IMPROVED FRAME FOR CLIMBING SCREEN

PRIORITY DOCUMENTS

[0001] The present application claims priority from:

Australian Provisional Patent Application No 2012902703 titled "IMPROVED FRAME FOR CLIMBING SCREEN" and filed on 26 June 2012.

The content of this application is hereby incorporated by reference in its entirety.

INCORPORATION BY REFERENCE

[0002] The following publications are referred to in the present application and their contents are hereby incorporated by reference in their entirety also:

International Patent Application No PCT/AU2002/00506 titled "A MOVABLE SCREEN" in the name of Formula One Self Driving Screens Pty Ltd;

International Patent Application No PCT/AU2003/01065 titled "AN IMPROVED LIFTING FRAME" in the name of Formula One Self Driving Screens Pty Ltd; and

International Patent Application No PCT/AU2003/01112 titled "A LIFTING OR TRANSPORING MEANS USING A RECIPROCATING JACK" in the name of Formula One Self Driving Screens Pty Ltd.

TECHNICAL FIELD

[0003] This invention relates to a safety screen for use on the side of a multistorey building during the construction thereof, and in particular to a means for supporting a safety screen with respect to the building.

BACKGROUND

[0004] The subject safety screens are generally employed to provide a screen or barrier at an edge of floors that are in the process of being constructed. Prior to the placement of external cladding such as windows and fascia panels on multistorey buildings, the area between the floor and ceiling (or floor above) is open. It is therefore necessary to provide an external screen for safety purposes, and particularly for preventing personnel and objects from falling from the incomplete building.

[0005] The above referenced publications describe a system of moving screens in a vertical direction, generally upwardly, as the construction of the building extends upwardly.

[0006] The earlier systems use a number of horizontal support beams that are at spaced intervals along each of one or two floors. The horizontal support beams extend beyond the perimeter of each floor and support at their outermost ends a vertical column. Bracing members may extend from a rear portion of each horizontal support beam to each vertical column to thereby hold each column rigidly.

[0007] A safety screen is mounted moveably with respect to the array of vertical columns. In the above mentioned patent specifications, hoist or jack means are used to move the safety screen with respect to the vertical columns. In earlier versions of screen systems, a crane can be used to lift each individual safety screen.

[0008] The above described safety screens restrict access to the edges of the floors being screened, thereby preventing the performance of tasks such as post-tensioning of the concrete slab which forms the floor.

[0009] It is against this background and the problems and difficulties associated therewith that the present invention has been developed.

[0010] Certain objects and advantages of the present invention will become apparent from the following description, taken in connection with the accompanying drawings, wherein, by way of illustration and example, an embodiment of the present invention is disclosed.

SUMMARY

[0011] According to a first aspect there is provided a safety screen assembly comprising a base for fixing with respect to a slab of a building, a frame means depending from the base so as to overhang an edge of the slab, and a safety screen depending from the frame means so as to be horizontally spaced apart from the edge of the slab, wherein the frame means is adapted to support a person in a position between the edge of the slab and the safety screen.

[0012] In one form, the frame means comprises at least one support platform positioned between the edge of the slab and the safety screen.

[0013] In one form, the frame means comprises a plurality of vertically spaced apart support platforms positioned between the edge of the slab and the safety screen.

[0014] A person or platform may be positioned either of above or below the slab but still be "between an edge of the slab and the safety screen" for the purposes of this specification.

[0015] In one form, at least one platform is a walkway. In one form, each platform is a walkway.

[0016] In one form, the frame means and the safety screen along with it, are movable vertically with respect to the base.

[0017] In one form, the base comprises a plurality of horizontal support beams adapted for fixing with respect to the slab, a plurality of vertical frame elements from which the frame means depends, each of which is respectively supported by a horizontal support beam so that each vertical frame element is positioned adjacent to an edge of the slab.

[0018] In one form, the frame means comprises a plurality of vertically spaced apart beams, each of which extends between vertical stringers.

[0019] In one form, the or each platform is supported by a plurality of the frame means' beams.

[0020] In one form, the safety screen depends from a plurality of the frame means' vertical stringers.

