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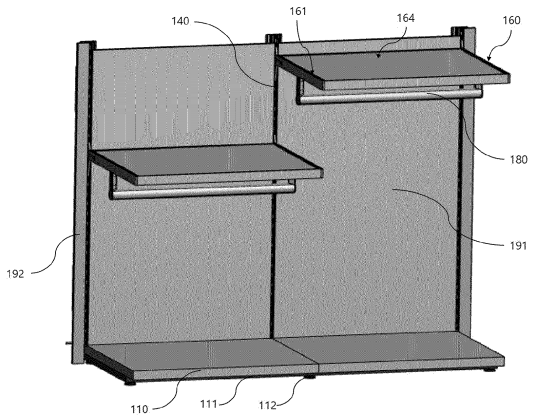
(54) **SYSTEM FURNITURE COMPRISING SHELVES WITH LIGHTING**

(57) The disclosure relates to system furniture having a shelf provided with a lighting, including: a bottom plate formed in a plate shape; a connection bracket coupled to the bottom plate; a first electrode provided on the connection bracket and connected to an electrical connection line extending to outside; a pillar portion coupled to the connection bracket; a second electrode extending in a height direction of the pillar portion and coming into contact with the first electrode when the pillar portion is coupled to the connection bracket; a shelf coupled to the pillar portion; a third electrode provided on the shelf and coming into contact with the second electrode when the shelf is coupled to the pillar portion; and a lighting provided on the shelf and connected to the third electrode.

FIG. 1



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Description

Technical Field

[0001] The present disclosure relates to system furniture including a shelf provided with a lighting, and more specifically, to system furniture capable of adjusting the height of a shelf provided with a lighting while allowing electrical connection, and capable of easily assembling and disassembling the shelf provided with the lighting.

Background

[0002] In general, lighting devices are installed on furniture such as beds, desks, display cases, and dressers for interior effects or to illuminate specific spaces. Aesthetic effects may be obtained through lighting devices installed on furniture, and functional effects may be obtained because the lighting devices illuminate specific spaces.

[0003] Lighting devices having a diffusion plate may be installed in an interior cabinet such as a display case with shelves or a built-in closet. By installing lighting devices in the interior cabinet, the interior decoration effect of the interior cabinet may be improved and specific points of the interior cabinet may be illuminated. The lighting devices installed in the interior cabinet may be installed on a shelf provided in the interior cabinet. However, installing lighting devices on a shelf may cause following issues.

[0004] When installing a lighting device on a shelf, a point of the shelf on which the lighting device is installed has to be electrically connected to outside. A point on the shelf where the lighting device is installed may be electrically connected to the outside through an electric wire.

[0005] However, when one point of the shelf is connected to the outside through an electric wire, it is difficult to adjust the height of the shelf due to the electric wire. In particular, it is difficult to increase the height of the shelf when the electric wire has a short length, and when the length of the wire is too long as compared with the height of the shelf, it may not have excellent aesthetic appearance.

[0006] Also, when one point of the shelf is connected to the outside via the electric wire, it may be difficult to find an electrical short-circuit point. When there is an issue in the lighting device installed on the shelf, an electrical short-circuit point has to be found, but because one point on the shelf is connected to the outside via one electric wire, it may be difficult to find the electrical short-circuit point.

[0007] In addition, a built-in closet denotes an interior cabinet fixed to a wall. The built-in closet may be installed while fixing pillars or back plates thereof to the wall. However, when the pillars or back plates of the built-in closet are fixedly installed on the wall, it is difficult to re-construct the built-in closet. In addition, as the pillars or back plates of the built-in closet are directly fixed to the wall, there may be a damage to the built-in closet during installing and disassembling the built-in closet.

Disclosure

Technical Goal

[0008] To address the above issues, the present disclosure provides system furniture having a shelf provided with a lighting, which is capable of adjusting a height of a shelf provided with a lighting while allowing electrical connection and easily installed and disassembled.

Technical Solution

[0009] To address above issues, according to an embodiment of the present disclosure, there is provided system furniture including a shelf, the system furniture including: a bottom plate formed in a plate shape; a connection bracket coupled to the bottom plate; a first electrode provided on the connection bracket and connected to an electrical connection line extending to outside; a pillar portion coupled to the connection bracket; a second electrode extending in a height direction of the pillar portion and coming into contact with the first electrode when the pillar portion is coupled to the connection bracket; a shelf coupled to the pillar portion; a third electrode provided on the shelf and coming into contact with the second electrode when the shelf is coupled to the pillar portion; and a lighting provided on the shelf and connected to the third electrode.

[0010] The system furniture having the shelf with the lighting according to the present disclosure may further include a horizontal adjustment frame coupled to a lower portion of the bottom plate and adjusting a height between the bottom plate and ground.

[0011] In the system furniture having a shelf provided with a lighting according to the present disclosure, the first electrode may include a first electrode connection portion that is bent outward while protruding to an upper portion of the connection bracket, the second electrode may include a thin film that is provided inside the pillar portion and extends in a height direction of the pillar portion, and when the pillar portion is coupled to the connection bracket, the first electrode connection portion and the second electrode may come into contact with each other and are electrically connected to each other.

[0012] The first electrode connection portion may include an elastic member, and the first electrode connection portion may be elastically pressed to be spread outward when the pillar portion is coupled to the connection bracket.

[0013] In the system furniture having the shelf provided with the lighting according to the present disclosure, the pillar portion may be provided with a wing portion protruding to an outer side of the pillar portion, and a block formed in a hexahedron shape may be coupled to the

wing portion.

[0014] The system furniture having the shelf provided with the lighting according to the present disclosure may further include a back plate provided between two pillar portions, wherein the back plate may be coupled to the block.

[0015] In the system furniture having the shelf provided with the lighting according to the present disclosure, the shelf may include a connection portion provided with the third electrode and coupled to the pillar portion, and a support portion provided between two connection portions.

[0016] In the system furniture having the shelf provided with the lighting according to the present disclosure, the pillar portion may include a rail provided with a plurality of coupling holes in a height direction of the pillar portion, a plurality of hook portions formed in hook shapes may be provided on one side of the connection portion, and the connection portion may be coupled to the pillar portion when the plurality of hook portions are inserted into the plurality of coupling holes.

[0017] In the system furniture having the shelf provided with the lighting according to the present disclosure, the third electrode provided in the connection portion may include a third electrode connection portion that is bent and protrudes to an outer side of the hook portion, the second electrode may include a thin film that is provided inside the pillar portion and extends in a height direction of the pillar portion, and when the hook portions are inserted into the coupling holes, the third electrode connection portion may come into contact with the second electrode and may be electrically connected to the second electrode.

[0018] In the system furniture having the shelf provided with the lighting according to the present disclosure, the third electrode connection portion may include an elastic member, and when the hook portions are inserted into the coupling holes, the third electrode connection portion may be elastically pressed to be spread outward.

[0019] The system furniture having the shelf provided with the lighting according to the present disclosure may include a connection pin that is provided in the connection portion, is connected to the third electrode via an electric wire, and is connected to the lighting via an electric wire.

[0020] In the system furniture having the shelf provided with the lighting according to the present disclosure, the support portion may include a support plate formed in a plate shape and a frame coupled to an outer side of the support plate, the frame may have an internal space formed therein, and the electric wire connecting the connection pin to the lighting may extend in the internal space of the frame.

[Advantageous Effects of Disclosure]

[0021] The present disclosure relates to system furniture including a shelf provided with a lighting, in which connection portions of a shelf are selectively coupled to a plurality of couplig holes provide in a rail of a pillar portion so that a second electrode provided in the pillar portion comes into contact with a third electrode provided in the shelf, and accordingly, the height of the shelf may be adjusted while allowing electrical connection.

[0022] Also, according to the present disclosure, the system furniture is fixed to a wall via blocks coupled to a pillar portion while fixing a back plate thereof via the blocks coupled to the pillar portion, and thus, there are advantages of easy installation and disassembly.

