

(12) STANDARD PATENT
(19) AUSTRALIAN PATENT OFFICE

(11) Application No. **AU 2015203647 B2**

(54) Title

An article of furniture

(51) International Patent Classification(s)

A47C 17/86 (2006.01)

(21) Application No: **2015203647**

(22) Date of Filing: **2015.06.30**

(30) Priority Data

(31) Number
2014902986

(32) Date
2014.08.01

(33) Country
AU

(43) Publication Date: **2016.02.18**

(43) Publication Journal Date: **2016.02.18**

(44) Accepted Journal Date: **2020.12.17**

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(56) Related Art

GB 2243660 A

AU 2006100647 A4

US 2010/0040410 A1

ABSTRACT

A mounting mechanism 20 for attaching a rest 14, 16 to a base 12 of an article of furniture 10 includes a sleeve 22 mountable to the base 12 of the article of furniture 10, the sleeve 22 defining a passage 24 open at both ends. A foot portion 30 comprises a bearing member 32 and a skirt portion 34 extending from the bearing member 32. The skirt portion 34 is configured to cooperate with the sleeve 22 to retain the foot portion 30 in position relative to the sleeve 22. A connector 36 is receivable in the passage 24 of the sleeve 22. The connector 36 has a pair of opposed ends, each end defining a securing formation 38. The securing formation 38 at the first end of the connector 36 cooperates with the rest 14, 16 and the securing formation 38 at the opposed, second end of the connector 36 cooperates with the foot portion 30 to secure the rest 14, 16 in position on the base 12.

