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(72) Inventor: **Khoo, Kok Seang c/o 2057, Jalan IDS
Bukit Minyak
14000 Bukit Mertajam, Palau Pinang (MY)**

(74) Representative: **Wilson Gunn
Chancery House
Chancery Lane
GB-London WC2A 1QU (GB)**

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(71) Applicant: **Brilliant Achievement Sdn. Bhd.
14000 Bukit Mertajam, Pulau Pinang (MY)**

(54) **Knock down box file**

(57) The present invention relates generally to a storage box (2) for keeping correspondences, documents, business records and the like wherein same can be dis-

assembled into its knock down form allowing individual components of the box file (2) to be shipped and transported separately thereby overcoming space constraints and cost.

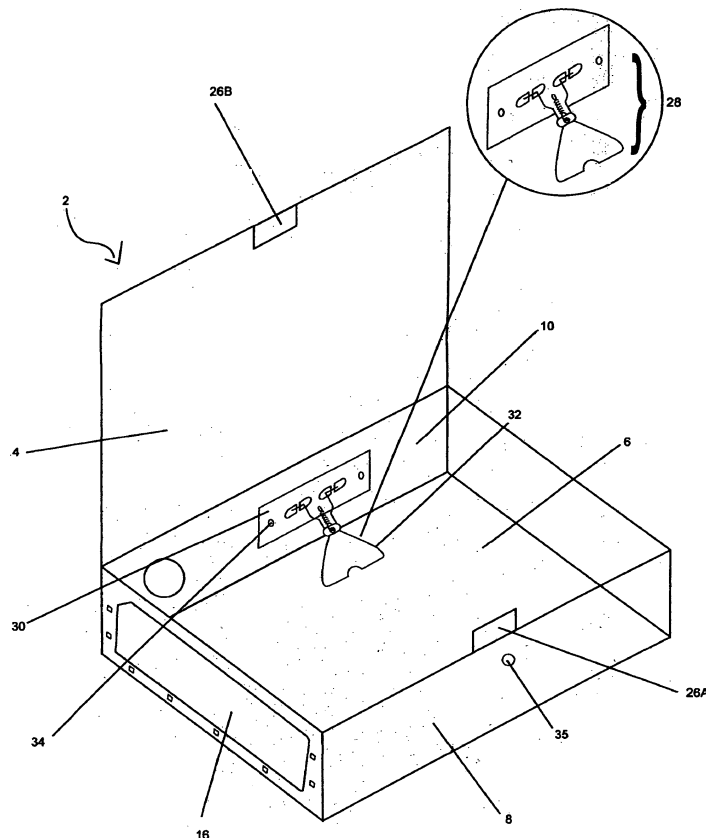


FIG.1

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Description

1. TECHNICAL FIELD OF THE INVENTION

[0001] The present invention relates generally to a storage box for keeping correspondences, documents, business records and the like wherein same can be disassembled into its knock down form allowing individual components of the box file to be shipped and transported separately thereby overcoming space constraints and cost.

2. BACKGROUND OF THE INVENTION

[0002] A box file enables all correspondences, documents, business records to be kept intact preventing any likelihood of becoming missing when the file is in a closed position. The box file is therefore a very practical and convenient form for storing letters and documents. Conventional box files are fitted with clips such as German clips, loose leaf clips go through clips or the like wherein papers or documents are filed in and kept intact.

[0003] However such files in its finished form are ready-made boxes and would inevitably consume substantial storage space thus increasing transportation and freight charges thereby increasing the overall cost of the file. Further as the sides of box files are made up of cardboard, the ready-made box files are less rigid and durable and more prone to being dented or damaged by rough handling in the course of delivery and transportation.

[0004] It would hence be extremely advantageous if the above shortcomings were alleviated. It is therefore desirable that the present invention provides a knock down box file wherein individual components can be transported separately.

