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(54) **TRIANGLE UNIT ASSEMBLY BLOCK AND METHOD USING SAME OF BUILDING LANDSLIDE PREVENTING DRAINING RETAINING WALL**

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(57) **ABSTRACT**

A triangle unit assembly block comprises a body portion comprising mutually facing first and second side surfaces and mutually facing third and fourth side surfaces between a upper surface and a lower surface; a first fastening protrusion formed on the first side surface of the body portion; a second fastening protrusion formed on the second side surface of the body portion; a first fastening groove formed on the third side surface of the body portion; and a second fastening groove formed on the fourth side surface of the body portion, wherein the first and second fastening protrusions are disposed to correspond to each other and protrude in mutually opposite directions, and the first and second fastening grooves are disposed to be misaligned with one another to be concave in mutually facing directions.

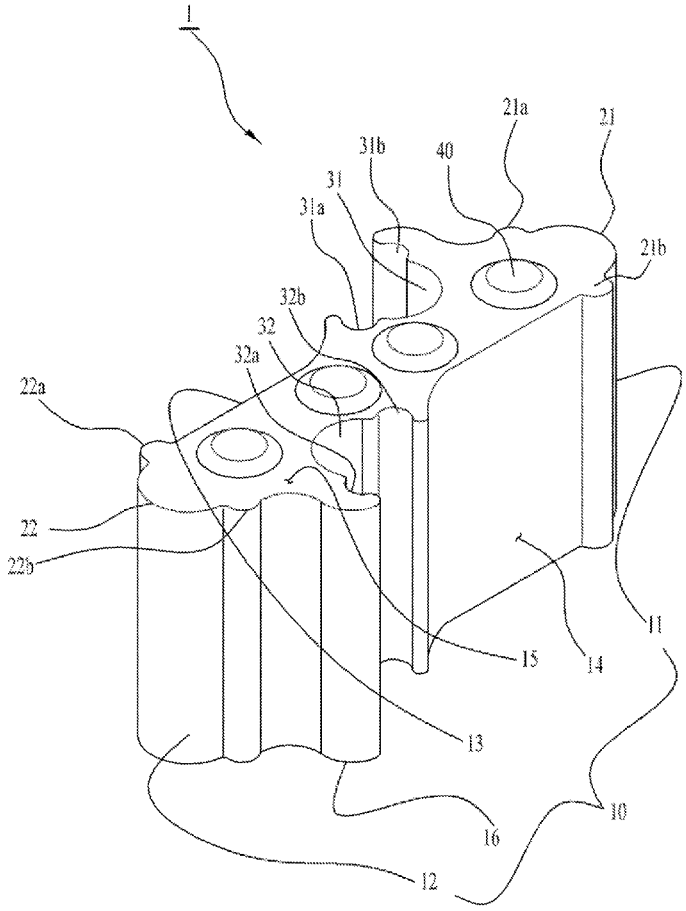


FIG.1

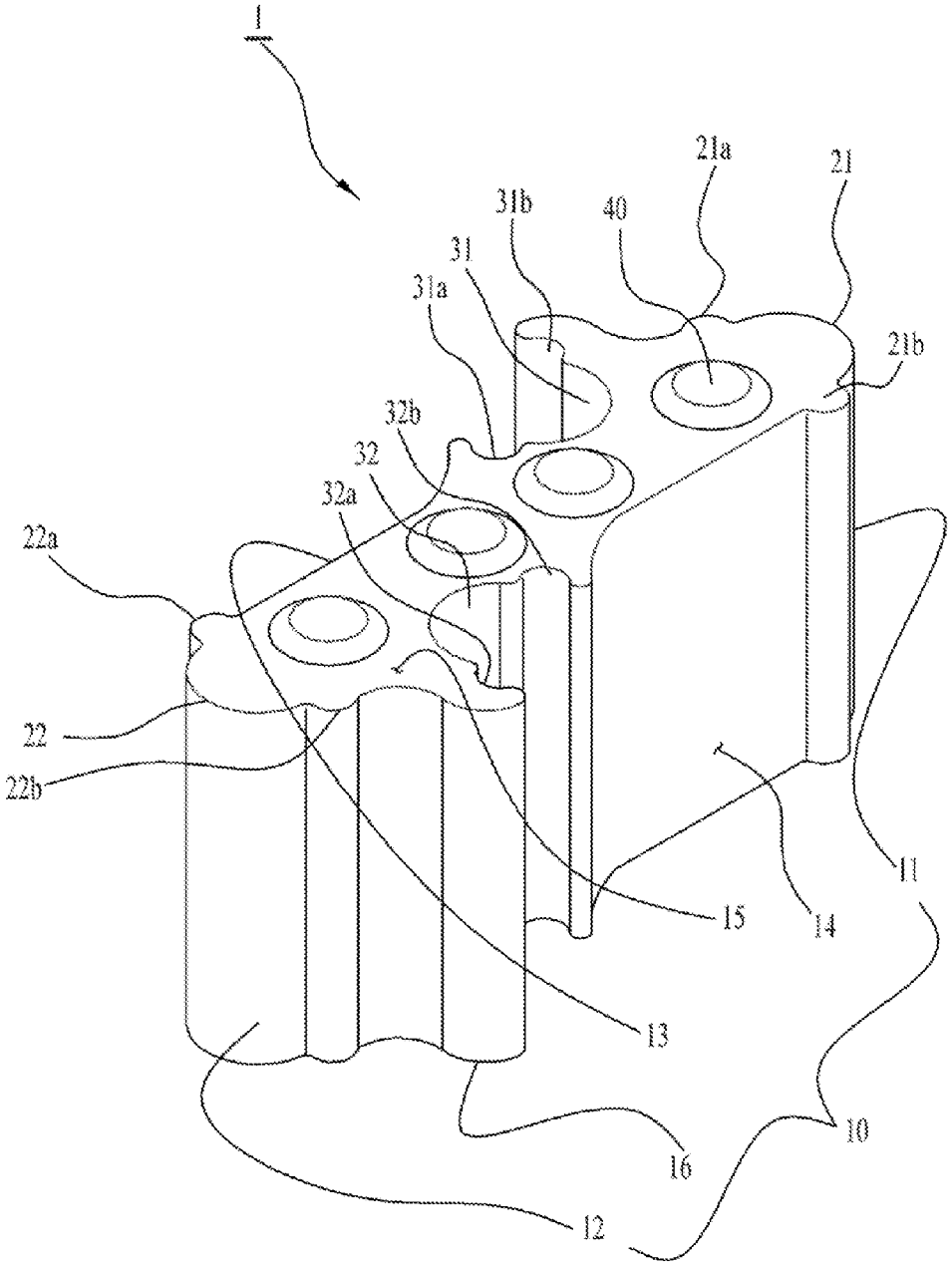


FIG.2

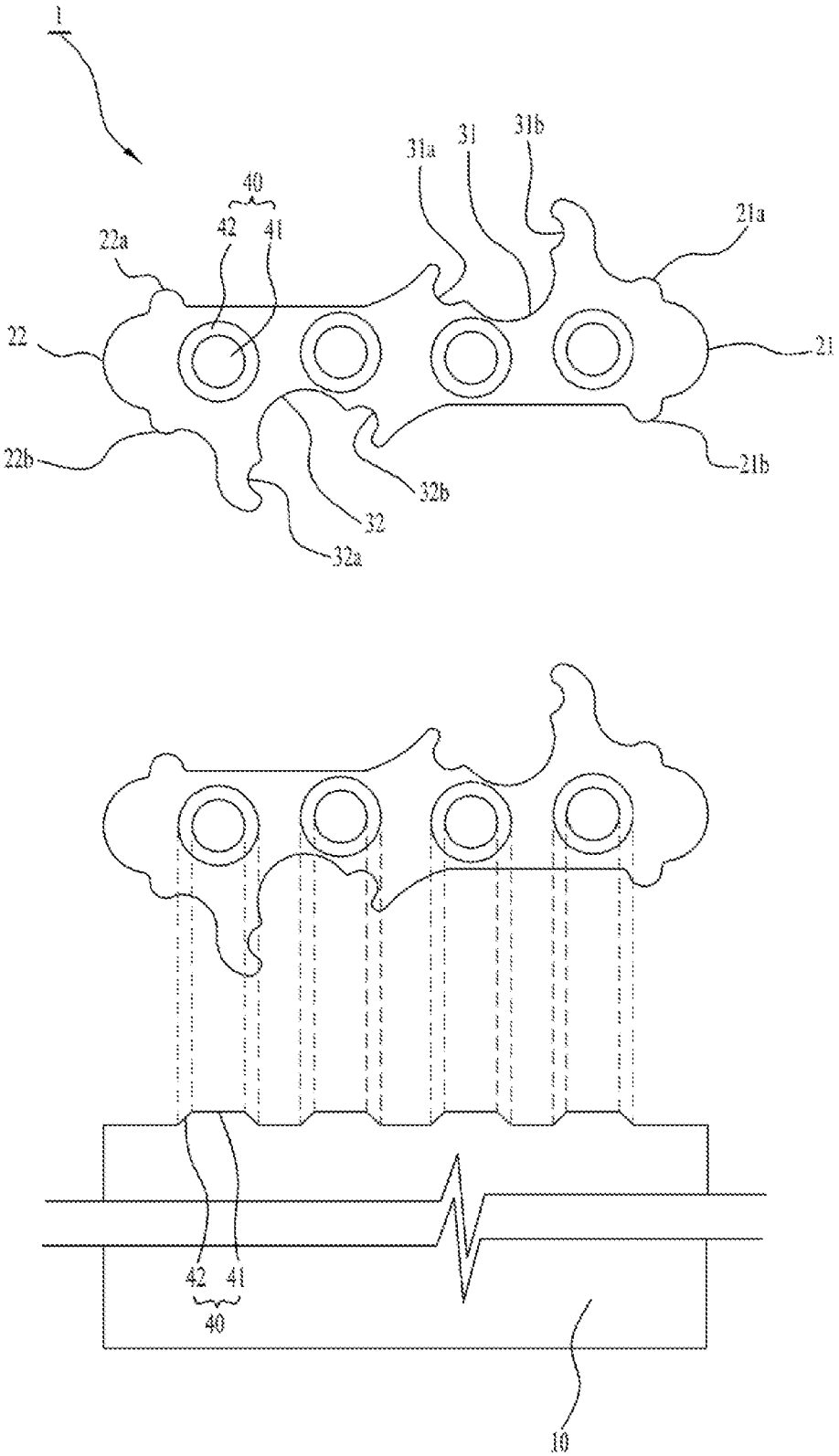


FIG.3

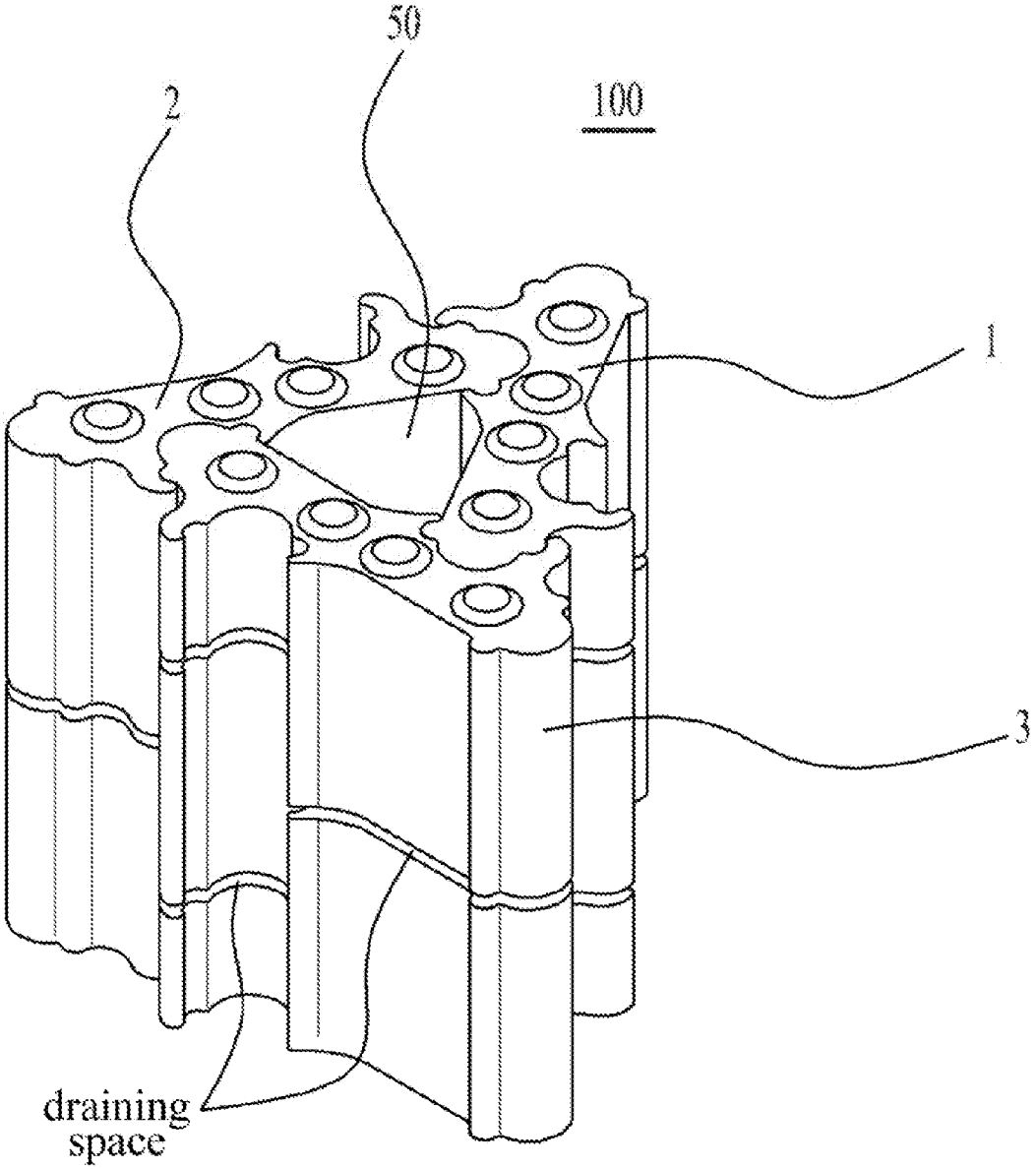
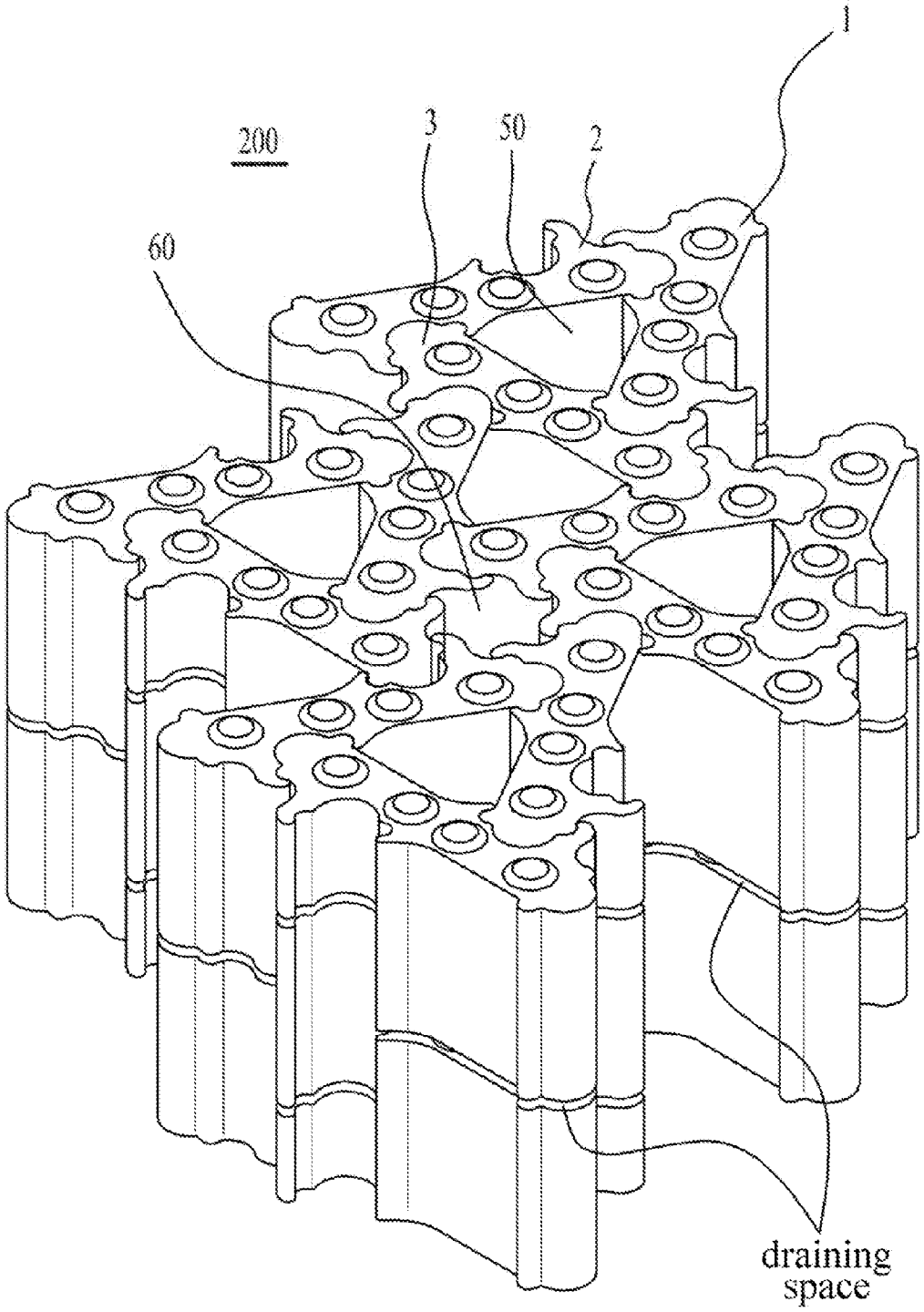