Figs. 6 & 7

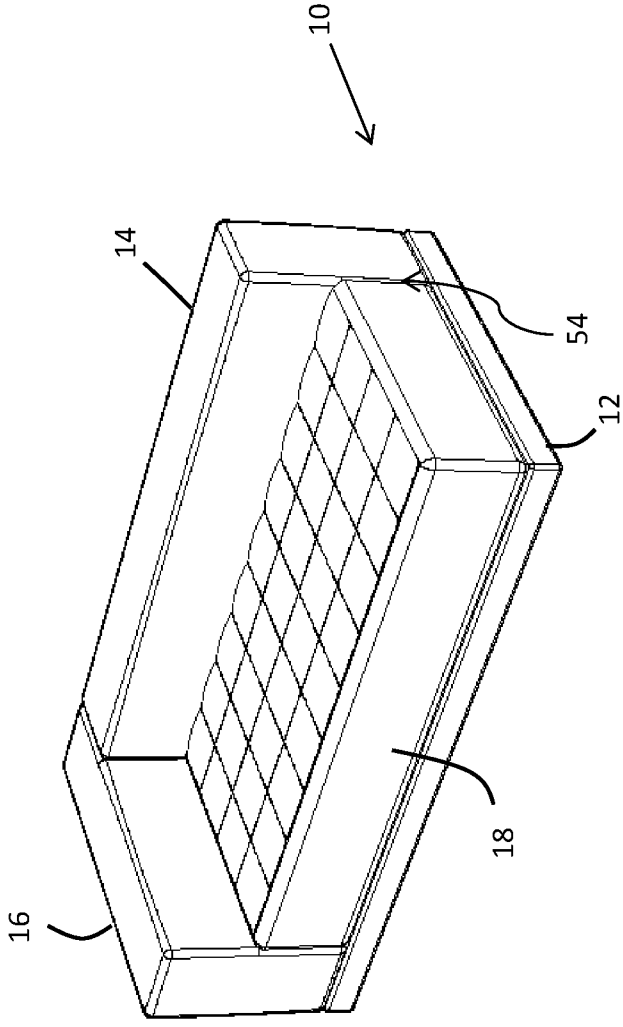


Fig. 1

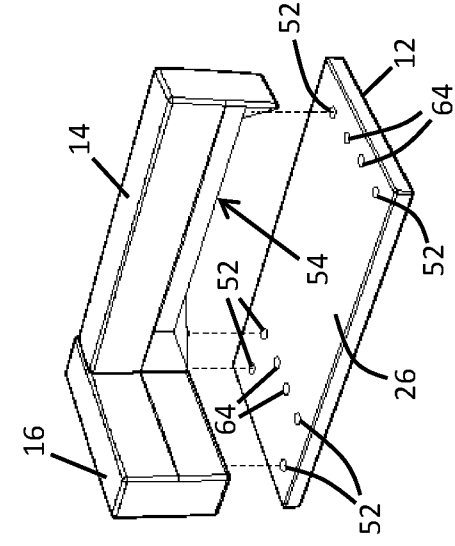


Fig. 2

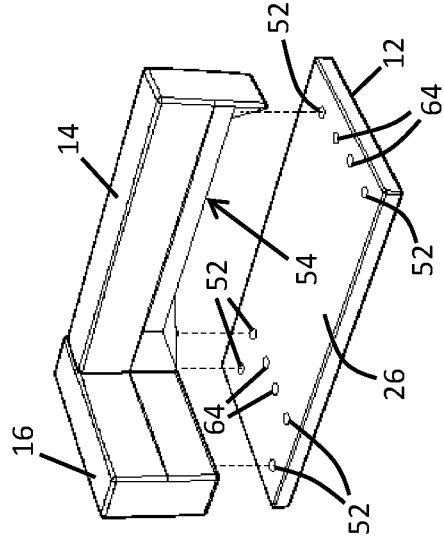


Fig. 3

"An article of furniture"

Cross-Reference to Related Applications

[0001] The present application claims priority from Australian Provisional Patent Application No 2014902986 filed on 1 August 2014, the contents of which are incorporated herein by reference.

Technical Field

[0002] This disclosure relates, generally, to an article of furniture and, more particularly, to a demountable article of furniture.

Background

[0003] These days, dwellings are becoming increasingly more compact. This presents a problem when furnishing a room in a dwelling. In particular, smaller rooms do not lend themselves to furnishings having extensible members. Most such furniture requires space behind the furniture so that a backrest of the furniture can recline. This necessitates the furniture being spaced from a wall behind it to facilitate reclining of the backrest. As indicated, this presents a problem in a room where space is at a premium.

[0004] In addition, such furniture is normally fixed to a base or platform and this can cause a problem should an occupant wish to redecorate the room or to rearrange the furniture.

Summary

[0005] Throughout this specification the word "comprise", or variations such as "comprises" or "comprising", will be understood to imply the inclusion of a stated element, integer or step, or group of elements, integers or steps, but not the exclusion of any other element, integer or step, or group of elements, integers or steps.

[0006] In a first aspect, there is provided a mounting mechanism for attaching a rest to a base of an article of furniture; the mounting mechanism including

a sleeve mountable to the base of the article of furniture, the sleeve defining a passage open at both ends;

a foot portion comprising a bearing member and a skirt portion extending from the bearing member, the skirt portion being configured to cooperate with the sleeve to retain the foot portion in position relative to the sleeve, in use; and

a connector receivable in the passage of the sleeve, the connector having a pair of opposed ends, each end defining a securing formation, the securing formation at the first end of the connector cooperating with the rest and the securing formation at the opposed, second end of the connector cooperating with the foot portion to secure the rest in position on the base.

[0007] The rest may be an armrest or a backrest of the article of furniture. Further, the armrest and the backrest may be combined as a single element. For ease of explanation, the term “rest” is to be understood, unless the context clearly indicates otherwise, as any one of the above rests.

[0008] The bearing member of the foot portion may include a receiver for receiving and cooperating with the securing formation at the second end of the connector. The receiver may comprise a socket defining member in which the securing formation at the second end of the connector is receivable.

[0009] The connector may comprise a pin and each securing formation may be in the form of a threaded formation. Thus, the socket defining member of the foot portion may be a threaded socket defining formation to receive the associated threaded end of the pin screw threadedly.

[0010] The skirt portion of the foot portion may be dimensioned to be a press fit relative to the sleeve. In an embodiment, an internal diameter of the skirt portion may be such that the sleeve is a press fit within the skirt portion. In another embodiment, an outer diameter of the skirt portion may be dimensioned to be a press fit within the passage of the sleeve.

[0011] In some applications, the rest of the article of furniture may be secured to the base independently of the foot portion. In that case, the foot portion may serve purely to maintain a bottom of the base in spaced relationship relative to a substrate or surface on which the article of furniture is positioned. In such an application, the connector may be omitted or used purely as a stabiliser and the foot portion may engage the sleeve via the skirt portion of the foot portion.

