

A TRACK FOR A DOLLY

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THIS INVENTION relates to a track for a dolly used in filming. It more particularly relates to a rail for forming a track for a dolly, and to a track for a dolly, the track including such rail. The invention relates also to a kit for forming a track for a dolly.

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BACKGROUND OF THE INVENTION

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The invention is to be used in the context of location or studio dollies, either with or without cranes or arms mounted thereon, used in filming. Accordingly, the term "dolly" as used herein should be understood to incorporate dollies or other wheeled platforms or structures on which arms or cranes for holding cameras are mounted or located.

SUMMARY OF THE INVENTION

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In accordance with one aspect of the invention, broadly, there is provided a rail for forming a track for a dolly, the rail being in the form of an extrusion having a roughly triangular profile when seen in end view, and including a base or foot, defined at the base of the triangle, and a crown defined at the apex of the triangle for engagement by a wheel of a dolly.

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More particularly, in accordance with this aspect of the invention, there is provided a rail for forming a track for a dolly, the rail including

a roughly flat base or foot;

a crown located operatively above the base for engagement by a wheel of a dolly;

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and

two connecting webs fast with and connecting the base and the crown together, the webs converging towards each other away from the base, so that the rail has a generally triangular profile when seen in end view.

5 The crown and the two connecting webs may be integrally formed with one another, so that the rail is of one-piece construction. The rail may be in the form of an extrusion. The rail may be constructed of any one of a metal and a metal alloy.

10 The rail may include a reinforcing formation located between the base, the crown and the two connecting webs. For example, the reinforcing formation may be located inside the triangle defined by the base, the crown and the two connecting webs.

15 The reinforcing formation may include a hollow reinforcing member, e.g. in the form of a tube, fast with and extending longitudinally along the base of the rail, the hollow reinforcing member projecting operatively upwardly towards the crown from the base, and two reinforcing webs fast with and respectively extending, along the length of the rail, between the hollow reinforcing member and the respective connecting webs, the reinforcing webs being spaced between the base or the foot and the crown.

20 The reinforcing member may be in the form of a tube. The tubular reinforcing member may have a circular cross-sectional profile, the reinforcing webs extending generally radially outwardly from the reinforcing tube towards the connecting webs. The reinforcing tube and the reinforcing webs may be integrally formed with the remainder of the rail.

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The base of the rail may be provided with a longitudinally extending flange or extension projecting laterally from one side thereof for permitting clamping of the rail to an elevation structure, e.g. a scaffolding structure.

An operative part of the crown, being the part of the crown which is in use engaged by a wheel of a dolly, may have any one of a circular and part-circular cross-sectional profile.

5 The rail may include at least one connector mounted thereon at or adjacent at least one of its ends, for connecting the rail in end-to-end fashion to another similar rail having a complimentary connector mounted thereon at or adjacent its associated end.

10 The rail may have one connector mounted thereon at or adjacent one of its ends, and may have a said complimentary connector mounted thereon at or adjacent its other end.

15 For example, the connector may be mounted on at least one of the connecting webs of the rail, being located on an outer face of the connecting web. If desired, the track may have two connectors mounted thereon at or adjacent each of its ends, the two connectors being mounted on the respective connecting webs.

20 At least one connector may be in the form of a latch or keeper associated with and complimentary to such a latch, to permit easy and quick connecting together of two abutting rails, and to permit easy and quick release of two rails which are connected together.

The rail may be linear or the rail may be curved.

25 In accordance with another aspect of the invention, there is provided a track for a dolly, the track including

at least two rails as hereinbefore described, located such that they are laterally spaced from and run parallel to each other; and

30 a plurality of location formations interacting with the respective rails for resisting lateral movement of the rails.

In one embodiment, the location formations may be generally in the form of a wedge or chock, being laterally wedged in between each rail and a support surface, e.g. the ground, on which the rail is located. The two rails of the track are thus not connected together, so that the track can easily and quickly be formed or collapsed. For the same
5 reason, the width of the track, i.e. the distance between the rails, can easily be adjusted in accordance with the axle length of a dolly.

