(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) EP 1 256 666 A2

(12) EUROPEAN PATENT APPLICATION

(43) Date of publication:
13.11.2002 Bulletin 2002/46

(51) Int Cl.[7]: **E04G 1/26**

(21) Application number: **02253186.7**

(22) Date of filing: **07.05.2002**

(84) Designated Contracting States:
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR
Designated Extension States:
AL LT LV MK RO SI

(30) Priority: **08.05.2001 GB 0111165**

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(54) Safety guard

(57) A safety guard and particularly but not exclusively a scaffolding guard for construction sites and the like. The safety guard (130) comprises a screen (140); and at least one support member (150) mounted in or on the screen (140), the or each support member (150) having a hook-like profile (195) defining an open channel (200) for receiving a substantially horizontal pole (120) from which the screen (140) is to be hung; characterised by a stop (180) mounted on and projecting from the screen (140), the stop (180) being configured to restrict movement of the screen (140) relative to a substantially horizontal pole (120) when received in the open channel (200) of the or each support member (150).

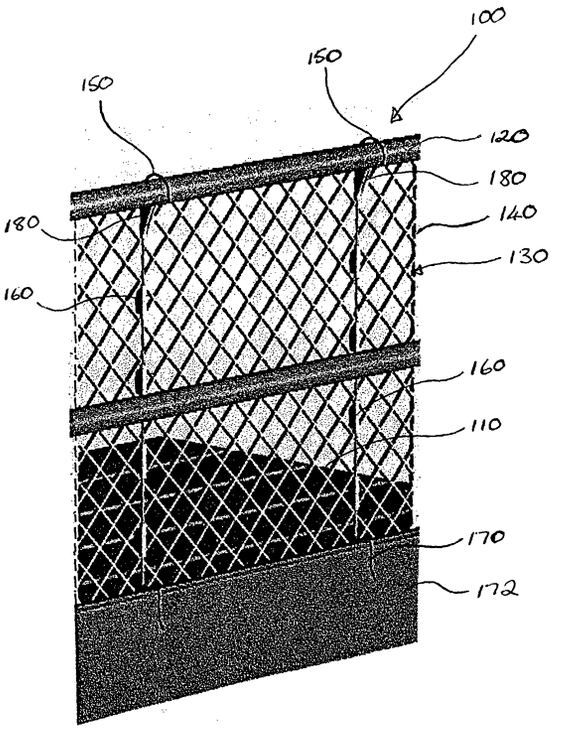

Figure 1

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Description

[0001] The present invention relates to a safety guard and particularly but not exclusively a scaffolding guard for construction sites and the like.

[0002] Safety legislation requires the use of certain safety apparatus when work is being carried out on building sites and the like where scaffolding is deployed. One requirement is for a scaffolding guard to be used with scaffolding to prevent materials (e.g. debris) falling off the scaffolding on to workers below. A conventional scaffolding guard, such as that described in GB 2 137 275, comprises a generally rectangular mesh and two or more hooks for suspending the mesh from a horizontal scaffolding pole provided around the edge of the roof. The hooks can be fixed to the mesh. Alternatively, as discussed in GB 2 137 275, the hooks can swivel in relation to the mesh to allow the hooks to be moved from an operative position extending transversely to the top edge of the mesh to an inoperative position in which they lie co-planar with the mesh, thereby providing for ease of stacking.

[0003] A further safety requirement is for a scaffolding guard to be capable, when suspended from a scaffolding pole, of resisting an upward load of a predetermined amount without upward movement of, or damage to the guard. Clearly a conventional scaffolding guard with fixed or swivelling hooks can be easily raised from a scaffolding pole. This shortcoming of a conventional scaffolding guard can be remedied by securing the guard to the scaffolding pole, for instance by tying or clamping. However, securing the scaffolding guard to the scaffolding pole takes time, thus making this remedy unattractive.

[0004] The inventors have realised that a solution to the above mentioned difficulties may lie in devising an improved scaffolding guard.