[0012] The rest may include a receiving element defining a receiving formation for receiving its associated end of the connector. In the case where the end of the connector is threaded, the receiving element may be in the form of a nut carried by the rest.

[0013] The disclosure extends also to an article of furniture including at least one mounting mechanism as described above.

[0014] Also disclosed herein is an article of furniture which includes
a base;

at least one rest arranged in a non-reclining position on the base, the at least one rest defining an opening arranged operatively above the base;

at least one seat cushion assembly slidably arranged on the base and being slidable between a first, retracted position in which at least a part of the assembly is received within the opening of the at least one rest to be a snug fit in the opening to substantially conceal the opening and a second, extended position in which the at least one assembly is extended from the at least one rest to provide an increased surface area to accommodate an occupant; and

an electromechanical displacement mechanism contained within the at least one seat cushion assembly for effecting displacement of the at least one assembly between its first and second positions and any position in between.

[0015] The base may define a platform defining a perimeter on which the at least one rest and the at least one seat cushion assembly are arranged, the base defining a perimeter with at least a bottom of the at least one rest and the seat cushion assembly being contained within the perimeter of the platform when the at least one seat cushion assembly is in its first position. With this configuration and due to the non-reclining arrangement of the at least one rest on the base, the footprint of the article of furniture is relatively compact rendering the article of furniture suitable for use in smaller spaces.

[0016] As described above, the opening defined by the at least one rest may be dimensioned so that the at least one seat cushion assembly is a snug fit in the opening at least when the assembly is in its first position. This minimises gaps between the at least one rest and the at least one seat cushion assembly irrespective of whether the at least one seat cushion assembly is in its extended orientation or retracted orientation relative to the at least one rest.

[0017] The article of furniture may comprise a frame arrangement having a first frame fixedly mountable to the base and a second frame displaceable relative to the first frame, the electromechanical displacement mechanism being interposed between the first frame and the second frame for effecting displacement of the second frame relative to the first frame.

[0018] The second frame may be carried on friction reducing elements for facilitating sliding displacement of the second frame relative to the base. The friction reducing elements may be in the form of wheels or castors.

[0019] The electromechanical displacement mechanism may comprise a stepper motor configured to effect linear displacement.

Brief Description of Drawings

[0020] An embodiment of the disclosure is now described by way of example only with reference to the accompanying diagrammatic drawings in which: –

[0021] Fig. 1 shows a perspective view of an embodiment of an article of furniture;

[0022] Fig. 2 shows a perspective, exploded view of a first orientation of an armrest and backrest relative to a base of the article of furniture;

[0023] Fig. 3 shows a perspective, exploded view of a second orientation of an armrest and backrest relative to the base of the article of furniture;

[0024] Fig. 4 shows a schematic, plan view of a part of the article of furniture with a seat cushion assembly in a first, retracted configuration;

[0025] Fig. 5 shows a schematic, plan view of the part of the article of furniture with the seat cushion assembly in a second, extended configuration;

[0026] Fig. 6 shows a schematic, sectional, exploded side view of an embodiment of a mounting mechanism for attaching a rest to a base of an article of furniture;

[0027] Fig. 7 shows a schematic, sectional side view of the mounting of the rest on the base using the mounting mechanism; and

[0028] Fig. 8 shows a schematic, sectional side view of another application of the mounting mechanism.

Detailed Description of Exemplary Embodiments

[0029] In the drawings, reference numeral 10 generally designates an embodiment of an article of furniture. In the illustrated embodiment, the article of furniture 10 is a sofa and will be described with reference to that application in the specification. It will, however, be appreciated that the article of furniture 10 could adopt other forms such as, for example, a chair, a chaise, or the like.

[0030] The sofa 10 includes a base 12. A backrest 14 and a separate armrest 16 are removably mounted on the base 12. In other embodiments (not shown), the backrest 14 and the armrest 16 may be integrally formed as a one-piece unit. The sofa 10 further includes a seat cushion assembly 18 displaceably mounted on the base 12 to be displaceable between a retracted position, as shown in Fig. 1 and, schematically, in Fig. 4 of the drawings and an extended position as shown schematically in Fig. 5 of the drawings. It is noted that the seat cushion assembly 18 is omitted from Figs. 2 and 3 of the drawings for the sake of clarity.