The track may include a plurality of rails connected end-to-end. The rails may be connected together end-to-end by means of the connectors as hereinbefore described.
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In accordance with another embodiment of this aspect of the invention, there is provided a track for a dolly, the track including:

at least two rails as hereinbefore described located such that they are laterally spaced from and run parallel to each other; and

15 a plurality of location formations interacting with the respective rails for resisting lateral movement of the rails, the location formations being in the form of clamps or the like mounted on an elevation structure, e.g. a scaffolding structure, which elevates the track above a said support surface, each clamp or the like engaging or clamping the flange or lateral extension of the base of one of the rails, to keep the rail in position relative to the
20 elevation structure.

In this embodiment, the rails may be connected together end-to-end by means of the location formations mounted on the elevation structure.

25 In accordance with a further aspect of the invention, there is provided a kit for forming a rail for a dolly, the kit including:

a plurality of rails as hereinbefore described; and
a plurality of location formations.

30 The invention is now described, by way of non-limiting example, with reference to the accompanying diagrammatic drawings.

DRAWINGS

In the drawings:

5 Figure 1 shows, schematically an end view of a rail in accordance with the invention for forming a track, also in accordance with the invention, for dollies used in filming;

Figure 2 shows, schematically, a three-dimensional view of part of a track in accordance with the invention;

10 Figure 3 shows, schematically, a side view of a different part of the track shown in Figure 2;

Figure 4 shows, schematically, an end view of one of the rails forming part of the track shown in Figures 2 and 3; and

Figure 5 shows another embodiment of a track in accordance with the invention.

15 EMBODIMENT OF THE INVENTION

With reference to the drawings, a rail in accordance with the invention is generally designated by reference numeral 10. As will be described in more detail hereunder, in order to form a track 12 (Figures 2 and 3) in accordance with the invention
20 for dollies used in filming, two rails 10 are located such that they are laterally spaced from and extend parallel to each other, without any interconnection therebetween.

The rail 10 is in the form of a metal or metal alloy extrusion and can, not within limits, be manufactured in any desired length. The rails 10 shown in the accompanying
25 drawings are all linear, but, if desired, they can be curved, to permit forming of a track 12 which includes a turn or turns. Further, if desired, a plurality of the rails 10 can be connected end-to-end, to form a track 12 having a length exceeding the length of a single rail 10.

30 The rail 10, as can particularly be seen in Figures 1 and 4, has a roughly triangular cross-sectional profile. In particular, the rail 10 includes a roughly flat base or

foot 14, defining a base of the triangle, and a partly circular cross-sectional profiled crown 16 spaced operatively above the base or foot 14, the crown 16 defining an apex of the triangle. The base or foot 14 and the crown 16 are connected together by means of two connecting webs 18, 20. As can be seen, the connecting web 18 slants, from one edge of the base or foot 14 towards the crown 16. The other connecting web 20 has a lower portion which projects normally upwardly from the base or foot 14, and an upper portion which slants towards the crown 16, said upper portion of the connecting web 20 and the connecting web 18 converging towards each other as they near the crown 16. The rail 10 further includes a reinforcement formation located between the base or foot 14, the crown 16 and the two connecting webs 18, 20. The reinforcement formation includes a hollow reinforcement member in the form of a reinforcement tube 22 fast with the base or foot 14 and extending longitudinally along the length of the rail 10, and two reinforcement webs 24, 26 extending between the reinforcement tube 22 and the respective connecting webs 18, 20. In particular, the connecting tube 22 has a circular cross-sectional profile, and the reinforcement webs 24, 26 extend generally radially away therefrom towards their respective associated connecting webs 18, 20.

