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STRUCTURE FOR ASSEMBLY TYPE FURNITURE

Abstract

The present invention relates to a structure for assembly type furniture and, in particular, to a structure for assembly type furniture comprising: a main block having a bar shape and disposed in the transverse direction, having first coupling protrusions protruding from the top surface thereof, and having first coupling grooves formed on the bottom surface thereof corresponding to the first coupling protrusions, such that various types of assembly type furniture having robustness can be manufactured by easily fastening the blocks stacked one upon another by means of bolts, etc., wherein the first coupling groove is formed on one side of a point where the first coupling protrusion is formed, and at least one first coupling protrusion and at least one first coupling groove are alternately formed such that a plurality of main blocks may be stacked in a manner in which the first coupling protrusions are fitted into the first coupling grooves.

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Background/Summary

CROSS-REFERENCE TO RELATED APPLICATIONS [0001] This application is the U.S. national stage application of International Patent Application No. PCT/KR2023/004940, filed Apr. 12, 2023, which claims the benefit under 35 U.S.C. § 119 of Korean Application No. 10-2022-0060870, filed May 18, 2022, the disclosures of each of which are incorporated herein by reference in their entirety.

TECHNICAL FIELD

[0002] The present disclosure relates to a structure for assembly-type furniture. More particularly, the present disclosure relates to a structure for assembly-type furniture, the structure being configured such that assembly-type furniture having various types and being capable of maintaining a rigid assembled state is capable of being manufactured.

BACKGROUND ART

[0003] Generally, furniture such as bookcases, storage cabinets, and so on are manufactured and assembled in a predetermined shape. Therefore, when a user is tired of the furniture or a part of the furniture is damaged, the furniture is usually discarded and new furniture is purchased, which causes excessive expenditure as well as waste of resources.

[0004] In order to solve this problem, in Korean Patent No. 10-2058363 (hereinafter, referred to as the 'cited invention'), a technology of manufacturing various types of furniture by manufacturing a plurality of standardized blocks and then assembling the manufactured blocks together is disclosed. An assembly block disclosed in the cited invention **1** is formed such that the assembly block has the same/similar structure as LEGO blocks, and may be assembled vertically by using a plurality of fitting protrusion parts formed on an upper portion of the assembly block. Specifically, the fitting protrusion part formed on the upper portion of the assembly block positioned at a lower side among the assembly blocks that are vertically assembled is fitted such that the fitting protrusion part is positioned at a point corresponding to the fitting protrusion part formed on the upper portion among fitting groove parts recessed upward from a lower portion of the assembly block positioned at an upper side.

[0005] When assembly-type furniture is manufactured by using such an assembly block, the assembly blocks are coupled to each other with simple fitting-coupling, so that robustness is reduced. Furthermore, in coupling the assembly blocks disposed vertically, the fitting protrusion parts at the upper side and the lower side are positioned at the same points, so that there is a problem that fixing the assembly blocks by using a bolt and so on is difficult.

DISCLOSURE

Technical Problem

[0006] Accordingly, the present disclosure has been made keeping in mind the above problems occurring in the related art, and an objective of the present disclosure is to provide a structure for assembly-type furniture, the structure being configured such that vertically stacked blocks are capable of being easily fixed to each other by using a bolt and so on so that assembly-type furniture of various types and robustness are capable of being manufactured.

Technical Solution

[0007] In order to achieve the objective described above, according to the present disclosure, there is provided a structure for assembly-type furniture, the structure including a main block formed in a bar shape and disposed in a transverse direction, the main block having a first coupling protrusion that protrudes from an upper surface of the main block, and the main block having a first coupling groove which is formed in a shape corresponding to that of the first coupling protrusion and which

is recessed from a lower surface of the main block, wherein, in the main block, the first coupling groove may be formed in one side of a point where the first coupling protrusion is formed, and at least one first coupling protrusion and at least one first coupling groove may be alternately formed in the main block, so that a plurality of main blocks is capable of being stacked in a manner in which the first coupling protrusion is fitted into the first coupling groove.

