off of the stage. Handrail systems with upright stanchions are variously provided on one or more sides and ends of the stage as needed, the toeboard commonly being retained by means attached to the upright stanchions on the sides having handrails. End toeboards are preferably connected across the ends of the longer side toeboards by means of suitable corner brackets or the like.

The present invention is directed to a toeboard assembly having a bracket for retaining a toeboard along the side of a stage not having a handrail, as for example, the building side of the equipment. The term "independent toeboard" is used herein to describe a toeboard of this type of construction. The bracket comprises means for securing the bracket to the stage, and means for receiving a toeboard edgewise. The toeboard is merely inserted or dropped into the bracket whereby the same is quickly and easily assembled and disassembled.

The general object of this invention is to provide for mounting toeboards to a stage or other platform in an improved manner.

Another object of this invention is to provide toeboard mounting means which permits random assembly of the toeboard independently of the need of a handrail.

Still another object of the invention is to provide toeboard mounting means which can be readily used in conjunction with means mounting toeboards directly to upright stanchions of a handrail.

A further object of the invention is to provide a bracket for mounting an independent toeboard which is simple and economical to manufacture, simplifies the assembly and disassembly of stages and scaffolds, and is highly durable and rugged in use.

Other objects and advantages of the invention will be readily understood from the following description of two embodiments thereof as shown in the accompanying drawings, in which said drawings:

FIG. 1 is a side elevation of a stage having a toeboard along one edge thereof retained by toeboard brackets of this invention, a portion of the length of the stage being broken away;

FIG. 2 is a top plan view of an end portion of the stage of FIG. 1;

FIG. 3 is an end view of the stage of FIG. 1;

FIG. 4 is an enlarged elevation of one of the toeboard brackets shown in FIG. 1;

FIG. 5 is a sectional view taken along the line 5—5 of FIG. 1; and

FIG. 6 is a sectional view similar to FIG. 5 showing a modified toeboard bracket for use with a different stage construction.

Referring now to the drawings in all of which like parts are designated by like reference numerals, FIGS. 1–3 show a stage 10 comprising a pair of parallel, laterally spaced side rails 11 rigidly connected together in the manner of a metallic ladder by tubular rungs 12 and 12'. The side rails 11 are I-shaped metallic extrusions having upper horizontal T-flanges 13 and lower horizontal T-flanges 14 connected by a vertical web 15. As herein disclosed, the rungs 12 and 12' are identical, the rungs 12 being disposed in an upper layer adjacent to the upper horizontal flanges 13 and the rungs 12' being disposed in a lower layer adjacent to the lower horizontal flanges 14. Decking 16 is suitably secured upon the upper layer of rungs 12 and disposed between the upper flanges 13, such decking comprising a plurality of individual decking channels 17 which, in a metallic stage may comprise channel shaped extrusions. It will be understood that the stage 10 is adapted to be swung by cables adjacent to the side of a building or be part of a larger, more elaborate scaffolding in a known manner (not herein illustrated), the details of which form no part of the present invention.

As best seen in FIG. 2, the working or supporting portion of the stage 10 defined by the decking 16 is surrounded at the edges by a front toeboard 20, a rear toeboard 21, and forwardly and rearwardly projecting end toeboards 22. The toeboards 20–22 may be wooden boards or, as herein illustrated in FIGS. 1 to 5 inclusive with respect to a metallic stage, may be C-shaped extrusions of metal. Generally, the toeboards are 1 to 2 inches thick by 4 to 6 inches wide and are disposed on one side edge thereof whereby the width becomes the height. The front and rear toeboards 20 and 21 are disposed parallel with and upon the upper flanges 13 of the front and rear side rails 11, respectively, and the end toeboards 22 are connected to the ends of the toeboards 20 and 21 by suitable corner brackets 23.

A handrail 25 is provided on the back of the stage 10 adjacent to the rear toeboard 21, said handrail comprising vertical stanchions 26 mounted at their lower that in stanchion brackets 27 suitably secured to the rearwardly facing side of the web 15 of the rear side rail 11. The stanchions 26 support parallel, horizontal railings 28 which are connected to the stanchions by crossfittings 29 more fully toeboard" in co-pending application Ser. No. 382,046 filed July 23, 1973.

As shown in FIG. 3, the lower end portions of the stanchions 26 are provided with dependent toeboard brackets 30; that is, toeboard brackets which are carried by the stanchions of the handrail and have an upwardly open channel portion 31 adapted to receive the rear toeboard 21, The dependent toeboard brackets 30 are more fully disclosed in co-pending application Ser. No. 381,994 filed July 23, 1973, the details of which form no part of the present invention.

The front of the stage 10 at the front toeboard 20 is not provided with a handrail such as that shown at 25 and may represent, for example, the portion of staging or scaffolding which would be disposed adjacent to a work surface such as the side of a building. At this point, the front toeboard 20, according to the invention is retained by a plurality of "independent toeboard"brackets 40. As best seen in FIGS. 4 and 5, each independent toeboard bracket 40 comprises a horizontal base 41 adapted to be disposed flatwise upon the upper surface of the horizontal upper T-flange 13. The base 41 of the bracket has vertically upwardly projecting spaced outer and inner walls 42 and 43 providing an open throat or slot into which the front toeboard 20 can be inserted on one side edge thereof. As disclosed,

the outer wall **42** has a greater height, i.e., extends upwardly a greater distance than the inner wall and upwardly overlaps a downwardly projecting flange **20***a* of the C-shaped toeboard **20** shown herein.