FIG.4



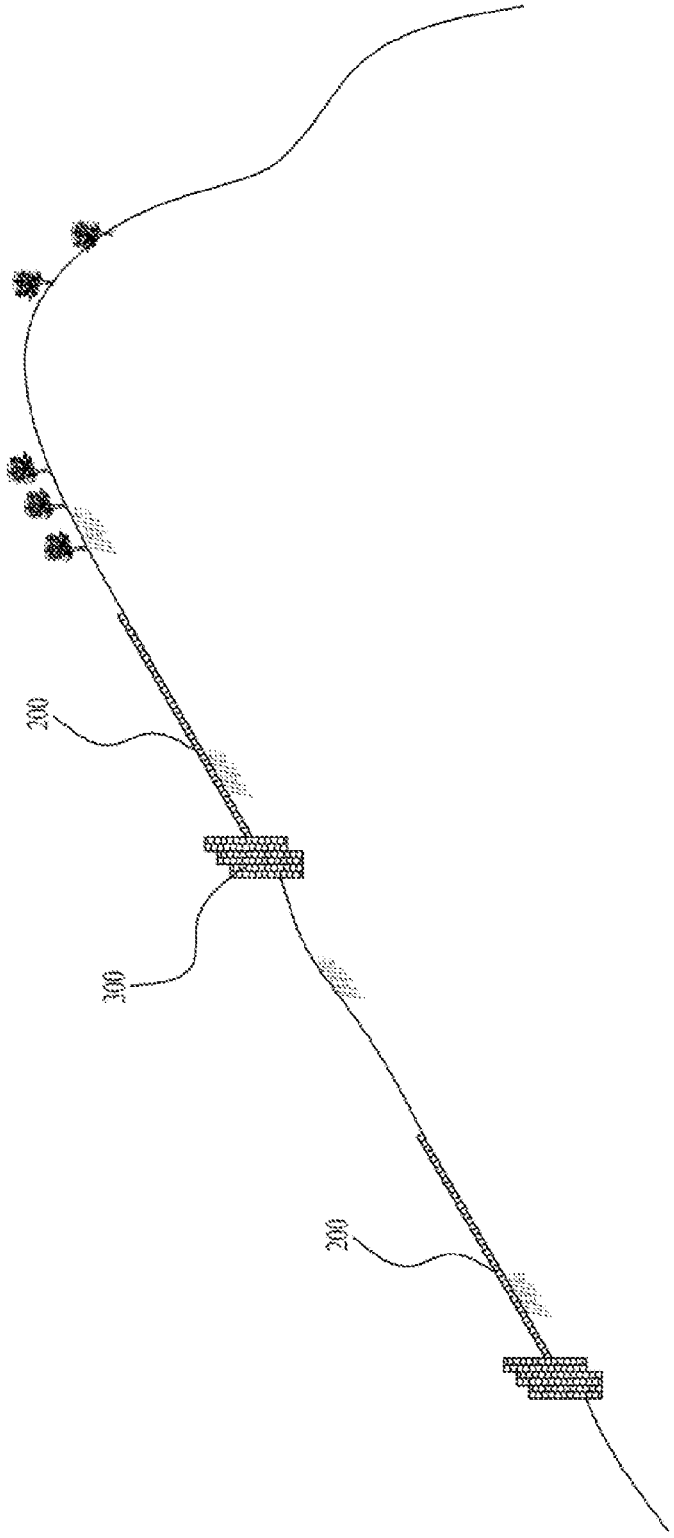
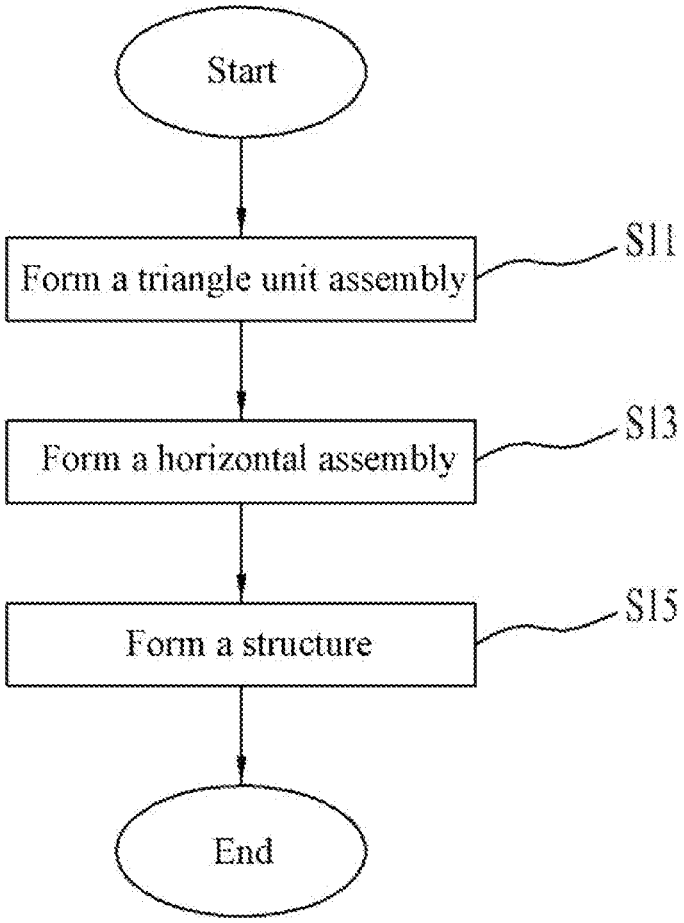


FIG.5

FIG.6


Start
Form a triangle unit assembly
S11
Form a horizontal assembly
S13
Form a structure
S15
End

TRIANGLE UNIT ASSEMBLY BLOCK AND METHOD USING SAME OF BUILDING LANDSLIDE PREVENTING DRAINING RETAINING WALL

TECHNICAL FIELD

[0001] The present invention relates to a triangle unit assembly block. More particularly, it relates to a triangle unit assembly block for preventing damage from landslides and a method of building a landslide preventing draining retaining wall using the same.

BACKGROUND OF ART

[0002] In the 21st century, the world is suffering from various disasters caused by unpredictable climate change (many human casualties and damages of property loss are seen) and especially with floods and local heavy rain, landslide damages are increasing a lot.

[0003] A landslide is a calamity of a massive scale of earth flowing downwards and sweeping over like a waterfall, wherein the degree of damage is great and recovery to the original state is impossible, so in order to prevent or lessen the damage, thorough preparation is required.

[0004] In addistion, facility for preventing landslides must have both a smooth drainage function and a high durability that can withstand several hundred tons of earth pressure at the same time.

[0005] However, there is no technology or method that satisfies the above conditions yet.

[0006] Korean Patent Publication no. 10-2012-0049106 (published on May 16, 2012), which may be a prior art associated with the present invention, discloses a prefabricated shore protection block characterized in that a frame block is fitted into a connecting block groove portion in a lattice form and, an anchor hole is formed so that the fixing force at a sloped surface is improved by burying a reinforcing bar anchor vertically at the center of the connecting block.

[0007] The above-mentioned conventional block is a shore protection block for protecting a sloped surface, wherein a block is laid flat on the sloped surface, so it is a structure that cannot be used in a place where a cut area and earth pressure acts largely, and especially, a separate apparatus for draining is not installed.

[0008] Further, a shaft with easy angle adjustment and a block apparatus for a retaining wall of Korean Utility Model Registration no. 20-02555686 (registered on Nov. 15, 2001) is technology related to a block apparatus for easily adjusting an angle when a retaining wall is built, which holds to problem of not being able to perform drainage when rain water flows in.