[0008] In addition, the structure may further include a fixing bolt which passes through the upper surface of the main block and which is fastened to the first coupling protrusion of another main block fitted into the first coupling groove, the upper surface corresponding to the first coupling groove, wherein, in the main block, a receiving groove in which a head part of the fixing bolt is positioned therein may be recessed from a point of the upper surface of the main block corresponding to the first coupling groove, so that the fixing bolt does not protrude from the upper surface of the main block.

[0009] In addition, the structure may further include an auxiliary fastening member which includes a second coupling protrusion part formed in a shape same as that of the first coupling protrusion and configured to be positioned on the upper surface of the main block and which includes a second pin part which extends downward from the second coupling protrusion part and which passes through a fixing hole where the fixing bolt is capable of passing therethrough.

[0010] In addition, the structure may further include a finishing block having a third coupling groove which corresponds to the first coupling protrusion and which is recessed from a lower surface of the finishing block or having a third coupling hole formed through the finishing block.

[0011] In addition, the structure may further include a base plate configured such that the plurality of main blocks is capable of being stacked on an upper side of the base plate while the plurality of main blocks is in a fixed state.

Advantageous Effects

[0012] According to the present disclosure, since the plurality of main blocks is capable of being stacked vertically in a manner that the first coupling protrusion is fitted into the first coupling groove, various types of assembly-type furniture are capable of being manufactured, and robustness is capable of being realized as at least one first coupling protrusion and at least one first coupling groove are alternately formed and the main blocks are stacked vertically in a staggered manner.

[0013] In addition, since the fixing bolt is fastened to the first coupling protrusion fitted into the first coupling groove without the head part of the fixing bolt protruding from the upper surface of the main block, secondarily fixing is capable of being realized by the fixing bolt having a short length, so that robustness may further be increased.

[0014] In addition, as the auxiliary fastening member, the finishing block, the base plate, and so on are additionally used, various types of assembly-type furniture are capable of being manufactured.

Description

DESCRIPTION OF DRAWINGS

[0015] FIGS. 1A and 1B show a structure of a main block applied to a structure for assembly-type furniture of the present disclosure,

[0016] FIGS. 2A and 2B show a process in which each main block applied to the structure for assembly-type furniture of the present disclosure is stacked and fastened by a fixing bolt,

[0017] FIG. 3 is a view illustrating a state in which each main block applied to the structure for assembly-type furniture of the present disclosure is stacked,

[0018] FIGS. 4A and 4B show a process in which each main block is stacked by an auxiliary fastening member applied to the structure for assembly-type furniture of the present disclosure,

[0019] FIGS. 5A, 5B, and 6 show a process of assembling using a finishing block and a finishing plate applied to the structure for assembly-type furniture of the present disclosure,

[0020] FIG. 7 is a view illustrating a process of assembling a base plate and a base block applied to the structure for assembly-type furniture of the present disclosure,
[0021] FIG. 8 and FIG. 9 are views illustrating a process of assembling using the base plate, a support block, and a support plate applied to the structure for assembly-type furniture of the present disclosure,
[0022] FIG. 10 is a view illustrating a state in which the base plate, the base block, the support block, and the support plate applied to the structure for assembly-type furniture of the present disclosure are used and assembled,
[0023] FIGS. 11, 12A, and 12B show a process in which two base plates disposed orthogonally to each other are coupled to each other by a connection block applied to the structure for assembly-type furniture of the present disclosure and a leg member is coupled to one of the two base plates, and
[0024] FIG. 13 is a view illustrating an example of assembly-type furniture manufactured by using the structure for assembly-type furniture.