[0023] In addition, according to the present disclosure, a bottom plate, the pillar portion, and the shelf are electrically separated from one another, and a first electrode provided in the bottom plate, the second electrode provided in the pillar portion, and the third electrode provided in the shelf come into contact with one another to be electrically conducted, and accordingly, an electrical short-circuit point may be easily found.

Brief Description of the Drawings

[0024]

FIG. 1 is a diagram of system furniture including a shelf provided with a lighting according to an embodiment of the present disclosure.

FIG. 2 is a diagram showing a state in which a finishing material is removed from FIG. 1.

FIG. 3 is a diagram showing a bottom plate and a horizontal adjustment frame according to an embodiment of the present disclosure.

FIG. 4 is a diagram showing a connection bracket according to an embodiment of the present disclosure.

FIG. 5 is a diagram showing a connection bracket to which a pillar portion is coupled, according to an embodiment of the present disclosure.

FIG. 6 is a diagram showing a contact point between a first electrode and a second electrode according to an embodiment of the present disclosure.

FIG. 7 is a diagram showing a shelf installed on pillar portions while connection portions of the shelf are coupled to coupling holes of a rail, according to an embodiment of the present disclosure.

FIG. 8 is a diagram showing a connection portion provided with hook portions and a third electrode, according to an embodiment of the present disclosure.

FIG. 9 is a diagram showing hook portions of a connection portion, which are coupled to coupling holes of a rail, according to an embodiment of the present disclosure.

FIG. 10 is a diagram showing a coupling point between a connection portion of a shelf and a coupling hole of a rail, which is cut and seen from the above according to an embodiment of the present disclosure.

FIG. 11 is a diagram showing one point among a

frame, a support plate, and a connection portion, which is cut according to an embodiment of the present disclosure.

[Best Mode]

[0025] The present specification describes principles of the present disclosure and provides embodiments so that a scope of the present disclosure may be clarified and one of ordinary skill in the art would carry out the present disclosure. The embodiments of the disclosure may be implemented in various types.

[0026] In the present specification, the expression "include" or "may include" refers to existence of a corresponding function, operation, or element, and does not limit one or more additional functions, operations, or elements. In the present specification, it is to be understood that the terms such as "including," "having," and "comprising" are intended to indicate the existence of the features, numbers, steps, actions, components, parts, or combinations thereof disclosed in the specification, and are not intended to preclude the possibility that one or more other features, numbers, steps, actions, components, parts, or combinations thereof may exist or may be added.

[0027] In the case where an element is referred to as being "connected" or "coupled" to other elements, it should be understood that not only the element is directly connected or coupled to the other elements, but also another element may exist between them. Contrarily, when an element is referred to as being "directly coupled" or "directly connected" to any other element, it should be understood that no element is interposed therebetween.

[0028] It will be understood that although the terms "first" and "second" are used herein to describe various elements, these elements should not be limited by these terms. Terms are only used to distinguish one element from other elements.

[0029] The present disclosure relates to system furniture including a shelf provided with a lighting, and to system furniture including a shelf provided with a lighting, which is capable of adjusting a height of the shelf provided with the lighting while allowing electrical connection and is easily installed and disassembled.

[0030] System furniture including a shelf provided with a lighting according to an embodiment of the present disclosure may include a built-in closet or a display case. However, the disclosure is not limited thereto, and the system furniture including the shelf provided with the lighting may include various kinds of furniture provided that the furniture includes the shelf provided with the lighting. Hereinafter, one or more embodiments of the present disclosure are described in detail with reference to accompanying drawings.

[0031] System furniture including a shelf provided with a lighting according to an embodiment of the present disclosure may include a bottom plate 110, a connection bracket 120, a first electrode 130, a pillar portion 140, a second electrode 150, a shelf 160, a third electrode 170, and a lighting 180.

[0032] The bottom plate 110 is formed in a plate shape and may be a lower plate of the system furniture. A plurality of bottom plates 110 may be provided, and the bottom plate 110 may be installed on the ground.

[0033] Referring to FIG. 3, the system furniture including the shelf provided with the lighting according to the embodiment of the present disclosure may further include a horizontal adjustment frame 111. The horizontal adjustment frame 111 is coupled to a lower portion of the bottom plate 110 and may adjust a height between the bottom plate 110 and the ground.

[0034] When installing the bottom plate 110 on the ground, the bottom plate 110 may not be horizontal due to the inclination of the ground. The horizontal adjustment frame 111 is coupled to the lower portion of the bottom plate 110 to install the bottom plate 110 horizontally.

[0035] The horizontal adjustment frame 111 may include a plurality of adjustment screws 112 and may adjust the height of the bottom plate 110 by tightening or loosening the plurality of adjustment screws 112.

[0036] However, the horizontal adjustment frame 111 is not limited to the adjustment of the height of the bottom plate 110 via the adjustment screws 112, and the horizontal adjustment frame 111 may adjust the height of the bottom plate 110 via another structure. Also, the horizontal adjustment frame 111 may be formed integrally with the bottom plate 110.

[0037] The connection bracket 120 is coupled to the bottom plate 110. The connection bracket 120 may be a bracket for coupling the pillar portion 140 perpendicularly to the bottom plate 110.

[0038] As the connection bracket 120 is coupled to the bottom plate 110 and the pillar portion 140 is coupled to the connection bracket 120, the pillar portion 140 may be installed perpendicularly to the bottom plate 110. The connection bracket 120 may be manufactured separately from the bottom plate 110 and may be manufactured integrally with the bottom plate 110.

[0039] Referring to FIG. 4, the first electrode 130 is provided on the connection bracket 120 and is connected to an electrical connection line 121 extending to the outside. The electrical connection line 121 may be connected to external electricity and includes an electric wire extending to the outside.

[0040] The first electrode 130 is electrically connected to the electrical connection line 121 and is provided on the connection bracket 120. The first electrode 130 may include a pair of electrodes including a negative electrode and a positive electrode. A pair of electrodes may be electrically connected to a pair of electrical connection lines 121.

[0041] The pillar portion 140 is coupled to the connection bracket 120. The pillar portion 140 may be formed in a bar shape extending in a height direction and may be a pillar that supports a back plate 191 of the system furniture.

[0042] The pillar portion 140 may be coupled to the connection bracket 120 while being inserted into the inner space of the connection bracket 120 and may be coupled perpendicularly to the connection bracket 120. As the connection bracket 120 is coupled to the bottom plate 110 and the pillar portion 140 is coupled to the connection bracket 120, the pillar portion 140 may be installed perpendicularly to the bottom plate 110.

[0043] The second electrode 150 extends in the height direction of the pillar portion 140. The second electrode 150 may include a pair of electrodes including a negative electrode and a positive electrode.

[0044] The second electrode 150 may come into contact with the first electrode 130 when the pillar portion 140 is coupled to the connection bracket 120. When the pillar portion 140 is coupled to the connection bracket 120 and the second electrode 150 comes into contact with the first electrode 130, the negative electrode of the second electrode 150 may come into contact with the negative electrode of the first electrode 130 and the positive electrode of the second electrode 150 may come into contact with the positive electrode of the first electrode 130. As such, the first electrode 130 and the second electrode 150 may be electrically connected to each other.

[0045] The first electrode 130 according to the embodiment of the present disclosure includes a first electrode connection portion 131 that protrudes to the upper portion of the connection bracket 120 and is bent outward. The second electrode 150 according to the embodiment of the present disclosure may include a thin film that is provided inside the pillar portion 140 and extends in the height direction of the pillar portion 140.

[0046] Referring to FIGS. 5 and 6, when the pillar portion 140 is coupled to the connection bracket 120, the first electrode connection portion 131 comes into contact with the second electrode 150 including the thin film and then the first electrode 130 and the second electrode 150 may be electrically connected to each other.

[0047] Here, the first electrode connection portion 131 may include a negative electrode and a positive electrode. When the first electrode connection portion 131 comes into contact with the second electrode 150 including the thin film, the negative electrode of the second electrode 150 may come into contact with the negative electrode of the first electrode connection portion 131 and the positive electrode of the second electrode 150 may come into contact with the positive electrode of the first electrode connection portion 131.