[0005] Moreover, the inventors have realised that a solution to the above mentioned difficulties may find application in improved safety guards, such as may be used to provide barriers around ground works or in crowd control, and indeed elsewhere.

[0006] According to a first aspect of the present invention there is provided a safety guard, comprising: a screen; and at least one support member mounted in or on the screen, the or each support member having a hook-like profile defining an open channel for receiving a substantially horizontal pole from which the screen is to be hung; characterised by a stop mounted on and projecting from the screen, the stop being configured to restrict movement of the screen relative to a substantially horizontal pole when received in the open channel of the or each support member.

[0007] In use, the safety guard may be suspended from the substantially horizontal pole by the support members, to provide a substantially vertical barrier. In such an embodiment, the stop may be configured to prevent the or each support member from disengaging a substantially horizontal pole when supporting the screen thereon.

[0008] The stop and the or each support member may define a minimum opening which in use is too small for the horizontal pole to pass therethrough. According to such embodiments, a user may be hindered or even prevented from disengaging the support member from the substantially horizontal pole by the relative dispositions of support member and stop. Accordingly, the or each support member and the stop may be mounted on the screen for movement of the stop and support member in relation to each other. With such an arrangement, the or each support member may be moveably, even slidably, mounted on the screen. In this way, the position of the hook-like profile relative to the top of the screen is adjustable.

[0009] The or each support member may swivel in relation to the screen for ease of stacking. During installation of this embodiment, the support members may be moved longitudinally to increase the span between the support members and the stop. Thus, the act of engaging the support members with the substantially horizontal pole is facilitated.

[0010] In embodiments, the support member may have a stem passing through a collar mounted on the screen to allow longitudinal movement of the support member in relation to the screen.

[0011] In embodiments, the or each support member may have a hook portion for hooking over a substantially horizontal pole. During installation, the screen may be suspended from a scaffolding pole by hooking the hook portion over the scaffolding pole to provide a substantially vertical scaffolding guard. In such embodiments, the stop may be located on the screen below the hook portion when supporting the screen.

[0012] Alternatively, the stop may be offset relative to the support member. Thus, for example, where the safety guard consists of two support members a single stop might be provided midway between the two support members.

[0013] The stop and hook-like profile may be disposed at opposite sides of the open channel. In use, the horizontal pole can be located in the open channel between the hook-like profile and the stop.

[0014] The stop may be operative to control access to the channel. For example, when the horizontal pole is located in the open channel, the stop can prevent the support members from disengaging the horizontal pole.

[0015] The stop may be integral to the screen. The screen and stop may be made of rigid plastics, such as polypropylene. Thus, screen and stop may for example be formed in one injection moulding process. Alternatively or in addition, the screen may include a meshed body, thereby reducing the weight of screen and the material required in manufacture.

[0016] The safety guard may further comprise at least one lug mounted on and projecting from one face of the screen, the lug being configured to support the screen

independently of the support member(s) when urged against a structure, e.g. a toe board.

[0017] In use, the lug can bear at least some of the weight of the screen and can therefore relieve some of the load borne by the support members. Thus, the support members and lug may co-operate with the horizontal pole and the structure respectively, whereby a load exerted by the screen is distributed via the support members and lug.

[0018] The distribution of the load via the support members and the lug can enable the safety guard to withstand an additional load imposed on the screen. For example, the additional load might be the weight of a person or might be an additional load required to meet a safety standard.

[0019] The lugs can also be used advantageously whilst the safety guard is being installed. For example, the safety guard can be supported on a toe board by means of the at least one lug, whilst the support members are manoeuvred into position on the horizontal pole.

[0020] More specifically, the lug may be located towards an end of the screen opposite an end at or towards which the screen is mounted on the horizontal pole.

[0021] According to a second aspect of the present invention there is provided a safety guard, comprising a screen, a plurality of support members, each mounted in or on the screen for supporting the screen on a substantially horizontal pole, characterised by a member which is configured to extend laterally of one of the support members to prevent the support members from disengaging from a horizontal pole when the screen is depending therefrom.