3. SUMMARY OF THE INVENTION

[0005] Accordingly, it is the primary aim of the present invention to provide a knock down box file wherein the individual components of the file can be packed, stored, shipped and transported separately to be assembled into a box at the port of call with ease;

[0006] It is yet another object of the present invention to provide a knock down box file wherein two of its sides are provided by rigid snap on connecting side units for durability and rigidity;

[0007] It is yet another object of the present invention to provide a knock down box file wherein the connecting side units are not easily detachable;

[0008] It is yet another object of the present invention to provide a knock down box file wherein less storage space is required;

[0009] It is yet another object of the present invention to provide a knock down box file where the components of the box file can be transported and shipped individually;

[0010] It is yet another object of the present invention

to provide a knock down box file which saves storage and transportation or freight charges thereby reducing cost;

[0011] It is yet another object of the present invention to provide a knock down box file which is simple and easy to assemble;

[0012] It is yet another object of the present invention to provide a knock down box file which is capable of keeping documents in its original condition without punching holes.

[0013] According to the present invention there is provided a box file as described in the appended Claims.

[0014] At least a pair of connecting side unit (16) to join panel members of the knock down box file wherein said box file (2) comprises at least four panel members, a first and a second panel member (4) (6), a third panel member (8) having one of its longer side thereof joined with one of the side edges of said second panel member (6), and a fourth panel member (10) provided between said first and second panel members (4) (6), said fourth panel member (10) serving as the spine wherein at least a clip (28) is affixed therein by fastening means to enable filing of materials; said panel members (4) (6) (8) (10) being erected from a single flat sheet of material at predetermined folding lines (14); said connecting side unit (16) being further provided with a pair of parallel inwardly directed flanges (20) (22) forming a groove (24) destined to abut the respective shorter side edges of said third and fourth panel members (8) (10) with the shorter side edges of said second panel member (6) by manual means resulting in said third and fourth panel members (8) (10) being interposed between said first and second panel members (4) (6) thereby maintaining the third and fourth panel members (8)(10) in perpendicular relationship to the first and second panel members (4) (6) thus creating an enclosure defined by the walls of said panel members (4) (6) (8) (10) and said connecting side units (16); said inwardly directed flanges (20) (22) are in turn provided with protrusions (22A) (22B) which protrudes into the groove (24) towards each other destined to abut and lodge within the complementary indentations (13) provided on the shorter side edges of said second, third and fourth panel members (6) (8) (10); said box file (2) being further provided with a lock mechanism having complementary components (26A) (26B) located on said third and first panel members (8) (4) respectively for engagement to lock and unlock the box file (2).

4. BRIEF DESCRIPTION OF THE DRAWINGS

[0015] Other aspect of the present invention and their advantages will be discerned after studying the Detailed Description in conjunction with the accompanying drawings in which:

FIG.1 is a view of the box file according to the preferred embodiment;

FIG. 2 shows a diagram of the box file panel members of the said invention in its disassembled and extended form;

FIG. 2-A is a cross sectional view at line A-A of FIG. 2;

FIG. 3 shows the inner view of the connecting side unit;

FIG. 3-A shows the outer view of the connecting side unit;

FIG. 3-B is a cross sectional view at line B-B of FIG. 3;

FIG. 4 shows the connecting side unit being connected to the second, third and fourth panel members at their respective edges;

FIG. 4-A is a cross sectional view at line C-C of FIG. 4;

FIG. 4-B shows another view of the connecting side unit being connected to the second, third and fourth panel members at their respective edges.

5. DETAILED DESCRIPTION OF THE DRAWINGS

[0016] The invention will be more clearly understood from the following description of the embodiments thereof, given by way of example only with reference to the accompanying drawings which are not drawn to scale.

[0017] Referring to FIG.1, a view of a preferred embodiment of the invention illustrating the box file (2) having four panel members, a first panel member (4), a second panel member (6), a third panel member (8) and a fourth panel member (10), the first and second panel members (4) (6) are of uniform size and shape whilst the third and fourth panel members (8) (10) are of uniform size and shape. The first and second panel members (4) (6) form the cover and the base of the box file (2) respectively whilst the third and fourth panel members (8) (10) together with the connecting side units (16) [See FIGS. 3 and 4] form the sides of the box file (2).