DISCLOSURE OF THE INVENTION

Technical Problem

[0009] The present invention has been made to solve the above problems of the above-mentioned prior art, and an aspect of the present invention is directed to providing a triangle unit assembly block and a landslide preventing draining retaining wall building method using the same, that enables drainage to be performed through a large space between a multiple of convex portions formed on a upper surface of a block, and by the formation of a large space in a unit triangle form in an assemblage retaining wall and a large space in a central hexagonal shape to quickly drain a large amount at the time of heavy rain, and uses an assembly block including first and second fastening protrusions disposed to be corresponding to side surfaces mutually facing each other, and first and second fastening grooves disposed in a misaligned manner at side surfaces mutually facing each other, to provide a combined function single block with a connecting block function and a frame block function that can safely and easily combine a triangle unit assembly in a double row longitudinal, lateral, and vertical direction.

[0010] Further, another aspect of the present invention is directed to providing a triangle unit assembly block and a landslide preventing draining retaining wall building method using the same, that enables work to be done easily even by a non-expert because only two grooves are formed symmetrically, each very compact and rigid, since both ends of a block body are connecting protrusion portions, and because foundation work is unnecessary, there's less influence from seasons and bending moments don't occur structurally and thereby the cost-efficiency is excellent and the stability is suitable to constructing a semi-permanent structure such as a landslide preventing retaining wall as an earthquake-proof assembly.

Technical Solution

[0011] According to an exemplary embodiment of the present invention, a triangle unit assembly block for solving the above problems may include: a body portion comprising mutually facing first and second side surfaces and mutually facing third and fourth side surfaces;

[0012] a first fastening protrusion formed on the first side surface of the body portion;

[0013] a second fastening protrusion formed on the second side surface of the body portion;

[0014] a first fastening groove formed on the third side surface of the body portion; and

[0015] a second fastening groove fromed on the fourth side surface of the body portion,

[0016] wherein the first and second fastening protrusions are disposed to correspond to each other and protrude in mutually opposite directions,

[0017] and the first and second fastening grooves are disposed to be misaligned with one another to be concave in mutually facing directions.

[0018] Further, it is preferable for the area of the first side surface of the body portion to be equal to the area of the second side surface of the body portion, and be larger or smaller than the area of the third or fourth side surface of the body portion.

[0019] Further, it is preferable for the first and second fastening protrusions to be formed on both sides respectively from the upper surface to a lower surface of the body portion, and a hemispherical protrusion line protruding in a perpendicular direction to the third side surface or the fourth side surface of the body portion to be formed.

[0020] Further, it is preferable for the first and second fastening grooves to be formed along both inner sides respectively from the upper surface to the lower surface of the body portion, and a hemispherical groove line recessed in a perpendicular direction to the first side surface or the second side surface to be formed.

[0021] Further, it is preferable for the areas of the first and second fastening grooves to be larger than the first and second fastening protrusions.

[0022] Further, it is preferable for the first and second protrusions to be fastened to a first fastening groove or a second fastening groove of an adjacent assembly block.

[0023] Further, it is preferable for a plurality of convex portions to be formed to be disposed at regular intervals on at least one of the upper surface and the lower surface of the body portion.

[0024] Further, it is preferable for a plurality of convex portions to be formed on the upper surface of the body part, and the upper and lower surfaces of the body portion to be flat planes, and the side surface of the convex portion to be an inclined surface.

[0025] Further, it is preferable for the first and second fastening grooves to be disposed between adjacent convex portions.

[0026] In addition, according to an exemplary embodiment of the present invention to solve the above-mentioned problems, a method of building a landslide preventing draining retaining wall using a triangle unit assembly block comprising first and second fastening protrusions disposed to correspond to side surfaces mutually facing each other, and first and second fastening grooves disposed to be misaligned on side surfaces mutually facing each other, wherein the method comprises:

[0027] forming a triangle unit assembly by inserting a first fastening protrusion of a first assembly block into a first fastening groove of a second assembly block, inserting a second fastening protrusion of a second assembly block into a first fastening groove of a third assembly block, and inserting a first protrusion of the third assembly block into a second fastening groove of the first assembly block;

[0028] forming a horizontal assembly by connecting at least two triangle unit assemblies in a horizontal direction; and forming a structure while stacking adjacent triangle unit assemblies to be misaligned with each other, by stacking at least two horizontal assemblies in a vertical direction.

Advantageous Effects

[0029] According to the present invention, the triangle unit assembly block has an effect that a combined function single block with a connecting block function and a frame block function that can safely and easily combine a triangle unit assembly in a double row longitudinal, lateral, and vertical direction is provided, thereby enabling work to be done easily even by a non-expert when building a landslide preventing draining retaining wall using an assembly block, and because foundation work is unnecessary, there's less influence from seasons and bending moments don't occur structurally and thereby there is an effect of excellent cost-efficiency and a stability suitable to constructing a semi-permanent structure such as a landslide preventing retaining wall as an earthquake-proof assembly.

[0030] In addition, because the present invention is a triangle unit assembly, bending moments don't occur thereby an earthquake-resistent retaining wall may be easily and simply built in a prefabricated manner.

[0031] Next, the present invention can be utilized for various purposes such as a breakwater, a retaining wall, a shore protection, etc., by adjusting the size of the blocks in accordance with the site conditions.

[0032] Next, because the present invention does not require foundation work, it is advantageous in that the structure can be firmly built even in mountainous areas and soft grounds.

[0033] In addition, since the present invention does not perform concrete pouring work on site, it is advantageous in that the work in water or near the water is easy.

[0034] Next, because the present invention uses finished products, it is advantageous in that the construction period can be shortened.

[0035] Next, the present invention is advantageous in that the assembling work is simple and easy to open and repair.

BRIEF DESCRIPTION OF THE DRAWINGS

[0036] FIG. **1** is a perspective view showing a triangle unit assembly block according to the present invention.

[0037] FIGS. **2** and **3** are views showing convex portions and a large draining space of an assembly block according to the present invention.

[0038] FIG. **4** is a plan view showing a triangle unit assembly using an assembly block according to the present invention.

[0039] FIG. **5** is a view showing a retaining wall and shore protecting block using assembly blocks according to the present invention.

[0040] FIG. **6** is a flow chart for describing a landslide preventing draining retaining wall building method using a triangle unit assembly block according to the present invention.

DETAILED DESCRIPTION OF THE EMBODIMENTS

[0041] Hereinafter, preferred embodiments according to the present invention will be described with reference to the accompanying drawings.

[0042] FIG. **1** is a perspective view showing a triangle unit assembly block according to the present invention.

[0043] As shown in FIG. **1**, a triangle unit assembly block **1** may include a body portion **10** including mutually facing first and second side surfaces **11** and **12** and mutually facing third and fourth side surfaces **13** and **14** between a upper surface **15** and a lower surface **16**, a first fastening protrusion **21** formed on the first side surface **11** of the body portion **10**, a second fastening protrusion **22** formed on the second side surface **12** of the body portion **10**, a first fastening groove **31** formed on the third side surface **13** of the body portion **10**, and a second fastening groove **32** formed on the fourth side surface **14** of the body portion **10**.