MODE FOR INVENTION

[0025] In the present disclosure, a structure for assembly-type furniture is proposed, the structure being configured such that blocks which are vertically stacked are capable of being easily fixed by using a bolt and so on so that various types of assembly-type furniture having robustness are capable of being manufactured. The structure includes a main block formed in a bar shape and disposed in a transverse direction, the main block having a first coupling protrusion that protrudes from an upper surface of the main block, and the main block having a first coupling groove which is formed in a shape corresponding to that of the first coupling protrusion and which is recessed upward from a lower surface of the main block. In the main block, the first coupling groove is formed in one side of a point where the first coupling protrusion is formed, and at least one first coupling protrusion and at least one first coupling groove are alternately formed, so that a plurality of main blocks is capable of being stacked in a manner in which the first coupling protrusion is fitted into the first coupling groove.

[0026] The scope of claims of the present disclosure is not limited to embodiments described below, and may be variously modified by those skilled in the art within the scope of the technical gist of the present disclosure.

[0027] Hereinafter, a structure for assembly-type furniture of the present disclosure will be described in detail with reference to FIG. 1A to FIG. 13.

[0028] A structure for assembly-type furniture of the present disclosure includes a main block **100** including a plurality of main blocks **100** which is configured to be stacked and which is capable of forming a floor, a wall body, and so on of furniture according to a placement direction thereof.

[0029] As illustrated in FIG. 1A to FIG. 3, the main block **100** is formed in a bar shape and is disposed in a transverse direction and, as an example, the main block **100** may be formed in a rectangular column shape and may be disposed horizontally. Such a main block **100** disposed in the transverse direction has a first coupling protrusion **110** that protrudes from an upper surface of the main block **100**. The first coupling protrusion **110** may be formed in various shapes, but may be formed in a column shape having a diameter (width) smaller than a width of the main block **100**. Furthermore, it is preferable that the first coupling protrusion **110** is formed such that the first coupling protrusion **110** has a height shorter than a height of the main block **100**. At least one such a first coupling protrusion **110** may be formed. When a plurality of first coupling protrusions **110** is formed, the plurality of first coupling protrusions **110** may be formed such that the plurality of first coupling protrusions **110** is spaced apart from each other by a predetermined distance along a longitudinal direction of the main block **100**.

[0030] In addition, the main block **100** has a first coupling groove **120** which is formed in a shape corresponding to that of the first coupling protrusion **110** and which is recessed upward from a lower surface of the main block **100**. Particularly, the first coupling groove **120** in the present

disclosure is formed in one side of a point where the first coupling protrusion **110** is formed.

Therefore, in the main block **100**, as illustrated in FIGS. **1A** and **1B**, at least one first coupling protrusion **110** and at least one first coupling groove **120** are alternately formed.

[0031] The first coupling protrusion **110** and the first coupling groove **120** may be formed in the same number, or may be formed such that any one of the first coupling protrusion **110** and the first coupling groove **120** are one more than the other. However, in forming a flow, a wall body, and so on of furniture, where a large number of main blocks **100** are used, it is preferable that the first coupling protrusion **110** and the first coupling groove **120** are formed in the same number. For example, in the main block **100**, two first coupling protrusions **110** and two first coupling grooves **120** may be alternately formed.

[0032] As illustrated in FIGS. **2A**, **2B**, and **3**, the main block **100** as described above is capable of being used for forming a floor, a wall body and so on in manufacturing various types of assembly-type furniture since the plurality of main blocks **100** is capable of being stacked vertically in a manner in which the first coupling protrusion **110** is fitted into the first coupling groove **120**, and has robustness since the plurality of main blocks **100** is stacked vertically in a staggered manner.

[0033] As such, the plurality of main blocks **100** stacked vertically primarily has a fixing force by a forcible fitting between the first coupling protrusion **110** and the first coupling groove **120**.

Therefore, in order to further increase the fixing force, the main block **100** positioned above and the adjacent main block **100** positioned below may be coupled to each other by a bolt. As an example, as illustrated in FIGS. **2A** and **2B**, the present disclosure may further include a fixing bolt **10** which passes through the upper surface of the main block **100** and which is fastened to another first coupling protrusion **110** fitted into the first coupling groove **120**, the upper surface corresponding to the first coupling groove **120**.