[0018] The fourth panel member (10) is internally provided with a spring clip (28) to keep papers and documents to be filed in intact. The spring clip (28) comprises a clip strip (30) to which is attached a strong clip (32) and is mounted on the inner side of the fourth panel member forming the spine (10) preferably centrally mounted through the slot (34) located therein using known fastening means such as the snap with stud and socket mechanism or the like. To hold papers or documents in place in the box file the strong clip (32) is depressed onto said papers and documents. The force of the spring mechanism is sufficiently strong to afford a firm hold of the papers or documents in place. To release the firm hold the strong clip (32) is lifted away from the papers or documents and the papers or documents are free to be filed

or removed. Whilst the device to file and hold documents in order has been illustrated in some detail as being a spring clip (28), the above is not necessarily the only type which may be employed as other types of clips such as German clips, loose leaf clips, go through clips or other known fasteners may be provided.

[0019] A one-way lock mechanism to lock the box file (2) to further ensure no possibility of papers accidentally slipping out of the box file (2) and going missing is provided. Preferably a "one way lock" comprising a first component (26A) having a hooked protrusion affixed to the internal side of the third panel member (8) and a second component (26B) having an indentation to complement the hooked protrusion affixed to the internal side of the first panel member (4) to complement the hooked protrusion (26A) is provided. The first and second components (26A) (26B) are fastened by known fastening means such as a snap fastener. The lock operates when the first component (26A) and the second component (26B) are brought together to engage. To open the box file (2) the user only needs to apply force at the spot (35) on the external side of the fourth panel member (8) where the first component (26A) is internally affixed. The application of pressure therein has the effect of inwardly distorting the third panel member (8) thereby disengaging the hooked protrusion of the first component (26A) from the complementary indentation of the second component (26B).

[0020] It is preferable that storage space for the box files (2) are kept minimum and transportation and freight charges be kept low besides ensuring no untoward damages to the box files (2) during packing, transportation or shipment. In accomplishing this objective the knock down box file of the present invention comprising panel members erected from a single flat sheet (12) is capable of being packed and shipped as a flat sheet separate from the other parts of the box file thereby overcoming the above shortcomings.

[0021] Referring to FIG. 2 and 2-A, a diagram of the box file panel members (4) (6) (8) (10) of the said invention in its extended and disassembled form and a cross sectional view at line A-A of FIG. 2. The file panel members (4) (6) (8) (10) are basically erected from a single extended flat sheet (12) of rigid material such as thick cardboard material or plastic which is provided with predetermined folding lines (14) to enable the single flat sheet to be folded or bent at a desired point to form panel members (4) (6) (8) (10) thereby enabling a box to be erected. Folding lines (14) for example in the shape of a thinning of material such as indentations can be provided on the single flat sheet (12) at predetermined points between the first and fourth panel members (4) (10) and between the second and fourth panel members (6) (10) and between second and third panel members (6) (8). The creases on the single flat sheet (12) are created in such a manner that when folded the measurement of the first panel member (4) is equivalent to the second panel member (6) and the measurement of the third panel

member (8) is equivalent to the fourth panel member (10) so as to facilitate folding of the single sheet (12) into a rectangular box. The panel members (4) (6) (8) (10) are further provided with indentations (13) on both its surfaces. FIG. 2-A shows a cross sectional view at line A-A of FIG. 2 showing the configuration of both the surfaces of the panel members (4) (6) (8) (10) which are provided with indentations (13) at predetermined points.