[0022] From a third aspect of the present invention there is provided a safety guard, comprising: a screen; a plurality of support members, each mounted in or on the screen for supporting the screen on a substantially horizontal pole; characterised by at least one lug mounted on and extending from one face of the screen, the lug being configured to support the screen independently of the support members when urged against a structure, e.g. a toe board.

[0023] As discussed above with reference to the first aspect of the invention, the lug can bear some of the weight of the screen and can enable the safety guard to withstand an additional downward force imposed on the screen.

[0024] More specifically, the lug may be configured to rest on the horizontal beam.

[0025] The lug may be formed integrally with the screen.

[0026] The screen and lug may be made of rigid plastics, such as polypropylene.

[0027] It is to be appreciated that the third aspect of the invention may include any one or more of the features described above with reference to the first aspect of the invention.

[0028] A specific embodiment of the invention will now be described in detail, by way of example, and with reference to the accompanying drawings in which:

Figure 1 shows a scaffolding guard being an embodiment of the present invention;
Figure 2 shows a partial more detailed view of the scaffolding guard of Figure 1;
Figure 3 shows an alternative embodiment of the invention;
Figure 4 is a partial detailed illustration of the embodiment of Figure 3; and
Figure 5 shows the embodiment of Figure 3 in use.

[0029] With reference to Figure 1, a scaffolding guard 130 (which constitutes a safety guard) embodying the present invention is shown in use with scaffolding 100. The scaffolding 100 comprises a platform 110, from which work may be carried out, and a scaffolding pole 120, from which the scaffolding guard 130 depends. The scaffolding guard 130 might for example be present to prevent material, such as debris, from falling from the platform 110.

[0030] As shown in Figure 1 and in more detail in Figure 2, the scaffolding guard 130 has a mesh screen 140, and support members 150 moveably mounted on the mesh screen 140 for supporting the mesh screen on the scaffolding pole 120. Each of the support members 150 are a friction fit in collars 160, which are integral to the mesh screen 140, to allow for longitudinal movement of each support member in relation to the mesh screen. The lower end 170 of each support member 150 is shaped to hook over a toe board 172. Stops 180 are mounted on the mesh screen 140.

[0031] As shown in the partial more detailed view of Figure 2, the upper end 190 of each support member 150 is shaped to form a hook portion 195 defining an open channel 200, which hooks over the scaffolding pole 120. In addition, each of the stops 180 is formed integrally with one of the collars 160 and extends laterally of the support member 150 below the scaffolding pole 120.

[0032] The mesh screen 140, collars 160 and stops 180 might typically be made of a rigid plastics, such as polypropylene. Furthermore, the mesh screen, collars and stops might be integrally formed by means of an injection moulding process or the like. The support member 150 might typically be made of a load bearing material such as a metal.

[0033] As shown in Figure 2, the minimum span between the stop 180 and the end of the hook portion 195 is less than the diameter of the scaffolding pole 120. This allows for substantially no significant upward movement of the mesh screen in relation to the scaffolding pole. Thus, if scaffolding guard 130 is accidentally knocked upwards it cannot disengage from the pole 120.

[0034] Figure 3 shows another embodiment of the invention. The embodiment of Figure 3 comprises the

same components as the embodiment of Figure 1, and further comprises two lugs 210. As shown in Figures 4 and 5, each lug 210 is mounted on and projects from one face of the mesh screen 140. The lugs are formed integrally with the mesh structure of the screen 140.

[0035] As shown in Figure 5, the lugs of the embodiment of Figures 3 to 5 rest on the toe board 172 (which constitutes a horizontal beam), thereby distributing the load exerted by the mesh screen and any load or downward force that the mesh screen might additionally bear via the support members and the lugs.