[0021] In one form, the frame means further comprises brace members extending diagonally between the vertical stringer so as to form trusses.

[0022] In one form, the safety screen is comprised of a plurality of safety screen panels.

[0023] In one form, at least one support platform comprises a means movable between at least a first position in which an opening in the platform is created, and a second position in which the opening in the platform is closed.

[0024] In a further aspect, the invention may be said to reside in a safety screen assembly comprising a base for fixing with respect to a structure of a building, a frame means depending from the base so as to overhang an edge of a slab of the structure, and a safety screen depending from the frame means so as to be horizontally spaced apart from the edge of the slab, wherein the frame means is adapted to support a person in a position between the edge of the slab and the safety screen.

[0025] In a further aspect, the invention may be said to reside in a safety screen assembly comprising a plurality of horizontal support beams adapted for fixing with respect to a slab of a building , a plurality of vertical frame elements, each of which is respectively supported by a horizontal support beam so that each vertical frame element is positioned adjacent to an edge of the slab, a safety screen, and frame means depending from the vertical frame elements and supporting the safety screen so that the safety screen is horizontally spaced apart from the vertical frame elements and the edge of the slab in turn.

[0026] A detailed description of one or more embodiments of the invention is provided below along with accompanying Figures that illustrate by way of example the principles of the invention. While the invention is described in connection with such embodiments, it should be understood that the invention is not limited to any embodiment. On the contrary, the scope of the invention is limited only by the appended claims and the invention encompasses numerous alternatives, modifications and equivalents. For the purpose of example, numerous specific details are set forth in the following description in order to provide a thorough understanding of the present invention.

[0027] The present invention may be practiced according to the claims without some or all of these specific details. For the purpose of clarity, technical material that is known in the technical fields related to the invention has not been described in detail so that the present invention is not unnecessarily obscured.

BRIEF DESCRIPTION OF DRAWINGS

[0028] Embodiments of the present invention will be discussed with reference to the accompanying drawings wherein:

[0029] Figure 1 is a front view of a safety screen assembly;

[0030] Figure 2 is a plan view of the safety screen assembly of Figure 1;

[0031] Figure 3 is a side view of the safety screen assembly of Figure 1; and

[0032] Figure 4 is a perspective view of a safety screen assembly of the type illustrated in Figure 1.

[0033] In the following description, like reference characters designate like or corresponding parts throughout the Figures.

DESCRIPTION OF EMBODIMENTS

[0034] Referring now to Figures 1 through 3, where there is shown a safety screen assembly 1 comprising a safety screen 10 which is supported by a completed slab 20 of a multi-story building, and which extends vertically to provide screening for the subsequent floors (or slabs - shown with dashed lines) that are to be formed.

[0035] The safety screen 10 is comprised of a plurality of safety screen panels 11, where each safety screen panel 11 comprises a frame 12 and a mesh infill panel 13. The safety screen 10 screens the

external surface of the building whilst this is awaiting final fixing of windows or external walls. This prevents people and objects from falling from the building.

[0036] In addition, the safety screen 10 extends above the upper most completed floor to also provide a safe working environment while form-work is being fixed on the upper most floor to create the next floor.

[0037] The safety screen 10 depends from frame means 2 (see Figure 3) so that the safety screen 10 is horizontally spaced apart from an edge of the completed slab 20. In this way, access is provided to the edge of the slab 20 that forms the floor.

[0038] The frame means 2 is supported by a base 3 (see Figure 3) comprising at least a pair of vertical frame elements 15. Each vertical frame element 15 is carried upon a bracket 17 (also referred to as a shoe) which depends from a horizontal support beam 16 (also referred to as a needle) which in turn is attached to the slab 20.

[0039] The frame means 2 and safety screen 10 along with it can move vertically with respect to the horizontal support beams 16 and vertical frame elements 15. In this way, the frame means 2 and safety screen 10 can be raised as required to enable work on the upper most floor to create the next floor. The means of raising the frame means 2 and safety screen 10 in the case of the present invention is the same as that described in the specification of PCT/AU03/01112, namely comprising a reciprocating jack and latch means which permit movement of the frame means 2 and safety screen 10 upwards but not downwards.