A part of the base or foot 14 projects laterally past the aforementioned lower portion of the connecting web 20 to form a flange or lateral extension 28 which extends longitudinally along the length of the rail 10. The purpose of the flange or lateral extension 28 is described in further detail hereunder. By virtue of the rail 10 being in the form of an extrusion, the various portions or parts thereof are integrally formed, so that the rail 10 is of one-piece construction.

Referring now in particular to Figures 2 and 3, when forming a track 12 in accordance with the invention, two rails 10 are, as briefly described hereinbefore, located alongside each other, such that they are laterally spaced from and extend parallel to each other. Once the rails 10 are laid down on a surface, for example the ground, a plurality of location formations is used to resist lateral movement of the rails 10. In this example, the location formations are in the form of wedges or chocks 30 which are wedged in between the bases or feet 14 of the rails 10 and the support surface. As can be seen in Figure 2,

the wedges or chocks 30 are located on either side of the rails 10. Thus, by using the rails 10 in accordance with the invention, a track 12 which has no sleepers or cross-connectors is formed, thereby permitting easy and quick forming and collapsing of the track 12. Further, by virtue of the particular construction of the track 12, the width of the track 12, i.e. the distance between the two rails 10, can easily and quickly be adjusted in accordance with the axle length of a dolly used in association therewith.

In order to form a track 12 having a length greater than the length of the rails 10, a plurality of rails 10 are connected together end-to-end in a fashion shown in Figure 3. To connect two rails in end-to-end fashion as shown in Figure 3, the rail 10 is provided with connectors, generally designated by reference numeral 32. In this example, the connectors 32 (shown in concept only – see Figures 2 and 3) are in the form of adjustable draw-catch connectors generally available and manufactured by Southco™. Accordingly, the connectors are not described in great detail. Briefly, however, each connector includes a connector portion 34 and an associated keeper 36. Each rail 10 is, adjacent one end thereof, provided with two connector portions 34, and at or adjacent its other end with two keepers 36. In particular, as can be seen in Figure 3, the connectors 32 are respectively mounted on the connecting web 18 and on the slanting upper portion of the connecting web 20, being located on outer faces of the connecting webs 18, 20. In use, two rails are thus located such that their ends are in abutment, one end of one rail 10 being provided with neck portions 34 and the abutting end of the other rail 10 being provided with keepers 36. As will be appreciated, the connectors 32 permit fast and easy connecting and disconnecting of two rails 10.

Referring now to Figure 5 of the drawings, another embodiment of a track 12 in accordance with the invention is generally designated by reference numeral 40. In this embodiment, the track 12 is formed over a ditch or a valley (not shown), such that the rails 10 forming part thereof are located at an elevated position above the ground. To provide for such elevation, the track 40 includes a scaffolding structure (shown in concept only) generally designated by reference numeral 42. The scaffolding structure 42, at its upper edge, is provided with clamps or other connecting formations, shown in concept only and

designated by reference numeral 44, which engage and clamp the flanges or lateral extensions 28 of the rails 10, to retain the rails 10 in position.

5 The invention as described and illustrated thus provides a rail which can be used quickly and easily to form a track in accordance with the invention, which track has no interconnection between parallel rails forming part thereof. This, in turn, provides not only for quick and easy assembling and disassembling of the track 12, but also provides for easy adjustment of the width of the track 12. Further, by virtue of the track 12 having no sleepers or cross-connectors, actors or other film set crew can easily move between the
10 rails 10 without the conventional interference by sleepers or cross-connectors.

CLAIMS:

1. A rail for forming a track for a dolly, the rail including
a roughly flat base;
5 a crown located operatively above the base for engagement by a wheel of a dolly;
and
two connecting webs fast with and connecting the base and the crown together, the
webs converging towards each other away from the base, so that the rail has a generally
triangular profile when seen in end view.
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2. A rail as claimed in claim 1, in which the base, the crown and the two connecting
webs are integrally formed with one another, so that the rail is of one-piece construction.
3. A rail as claimed in claim 2, in which the rail is in the form of an extrusion.
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4. A rail as claimed in claim 3, in which the rail is constructed of any one of a metal
and a metal alloy.
5. A rail as claimed in any one of claims 1 to 4, in which the rail includes a
20 reinforcing formation located between the base, the crown and the two connecting webs.
6. A rail as claimed in claim 5, in which the reinforcing formation is located inside
the triangle defined by the base, the crown and the two connecting webs.
- 25 7. A rail as claimed in claim 6 in which the reinforcing formation includes a hollow
reinforcing member, fast with and extending longitudinally along the base of the rail, the
hollow reinforcing member projecting operatively upwardly towards the crown from the
base, and two reinforcing webs fast with and respectively extending, along the length of the
rail, between the hollow reinforcing member and the respective connecting webs, the
30 reinforcing webs being spaced between the base or the foot and the crown.

8. A rail as claimed in claim 7, in which the reinforcing member is in the form of a tube.

9. A rail as claimed in claim 8, in which the tubular reinforcing member has a circular cross-sectional profile, the reinforcing webs extending generally radially outwardly from the reinforcing tube towards the connecting webs.

10. A rail as claimed in claim 9 in which the reinforcing tube and the reinforcing webs are integrally formed with the remainder of the rail.

11. A rail as claimed in any one of claims 1 to 10, in which the base of the rail is provided with a longitudinally extending flange projecting laterally from one side thereof for permitting clamping of the rail to an elevation structure.

12. A rail as claimed in any one of claims 1 to 11 in which an operative part of the crown, being the part of the crown which is in use engaged by a wheel of a dolly, has any one of a circular and part-circular cross-sectional profile.

13. A rail as claimed in any one of claims 1 to 12, in which the rail includes at least one connector mounted thereon at or adjacent at least one of its ends, for connecting the rail in end-to-end fashion to another similar rail having a complimentary connector mounted thereon at, or adjacent, its associated end.

14. A rail as claimed in claim 13, in which the rail has one connector mounted thereon at or adjacent one of its ends, and a said complimentary connector mounted thereon at or adjacent its other end.

15. A rail as claimed in claim 14, in which each connector is mounted on at least one of the connecting webs of the rail, being located on an outer face of the connecting web.

16. A rail as claimed in any one of claims 13 to 15 in which the at least one connector is in the form of a latch/keeper associated with and complimentary to such a latch, to permit easy and quick connecting together of two abutting rails, and to permit easy and quick release of two rails which are connected together.

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17. A rail as claimed in any one of claims 1 to 16, in which the rail is any one of linear and curved.

18. A track for a dolly, the track including:

10 at least two rails as claimed in any one of claims 1 to 17 located such that they are laterally spaced from and run parallel to each other; and

a plurality of location formations interacting with the respective rails for resisting lateral movement of the rails.

15 19. A track as claimed in claim 18 in which the location formations are generally in the form of a wedge, being laterally wedged in between each rail and a support surface, on which the rail is located.

20 20. A track as claimed in any one of claims 18 and 19 in which the track includes a plurality of rails connected end-to-end.

21. A track as claimed in claim 20, in which the rails are connected together end-to-end by means of the connectors claimed in any one of claims 13 to 16.

25 22. A track for a dolly, the track including:

at least two rails as claimed in any one of claims 11 to 17 located such that they are laterally spaced from and run parallel to each other; and

30 a plurality of location formations interacting with the respective rails for resisting lateral movement of the rails, the location formations being in the form of clamps mounted on an elevation structure, which elevates the track above a said support surface, each

clamp engaging/clamping the flange of the base of one of the rails, to keep the rail in position relative to the elevation structure.

23. A track as claimed in claim 22, in which the rails are connected together end-to-end by means of the location formations mounted on the elevation structure.

24. A kit for forming a rail for a dolly, the kit including:
a plurality of rails as claimed in claims 1 to 17; and
a plurality of location formations.

25. Kit as claimed in claim 24 in which the location formations are generally in the form of a wedge, for being laterally wedged in between each rail and a support surface on which the rail is located.