[0044] Here, the first and second fastening protrusions **21** and **22** may be disposed to correspond to each other and protrude in mutually opposite directions, and the first and second fastening grooves **31** and **32** may be disposed to be misaligned with one another to be concave in mutually facing directions.

[0045] At this time, the first fastening groove **31** may be disposed to be adjacent to the first fastening protrusion **21**, and the second fastening groove **32** may be disposed to be adjacent to the second fastening protrusion **22**.

[0046] In addition, the first and second fastening protrusions **21** and **22** may be inserted and fastened to a first fastening groove or a second fastening groove of a different adjacent assembly block **1**.

[0047] Further, the first and second fastening grooves **31** and **32** may have a first fastening protrusion or a second fastening protrusion of a different adjacent assembly block **1** inserted and fastened thereto.

[0048] Next, the area of the first side surface **11** of the body portion **10** where the first fastening protrusion **21** is formed may be the same as the area of the second side surface **12** of the body portion **10** where the second fastening protrusion **22** is formed.

[0049] However, the area of the first side surface **11** of the body portion **10** where the first fastening protrusion **21** is formed may be different from the area of the third side surface **13** of the body portion **10** where the first fastening groove **31** is formed, or may be different from the area of the fourth side surface **14** of the body portion **10** where the second fastening groove **32** is formed.

[0050] Here, the area of the first side **11** of the body **10** may be smaller than the area of the third side **13** or the fourth side **14** of the body **10**.

[0051] The reason for this is that the assembly block **1** is formed in a straight shape so that the triangle unit assembly block can be easily assembled.

[0052] Therefore, the triangle unit assembly block does not easily deform or collapse when an external force due to an external impact is applied to the assembly, by dispersing the external force.

[0053] Further, the first fastening protrusion **21** may have first and second protrusion lines **21***a* and **21***b* formed on both sides thereof and the second fastening protrusion **22** may have third and fourth protrusion lines **22***a* and **22***b* formed on both sides thereof.

[0054] Here, the first and second protrusion lines **21***a* and **21***b* or the third and fourth protrusion lines **22***a* and **22***b* are formed from the upper surface **15** to the lower surface **16** of the body portion **10**, and may protrude in a direction perpendicular to the third side surface **13** or the fourth side surface **14** of the body portion **10**.

[0055] At this time, the first and second protrusion lines **21***a* and **21***b* or the third and fourth protrusion lines **22***a* and **22***b* may have a hemispherical cross section, but the present invention is not limited thereto, and it is possible to be made in various forms.

[0056] In addition, the first fastening groove **31** may have first and second groove lines **31***a* and **31***b* formed recessed to both inner side surfaces and the second fastening groove **32** may have third and fourth grooves lines **32***a* and **32***b* formed recessed to both inner side surfaces.

[0057] Here, the first and second groove lines **31***a* and **31***b* or the third and fourth groove lines **32***a* and **32***b* are formed from the upper surface **15** to the lower surface **16** of the body portion **10**, and may be concave in a direction perpendicular to the first side surface **11** or the second side surface **12** of the body portion **10**.

[0058] At this time, the first and second groove lines **31***a* and **31***b* or the third and fourth groove lines **32***a* and **32***b* may have a hemispherical cross section, but the present invention is not limited thereto, and it is possible to be made in various forms.

[0059] For example, the sectional shapes of the first and second groove lines **31***a* and **31***b* or the third and fourth groove lines **32***a* and **32***b* may be the same as those of the first and second protrusion lines **21***a* and **21***b* or the third and fourth protrusion lines **22***a* and **22***b*.

[0060] The reason for this is that the first and second groove lines **31***a* and **31***b* or the third and fourth groove lines **32***a* and **32***b*, and the first and second protrusion lines **21***a* and **21***b* or the third and fourth protrusion lines **22***a* and **22***b*, can be easily fastened to each other.

[0061] As described above, a groove line concave towards both inner side surfaces is formed on the first and second fastening grooves **31** and **32** respectively, and a protrusion line protruding towards both sides is formed on the first and second fastening protrusions **21** and **22** respectively, thereby the coupling force between the assembly blocks can be improved, and the coupling force can be greatly enhanced even in the triangular unit assembly.

[0062] Further, the areas of the first and second fastening grooves **31** and **32** may be larger than the areas of the first and second fastening protrusions **21** and **22**.

[0063] The reason for this is so that the first and second fastening grooves **31** and **32** and the first and second fastening protrusions **21** and **22** are fastened together smoothly.

[0064] If the areas of the first and second fastening grooves **31** and **32** are smaller than or equal to the areas of the first and second fastening protrusions **21** and **22**, the fastening of the first and second fastening grooves **31** and **32** with the first and second fastening protrusions **21**, **22** may be difficult.

[0065] Therefore, the first and second fastening protrusions **21** and **22** can be easily fastened to the first fastening groove or the second fastening groove of the adjacent assembly block **1**.

[0066] Next, a plurality of convex portions **40** may be formed on the upper surface **15** of the body portion **10**.

[0067] Here, the plurality of convex portions **40** may be arranged at regular intervals.

[0068] The reason for this is that the assembly blocks **1** stacked on each other can have a water dripping passage by forming a certain space by the convex portions **40**, and it is for the purpose of having water quickly drained between the assembly blocks **1** stacked on each other.

[0069] However, the convex portions **40** may be arranged at different intervals depending on the different cases.

[0070] For example, the gap between the convex portions **40** located in the central region of the upper surface **15** of the body portion **10** may be narrower than the gap between the convex portions **40** located on the edge region.

[0071] The reason for this is that the assembly blocks **1** stacked on each other can have a water dripping passage by forming a certain space by the convex portions **40**, so that more water can be drained through the edge region than the central region of the assembly blocks stacked on each other.

[0072] In another case, the gap between the convex portions **40** located on the central region of the upper surface **15** of the body portion **10** may be wider than the distance between the convex portions **40** located on the edge region.

[0073] The reason for this is that the assembly blocks **1** stacked on each other can have a water dripping passage by having a certain space by the convex portions **40**, so that more water can be drained through the central region than the edge region of the assembly blocks stacked on each other.

[0074] Further, a plurality of convex portions **40** are formed on the upper surface **15** of the body portion **10**, and the lower surface **16** of the body portion **10** is a flat plane without the convex portions **40**.

[0075] In another case, a plurality of convex portions **40** are formed on the upper surface **15** of the body portion **10**, and the lower surface **16** of the body portion **10** is a flat planar surface.