[0040] The horizontal support beams 16 are attached to the slab 20 using a saddle 21 which is located over each horizontal support beam 16 and which is secured to the slab 20. A prop 22 extends from the saddle 21 to an upper portion of the vertical frame element 15. This arrangement holds the vertical frame elements 15 rigidly with respect to the slab 20. Further support beams 16 may be secured to new floors as these are formed, for the purpose of providing additional support.

[0041] The frame means 2 comprises a plurality of vertically spaced apart beams 25, each of which is secured between vertical stringers 14. The frame means 2 further comprises brace members 26 and vertical struts 27 to form a rigid truss structure that extends between the vertical stringers 14. The brace members 26 and vertical strut 27 provide rigidity to assist the beams 25 in securely holding the safety screen 10.

[0042] The horizontal support beams 16 do not extend a significant distance past the edge of the floor of the building (ie. the slab 20), so, the vertical frame elements 15 are also supported close to the edge of the building floor. The vertical frame elements 15 can have a significant mass and therefore placing this mass

close to the edge of the slab 20 minimises the cantilever loads applied to the horizontal support beams 16. In turn, the relatively lighter mass of the safety screen 10 can then be supported by the frame means 2 at a distance from the edge of the slab 20.

[0043] The spacing of the safety screen 2 at a distance from the edge slab 20 enables support platforms 29 to be positioned between the safety screen 10 and the slab 20 to provide ready access to the outer edge of the slab 20.

[0044] As seen first in Figure 2, the frame means 2 comprises a platform 29 which provides a walkway extending between the screen panels 11 and the edge of the slab 20. The walkway 29 comprises a first section of wooden planks that are supported by the beams 25 and additional brackets 30. Hinged to the first portion of the walkway 29 are flaps 31 that rotate between an open position as shown in Figure 4 to a close position as seen in Figure 2 and also Figure 4. The flaps 31 rotate to a horizontal position where they are supported by either extensions (not drawn) from the brackets 30 or by abutting against appropriate supports on the slab 20.

[0045] The walkway 29 will provide safe access to the edge of the slab 20 to enable the various post forming operations, such as post-stressing, to occur. The flaps 31 permit workers to move safely between levels defined by platforms 29 and the floors of the building.

[0046] Throughout the specification and the claims that follow, unless the context requires otherwise, the words "comprise" and "include" and variations such as "comprising" and "including" will be understood to imply the inclusion of a stated integer or group of integers, but not the exclusion of any other integer or group of integers.

[0047] The reference to any prior art in this specification is not, and should not be taken as, an acknowledgement of any form of suggestion that such prior art forms part of the common general knowledge.

[0048] It will be appreciated by those skilled in the art that the invention is not restricted in its use to the particular application described. Neither is the present invention restricted in its preferred embodiment with regard to the particular elements and/or features described or depicted herein. It will be appreciated that the invention is not limited to the embodiment or embodiments disclosed, but is capable of numerous rearrangements, modifications and substitutions without departing from the scope of the invention as set forth and defined by the following claims.

CLAIMS

1. A safety screen assembly comprising a base for fixing with respect to a slab of a building, a frame means depending from the base so as to overhang an edge of the slab, and a safety screen depending from the frame means so as to be horizontally spaced apart from the edge of the slab, wherein the frame means is adapted to support a person in a position between the edge of the slab and the safety screen.

2. The safety screen assembly of claim 1, wherein the frame means comprises at least one support platform positioned between the edge of the slab and the safety screen.

3. The safety screen assembly as in either of the preceding claims, wherein the frame means comprises a plurality of vertically spaced apart support platforms positioned between the edge of the slab and the safety screen.

4. The safety screen assembly as in any one of the preceding claims, wherein the frame means and the safety screen along with it, are movable vertically with respect to the base.

5. The safety screen assembly as in any one of the preceding claims, wherein the base comprises a plurality of horizontal support beams adapted for fixing with respect to the slab, a plurality of vertical frame elements from which the frame means depends, each of which is respectively supported by a horizontal support beam so that each vertical frame element is positioned adjacent to an edge of the slab.

6. The safety screen assembly of claim 5, wherein the frame means comprises a plurality of vertically spaced apart beams, each of which extends between vertical stringers.