The base **41** projects forwardly beyond the T-flange **13** of the rail and is provided with a downwardly disposed vertical wall **44** which is integrally connected with a rearwardly disposed horizontal wall **45** which, in turn, terminates in an integral, downwardly directed, flat mounting portion **46** adapted to be disposed flatwise against the web **15** of the front side rail **11** positioned below said T-flange. The mounting portion **46** as shown may be secured to the side rail **11** in any suitable manner such as by means of nut and bolt assemblies **47** shown.

The toeboard brackets **40** may be positioned at any suitable spaced intervals along forwardly disposed side rail **11** and may also be used in conjunction with the dependent toeboard brackets **30** at the back of the stage.

FIG. **6** shows a modified independent toeboard bracket **50** having a horizontal base **51,** upwardly projecting outer and inner walls **52** and **53,** a downwardly projecting vertical wall **54** disposed at the forward edge of the base **51,** a backwardly turned horizontal wall **55,** and a downwardly turned mounting portion **56** which is secured flatwise against a web **15'** of a front side rail **11'** by means of nut and bolt assemblies **57.** It will be understood that a pair of parallel, laterally spaced side rails **11'** are connected together in a manner similar to that disclosed in connection with the first embodiment of the invention, but instead of having the decking **15** said side rails **11'** are bridged by a single plank, plywood sheet, or the like shown at **58** and secured thereto by bolts **59.** The independent toeboard bracket **50** differs from the bracket **40** primarily having a longer vertical wall **54** adapted to receive the added thickness created by the plank **58.**

It will be readily seen that the bracket of the present invention provides a means for safely retaining an independent toeboard on the edge of the stage and that the same can be quickly and readily assembled and disassembled either on the site of prior to delivery thereto. It will further be understood that the independent toeboard system can be used on scaffolding as well as stages. The flexibility and spacing of the independent toeboard brackets will be readily appreciated in view of the fact that they do not depend for their location upon a side rail stanchion and the toeboards can be assembled at random to the brackets.

It will be understood that many changes in the details of the invention as herein described and illustrated may be made without, however, departing from the spirit thereof or the scope of the appended claims.

We claim:

1. In an independent toeboard assembly for a stage, the combination of an elongated structural member defining one side edge of the stage; said elongated structural member being a metallic rail comprising a flat vertical web portion and a horizontally projecting flange portion at the upper edge of said web portion; a bracket comprising a horizontal base; said bracket having upwardly projecting, spaced parallel walls defining an upwardly open slot parallel with said structural member; said base being disposed on said flange and having wall portions forming a horizontally opening slot which receives said flange, and a downwardly turned mounting portion; means securing said mounting portion flatwise against said web ; and an elongated toeboard seated edgewise within said slot of said bracket. web;

2. A toeboard bracket for independently mounting a toeboard adjacent to an edge of a stage having a laterally projecting flange, said bracket comprising a base; said base having upwardly projecting, spaced parallel walls defining an upwardly open slot adapted to be disposed parallel with the edge of the stage to receive a toeboard; said base having wall portions forming a horizontally opening slot adapted to receive the flange, and a downwardly projecting mounting portion for securing said bracket to the side of the stage.

3. In an independent toeboard assembly for a stage, the combination of means comprising an elongated side portion of a stage; said elongated side portion having an upright outer wall surface and a horizontally projecting flange portion at the upper edge of said wall surface; a bracket comprising a base having upwardly projecting, spaced walls defining an upwardly open slot parallel with said elongated side portion; said base being disposed on said flange and having wall portions forming a horizontally opening slot which receives said flange, and a downwardly turned mounting portion secured flatwise against said upright outer wall surface.

4. In an independent toeboard assembly for a stage, the combination of means comprising an elongated side portion of a stage; said elongated side portion having a horizontal edge surface portion and downwardly directed outer surface means at least a part of which intersects said horizontal edge surface portion and defines a side edge of said stage; a bracket comprising a base seated upon said horizontal edge surface portion adjacent to said side edge of said stage; said base having upwardly projecting, spaced walls defining an upwardly open slot parallel with said side edge of said stage; said base having downwardly extending wall means disposed outwardly beyond said side edge of said stage, said downwardly extending wall means having at least a part thereof disposed flatwise against and secured to said downwardly directed outer surface means below said side edge of said stage.

* * * * *

UNITED STATES PATENT OFFICE

CERTIFICATE OF CORRECTION

Patent No. 3,853,203 Dated December 10, 1974

Inventor(s) Richard Lawrence Werner et al

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

Column 2, line 38, change "that" to ---ends---;

Column 3, line 43, change "of" to ---or---;

Column 4, line 15, delete"web;".

Signed and Sealed this

fifth Day of *August 1975*

[SEAL]

Attest:

RUTH C. MASON
Attesting Officer

C. MARSHALL DANN
Commissioner of Patents and Trademarks