[0031] The sofa 10 includes a mounting mechanism 20 (Fig. 6) for mounting each of the backrest 14 and the armrest 16 on the base 12. The mounting mechanism 20 includes a sleeve 22 defining an open-ended passageway 24. The sleeve 22 is mounted in the base 12 to open out into each of a top surface 26 (Fig. 7) and a bottom surface 28 of the base 12.

[0032] The mounting mechanism 20 further includes a foot portion 30 having a bulbous formation 32 and a skirt portion 34 extending operatively upwardly from the bulbous formation 32. In the illustrated embodiment, an inner diameter of the skirt portion 34 is dimensioned to accommodate an outer diameter of the sleeve 22 snugly within the skirt portion 34 in a press fit manner. In another embodiment (not shown), the skirt portion 34 may be dimensioned to be a press fit within the passageway 24 of the sleeve 22.

[0033] The mounting mechanism 20 also includes a connector in the form of a pin 36 received through the passageway 24 of the sleeve 22. The pin 36 has threaded ends 38 which, in use, protrude through associated ends of the sleeve 22 as illustrated in Fig. 7 of the drawings. Each threaded end 38 therefore defines a securing formation for securing that end 38 of the pin 36 either to its associated rest 14, 16 or the foot portion 30, as the case may be.

[0034] Thus, the foot portion 30 includes a socket defining member 40 having an internally screw-threaded surface 42 which screw-threadedly receives its associated end 38 of the pin 36.

[0035] Similarly, the rest 14, 16 carries a receiving element 44 (Fig. 6) on an operatively lower surface 48 (Fig. 7). The receiving element 44 is in the form of an internally screw threaded nut which is held captive in the surface 48 of the rest 14, 16 and screw threadedly receives its associated end 38 of the pin 36.

[0036] It is to be noted that the surface 48 of the rest 14, 16 carries operatively downwardly projecting pins 50 which bear on the upper surface 26 of the base 12 to hold the rest 14, 16 in spaced relationship relative to the upper surface 26 of the base 12.

[0037] In use, to position the rest 14, 16 on the base 12, at least one pair of pins 36, arranged in spaced apart relationship, is secured to the surface 48 of the rest 14, 16 to project from the surface 48. Each pin 36 is secured to the rest 14, 16 by being screwed into its associated nut 44. Each pin 36 is then inserted into its associated sleeve 22 so that the free end 38 of the pin 36 protrudes beyond the surface 28 of the base 12. The foot portion 30 is screwed on to that end 38 of the pin 36 projecting beyond the surface 28 of the base 12 to secure the rest 14, 16 to the base 12.

[0038] In some applications, the backrest 14 or the armrest 16 of the sofa 10 may be secured independently of the foot portion 30 to the base 12. Then, the foot portion 30 serves only to maintain the bottom surface 28 of the base 12 in spaced relationship relative to a substrate or surface on which the sofa 10 is positioned. In such an application, the pin 36 is omitted and the foot portion 30 engages the sleeve 22 via the skirt portion 34 of the foot portion 30. This is shown in Fig. 8 of the drawings. The pin 36 can, in this latter application still be included to assist in locating the backrest 14 or armrest 16 relative to the base 12. Thus, a mounting arrangement 20 of improved versatility is provided.

[0039] The backrest 14 of the sofa 10, when mounted to the base 12, defines an opening 54 (Fig. 3). As described above, the seat cushion assembly 18 is displaceably mounted on the base 12 to be displaceable between a retracted position and an extended position. When the assembly 18 is in its retracted position, a part of the seat cushion assembly 18 is withdrawn into the opening 54. In its retracted position, a lesser upper surface area of the seat cushion assembly 18 is available to an occupant. Conversely, when the assembly 18 is in its extended position,

effectively the entire upper surface area of the seat cushion assembly 18 is available to the occupant of the sofa 10, thus providing a greater area.

[0040] The opening 54 is dimensioned so that the seat cushion assembly 18, when retracted, is a snug fit in the opening 54. Also, when the seat cushion assembly 18 is in its fully extended position, there are minimal gaps between the backrest 14 and the seat cushion assembly 18. This improves the aesthetics of the sofa 10 and also reduces the likelihood of articles getting lost in the opening 54.

[0041] It will be appreciated that, in the case of a chaise, the rest 16 is, in effect, the “backrest” and would have the opening 54 instead of the rest 14.