7. The safety screen assembly of claim 6, wherein the or each platform is supported by a plurality of the frame means' beams.

8. The safety screen assembly as in either of claims 6 or 7, wherein the safety screen depends from a plurality of the frame means' vertical stringers.

9. The safety screen assembly as in any one of claims 6 through 8, wherein the frame means further comprises brace members extending diagonally between the vertical stringers so as to form trusses.

10. The safety screen assembly as in any one of the preceding claims, wherein the safety screen is comprised of a plurality of safety screen panels.

11. The safety screen assembly as in any one of claims 2 through 10, wherein the at least one support platform comprises a means movable between at least a first position in which an opening in the platform is created, and a second position in which the opening in the platform is closed.

12. The safety screen of assembly of claim 11, wherein the movable means of the platform is a flap.

13. The safety screen assembly as in any one of claims 2 through 12, wherein the at least one platform is a walkway.

14. The safety screen assembly as in any one of claims 3 through 13, wherein each platform is a walkway.

15. A safety screen assembly comprising a plurality of horizontal support beams adapted for fixing with respect to a slab of a building , a plurality of vertical frame elements, each of which is respectively supported by a horizontal support beam so that each vertical frame element is positioned adjacent to an edge of the slab, a safety screen, and frame means depending from the vertical frame elements and supporting the safety screen so that the safety screen is horizontally spaced apart from the vertical frame elements and the edge of the slab in turn.

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
3 January 2014 (03.01.2014)

WIPO | PCT

(10) International Publication Number
WO 2014/000034 A1

(51) **International Patent Classification**:
E04G 21/32 (2006.01) *E04G 3/18* (2006.01)
E04G 3/00 (2006.01)

(21) **International Application Number**:
PCT/AU2013/000689

(22) **International Filing Date**:
26 June 2013 (26.06.2013)

(25) **Filing Language**: English

(26) **Publication Language**: English

(30) **Priority Data**:
2012902703 26 June 2012 (26.06.2012) AU

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(81) **Designated States** *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) **Designated States** *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Published:
— *with international search report (Art. 21(3))*

(54) **Title**: IMPROVED FRAME FOR CLIMBING SCREEN

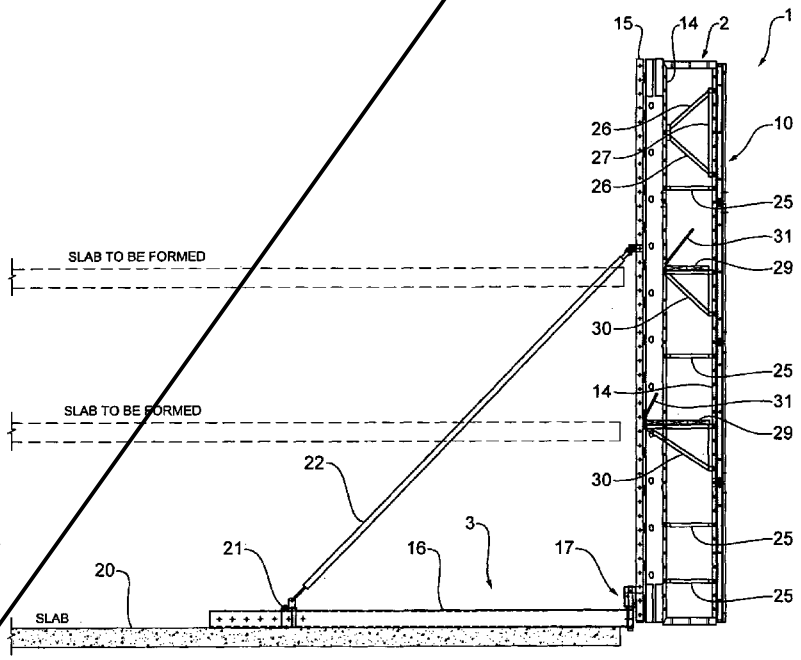


Figure 3

(57) **Abstract**: This invention relates to a safety screen for use on the side of a multistorey building during the construction thereof, and in particular to a means for supporting a safety screen with respect to the building. The safety screen assembly comprises a base for fixing with respect to a slab of a building, a frame means depending from the base so as to overhang an edge of the slab, and a safety screen depending from the frame means so as to be horizontally spaced apart from the edge of the slab, wherein the frame means is adapted to support a person in a position between the edge of the slab and the safety screen.