[0048] As described above, in the system furniture including the shelf provided with the lighting according to the embodiment of the present disclosure, the first electrode 130 and the second electrode 150 come into contact with each other and are electrically connected to each other only with the process of coupling or assembling the pillar portion 140 with the connection bracket 120.

[0049] According to the embodiment of the present disclosure, the first electrode connection portion 131 may include an elastic member, and before the pillar portion 140 is coupled to the connection bracket 120, the first electrode connection portion 131 may be in a state of being spread outward.

[0050] Referring to FIG. 6, when the pillar portion 140 is coupled to the connection bracket 120, the first electrode connection portion 131 that is spread outward may be gathered inward by the pillar portion 140. That is, the pillar portion 140 may be press-fitted into the connection bracket 120 while gathering inward the first electrode connection portion 131 having been spread outward.

[0051] When the first electrode connection portion 131 is gathered inward by the pillar portion 140, an elastic restoring force is generated from the first electrode connection portion 131 including the elastic member. When the pillar portion 140 is coupled to the connection bracket 120, the first electrode connection portion 131 may be elastically pressed to be spread outward due to the elastic restoring force.

[0052] As described above, when the pillar portion 140 is coupled to the connection bracket 120, the first electrode connection portion 131 is elastically pressed to be spread outward, and accordingly, the first electrode connection portion 131 may be in a firm contact with the second electrode 150.

[0053] Referring to FIG. 7 and 8, the shelf 160 is coupled to the pillar portion 140. The shelf 160 includes a support plate 165 formed in a plate shape.

[0054] The third electrode 170 is provided on the shelf 160, and when the shelf 160 is coupled to the pillar portion 140, the third electrode 170 comes into contact with the second electrode 150. The third electrode 170 may include a pair of electrodes including a negative electrode and a positive electrode.

[0055] When the shelf 160 is coupled to the pillar portion 140, the negative electrode of the third electrode 170 may come into contact with the negative electrode of the second electrode 150 and the positive electrode of the third electrode 170 may come into contact with the positive electrode of the second electrode 150. As such, the second electrode 150 and the third electrode 170 may be electrically connected to each other.

[0056] As described above, the second electrode 150 includes a thin film and extends along the height direction of the pillar portion 140. Therefore, even when the shelf 160 is coupled to any point in the height of the pillar portion 140, the second electrode 150 and the third electrode 170 may come into contact with each other to be electrically connected to each other.

[0057] Referring to FIGS. 7 and 8, the shelf 160 includes a connection portion 161 provided with the third electrode 170 and coupled to the pillar portion 140, and a support portion 164 provided between two connection portions 161.

[0058] According to an embodiment of the present disclosure, the pillar portion 140 includes a rail 141 provided with a plurality of coupling holes 142 along the height

direction of the pillar portion 140. The coupling hole 142 is a hole to which a hook portion 162, which is described later, is coupled, and may pass through the rail 141.

[0059] The rail 141 may be provided with the plurality of coupling holes 142 in the height direction of the pillar portion 140. The rail 141 may be a member that is fitted and coupled to the pillar portion 140, but is not limited thereto. The rail 141 may be manufactured integrally with the pillar portion 140.

[0060] Referring to FIG. 8, the connection portion 161 of the shelf 160 may be formed as a cantilever, and a plurality of hook portions 162 that are formed in hook shapes may be provided on one side of the connection portion 161.

[0061] Referring to FIG. 9, the connection portion 161 may be coupled to the pillar portion 140 as the hook portions 162 formed in the hook shapes are inserted into the coupling holes 142. The hook portion 162 may be coupled to one or more of the plurality of coupling holes 142.

[0062] According to an embodiment of the present disclosure, the height at which the connection portion 161 is coupled to the pillar portion 140 may be adjusted by changing the coupling holes 142 to which the hook portions 162 are coupled. As such, the height of the pillar portion 140, to which the shelf 160 is coupled, may be adjusted.

[0063] According to an embodiment of the present disclosure, the third electrode 170 may be provided on the connection portion 161, in particular, in the hook portion 162 of the connection portion 161.

[0064] The third electrode 170 may include a third electrode connection portion 171 that is bent to protrude to the outside of the hook portion 162. Referring to FIG. 8, the third electrode connection portion 171 may be bent and protrude to the outside of the hook portion 162.

[0065] As described above, the second electrode 150 may include the thin film that is provided inside the pillar portion 140 and extends in the height direction of the pillar portion 140. Referring to FIG. 9 and 10, when the hook portion 162 is inserted into the coupling hole 142 of the rail 141, the third electrode connection portion 171 protruding from the hook portion 162 comes into contact with the second electrode 150 so that the third electrode 170 and the second electrode 150 may be electrically connected to each other.

[0066] Here, the third electrode connection portion 171 may include a negative electrode and a positive electrode. When the third electrode connection portion 171 comes into contact with the second electrode 150 including the thin film, the negative electrode of the second electrode 150 may come into contact with the negative electrode of the third electrode connection portion 171 and the positive electrode of the second electrode 150 may come into contact with the positive electrode of the third electrode connection portion 171.

[0067] As described above, in the system furniture including the shelf provided with the lighting according to the embodiment of the present disclosure, the second electrode 150 and the third electrode 170 may be electrically connected to each other only through a process of coupling or assembling the hook portions 162 of the shelf 160 with the pillar portion 140.

[0068] Referring to FIGS. 6 and 9, the second electrode 150 according to the embodiment of the present disclosure includes the thin film extending in the height direction of the pillar portion 140, and thus, the third electrode 170 and the second electrode 150 may come into contact with each other to be electrically connected to each other without regard to the height of the pillar portion 140, to which the hook portion 162 is coupled.

[0069] That is, without regard to the position of the coupling hole 142, from among the plurality of coupling holes 142, to which the hook portion 162 is inserted to be coupled, the second electrode 150 and the third electrode 170 may come into contact with each other and may be electrically connected to each other. As such, even when the height of installing the shelf 160 onto the pillar portion 140 is adjusted, the second electrode 150 and the third electrode 170 come into contact with each other and may be electrically connected to each other.

[0070] According to an embodiment of the present disclosure, the third electrode connection portion 171 may include an elastic member, and before the hook portion 162 is inserted into the coupling hole 142, the third electrode connection portion 171 may be in a state of being protruding outward.

[0071] Referring to FIGS. 8 and 10, when the hook portion 162 is inserted into the coupling hole 142, the third electrode connection portion 171 having been spread outward may be gathered inward by the pillar portion 140. That is, the hook portion 162 may be press-fitted into the pillar portion 140 via the coupling hole 142 while gathering the third electrode connection portion 171 inward, the third electrode connection portion 171 being in a spread state outwardly.

[0072] When the third electrode connection portion 171 is gathered inward by the pillar portion 140, an elastic restoring force is generated from the third electrode connection portion 171 including the elastic member. When the hook portion 162 is inserted into the coupling hole 142, the third electrode connection portion 171 may be elastically pressed to spread outward due to the elastic restoring force.

[0073] As described above, when the hook portion 162 is inserted into the coupling hole 142, the third electrode connection portion 171 is elastically pressed to be spread outward, and accordingly, the third electrode connection portion 171 may firmly come into contact with the second electrode 150.

[0074] The lighting 180 is provided on the shelf 160 and connected to the third electrode 170. The lighting 180 may be provided at various points on the shelf 160 and may be provided in the form of a diffusion plate. However, the lighting is not limited to the above example, and the lighting 180 may be provided on the shelf 160 in various forms.

[0075] Referring to FIG. 9, a connection pin 163 may be provided in the connection portion 161. The connection pin 163 is connected to the third electrode 170 through an electric wire 169 and may be connected to the lighting 180 through a wire.