26. A kit as claimed in claim 24 in which the location formations are in the form of a clamps mounted on an elevation structure, which elevates the track above a said support surface, each clamp engaging/clamping a flange of the base of one of the rails, to keep the rail in position relative to the elevation structure.

27. A rail as claimed in claim 1, substantially as herein described and illustrated.

28. A track as claimed in claim 18 or claim 22, substantially as herein described and illustrated.

29. A kit as claimed in claim 24, substantially as herein described and illustrated.

30. A new rail, a new track and a new kit, substantially as herein described.

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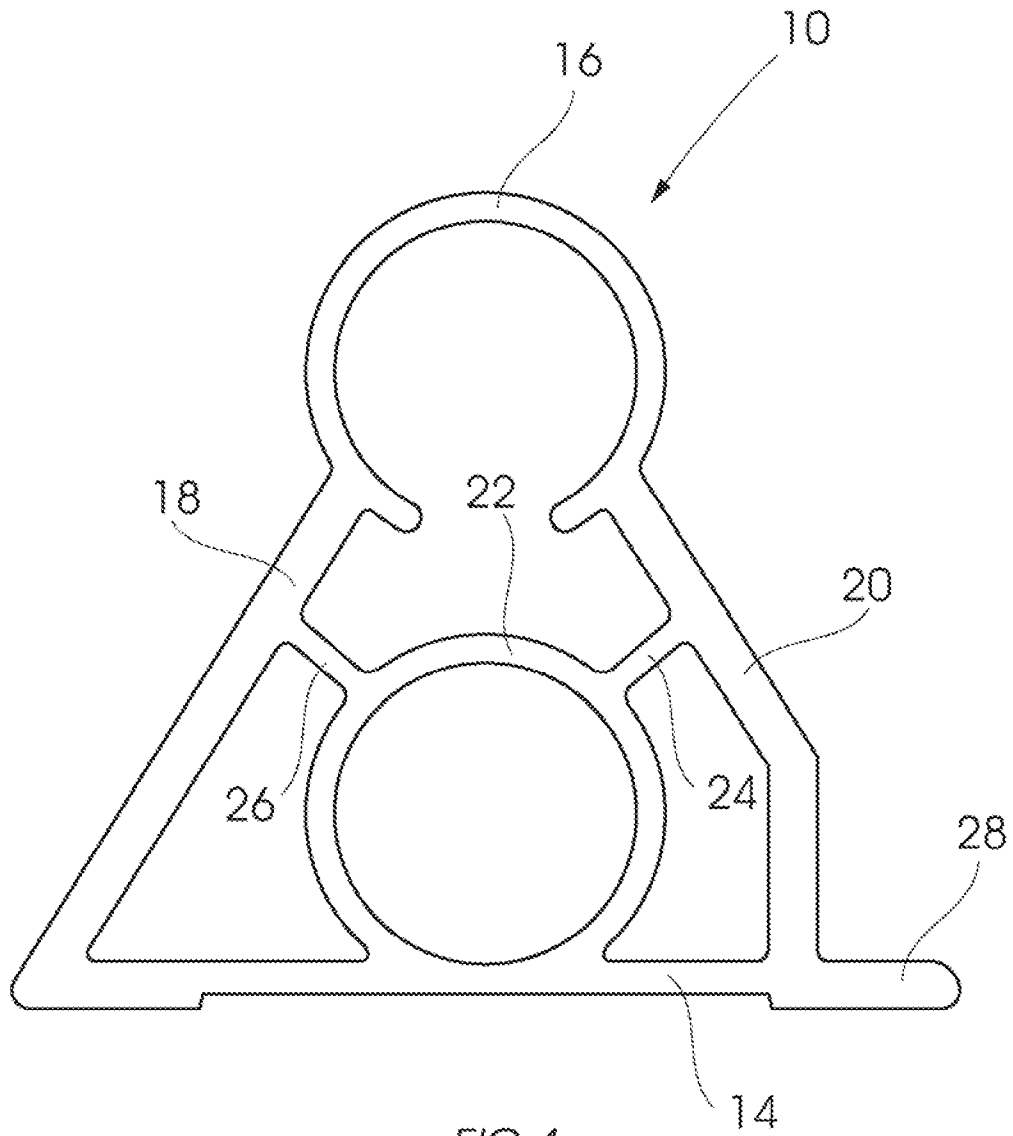
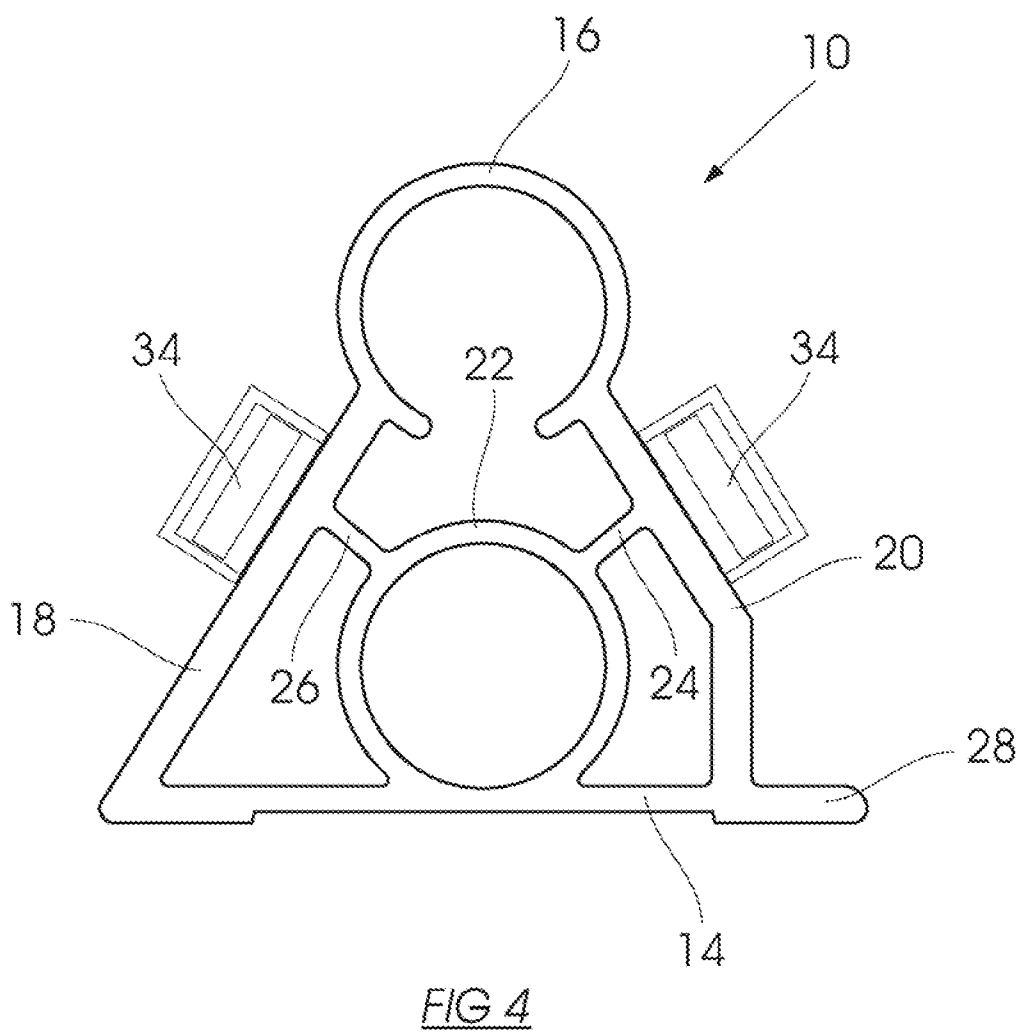
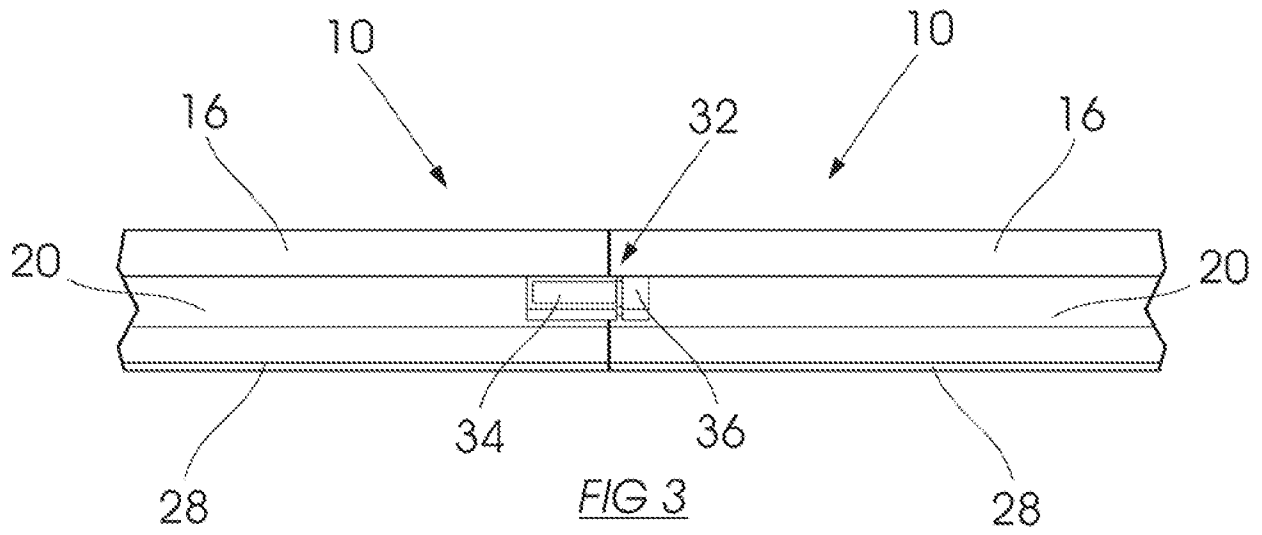
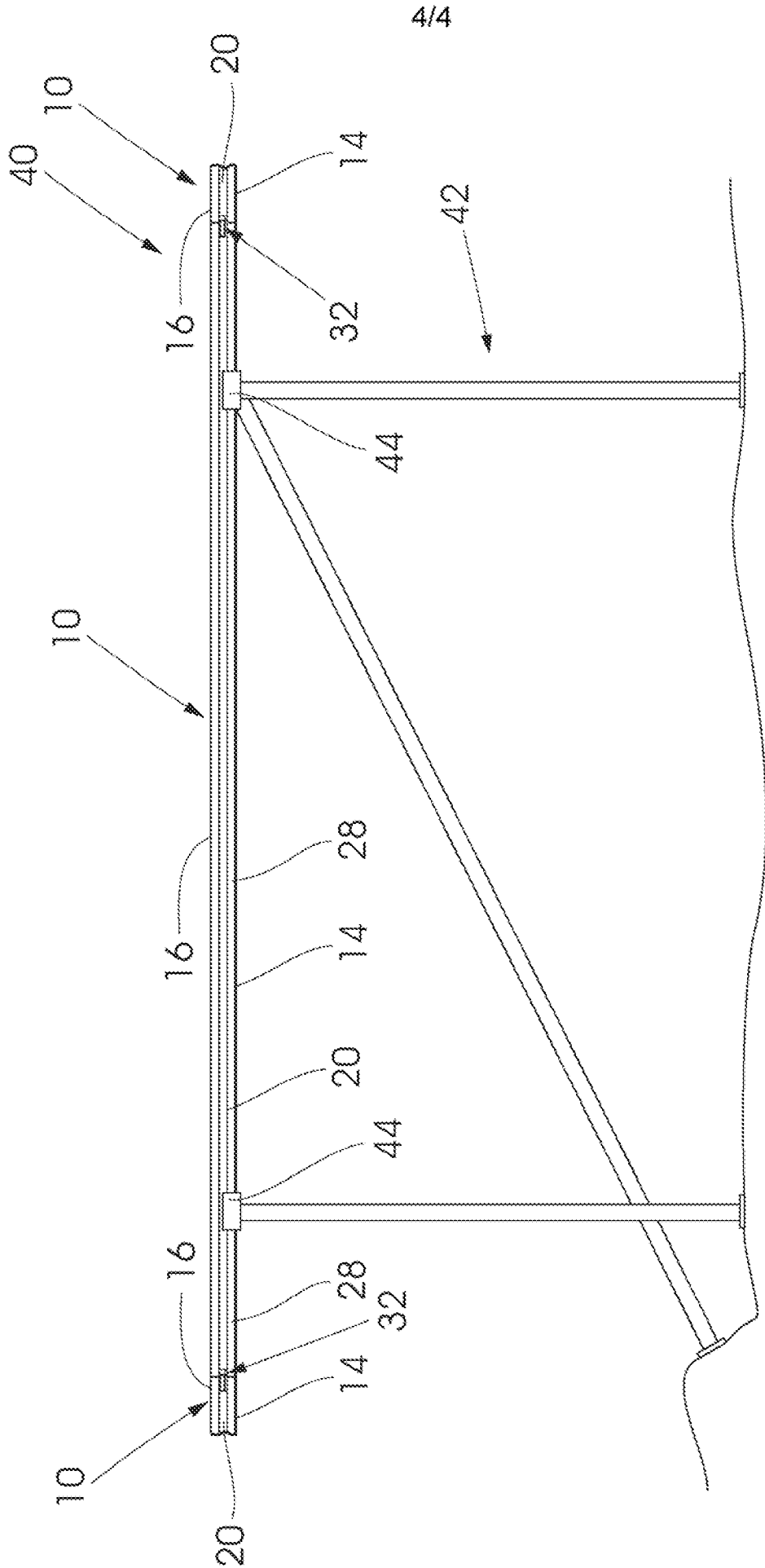