WO 2014/000034 A1

THE IMPROVED FRAME FOR CLIMBING SCREEN

PRIORITY DOCUMENTS

[0001] The present application claims priority from:

Australian Provisional Patent Application No 2012902703 titled "IMPROVED FRAME FOR CLIMBING SCREEN" and filed on 26 June 2012.

The content of this application is hereby incorporated by reference in its entirety.

INCORPORATION BY REFERENCE

[0002] The following publications are referred to in the present application and their contents are hereby incorporated by reference in their entirety also:

International Patent Application No PCT/AU2002/00506 titled "A MOVABLE SCREEN" in the name of Formula One Self Driving Screens Pty Ltd;

International Patent Application No PCT/AU2003/01065 titled "AN IMPROVED LIFTING FRAME" in the name of Formula One Self Driving Screens Pty Ltd; and

International Patent Application No PCT/AU2003/01112 titled "A LIFTING OR TRANSPORING MEANS USING A RECIPROCATING JACK" in the name of Formula One Self Driving Screens Pty Ltd.

TECHNICAL FIELD

[0003] This disclosure relates to a safety screen for use on the side of a multistorey building during the construction thereof, and in particular to a means for supporting a safety screen with respect to the building.

BACKGROUND

[0004] The subject safety screens are generally employed to provide a screen or barrier at an edge of floors that are in the process of being constructed. Prior to the placement of external cladding such as windows and fascia panels on multistorey buildings, the area between the floor and ceiling (or floor above) is open. It is therefore necessary to provide an external screen for safety purposes, and particularly for preventing personnel and objects from falling from the incomplete building.

[0005] The above referenced publications describe a system of moving screens in a vertical direction, generally upwardly, as the construction of the building extends upwardly.

[0006] The earlier systems use a number of horizontal support beams that are at spaced intervals along each of one or two floors. The horizontal support beams extend beyond the perimeter of each floor and support at their outermost ends a vertical column. Bracing members may extend from a rear portion of each horizontal support beam to each vertical column to thereby hold each column rigidly.

[0007] A safety screen is mounted moveably with respect to the array of vertical columns. In the above mentioned patent specifications, hoist or jack means are used to move the safety screen with respect to the vertical columns. In earlier versions of screen systems, a crane can be used to lift each individual safety screen.

[0008] The above described safety screens restrict access to the edges of the floors being screened, thereby preventing the performance of tasks such as post-tensioning of the concrete slab which forms the floor.

[0009] It is against this background and the problems and difficulties associated therewith that the present invention has been developed.

[0010] Certain objects and advantages of the present invention will become apparent from the following description, taken in connection with the accompanying drawings, wherein, by way of illustration and example, an embodiment of the present invention is disclosed.

SUMMARY

[0011] According to a first aspect there is provided a safety screen assembly comprising a base for fixing with respect to a slab of a building, a bracket for a raising means depending from the base, a frame means depending from the bracket, a safety screen depending from the frame means, where the frame means and the safety screen overhang said bracket so that the safety screen is spaced apart from both the bracket and an edge of the slab, and wherein the frame means is adapted to support a person in a position between the edge of the slab and the safety screen, and wherein in a primary mode of use, the or each bracket is operatively associated with the frame to permit upward movement of the frame means and the safety screen with respect to the base, so that the raising means can raise these, but not downward movement.

[0012] In one form, the or each bracket is substantially vertically aligned with an edge of its respective slab, or at least overhangs the same to a minimal extent.

[0013] In one form, the frame means comprises at least one support platform positioned between the edge of the slab and the safety screen.

[0014] In one form, the frame means comprises a plurality of vertically spaced apart support platforms positioned between the edge of the slab and the safety screen.

[0015] A person or platform may be positioned either of above or below the slab but still be "between an edge of the slab and the safety screen" for the purposes of this specification.

[0016] In one form, at least one platform is a walkway. In one form, each platform is a walkway.