[0076] The first electrode 130 provided on the connection bracket 120 receives electricity through the electrical connection line 121, and the electricity supplied to the first electrode 130 is transferred to the second electrode 150. The electricity transferred to the second electrode 150 is transferred to the third electrode 170, and the electricity transferred to the third electrode 170 is transferred to the connection pin 163. The electricity transferred to the connection pin 163 is transferred to the lighting 180 through the electric wire, and as such, the lighting 180 may emit light.

[0077] According to an embodiment of the present disclosure, the support portion 164 includes a support plate 165 formed in a plate shape and a frame 166 coupled to the outside of the support plate 165. The support plate 165 may be a plate-shaped member, and the frame 166 may support the support plate 165.

[0078] Referring to FIG. 11, the connection portion 161 may be coupled to the frame 166 through a fixing bracket 168, screws, pins, etc., and an internal space 167 may be formed in the frame 166.

[0079] According to an embodiment of the present disclosure, the electric wire connecting the connection pin 163 to the lighting 180 may extend in the internal space 167 of the frame 166. The electric wire extending from the connection pin 163 provided in the connection portion 161 to the lighting 180 may extend while passing through the internal space 167 of the frame 166. As such, the electric wire connecting the connection pin 163 to the lighting 180 may not be exposed to the outside.

[0080] The connection pin 163 according to the embodiment of the present disclosure may be provided with a controller that may control whether to supply electricity to the lighting 180. The controller may be configured to supply or block the electricity from the connection pin 163 to the lighting 180 according to an external signal.

[0081] The external signal may be generated via a switch and may be a wireless signal generated from the outside. The controller may be provided, but is not limited to, in the connection pin 163, and the controller may be provided at various positions provided that the electricity may be fed to the lighting 180 or blocked.

[0082] Referring to FIG. 5, the pillar portion 140 according to the embodiment of the present disclosure may be provided with a wing portion 143 protruding to the outside of the pillar portion 140. A block 190 formed in a hexahedron shape may be coupled to the wing portion 143. The wing portion 143 may be a protrusion protruding outward from the pillar portion 140, and the block 190 may be fixedly coupled to the wing portion 143.

[0083] The system furniture including the shelf provided with the lighting according to the embodiment of the present disclosure may further include a back plate 191 provided between two pillar portions 140. The back plate 191 may be formed in a plate shape and may be installed between two pillar portions 140.

[0084] The back plate 191 may be installed via the block 190. In detail, a contact portion between the back plate 191 and the block 190 is fixed via a pin, a tacker, etc. and accordingly, the back plate 191 may be coupled to the block 190. Because the back plate 191 is fixedly coupled via the block 190, the back plate 191 may be easily installed between the two pillar portions 140.

[0085] The system furniture according to the embodiment of the present disclosure may be a built-in closet. When the system furniture according to the embodiment of the present disclosure is a built-in closet, the system furniture may be installed on the wall through the block 190.

[0086] In detail, the bottom plate 110 and the pillar portion 140 are coupled to each other via the connection bracket 120, and the block 190 is fixed to the wall. After that, the back plate 191 is coupled to the block 190 via a pin, a tacker, etc. and thus, the system furniture may be installed on the wall.

[0087] The system furniture according to the embodiment of the disclosure is fixed to the wall via the block 190, and accordingly, there is an advantage of easily installing the system furniture provided as the built-in closet on the wall. Also, when the system furniture according to the embodiment of the disclosure is disassembled, the system furniture may be easily separated from the wall by removing the block 190 from the wall.

[0088] As described above, the system furniture according to the embodiment of the present disclosure has advantages of easily installation, disassembly, and reconstruction of the system furniture provided as the built-in closet by installing and disassembling the system furniture via the block 190.

[0089] Also, the system furniture according to the embodiment of the disclosure has an advantage of preventing damage to the system furniture during installing, disassembling, and reconstructing the system furniture, because the system furniture is fixed to the wall via the block 190 without directly fixing the pillar or back plate to the wall.

[0090] Referring to FIG. 1, the system furniture according to the embodiment of the disclosure may further include a finishing material 192. The finishing material 192 may cover one side surface of the pillar portion 140 after the bottom plate 110, the pillar portion 140, and the shelf 160 are assembled. When one side surface of the pillar portion 140 is covered by the finishing material 192, there is an advantage of obtaining good appearance.

[0091] The system furniture including the shelf provided with the lighting according to the embodiment of the disclosure has following effects.

[0092] According to the related art, electric wires are used to supply electricity to the shelf provided with the lighting. However, when one point of the shelf is connected to the outside through the electric wire, it is difficult to

adjust the height of the shelf due to the wire. Also, when one point of the shelf is connected to the outside via the electric wire, it may be difficult to find an electrical short-circuit point.

[0093] However, the system furniture including the shelf provided with the lighting according to the embodiment of the present disclosure does not use the electric wire, but the first electrode and the second electrode may be electrically connected to each other through the process of installing, coupling, and assembling the pillar portion with the connection bracket, and the second electrode and the third electrode may be connected to each other via the process of installing, coupling, and assembling the connection portion of the shelf with the pillar portion.

[0094] In the system furniture including the shelf provided with the lighting according to the embodiment of the present disclosure, the connection portion of the shelf is selectively coupled to a plurality of coupling holes provided in the rail of the pillar portion so that the second electrode provided in the pillar portion comes into contact with the third electrode provided in the shelf, and accordingly, the height of the shelf may be adjusted while allowing the electric connection.

[0095] Also, in the system furniture including the shelf provided with the lighting according to the embodiment of the present disclosure, the bottom plate, the pillar portion, and the shelf are electrically separated, and then, the first electrode provided in the connection bracket of the bottom plate, the second electrode provided in the pillar portion, and the third electrode provided in the connection portion of the shelf come into contact with one another to be electrically conducted, and accordingly, the electrical short-circuit point may be easily found.

[0096] In addition, in the system furniture including the shelf provided with the lighting according to the embodiment of the present disclosure, the system furniture is assembled by coupling the pillar portion to the bottom plate provided with the connection bracket and the connection portion of the shelf to the rail of the pillar portion, and accordingly, the system furniture may be easily installed and disassembled.

[0097] In addition, the system furniture including the shelf provided with the lighting according to the embodiment of the present disclosure has the advantage of easy installation and disassembly because the back plate is fixed via the block coupled to the pillar portion and the system furniture is fixed to the wall via the block coupled to the pillar portion.

[0098] While the present disclosure has been particularly shown and described with reference to exemplary embodiments thereof, it will be understood by those of ordinary skill in the art that various changes in form and details may be made therein without departing from the spirit and scope as defined by the following claims. Therefore, the scope sought to be protected of the present disclosure shall be defined by the appended claims.

Claims

1. System furniture including a shelf, the system furniture comprising:

   a bottom plate formed in a plate shape;
   a connection bracket coupled to the bottom plate;
   a first electrode provided on the connection bracket and connected to an electrical connection line extending to outside;
   one or more pillar portions coupled to the connection bracket;
   a second electrode extending in a height direction of the pillar portion and coming into contact with the first electrode when the pillar portion is coupled to the connection bracket;
   a shelf coupled to the pillar portion;
   a third electrode provided on the shelf and coming into contact with the second electrode when the shelf is coupled to the pillar portion; and
   a lighting provided on the shelf and connected to the third electrode.

2. The system furniture of claim 1, further comprising a horizontal adjustment frame coupled to a lower portion of the bottom plate and adjusting a height between the bottom plate and ground.

3. The system furniture of claim 1, wherein

   the first electrode includes a first electrode connection portion that is bent outward while protruding to an upper portion of the connection bracket,
   the second electrode includes a thin film that is provided inside the pillar portion and extends in a height direction of the pillar portion, and
   when the pillar portion is coupled to the connection bracket, the first electrode connection portion and the second electrode come into contact with each other and are electrically connected to each other.

4. The system furniture of claim 3, wherein

   the first electrode connection portion includes an elastic member, and
   the first electrode connection portion is elastically pressed to be spread outward when the pillar portion is coupled to the connection bracket.