[0036] During installation, the scaffolding guard 130 is suspended from the scaffolding pole 120 by hooking the hook portions 195 over the scaffolding pole 120. As discussed in the immediately preceding paragraph, the minimum span between the stop 180 and the end of the hook portions 195 is less than the diameter of the scaffolding pole 120, thus making it difficult to engage the hook portions with the scaffolding pole. The capability of the support members 150 to move longitudinally in relation to the mesh screen 140 and stops 180 allows the minimum span between the stop 180 and the end of the hook portion 195 to be increased during installation to greater than the diameter of the scaffolding pole 120, thereby reducing this difficulty. Once the scaffolding guard is in place, the support members 150 can be moved longitudinally in relation to the mesh screen to reduce the minimum span between the stop 180 and the end of the hook portion 195, thereby placing the scaffolding guard in the condition shown in Figure 2.

[0037] The lugs 210 of the embodiment of Figures 3 to 5 can be used advantageously during installation. As shown in Figure 5, the scaffolding guard can be supported on a toe board (which constitutes a structure) by means of the lugs 210 while the support members (not shown) are manoeuvred into position on the scaffolding pole (not shown).

[0038] The scaffolding guard described with reference to the embodiments discussed above has been tested by applying an upward load of 30 kg at the midpoint of the top of the guard. There was no permanent deformation of the guard upon release of the 30 kg load. Furthermore, no damage was sustained by the guard upon application of an upward load of 60 kg.

[0039] The scaffolding guard described above with reference to the embodiment of Figures 3 to 5 has been tested by applying a downward load of 125 kg without sustaining any damage.

[0040] It is to be appreciated that the safety guard and other features described with reference to the embodiments discussed above can be combined in other embodiments of the present invention.

Claims

1. A safety guard (130), comprising:

a screen (140); and

at least one support member (150) mounted in or on the screen, the or each support member having a hook-like profile defining an open channel (200) for receiving a substantially horizontal pole (120) from which the screen is to be hung;

characterised by

a stop (180) mounted on and projecting from the screen, the stop being configured to restrict movement of the screen relative to a substantially horizontal pole when received in the open channel of the or each support member.

2. A safety guard as claimed in claim 1, in which the stop is configured to prevent the or each support member from disengaging a substantially horizontal pole when supporting the screen thereon.

3. A safety guard as claimed in claim 1 or claim 2, in which the stop and the or each support member define a minimum opening which in use is too small for the horizontal pole to pass therethrough.

4. A safety guard as claimed in any preceding claim, in which the or each support member and the stop are mounted on the screen for movement of stop and support member in relation to each other.

5. A safety guard as claimed in any preceding claim, in which the or each support member is mounted on the screen for longitudinal movement in relation to the screen.

6. A safety guard as claimed in claim 5, in which the or each support member has a stem passing through a collar (160) mounted on the screen to allow longitudinal movement of the support member in relation to the screen.

7. A safety guard as claimed in any preceding claim, in which the or each support member has a hook portion (195) for hooking over a substantially horizontal pole.

8. A safety guard as claimed in claim 7, in which the stop is located on the screen below the hook portion when supporting the screen.

9. A safety guard as claimed in any preceding claim, in which the stop is offset relative to the support member.

10. A safety guard as claimed in any preceding claim, in which the stop is operative to control access to the channel.

11. A safety guard as claimed in any preceding claim, in which the stop and hook-like profile are disposed at opposite sides of the open channel.