[0034] At this time, the main block **100** may have a receiving groove **130** in which a head part of the fixing bolt **10** is positioned therein and which is recessed from a point of the upper surface of the main block **100** corresponding to the first coupling groove **120**, and a fixing hole **140** where the fixing bolt **10** passes therethrough may be formed on a center part of the receiving groove **130**. It is preferable that the receiving groove **130** is formed such that the head part of the fixing bolt **10** coupling the main blocks **100** vertically stacked does not protrude from the upper surface of the main block **100** positioned above, so that the main blocks **100** vertically stacked are capable of being coupled to each other in close contact. In addition, in a point corresponding to the fixing hole **140**, i.e., a center part of the first coupling protrusion **110**, a fastening hole **111** into which the fixing bolt **10** is capable of being fitted along a longitudinal direction of the fastening hole **111** may be formed, and the fixing bolt **10** may be screw-coupled to the fastening hole **111**.

[0035] Therefore, the fixing bolt **10** may have a length smaller than the height of the first coupling protrusion **110**. Furthermore, in a state in which the first coupling protrusion **110** formed on the main block **100** positioned below is fitted into the first coupling groove **120** formed in the main block **100** positioned above, the fixing bolt **10** passes through the upper surface of the main block **100** positioned above and then is fastened to the first coupling protrusion **110** that is inserted into the first coupling groove **120**, so that a secondarily fixing is capable of being realized by the fixing bolt **10** having the small length.

[0036] In addition, as illustrated in FIGS. **1A** and **1B**, the main block **100** may have an auxiliary coupling groove **150** which is formed in a shape corresponding to that of the first coupling protrusion **110** and which is recessed from a point of the lower surface of the main block **100**, the point of the lower surface corresponding to the first coupling protrusion **110**. The auxiliary coupling groove **150** may be used for coupling the main block **100** to an auxiliary fastening member **200**, a base block **600**, and so on to be described later.

[0037] Meanwhile, during a process of manufacturing various types of furniture, such as another main block **100** in which the first coupling groove **120** is formed may be stacked on an upper side of a point of one main block **100**, the point having the first coupling groove **120**. At this time, in

order to rigidly fix one main block **100** to another main block **100**, the auxiliary fastening member **200** may be used.

[0038] As an example, as illustrated in FIGS. **4A** and **4B**, the auxiliary fastening member **200** may include a second coupling protrusion part **210** formed in a shape same as that of the first coupling protrusion **110** and configured to be positioned on the upper surface of the main block **100**, and may include a second pin part **220** which extends downward from the second coupling protrusion part **210** and which passes through the fixing hole **140**. For example, the auxiliary fastening member **200** is mounted such that the second pin part **220** passes through the fixing hole **140** formed in one main block **100** and the second coupling protrusion part **210** protrudes from the upper surface of one main block **100**, so that the first coupling groove **120** of another main block **100** is capable of being coupled to the second coupling protrusion part **210**.

[0039] In the present disclosure, when a floor, a wall body, and so on are formed by stacking the plurality of main blocks **100**, a state in which the first coupling protrusion **110** of the main block **100** at the uppermost side protrudes from the upper surface of the main block **100** is realized. Therefore, as illustrated in FIGS. **5A**, **5B**, and **6**, in order to realize a neat external appearance, the present disclosure may further include a finishing block **300** and/or a finishing plate **400**.

[0040] For example, it is preferable that the finishing block **300** is formed in a bar shape, is disposed in the transverse direction, and has a width equal to the width of the main block **100**. As an example, such a finishing block **300** may have a flat upper surface, and may have a third coupling groove which corresponds to the first coupling protrusion **110** and which is recessed from a lower surface of the finishing block **300**. Therefore, by fitting the first protrusion **110** of the main block **100** positioned below the finishing block **300** into the third coupling groove of the finishing block **300**, an aesthetic external appearance is capable of being realized.