5. The system furniture of claim 1, wherein

   the pillar portion is provided with a wing portion protruding to an outer side of the pillar portion, and

a block formed in a hexahedron shape is coupled to the wing portion.

6. The system furniture of claim 5, further comprising

a back plate provided between two of the pillar portions,
wherein the back plate is coupled to the block.

7. The system furniture of claim 1, wherein
the shelf includes a connection portion provided with the third electrode and coupled to the pillar portion, and a support portion provided between two of the connection portions.

8. The system furniture of claim 7, wherein

the pillar portion includes a rail provided with a plurality of coupling holes in a height direction of the pillar portion,
a plurality of hook portions formed in hook shapes are provided on one side of the connection portion, and
the connection portion is coupled to the pillar portion when the plurality of hook portions are inserted into the plurality of coupling holes.

9. The system furniture of claim 8, wherein

the third electrode provided in the connection portion includes a third electrode connection portion that is bent and protrudes to an outer side of one of the plurality the hook portion,
the second electrode includes a thin film that is provided inside the pillar portion and extends in a height direction of the pillar portion, and
when the hook portions are inserted into the coupling holes, the third electrode connection portion comes into contact with the second electrode and is electrically connected to the second electrode.

10. The system furniture of claim 9, wherein

the third electrode connection portion includes an elastic member, and
when the hook portions are inserted into the coupling holes, the third electrode connection portion is elastically pressed to be spread outward.

11. The system furniture of claim 9, comprising
a connection pin that is provided in the connection portion, is connected to the third electrode via an electric wire, and is connected to the lighting via an electric wire.

12. The system furniture of claim 11, wherein
the support portion comprises a support plate formed in a plate shape and a frame coupled to an outer side of the support plate,
the frame has an internal space formed therein, and
the electric wire connecting the connection pin to the lighting extends in the internal space of the frame.