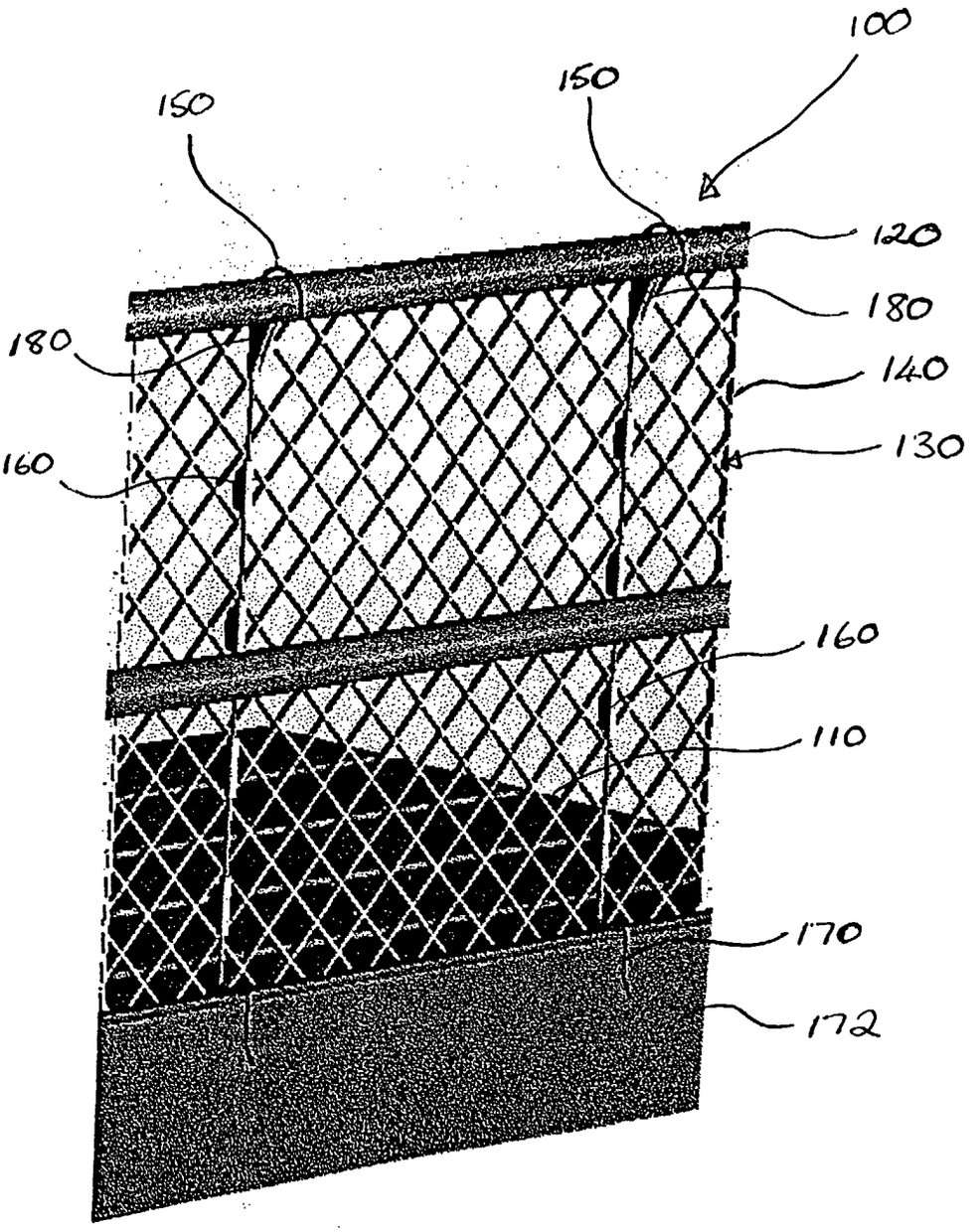

Figure 1