[0017] In one form, the safety screen assembly further comprises a means for raising the frame means and the safety screen with respect to the base (or raising means).

[0018] In one form, the raising means is operatively associated with a vertical frame member for raising the frame means and the safety screen with respect to the base.

[0019] In one form, the safety screen assembly further comprises a lifting mechanism for raising the frame means and the safety screen with respect to the base.

[0020] In one form, the base comprises a plurality of horizontal support beams adapted for fixing with respect to the slab, and the frame means comprises a plurality of vertical frame elements, each of which is supported by a bracket depending from a respective horizontal support beam.

[0021] In one form, the frame means comprises a plurality of vertically spaced apart beams, each of which extends between vertical stringers.

[0022] In one form, the or each platform is supported by a plurality of the frame means' beams.

[0023] In one form, the safety screen depends from a plurality of the frame means' vertical stringers.

[0024] In one form, the frame means further comprises brace members extending diagonally between the vertical stringer so as to form trusses.

[0025] In one form, the safety screen is comprised of a plurality of safety screen panels.

[0026] In one form, at least one support platform comprises a means movable between at least a first position in which an opening in the platform is created, and a second position in which the opening in the platform is closed.

[0027] According to a further aspect, there is provided a safety screen assembly comprising a base for fixing with respect to a slab of a building, a frame means, a safety screen depending from the frame

means, and a means for raising the frame means and the safety screen with respect to the base (or raising means), where the frame means and the safety screen overhang said raising means so that the safety screen is spaced apart from both the raising means and the edge of the slab, and wherein the frame means is adapted to support a person in a position between the edge of the slab and the safety screen.

[0028] In one form, the raising means is substantially vertically aligned with an edge of the or each slab, or at least overhangs the same to a minimal extent.

[0029] In one form, the or each bracket is substantially as described in PCT/AU2003/01112.

[0030] In one form, the or each raising means is substantially as described in PCT/AU2003/01112.

[0031] In one form, the or each vertical frame element is a bracket post as described in PCT/AU/2003/01112.

[0032] In one form, in an alternative, the raising means comprises a jacking box or the like.

[0033] In one form, in a further alternative, the raising means comprises a rack and pinion arrangement.

[0034] In one form, in a further alternative, the raising means comprises a power screw.

[0035] In a further aspect, there is provided a safety screen assembly comprising a base for fixing with respect to a structure of a building, a frame means depending from the base so as to overhang an edge of a slab of the structure, and a safety screen depending from the frame means so as to be horizontally spaced apart from the edge of the slab, wherein the frame means is adapted to support a person in a position between the edge of the slab and the safety screen.

[0036] In a further aspect, the invention may be said to reside in a safety screen assembly comprising a plurality of horizontal support beams adapted for fixing with respect to a slab of a building , a bracket for a raising means depending from each horizontal support beam, a plurality of vertical frame elements, each of which is respectively supported by a bracket so that each vertical frame element is positioned adjacent to an edge of the slab, a safety screen, and frame means depending from the vertical frame elements and supporting the safety screen so that the safety screen is horizontally spaced apart from the vertical frame elements and the edge of the slab in turn.

[0037] A detailed description of one or more embodiments of the invention is provided below along with accompanying Figures that illustrate by way of example the principles of the invention. While the invention is described in connection with such embodiments, it should be understood that the invention is

not limited to any embodiment. On the contrary, the scope of the invention is limited only by the appended claims and the invention encompasses numerous alternatives, modifications and equivalents. For the purpose of example, numerous specific details are set forth in the following description in order to provide a thorough understanding of the present invention.

[0038] The present invention may be practiced according to the claims without some or all of these specific details. For the purpose of clarity, technical material that is known in the technical fields related to the invention has not been described in detail so that the present invention is not unnecessarily obscured.

BRIEF DESCRIPTION OF DRAWINGS

[0039] Embodiments of the present invention will be discussed with reference to the accompanying drawings wherein:

[0040] Figure 1 is a front view of a safety screen assembly;

[0041] Figure 2 is a plan view of the safety screen assembly of Figure 1;

[0042] Figure 3 is a side view of the safety screen assembly of Figure 1; and

[0043] Figure 4 is a perspective view of a safety screen assembly of the type illustrated in Figure 1.