[0076] Here, the flat lower surface **16** of the body portion **10** may be in contact with a plurality of convex portions **40** formed on the upper surface **15** of the body portion **10**.

[0077] Further, the upper surface of the convex portion **40** may be a flat planar surface, and the side surface of the convex portion **40** may be an inclined surface.

[0078] Here, the angle between the side surface of the convex portion **40** and the upper surface **15** of the body portion **10** may be an obtuse angle.

[0079] In some cases, however, the angle between the side surface of the convex portion **40** and the upper surface **15** of the body portion **10** may be a right angle.

[0080] Next, first and second fastening grooves **31** and **32** may be disposed between adjacent convex portions **40**.

[0081] That is, the plurality of convex portions **40** and the first and second coupling grooves **31** and **32** may be disposed misaligned with each other.

[0082] The reason for this is to secure a space in which the convex portion **40** can be formed on the upper surface **15** of the body portion **10**.

[0083] As described above, the present invention provides a combined function single block with a connecting block function and a frame block function that can safely and easily combine a triangle unit assembly in a double row longitudinal, lateral, and vertical direction, thereby enabling work to be done easily even by a non-expert when building a landslide preventing draining retaining wall using an assembly block, and because foundation work is unnecessary, there's less influence from seasons and bending moments don't occur structurally and thereby the cost-efficiency is excellent and the stability is suitable to constructing a semi-permanent structure such as a landslide preventing retaining wall as an earthquake-proof assembly.

[0084] FIGS. **2** and **3** are views showing convex portions and a large draining space of an assembly block according to the present invention.

[0085] As shown in FIGS. **2** and **3**, the triangle unit assembly block **1** may include a first fastening protrusion **21** formed on the first side surface of the body portion **10**, a second fastening protrusion **22** formed on the second side surface of the body portion **10**, a first fastening groove **31** formed on the third side surface of the body portion **10**, and the second fastening groove **32** formed on the fourth side surface of the body portion **10**.

[0086] Here, the first and second fastening protrusions **21** and **22** are arranged so as to correspond to each other and protrude in opposite directions to each other and the first and second fastening grooves **31** and **32** may be disposed so as to be misaligned with each other and convex in a direction mutually facing each other.

[0087] At this time, the first fastening groove **31** may be disposed adjacent to the first fastening protrusion **21**, and the second fastening groove **32** may be disposed adjacent to the second fastening protrusion **22**.

[0088] Further, the first fastening protrusion **21** may have first and second protrusion lines **21***a* and **21***b* formed on both sides thereof and the second fastening protrusion **22** may have third and fourth protrusion lines **22***a*, **22***b* formed on both sides thereof.

[0089] At this time, the first and second protrusion lines **21***a* and **21***b* or the third and fourth protrusion lines **22***a* and **22***b* may have a hemispherical cross section, but the present invention is not limited thereto, and it is possible to be made in various forms.

[0090] In addition, the first fastening groove **31** is formed with first and second groove lines **31***a* and **31***b* recessed in both inner side surfaces respectively and the second fastening groove **32** is formed with third and fourth grooves Lines **32***a* and **32***b* may be formed.

[0091] In addition, the first fastening groove **31** may have first and second groove lines **31***a* and **31***b* formed recessed to both inner side surfaces and the second fastening groove **32** may have third and fourth grooves lines **32***a* and **32***b* formed recessed to both inner side surfaces.

[0092] At this time, the first and second groove lines **31***a* and **31***b* or the third and fourth groove lines **32***a* and **32***b* may have a hemispherical cross section, but the present invention is not limited thereto, and it is possible to be made in various forms.

[0093] Next, a plurality of convex portions **40** may be formed on the upper surface **15** of the body portion **10**.

[0094] Here, the upper surface of the convex portion **40** may be a flat planar surface, and the side surface **42** of the convex portion **40** may be an inclined surface.

[0095] Here, the angle between the side surface **42** of the convex portion **40** and the upper surface of the body portion **10** may be an obtuse angle.

[0096] In some cases, however, the angle between the side surface **42** of the convex portion **40** and the upper surface of the body portion **10** may be a right angle.

[0097] Further, the convex portions **40** according to a first exemplary embodiment of the present invention, as shown in FIG. **2**, are formed on the upper surface of the body portion **10** in plurality, and the lower surface of the body portion **10** is a flat plane without the convex portions **40**.

[0098] Here, the plurality of convex portions **40** may be arranged at regular intervals.

[0099] The reason for this is that the assembly blocks **1** stacked on each other can have a water dripping passage by forming a certain space by the convex portions **40**, and it is for the purpose of having water quickly drained between the assembly blocks **1** stacked on each other.

[0100] However, the plurality of convex portions **40** may be arranged at different intervals depending on the different cases.

[0101] For example, the gap between the convex portions **40** located in the central region of the upper surface **15** of the body portion **10** may be narrower than the gap between the convex portions **40** located on the edge region.

[0102] The reason for this is that the assembly blocks **1** stacked on each other can have a water dripping passage by having a certain space by the convex portions **40**, so that more water can be drained through the central region than the edge region of the assembly blocks stacked on each other.

[0103] FIG. **4** is a plan view showing a triangle unit assembly using an assembly block according to the present invention.

[0104] As shown in FIG. **4**, the first fastening protrusion of the first assembly block **1** is inserted into the first fastening groove of the third assembly block **3**, and the second fastening protrusion of the third assembly block **3** is inserted into the first fastening groove of the second assembly block

2, the first fastening protrusion of the second assembly block 2 is inserted into the second fastening groove of the first assembly block 1, thereby enabling the triangle unit assembly 100 to be formed.

[0105] Here, at the center of the triangle unit assembly 100, a unit large space in which a large amount of water is rapidly drained is formed.

[0106] In addition, as shown in FIG. 4, the horizontal assembly 200 may be formed by connecting at least two triangle unit assemblies 100 in the horizontal direction.

[0107] For example, the first fastening protrusion of the first assembly block 1 may be inserted into the first fastening groove of the second assembly block 2, and the second fastening protrusion of the first assembly block 1 may inserted into the second fastening groove of the third assembly block 3.

[0108] In addition, the first fastening protrusion of the fourth assembly block 4 is inserted into the first fastening groove of the first assembly block 1 and the second fastening protrusion of a fifth assembly block 5 may be inserted into the second fastening groove of the first assembly block 1.

[0109] In this manner, the horizontal assembly 200 includes six unit large spaces 50 of each triangle unit assembly, and a hexagonal large space 60 is formed at the center of the horizontal assembly 200.

[0110] Next, the structure 300 may then be formed by stacking at least two horizontal assemblies 200 in a vertical direction.