[0042] It is to be noted that, when the assembly 18 is in its retracted position, it completely overlies a platform defined by the upper surface 26 of the base 12 and is bounded by a periphery of the base 12. Hence, the footprint of the sofa 10 is defined by the dimensions of the periphery of the base 12. When the seat cushion assembly 18 is extended relative to the base 12, the backrest 14 remains fixed, i.e. it does not recline, and remains within the footprint of the base 12. As a result, less space is required for the sofa 10 in comparison with other sofas where a backrest reclines when its seat cushion is extended.

[0043] Referring now to Figs. 4 and 5 of the drawings, the assembly 18 is shown in greater detail. The assembly 18 comprises a frame arrangement 56 having a first, inner frame 58 and a second, outer frame 60. The inner frame 58 is fixed to the base 12 by pins 62 which are received in openings 64 (Figs. 2 and 3) in the surface 26 of the base 12.

[0044] The inner frame 58 has a pair of laterally spaced tubes 66 through which frame members 68 of the outer frame 60 can slide. Further, the inner frame 58 includes a cross-member 70 interconnecting the tubes 66. An electromechanical displacement mechanism in the form of a stepper motor 72 is interposed between the cross-member 70 and an operatively rear frame member 74 of the second frame 60. The motor 72 is, therefore, contained within the seat cushion assembly 18. This improves the compact nature of the sofa 10.

[0045] The outer frame 60 is carried on friction reducing elements in the form of castors or wheels 76 which bear on the surface 26 of the base 12. The wheels 76 assist in displacing the seat cushion assembly 18 relative to the base 12.

[0046] In use, the motor 72 is operated by a concealed switch (not shown) to effect displacement of the seat cushion assembly 18 relative to the base 12. Typically the switch is located on that side of the seat cushion assembly 18 facing the armrest 16 to be concealed by the armrest 16 at least when the seat cushion assembly is in its retracted position. Because the seat cushion assembly 18, when in its retracted position, is partially contained within the backrest 14 and the backrest 14 does not recline, the overall size of the sofa 10 is reduced in comparison with other articles of furniture of which the Applicant is aware. This renders the sofa 10 suitable for use in smaller areas since a user does not need to take into account any movement of the backrest 14 when the seat cushion assembly 18 is extended relative to the base 12.

[0047] It will be appreciated by persons skilled in the art that numerous variations and/or modifications may be made to the above-described embodiments, without departing from the broad general scope of the present disclosure. The present embodiments are, therefore, to be considered in all respects as illustrative and not restrictive.

THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:

1. A mounting mechanism for attaching a rest to a base of an article of furniture; the mounting mechanism including
 - a sleeve mountable to the base of the article of furniture, the sleeve defining a passage open at both ends;
 - a foot portion comprising a bearing member and a skirt portion extending from the bearing member, the skirt portion being configured to cooperate with the sleeve to retain the foot portion in position relative to the sleeve, in use; and
 - a connector receivable in the passage of the sleeve, the connector having a pair of opposed ends, each end defining a securing formation, the securing formation at the first end of the connector cooperating with the rest and the securing formation at the opposed, second end of the connector cooperating with the foot portion to secure the rest in position on the base.
2. The mechanism of claim 1 in which the bearing member of the foot portion includes a receiver for receiving and cooperating with the securing formation at the second end of the connector.
3. The mechanism of claim 2 in which the receiver comprises a socket defining member in which the securing formation at the second end of the connector is receivable.
4. The mechanism of any one of the preceding claims in which the connector comprises a pin and in which each securing formation is in the form of a threaded formation.
5. The mechanism of any one of the preceding claims in which the skirt portion of the foot portion is dimensioned to be a press fit relative to the sleeve.
6. The mechanism of any one of the preceding claims in which the rest includes a receiving element defining a receiving formation for receiving its associated end of the connector.
7. An article of furniture including at least one mounting mechanism as claimed in any one of the preceding claims.