[0044] In the following description, like reference characters designate like or corresponding parts throughout the Figures.

DESCRIPTION OF EMBODIMENTS

[0045] Referring now to Figures 1 through 3, where there is shown a safety screen assembly 1 comprising a safety screen 10 which is supported by a completed slab 20 of a multi-story building, and which extends vertically to provide screening for the subsequent floors (or slabs - shown with dashed lines) that are to be formed.

[0046] The safety screen 10 is comprised of a plurality of safety screen panels 11, where each safety screen panel 11 comprises a frame 12 and a mesh infill panel 13. The safety screen 10 screens the external surface of the building whilst this is awaiting final fixing of windows or external walls. This prevents people and objects from falling from the building.

[0047] In addition, the safety screen 10 extends above the upper most completed floor to also provide a safe working environment while formwork is being fixed on the upper most floor to create the next floor.

[0048] The safety screen 10 depends from frame means 2 (see Figure 3) so that the safety screen 10 is horizontally spaced apart from an edge of the completed slab 20. In this way, access is provided to the edge of the slab 20 that forms the floor.

[0049] The frame means 2 comprises at least a pair of vertical frame elements 15. Each vertical frame element 15 is carried upon a bracket 17 for a raising means (also referred to as a shoe) which depends from a horizontal support beam 16 (also referred to as a needle) which in turn is attached to the slab 20.

[0050] By use of a raising means, the frame means 2 and safety screen 10 can be raised as required to enable work on the upper most floor to create the next floor.

[0051] The frame means 2 and the safety screen 10 overhang said brackets, so as to be spaced apart from both the raising means and the edge of the slab 20.

[0052] The means for raising the frame means 2 and safety screen 10 in the case of the illustrated embodiment, is substantially the same as that described in the specification of PCT/AU03/01112, namely comprising a reciprocating jack and latch means which, in a primary mode of use, permit movement of the frame means 2 and safety screen 10 upwards but not downwards. More particularly, each bracket 17 is substantially identical to, and operates as per the bracket 13 disclosed in PCT/AU2003/01112, and each vertical frame element 15 is substantially identical to, and operates as per the bracket post 24 disclosed in PCT/AU/2003/01112.

[0053] The horizontal support beams 16 are attached to the slab 20 using a saddle 21 which is located over each horizontal support beam 16 and which is secured to the slab 20. A prop 22 extends from the saddle 21 to an upper portion of the vertical frame element 15. This arrangement holds the vertical frame elements 15 rigidly with respect to the slab 20. Further support beams 16 may be secured to new floors as these are formed, for the purpose of providing additional support.

[0054] The frame means 2 comprises a plurality of vertically spaced apart beams 25, each of which is secured between vertical stringers 14. The frame means 2 further comprises brace members 26 and vertical struts 27 to form a rigid truss structure that extends between the vertical stringers 14. The brace members 26 and vertical strut 27 provide rigidity to assist the beams 25 in securely holding the safety screen 10.

[0055] The horizontal support beams 16 do not extend a significant distance past the edge of the floor of the building (i.e. the slab 20), so, the vertical frame elements 15 and the brackets are also supported close to the edge of the building floor. The vertical frame elements 15 (and the frame means 2 and the safety screen 10) can have a significant mass and therefore placing this mass close to the edge of the slab 20 minimises the cantilever loads applied to the horizontal support beams 16. In turn, the relatively lighter mass of the safety screen 10 can then be supported by the frame means 2 at a distance from the edge of the slab 20.

[0056] The spacing of the safety screen 2 at a distance from the edge slab 20 enables support platforms 29 to be positioned between the safety screen 10 and the slab 20 to provide ready access to the outer edge of the slab 20.

[0057] As seen first in Figure 2, the frame means 2 comprises a platform 29 which provides a walkway extending between the screen panels 11 and the edge of the slab 20. The walkway 29 comprises a first section of wooden planks that are supported by the beams 25 and additional brackets 30. Hinged to the first portion of the walkway 29 are flaps 31 that rotate between an open position as shown in Figure 4 to a close position as seen in Figure 2 and also Figure 4. The flaps 31 rotate to a horizontal position where they are supported by either extensions (not drawn) from the brackets 30 or by abutting against appropriate supports on the slab 20.