[0111] Here, a plurality of horizontal assemblies 200 are further extended in the horizontal direction, and are stacked to be connected to each other in a vertical direction again, thereby enabling building a landslide prevention draining retaining wall.

[0112] That is, a plurality of horizontal assemblies 200 having six triangular unit large spaces 50 and one central hexagon-shaped large space 60 may be connected in the horizontal direction and the vertical direction.

[0113] Here, when at least two horizontal assemblies 200 are stacked in the vertical direction, the triangle unit assemblies 100 adjacent to each other can be stacked to be misaligned with each other.

[0114] The reason for this is that, by stacking the adjacent triangular unit assemblies 100 mutually adjacent to each other to be misaligned, there is an advantage that the fastening force between the assembly blocks 1 is large, so that even if an impact is applied in the horizontal direction, it can withstand.

[0115] Further, the structure 300 in which the triangular unit assemblies 100 are stacked to be misaligned can elastically disperse an external force when an external impact is present, even when elongation, shrinkage, differential settlement or the like occurs between the assembly blocks, so it cannot be easily deformed or collapsed.

[0116] In this case, when an external force such as a tidal wave, a storm, or an earthquake is applied to the structure by a supernatural disaster, the assembly blocks of the present invention can elastically disperse the external force, so with the strong support strength against external force, deformation can be prevented or the damage can be minimized.

[0117] FIG. 6 is a flow chart for describing a landslide preventing draining retaining wall building method using a triangle unit assembly block according to the present invention.

[0118] As shown in FIG. 6, first, the first fastening protrusion of the first assembly block is inserted into the first fastening groove of the second assembly block, the second fastening protrusion of the second assembly block is inserted into the first fastening protrusion of the third assembly block, and the first fastening protrusion of the third assembly block is inserted into the second fastening groove of the first assembly block to form the triangle unit assembly in step S11.

[0119] Then, at least two triangle unit assemblies are horizontally connected to form a horizontal assembly in step S13.

[0120] Next, at least two horizontal assemblies may be stacked in a vertical direction to form a structure in step S15.

[0121] Here, when stacking at least two horizontal assemblies in the vertical direction, mutually adjacent triangle unit assemblies can be stacked to be misaligned with each other.

[0122] Like this, since the present invention is a combined function single block with a connecting block function and a frame block function that can safely and easily combine a triangle unit assembly in a double row longitudinal, lateral, and vertical direction, work is enabled to be done easily even by a non-expert when building a landslide preventing draining retaining wall using an assembly block, and because foundation work is unnecessary, there's less influence from seasons and bending moments don't occur structurally and thereby it is suitable for constructing a semi-permanent structure such as a landslide preventing retaining wall as an earthquake-proof assembly and the cost-efficiency and stability are also excellent.

[0123] In addition, because the present invention is a triangle unit assembly, bending moments don't occur, so an earthquake-resistent retaining wall may be easily and simply built in a prefabricated manner, and can be utilized for various purposes such as a breakwater, a retaining wall, a shore protection, etc., by adjusting the size of the blocks in accordance with the site conditions, and because the present invention does not require foundation work, the structure can be firmly built even in mountainous areas and soft grounds.

[0124] Further, since the present invention does not perform concrete pouring work on site, it is advantageous in that the work in water or near the water is easy, and because finished products are used, the construction period can be shortened, and the assembling work is simple and easy to open and repair.

[0125] While the present invention has been particularly shown and described with reference to exemplary embodiments thereof, it is clearly understood that the same is by way of illustration and example only and is not to be taken by way of limitation in the scope of the appended claims. It will be understood by those skilled in the art that various changes and modifications may be made without departing from the spirit and scope of the invention as defined by the appended claims, and these modifications should not be understood individually from the technical idea or viewpoint of the present invention.

1. A triangle unit assembly block comprising:

a body portion comprising mutually facing first and second side surfaces and mutually facing third and fourth side surfaces between a upper surface and a lower surface;

a first fastening protrusion formed on the first side surface of the body portion;

a second fastening protrusion formed on the second side surface of the body portion;

a first fastening groove formed on the third side surface of the body portion; and

a second fastening groove formed on the fourth side surface of the body portion,

wherein the first and second fastening protrusions are disposed to correspond to each other and protrude in mutually opposite directions, and the first and second fastening grooves are disposed to be misaligned with one another to be concave in mutually facing directions.

2. The triangle unit assembly block of claim **1**, wherein the area of the first side surface of the body portion is equal to the area of the second side surface of the body portion, and is larger or smaller than the area of the third or fourth side surface of the body portion.

3. The triangle unit assembly block of claim **1**, wherein the first and second fastening protrusions are formed on both sides respectively from the upper surface to the lower surface of the body portion, and a hemispherical protrusion line protruding in a perpendicular direction to the third side surface or the fourth side surface of the body portion is formed.

4. The triangle unit assembly block of claim **1**, wherein the first and second fastening grooves are formed along both inner sides respectively from the upper surface to the lower surface of the body portion, and a hemispherical groove line recessed in a perpendicular direction to the first side surface or the second side surface is formed.

5. The triangle unit assembly block of claim **1**, wherein the areas of the first and second fastening grooves are larger than the first and second fastening protrusions.

6. The triangle unit assembly block of claim **1**, wherein the first and second protrusions are fastened to a first fastening groove or second fastening groove of an adjacent assembly block.

7. The triangle unit assembly block of claim **1**, wherein a plurality of convex portions are formed to be disposed at regular intervals on the upper surface of the body portion.

8. The triangle unit assembly block of claim **7**, wherein, a plurality of convex portions are formed on the upper surface of the body part, and the upper and lower surfaces of the body portion are flat planes, and the side surface of the convex portion is an inclined surface.

9. The triangle unit assembly block of claim **8**, wherein between adjacent convex portions, the first and second fastening grooves are disposed.

10. Method of building a landslide preventing draining retaining wall using a triangle unit assembly block comprising first and second fastening protrusions disposed to correspond to side surfaces mutually facing each other, and first and second fastening grooves disposed to be misaligned on side surfaces mutually facing each other, wherein the method comprises:

forming a triangle unit assembly by inserting a first fastening protrusion of a first assembly block into a first fastening groove of a second assembly block, inserting a second fastening protrusion of a second assembly block into a first fastening groove of a third assembly block, and inserting a first protrusion of the third assembly block into a second fastening groove of the first assembly block;

forming a horizontal assembly by connecting at least two triangle unit assemblies in a horizontal direction; and

forming a structure while stacking adjacent triangle unit assemblies to be misaligned with each other, by stacking at least two horizontal assemblies in a vertical direction.

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