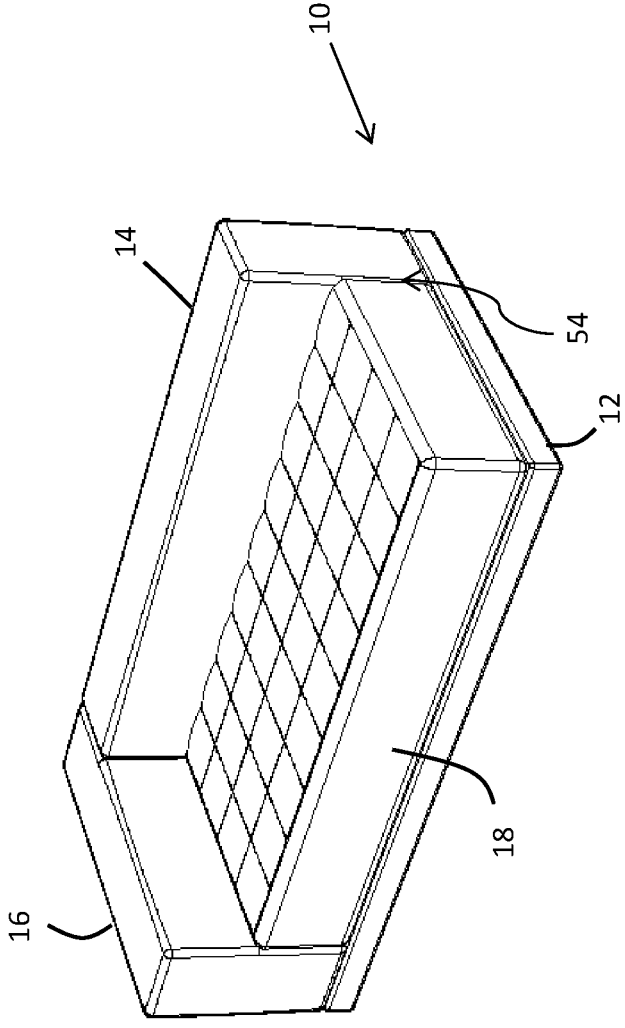


Fig. 1

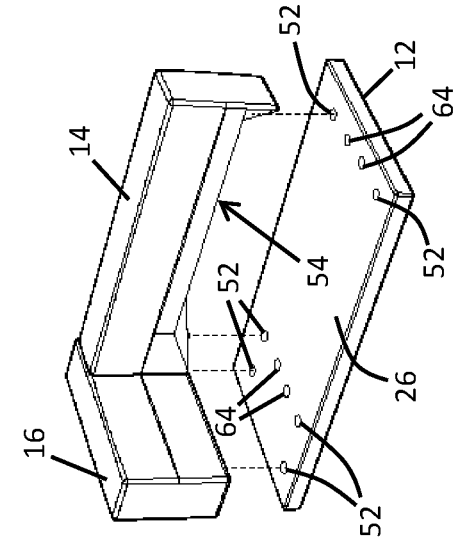


Fig. 2