[0058] The walkway 29 will provide safe access to the edge of the slab 20 to enable the various post forming operations, such as post-stressing, to occur. The flaps 31 permit workers to move safely between levels defined by platforms 29 and the floors of the building.

[0059] Throughout the specification and the claims that follow, unless the context requires otherwise, the words “comprise” and “include” and variations such as “comprising” and “including” will be understood to imply the inclusion of a stated integer or group of integers, but not the exclusion of any other integer or group of integers.

[0060] The reference to any prior art in this specification is not, and should not be taken as, an acknowledgement of any form of suggestion that such prior art forms part of the common general knowledge.

[0061] It will be appreciated by those skilled in the art that the invention is not restricted in its use to the particular application described. Neither is the present invention restricted in its preferred embodiment with regard to the particular elements and/or features described or depicted herein. It will be appreciated that the invention is not limited to the embodiment or embodiments disclosed, but is capable of numerous

rearrangements, modifications and substitutions without departing from the scope of the invention as set forth and defined by the following claims.

CLAIMS

1. A safety screen assembly comprising a base for fixing with respect to a slab of a building, a bracket for a raising means depending from the base, a frame means depending from the bracket, a safety screen depending from the frame means, where the frame means and the safety screen overhang said bracket so that the safety screen is spaced apart from both the bracket and an edge of the slab, and wherein the frame means is adapted to support a person in a position between the edge of the slab and the safety screen, and wherein in a primary mode of use, the or each bracket is operatively associated with the frame to permit upward movement of the frame means and the safety screen with respect to the base, so that the raising means can raise these, but not downward movement.

2. The safety screen assembly of claim 1, wherein the or each bracket is substantially vertically aligned with an edge of its respective slab, or at least overhangs the same to a minimal extent.

3. The safety screen assembly of claim 1, wherein the frame means comprises at least one support platform positioned between the edge of the slab and the safety screen.

4. The safety screen assembly of claim 1, wherein the frame means comprises a plurality of vertically spaced apart support platforms positioned between the edge of the slab and the safety screen.

5. The safety screen assembly of claim 1, wherein the base comprises a plurality of horizontal support beams adapted for fixing with respect to the slab, and the frame means comprises a plurality of vertical frame elements, each of which is supported by, and operatively associated with a bracket depending from a respective horizontal support.

6. The safety screen assembly of claim 5, wherein the raising means is operatively associated with at least one of the vertical frame members, to raise the frame means and the safety screen with respect to the base.

7. The safety screen assembly of claim 1 , wherein the frame means comprises a plurality of vertically spaced apart beams, each of which extends between a plurality of vertical stringers.

8. The safety screen assembly of claim 7, wherein the safety screen depends from a plurality of the frame means' vertical stringers.

9. The safety screen assembly of claim 7, wherein the frame means further comprises brace members extending diagonally between the vertical stringers so as to form trusses.

10. The safety screen assembly of claim 1, wherein the safety screen is comprised of a plurality of safety screen panels.

11. The safety screen assembly of claim 3, wherein the or each support platform comprises a means movable between at least a first position in which an opening in the platform is created, and a second position in which the opening in the platform is closed.

12. The safety screen assembly of claim 11, wherein the movable means of the platform comprises a flap.

13. The safety screen assembly of claim 3, wherein the or each platform comprises a walkway.

ABSTRACT

This disclosure relates to a safety screen assembly (1) for use on the side of a multistorey building during the construction thereof. The safety screen assembly (1) comprises a base for fixing with respect to a slab of a building, a bracket for a raising means depending from the base, a frame means depending from the bracket, a safety screen depending from the frame means, where the frame means and the safety screen overhang said bracket so that the safety screen is spaced apart from both the bracket and an edge of the slab, and wherein the frame means is adapted to support a person in a position between the edge of the slab and the safety screen, and wherein in use, the bracket permits upward movement of the frame means and the safety screen with respect to the base, so that the raising means can raise these.