FIG. 1

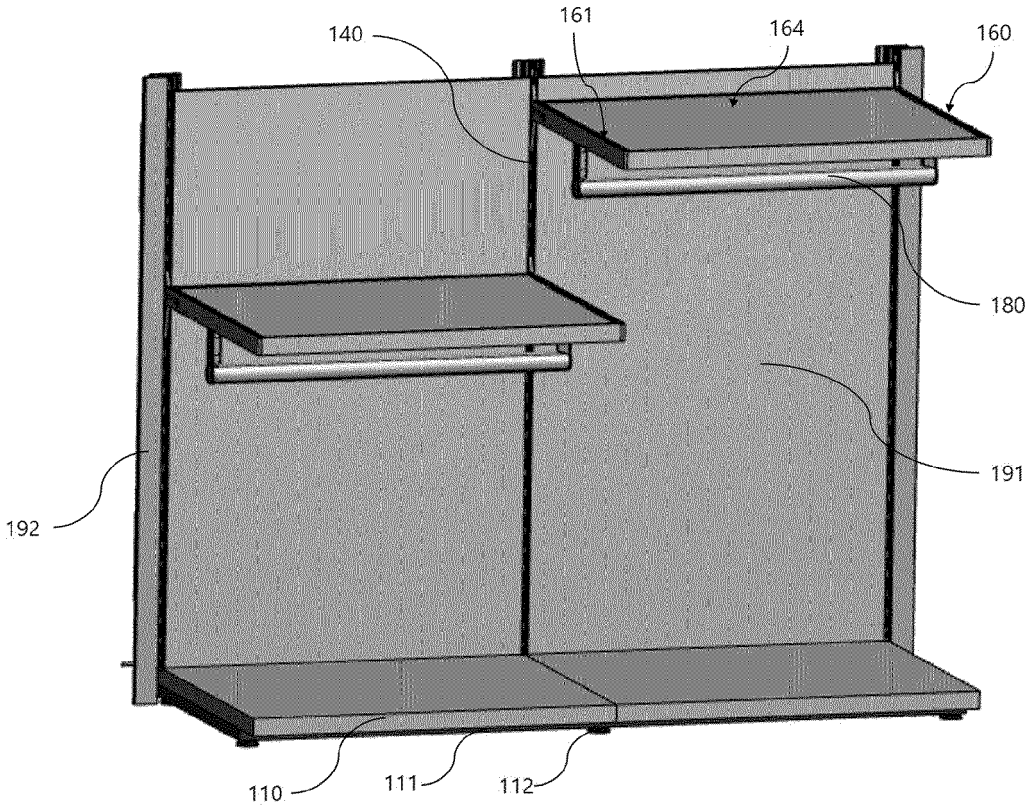


FIG. 2

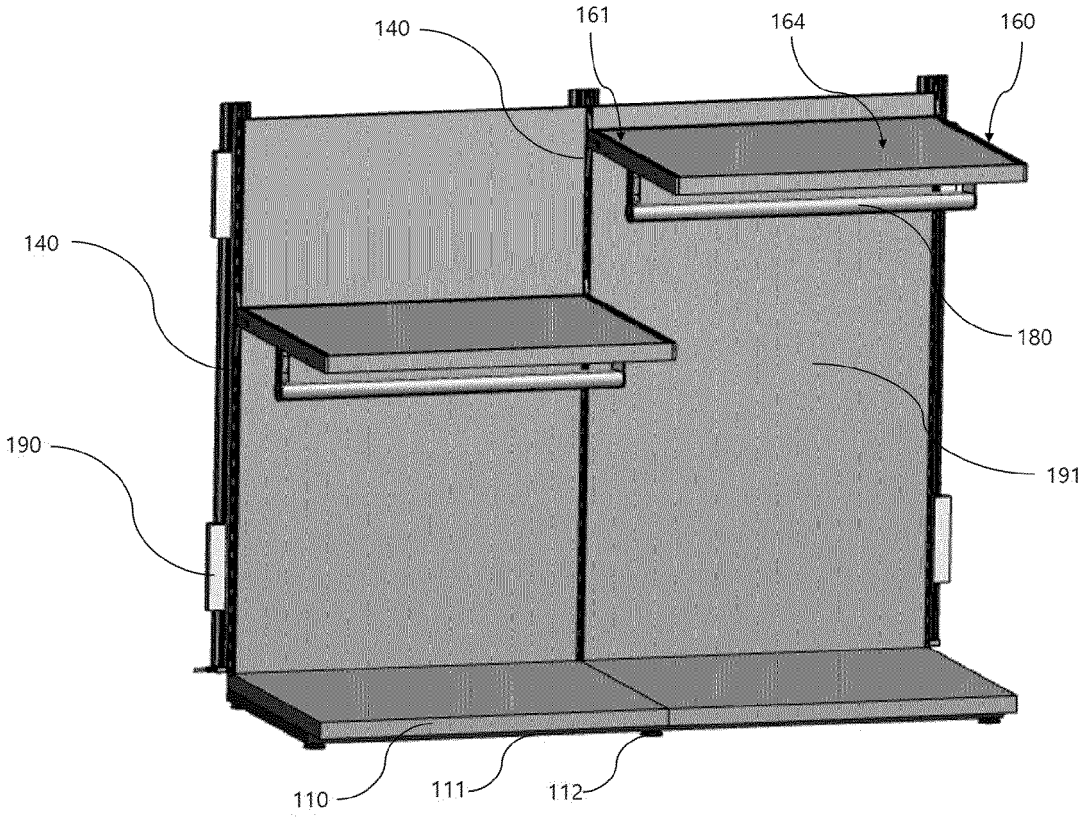


FIG. 3

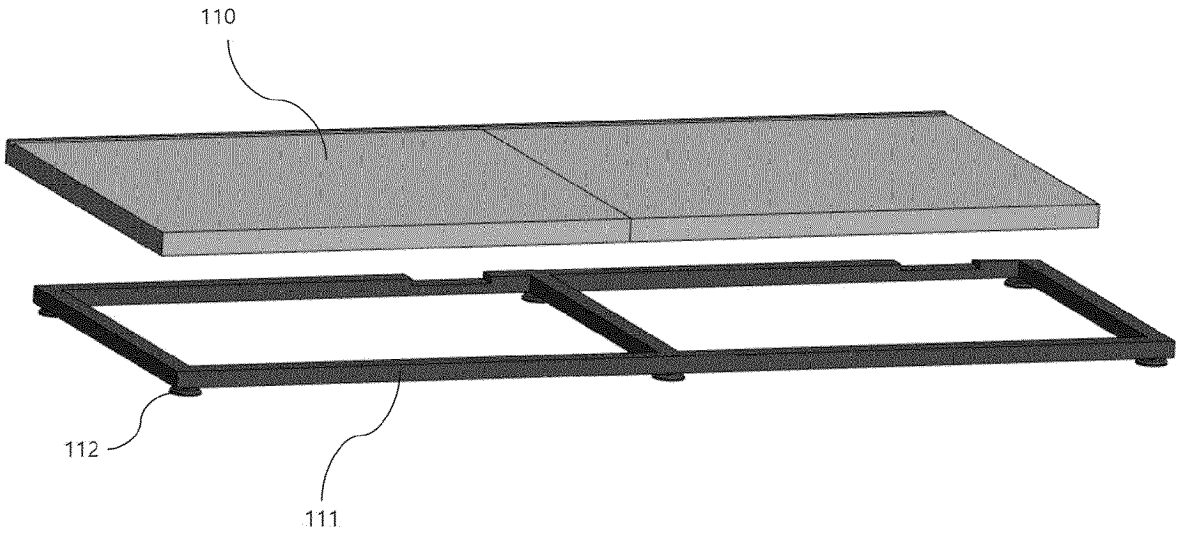


FIG. 4

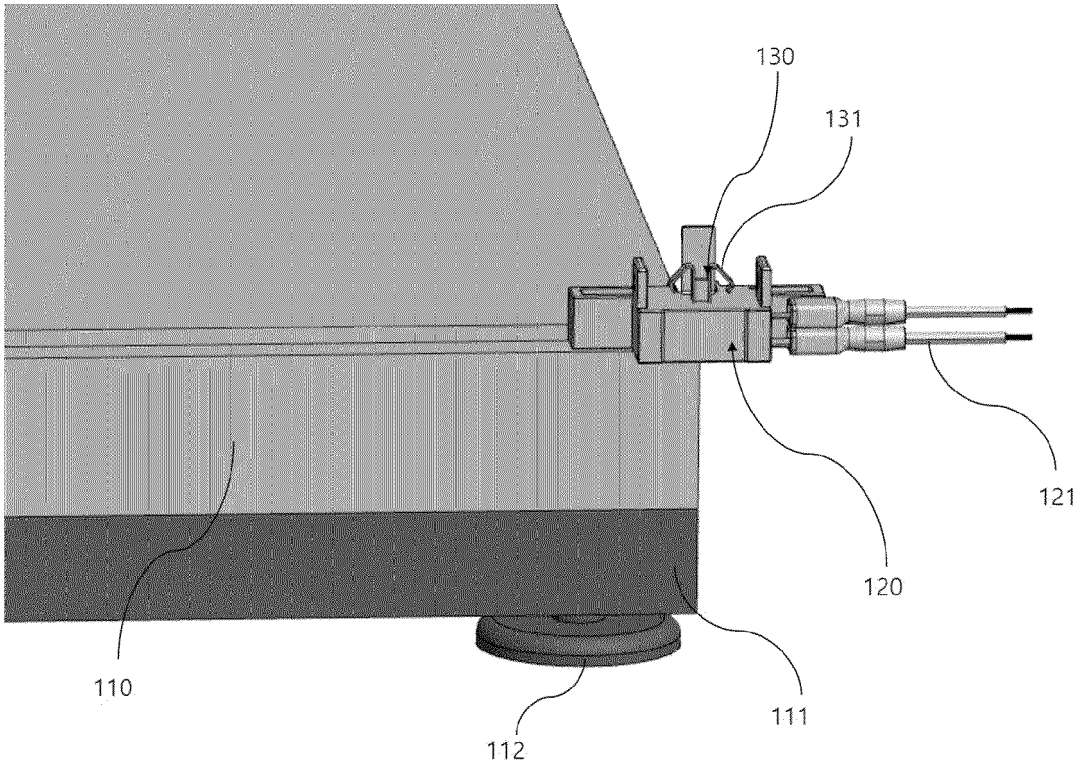


FIG. 5

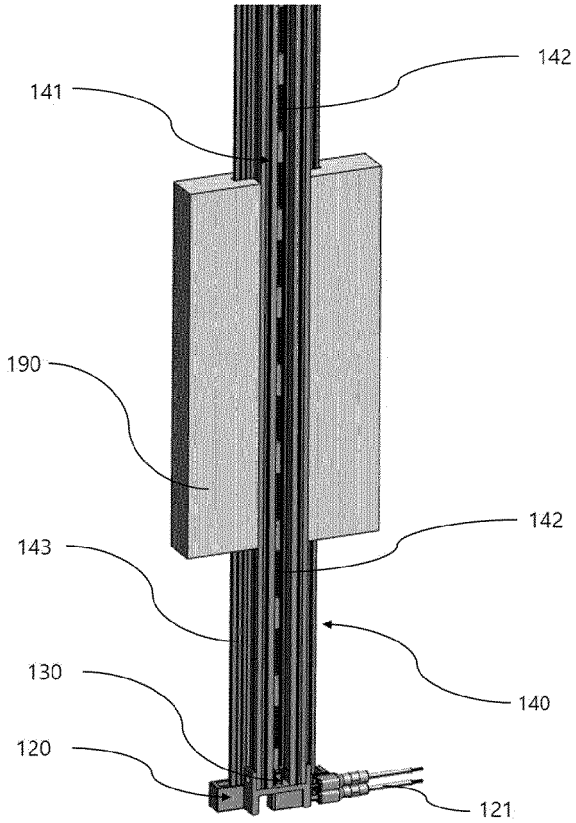


FIG. 6

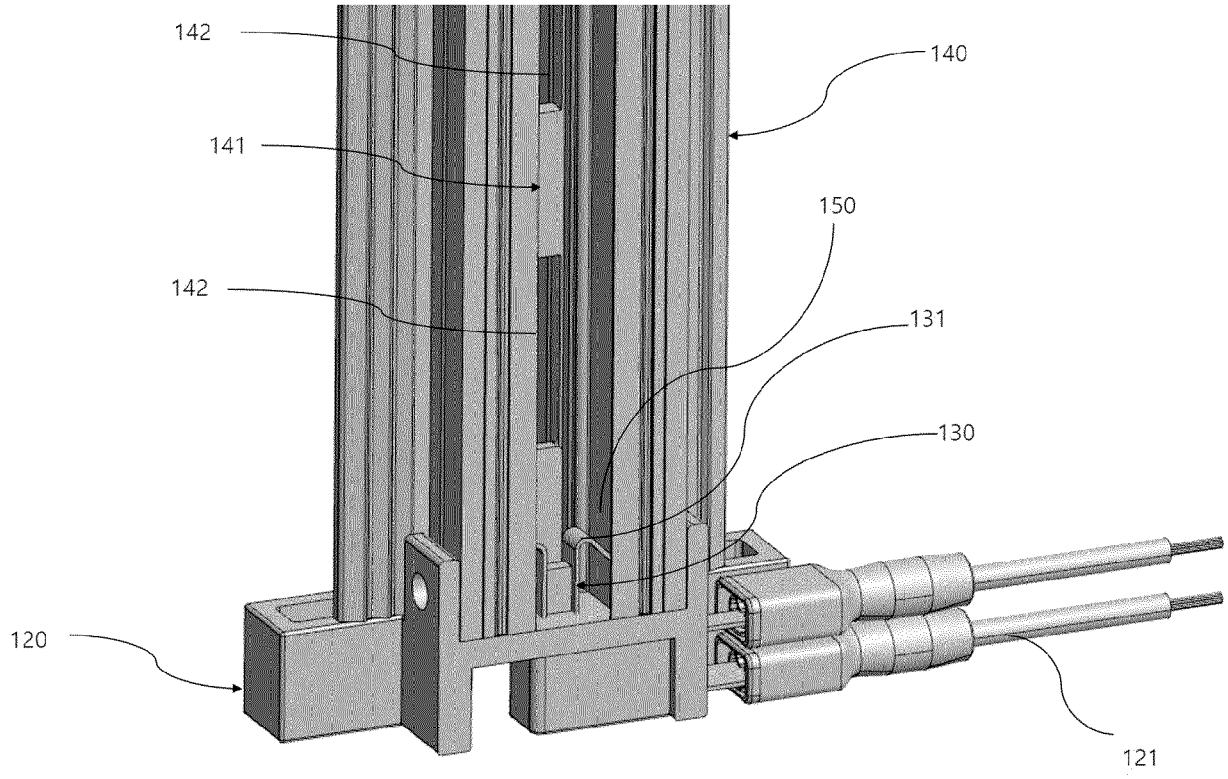


FIG. 7

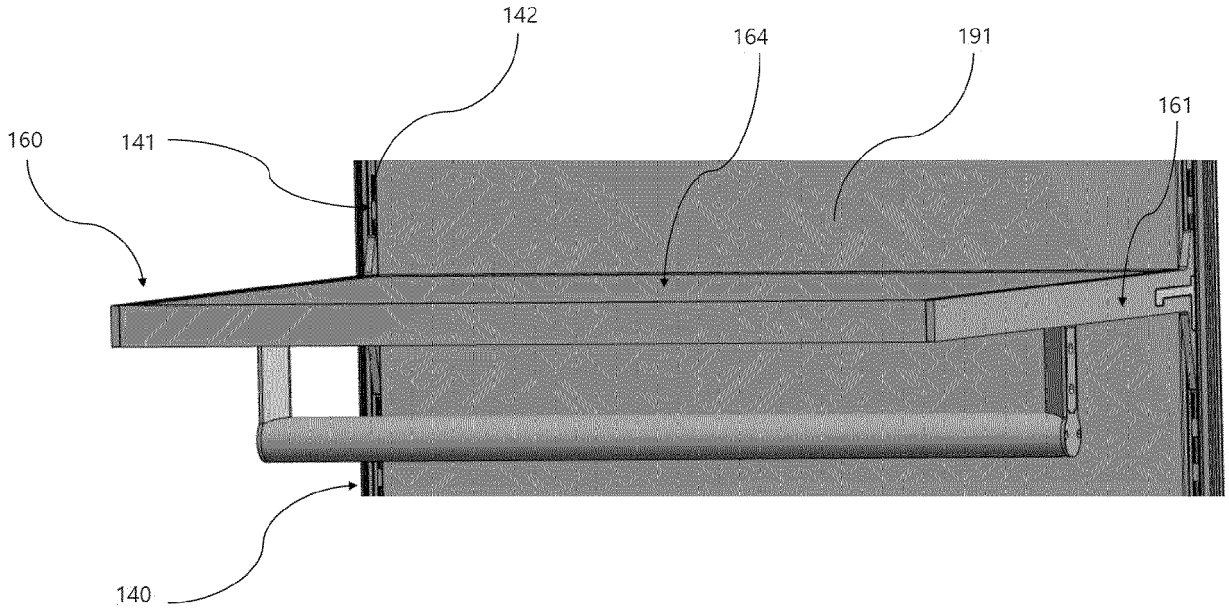


FIG. 8

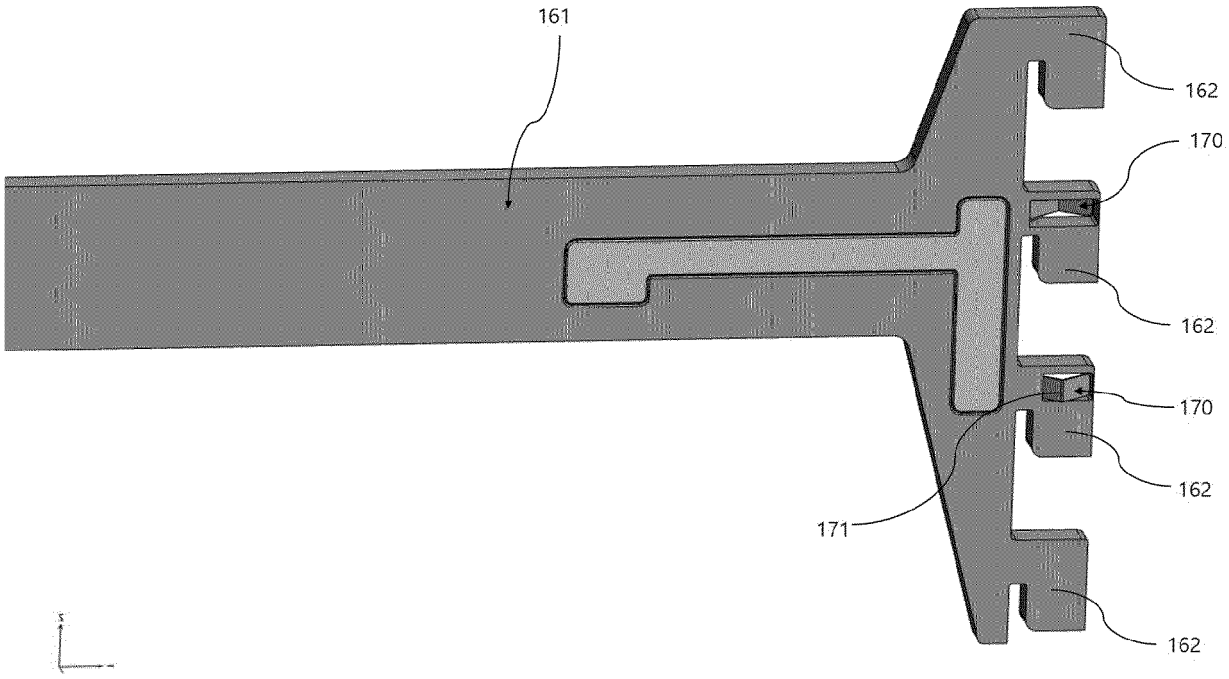


FIG. 9

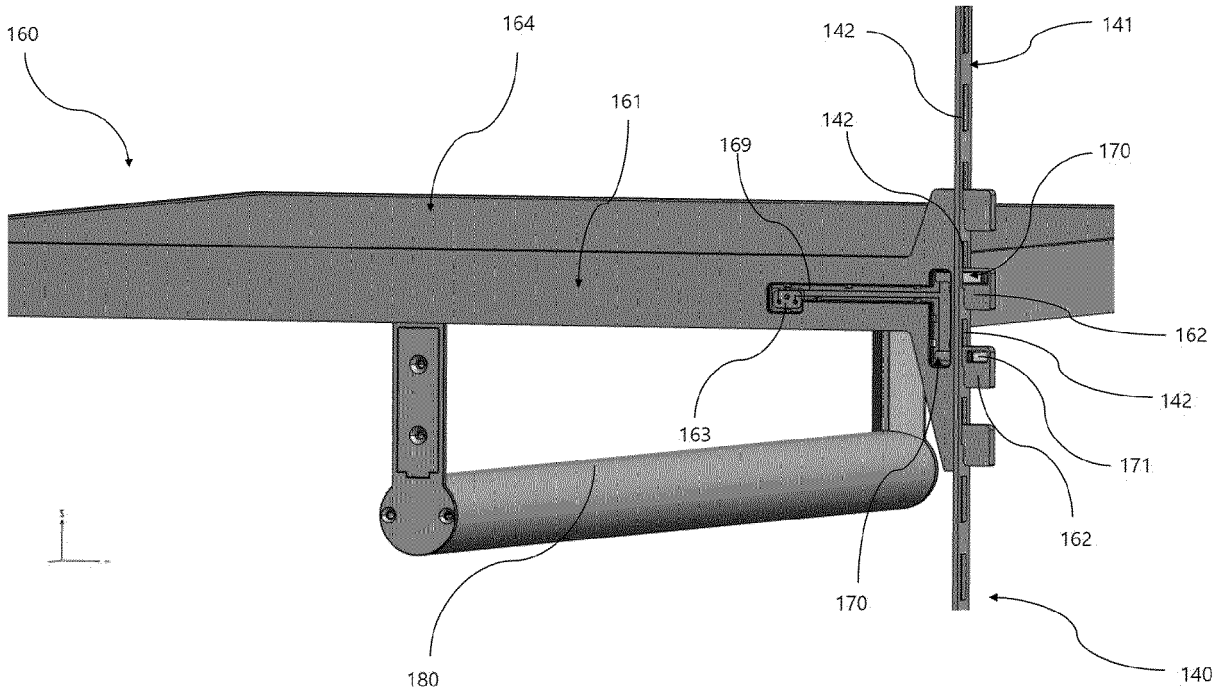


FIG. 10

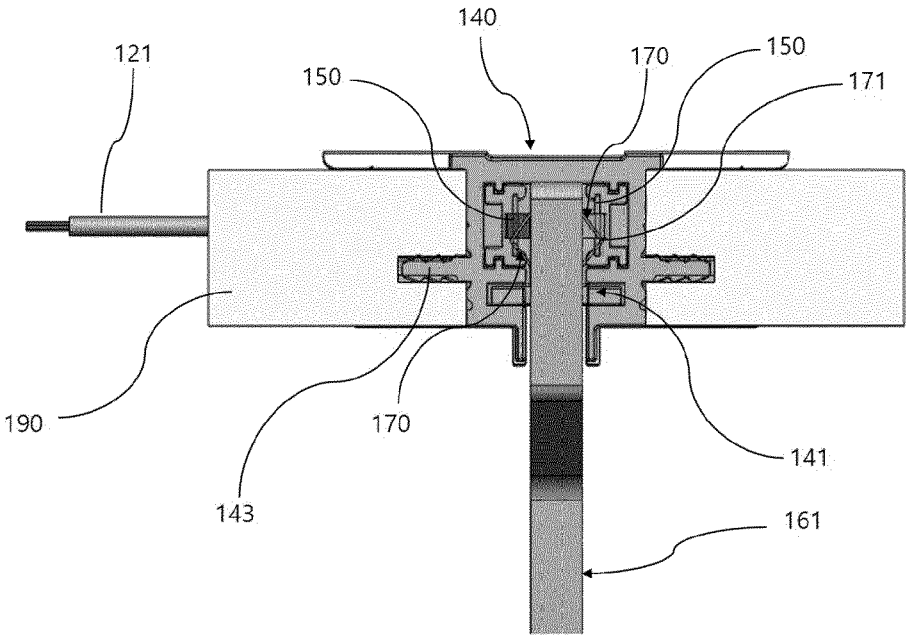
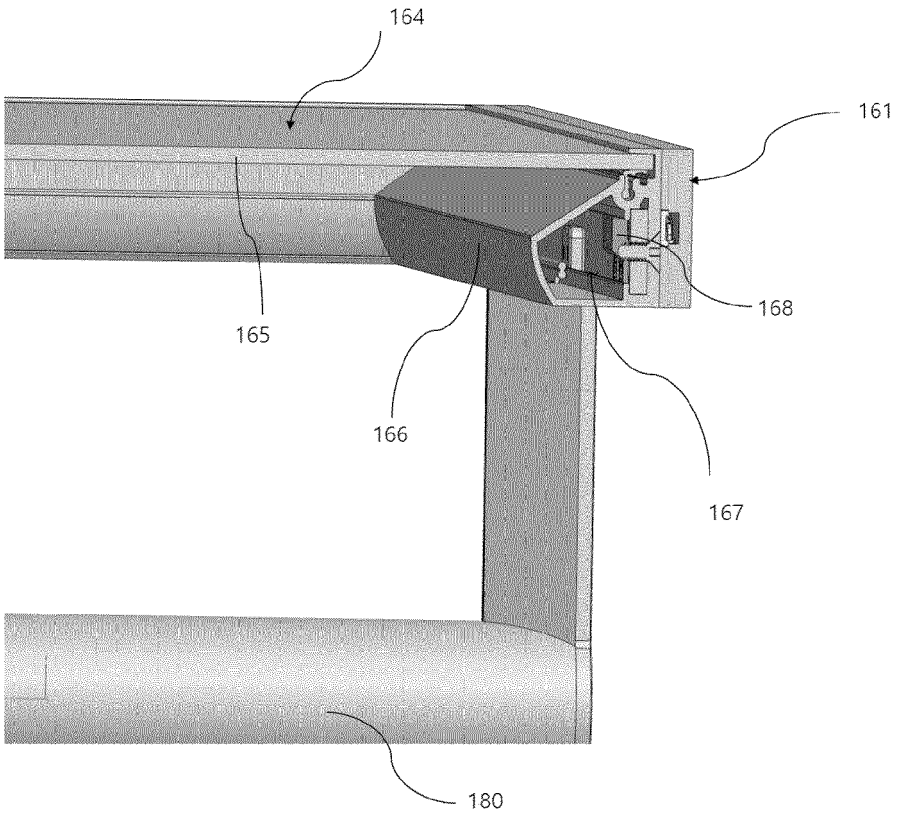


FIG. 11



INTERNATIONAL SEARCH REPORT

International application No.
PCT/KR2022/015807

A. CLASSIFICATION OF SUBJECT MATTER

A47B 57/06(2006.01)i; **A47B 96/06**(2006.01)i; **A47B 96/14**(2006.01)i

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

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

A47B 57/06(2006.01); A47B 57/32(2006.01); A47B 57/58(2006.01); A47B 91/02(2006.01); A47B 96/06(2006.01); A47F 5/00(2006.01); F21V 33/00(2006.01); H01R 13/46(2006.01)

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