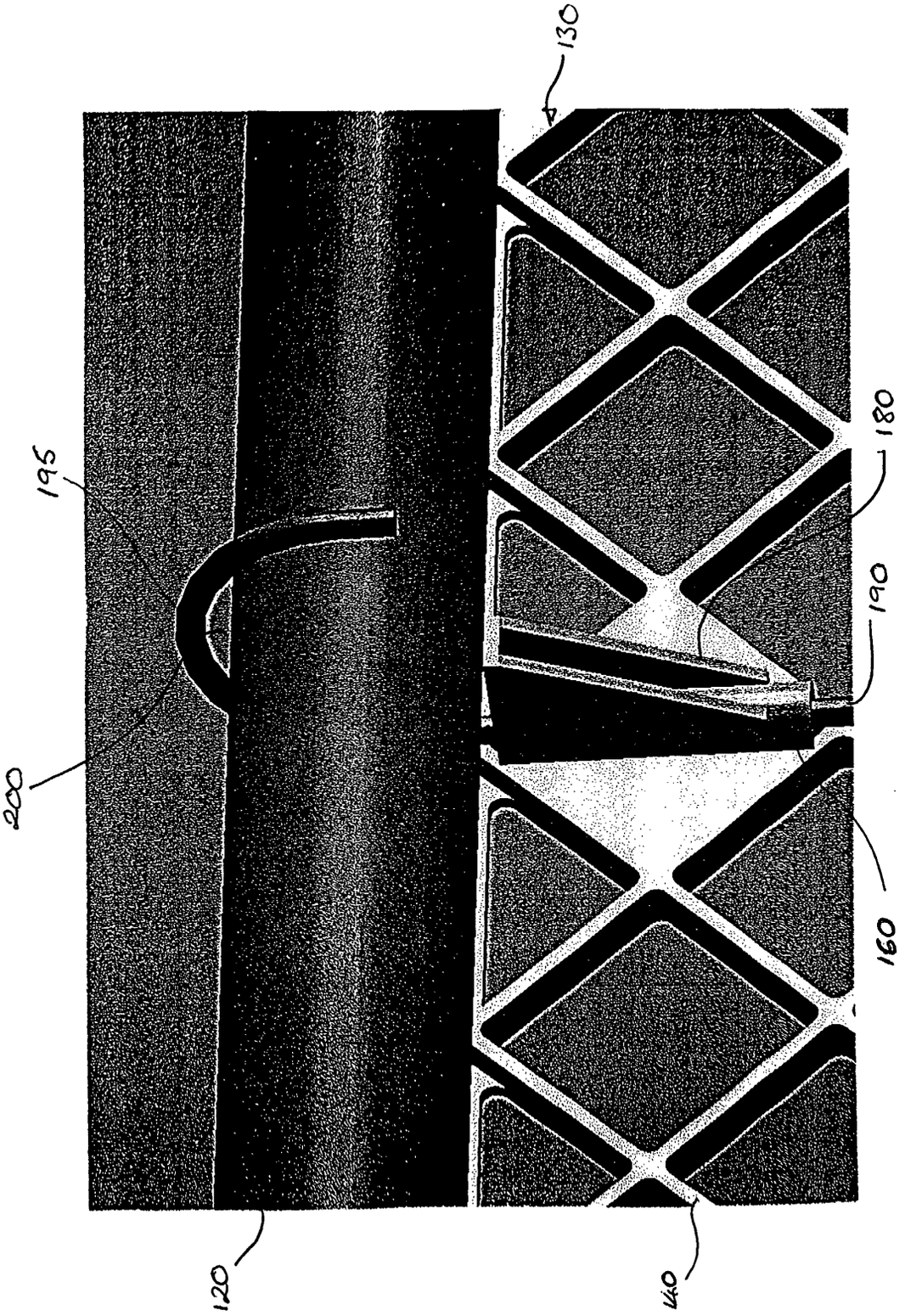

Figure 2.