[0041] In addition, as another example, a third coupling hole **310** corresponding to the first coupling protrusion **110** may be formed through the finishing block **300** as illustrated in FIGS. **5A** and **5B**. When the first coupling protrusion **110** of the main block **100** positioned below the finishing block **300** is fitted into the third coupling hole **310**, an upper surface of the first coupling protrusion **110** is exposed to the outside, so that the finishing plate **400** is capable of being coupled to the upper side of the finishing block **300**. At this time, it is preferable that the finishing block **300** is formed such that the finishing block **300** has a height higher than the height of the first coupling protrusion **110** so that a coupling space in which the finishing plate **400** is capable of being coupled to an upper end part of the third coupling hole **310** is formed when the first coupling protrusion **110** is fitted into the third coupling hole **310**.

[0042] As an example, the finishing plate **400** may be formed in a plate shape having a length and a width corresponding to those of the finishing block **300**, and a fourth coupling protrusion part **410** that is to be fitted into the upper end part of the third coupling hole **310** may protrude from a lower surface of the finishing plate **400**. Therefore, as illustrated in FIGS. **5A**, **5B**, and **6**, among the stacked main blocks **100**, the finishing block **300** is assembled on the upper side of the main block **100** positioned at the uppermost side, and then the finishing plate **400** is assembled on the upper side of the finishing block **300**, so that the aesthetic external appearance is capable of being realized. In addition, the finishing block **300** may be formed such that the fourth coupling protrusion parts **410** protrude from opposite surfaces of the finishing block **300** so that a user can easily assemble the finishing block **300** without distinguishing between the upper surface and the lower surface of the finishing block **300**.

[0043] Meanwhile, in order to manufacture various types of assembly-type furniture, the present disclosure may further include a base plate **500** for stacking the plurality of main blocks **100**. As illustrated in FIG. **7**, the base plate **500** may be formed in a plate shape, the plurality of main blocks **100** is capable of being stacked on an upper side of the base plate **500** while the plurality of main blocks **100** is in a fixed state, and the base plate **500** may be perforated so as to fix blocks with bolts. The main block **100** may be directly fixed to the base plate **500**, or may be indirectly fixed to

the base plate **500** through the base block **600**.

[0044] As illustrated in FIG. 7, it is preferable that the base block **600** is formed in a bar shape, is disposed in the transverse direction, and has a width equal to the width of the main block **100**. Such a base block **600** may have a fifth protrusion **610** that protrudes from an upper surface of the base block **600** so as to be coupled to the main block **100**, and may have a screw groove formed upward from a lower surface of the base block **600** for fastening a bolt thereinto so as to couple the base block **600** to the base plate **500**. At this time, the fifth coupling protrusion **610** may include a plurality of fifth coupling protrusions **610** formed adjacent to each other along a longitudinal direction so as to rigidly fix the main block **100**, and the plurality of fifth coupling protrusions **610** may be respectively fitted into the first coupling groove **120** and the auxiliary coupling groove **150**. [0045] In addition, although the base plate **500** that is perforated may be used as a floor, a wall body, and so on of furniture, using the perforated base plate **500** as a floor or a wall body according to the purpose of furniture, the type of items to be stored, and so on may cause inconveniences such as the inflow of foreign substances. Therefore, as illustrated in FIG. 8 to FIG. 10, the present disclosure may further include a support block **700** for fixing the support plate **800** to the base plate **500**.

[0046] First, the support block **700** may be formed in a bar shape disposed in the transverse direction or in a plate shape having a predetermined thickness, and a screw groove may be formed from a lower surface of the support block **700** for fastening a bolt thereinto so as to couple the support block **700** to the base plate **500**. Such a support block **700** may serve to connect a plurality of base plates **500** disposed on the same plane. In addition, the support block **700** may have a sixth coupling groove **710** that is recessed from an upper surface of the support block **700** so as to couple the support block **700** to the support plate **800**. The support plate **800** may be formed in a plate shape, and may have a seventh coupling protrusion part **810** which protrudes from a lower surface of the support plate **800** and which is capable of being forcibly-fitted into the sixth coupling groove **710** so as to couple the support plate **800** to the support block **700**.