Korean utility models and applications for utility models: IPC as above
Japanese utility models and applications for utility models: IPC as above

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

eKOMPASS (KIPO internal) & keywords: 가구(furniture), 조명(lighting), 선반(shelf), 브라켓(bracket), 전극(electrode)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	KR 10-2007-0111142 A (YANG, Kyung-Ho) 21 November 2007 (2007-11-21) See paragraphs [0045]-[0052] and figures 1-6.	1,7-8
Y		2,5-6
A		3-4,9-12
Y	KR 10-2021-0023202 A (DONG SUNG CORPORATION) 04 March 2021 (2021-03-04) See paragraphs [0024]-[0033] and figures 1-2.	2,5-6
A	KR 10-2007-0106298 A (YANG, Kyung-Ho) 01 November 2007 (2007-11-01) See paragraphs [0048]-[0063] and figures 1-4.	1-12
A	JP 5807141 B1 (ONE BY ONE CO., LTD.) 10 November 2015 (2015-11-10) See paragraphs [0016]-[0039] and figures 1-7.	1-12

☑ Further documents are listed in the continuation of Box C. ☑ See patent family annex.

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

Date of the actual completion of the international search	Date of mailing of the international search report
01 February 2023	**01 February 2023**
Name and mailing address of the ISA/KR **Korean Intellectual Property Office** **Government Complex-Daejeon Building 4, 189 Cheongsa-ro, Seo-gu, Daejeon 35208** Facsimile No. **+82-42-481-8578**	Authorized officer Telephone No.

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/KR2022/015807

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	KR 10-1052472 B1 (KO, Jae Young) 29 July 2011 (2011-07-29) See claim 1 and figures 1-4.	1-12

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INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.
PCT/KR2022/015807

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KR 10-2021-0023202 A	04 March 2021	KR 10-2251075 B1	12 May 2021
KR 10-2007-0106298 A	01 November 2007	None	
JP 5807141 B1	10 November 2015	EP 3202287 A1	09 August 2017
		US 10139038 B2	27 November 2018
		US 2017-0307130 A1	26 October 2017
		WO 2016-051613 A1	07 April 2016
KR 10-1052472 B1	29 July 2011	None	

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