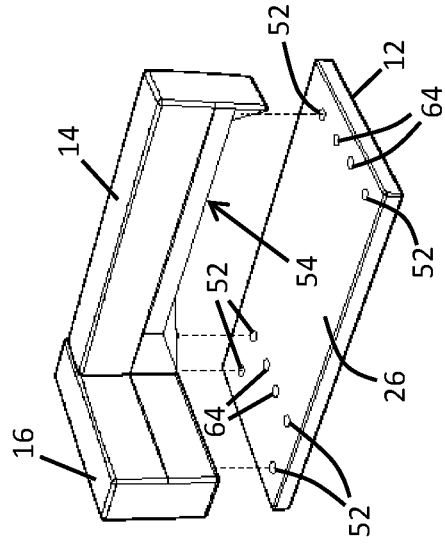


Fig. 3

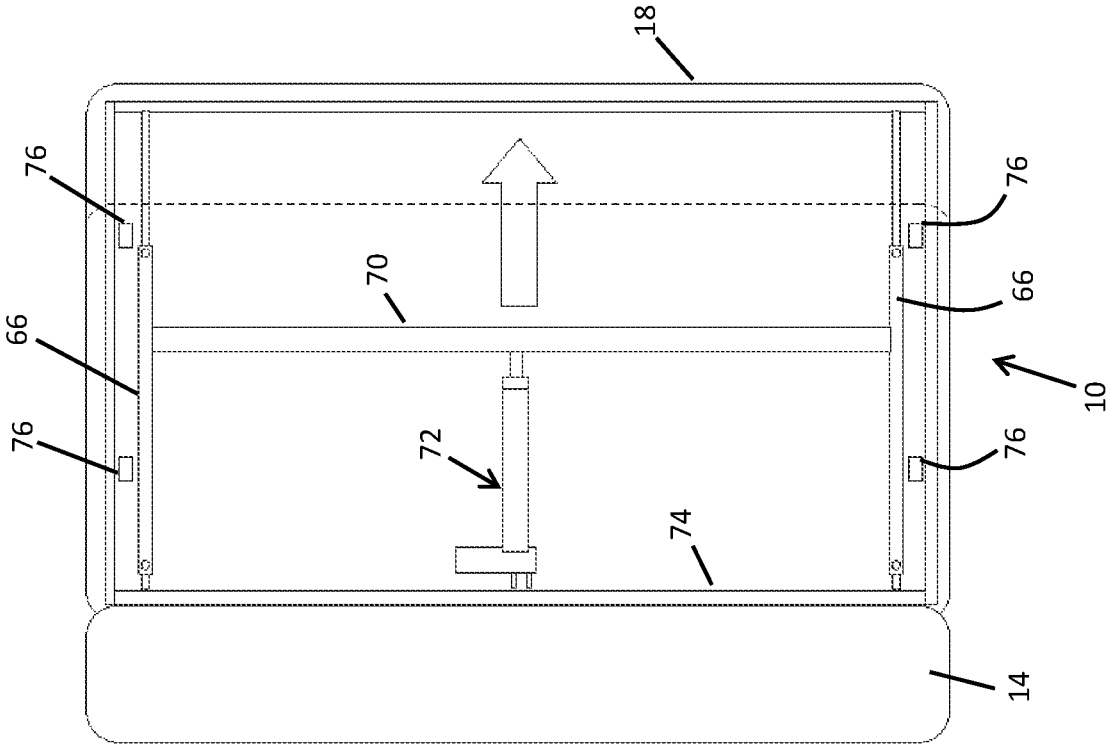


Fig. 5