[0047] Meanwhile, assembly-type furniture may be manufactured by connecting two base plates **500** to each other so that the two base plates **500** are orthogonal to each other for mounting a leg member **20** and so on. To this end, as illustrated in FIGS. 11, 12A, and 12B, the present disclosure may further include a connection block **900** connecting two base plates **500** that are disposed orthogonally to each other. As an example, the connection block **900** may be formed in a bar shape and may be disposed in the transverse direction, may have a screw groove in a first surface of the connection block **900** in contact with one base plate **500** for screw-coupling, and may have a screw groove in a second surface of the connection block **900** in contact with another base plate **500** for screw-coupling. The screw grooves may be formed in groove shapes, and also may be formed in hole shapes. In addition, the connection block **900** may further have a screw groove formed in at least one of opposite ends in a longitudinal direction thereof for screw-coupling. In addition, screw grooves for screw-coupling to two base plates **500** disposed orthogonally to each other may be formed also in the main block **100**, the finishing block **300**, and the base block **600** described above.

[0048] In the present disclosure, as illustrated in FIG. 13, in addition to the main block **100**, the auxiliary fastening member **200**, the finishing block **300**, the finishing plate **400**, the base plate **500**, the base block **600**, the support block **700**, the support plate **800**, the connection block **900**, and so on are capable of being additionally used, so that various types of assembly-type furniture are capable of being manufactured.

DESCRIPTION OF REFERENCE NUMERALS

TABLE-US-00001 10: Fixing bolt 20: Leg member 100: Main block 110: First coupling protrusion 120: First coupling groove 130: Receiving groove 140: Fixing hole 150: Auxiliary coupling groove 200: Auxiliary fastening member 210: Second coupling protrusion part 220: Second pin part 300: Finishing block 310: Third coupling hole 400: Finishing plate 410: Fourth coupling protrusion part

500: Base plate 600: Base block 610: Fifth coupling protrusion 700: Support block 710: Sixth coupling groove 800: Support plate 810: Seventh coupling protrusion part 900: Connection block

Claims

1-5. (canceled)

6. A structure for assembly-type furniture, the structure comprising: a main block (100) formed in a bar shape and disposed in a transverse direction, the main block (100) having a first coupling protrusion (110) that protrudes from an upper surface of the main block (100), and the main block (100) having a first coupling groove (120) that is formed in a shape corresponding to that of the first coupling protrusion (110) and that is recessed from a lower surface of the main block (100), wherein, in the main block (100), the first coupling groove (120) is formed in one side of a point where the first coupling protrusion (110) is formed, and at least one first coupling protrusion (110) and at least one first coupling groove (120) are alternately formed in the main block (100), so that a plurality of main blocks (100) is capable of being stacked in a manner in which the first coupling protrusion (110) is fitted into the first coupling groove (120), wherein the structure further comprises a fixing bolt (10) that passes through the upper surface of the main block (100) and that is fastened to the first coupling protrusion (110) of another main block (100) fitted into the first coupling groove (120), the upper surface corresponding to the first coupling groove (120), and wherein, in the main block (100), a receiving groove (130) in which a head part of the fixing bolt (10) is positioned therein is recessed from a point of the upper surface of the main block (100) corresponding to the first coupling groove (120), so that the fixing bolt (10) does not protrude from the upper surface of the main block (100).

7. The structure of claim 2, further comprising: an auxiliary fastening member (200) that comprises a second coupling protrusion part (210) formed in a shape same as that of the first coupling protrusion (110) and configured to be positioned on the upper surface of the main block (100) and that comprises a second pin part (220) that extends downward from the second coupling protrusion part (210) and that passes through a fixing hole (140) where the fixing bolt (10) is capable of passing therethrough.

8. The structure of claim 1, further comprising: a finishing block (300) having a third coupling groove that corresponds to the first coupling protrusion (110) and that is recessed from a lower surface of the finishing block (300) or having a third coupling hole (310) formed through the finishing block (300).

9. The structure of claim 1, further comprising: a base plate (400) configured such that the plurality of main blocks (100) is capable of being stacked on an upper side of the base plate (400) while the plurality of main blocks (100) is in a fixed state.