FIG 1





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FIG 5

INTERNATIONAL SEARCH REPORT

International application No
PCT/IB2008/051930

A. CLASSIFICATION OF SUBJECT MATTER
INV. E01B5/02 E01B23/02

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
E01B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y	BE 562 902 A (JLC ADRIANNE) 31 December 1957 (1957-12-31) page 3; figures 9,10	1-12, 17, 18, 24 13-16, 19-23, 25, 26
Y	WO 99/41455 A (PETERSON PER [US]) 19 August 1999 (1999-08-19) the whole document	13-16, 19-23, 25, 26
A	GB 2 274 820 A (BRONSON LEON ALLEN [AU]) 10 August 1994 (1994-08-10) the whole document	1-26

Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- * & * document member of the same patent family

Date of the actual completion of the international search

29 September 2008

Date of mailing of the international search report

07/10/2008

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/IB2008/051930

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.: 27-30
because they relate to subject matter not required to be searched by this Authority, namely:
Rule 6.2 (a) PCT
2. Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
see FURTHER INFORMATION sheet PCT/ISA/210
3. Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. As all required additional search fees were timely paid by the applicant, this international search report covers allsearchable claims.
2. As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.
3. As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box II.1

Claims Nos.: 27-30

Rule 6.2 (a) PCT

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guideline C-VI, 8.2), should the problems which led to the Article 17(2)PCT declaration be overcome.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/IB2008/051930

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
BE 562902	A	NONE	
WO 9941455	A	19-08-1999	AU 6937498 A 30-08-1999 US 6435421 B1 20-08-2002
GB 2274820	A	10-08-1994	NONE