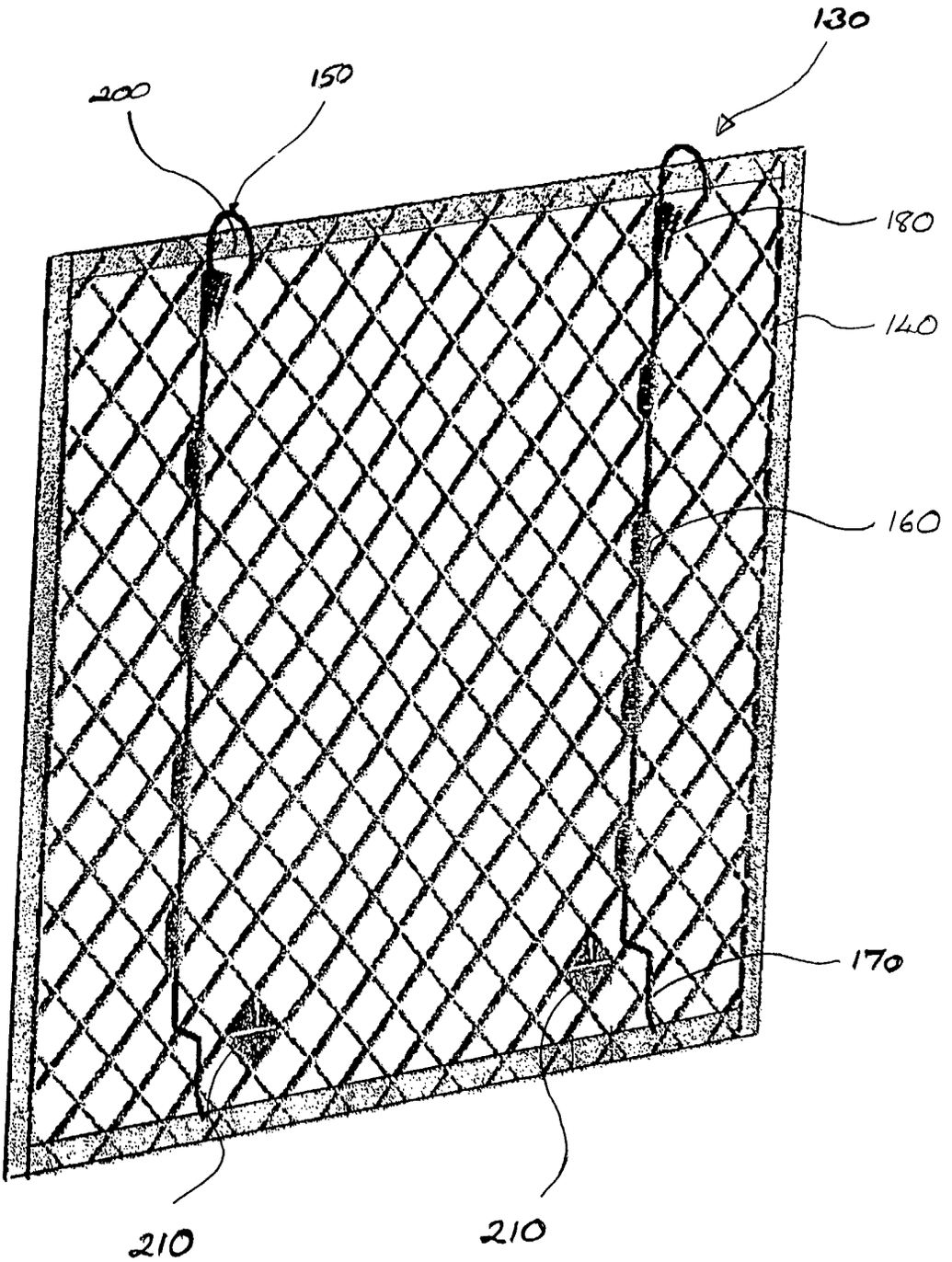

Figure 3

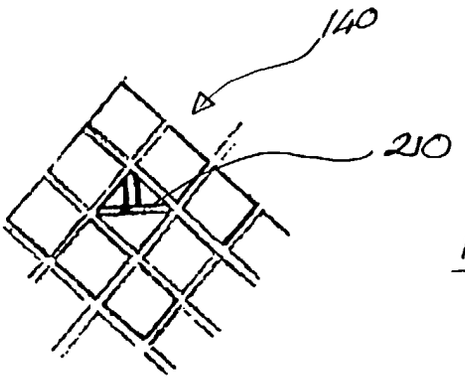

Figure 4

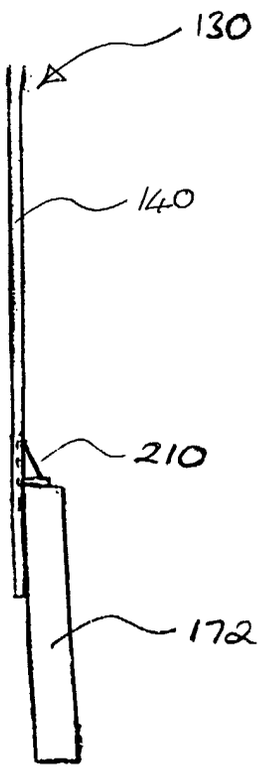

Figure 5