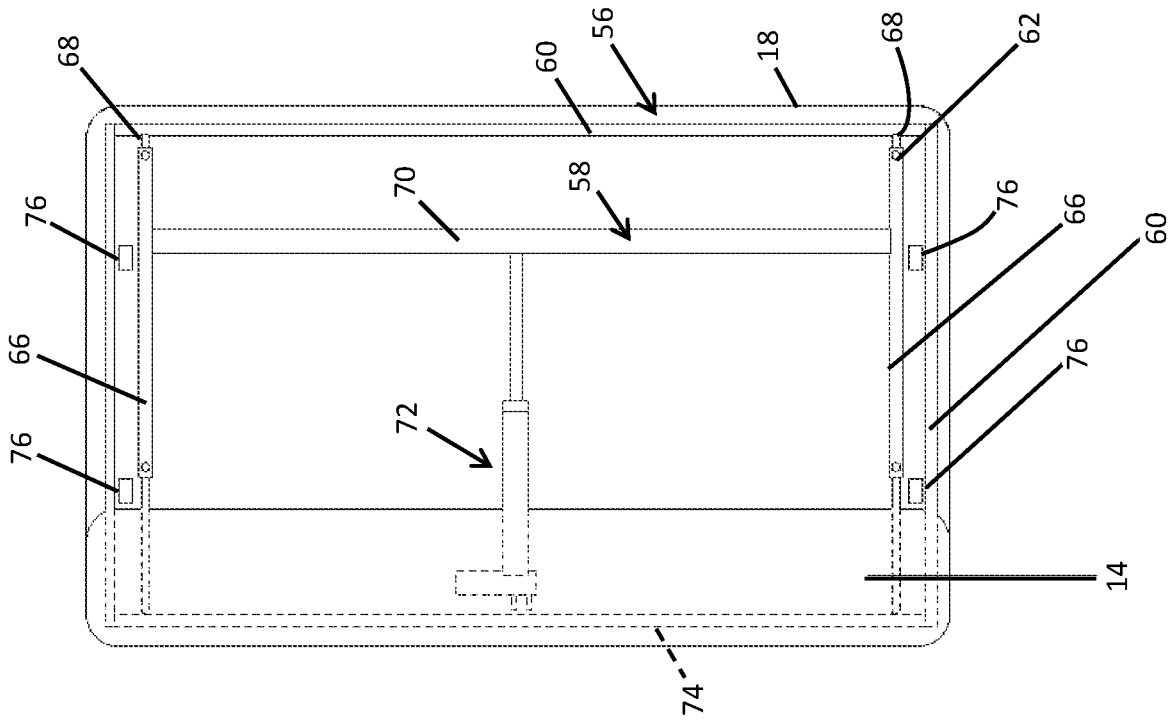


Fig. 4

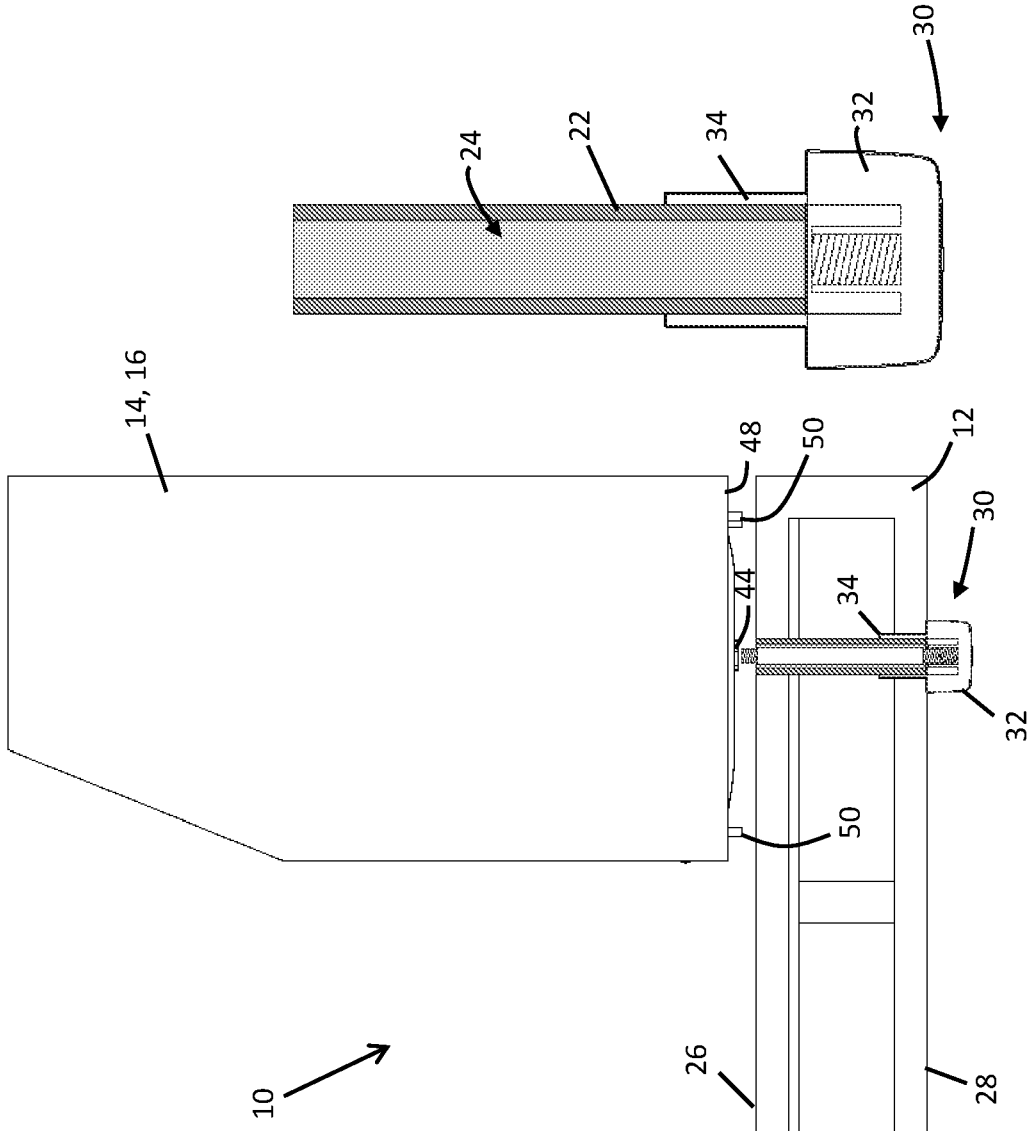


Fig. 6

Fig. 7

Fig. 8