[0022] Referring to FIG. 3 and 3-A, views of the inner and outer view of the connecting side unit (16) in isolation. The connecting side unit (16) is preferably made of rigid material such as plastic which is configured to have an elongated wall portion (18) and a first inwardly directed flange (20). Three of the sides thereof, are further internally provided with a second inwardly directed flange (22) in parallel arrangement to the first inwardly directed flange (20) and both the first and second inwardly directed flange (20) (22) in combination are destined to form supports for the abutment of the shorter side edges of the second, third and fourth panel members (6) (8) (10); said edges indicated by numerals (6A) (8A) (10A) respectively [See FIG. 2]. The distance between the first inwardly directed flange (20) and the second inwardly directed flange (22) forms a groove (24) [See FIG. 3 and 4-A] of sufficient measurement for the shorter edges of the second, third and fourth panel members indicated by numerals (6A) (8A) (10A) [See FIG. 2 and 4] to be fitted snugly by manual means.

[0023] Referring to FIG. 3-B, a cross sectional view at line B-B of FIG. 3 showing the enlarged view of the first and second inwardly directed flange (20) (22) of the connecting side units (16) being provided with tooth-like protrusions (22A) (22B) which protrudes into the groove (24) towards each other. The tooth-like protrusions (22A) allow a more secured attachment as described in the foregoing paragraphs.

[0024] FIG. 4, 4-A and 4-B illustrates the connecting side unit (16) being joined to the shorter edges of the second, third and fourth panel members (6) (8) (10). The single flat sheet (12) shown in FIG. 2 is folded along the folding lines (14) at an angle of 90 degree relative to other panel members so that the panel members (4) (6) (8) (10) are eventually in perpendicular relationship to each other thereby forming a box and such perpendicular arrangement is maintained and secured by attaching the flanges (20) (22) of the connecting side units (16) to the relevant edges of the panel members indicated by the numerals (6A) (8A) (10A) respectively [See FIG. 2 and 4] using snap-on means. The tooth-like protrusions (22A) (22B) are snapped onto the shorter edges of the panel members of the second, third and fourth panel members (6) (8) (10) indicated by numerals (6A) (8A) (10A) provided with complementary indentations (13) on both surfaces [See FIG. 2-A]. These indentations (13) allow the tooth-like protrusions (22A) (22B) to sink in and be lodged within the said indentations (13). Being depressed and of a level lower than the surfaces of adjacent parts of the panel members the said indentation (13) will trap the

tooth-like protrusion (22A) (22B) when snapped on thereby preventing the tooth-like protrusion (22A) (22B) from being easily disengaged [See in particular FIG. 4-A]. This serves to provide additional locking to the assembly for a more secured attachment between the said connecting units (16) to the shorter edges of the panel members concerned.

[0025] The point the tooth-like protrusion (22A) (22B) is provided on the flanges (20) (22) of the connecting side unit (16) is predetermined and precisely positioned to coincide with its complementary indentation (13) located on the shorter edges of the panel members of the second, third and fourth panel members (6) (8) (10). No tools are required for this simple assembly so that any lay person can assemble the box file with ease. Although the said connection has been described as above, other kinds of connections such as using known fasteners such as bolt and nut, rivets, screws and the like are not excluded.

[0026] Only the shorter edges of the second, third and fourth panel members (6) (8) (10) are connected by the connecting side unit (16) leaving the first panel member (4) free. The first panel member (4) which is not secured by the connecting side unit (16) becomes a flap or cover which can open and close the box file (2) and is preferably provided with a specifically designed one-way lock for enhanced security. The lock (26) must be sufficiently strong to withhold the load (that is the materials to be filed in) in the box file (2) particularly when the box file (2) is left standing on its side affixed with the connecting side unit (16); otherwise the flap will swing open and may allow instances of materials such as paper to slip out.

[0027] It will be appreciated that whilst the said connecting side units (16) have been described and illustrated in some detail as being made of plastic the said material is not necessarily the only material which may be used, for instance the connecting side units (16) may be made of metal, however, what is advantageous in accordance with the present invention is the fact that the box file (2) can be knocked down.

[0028] It will be appreciated that whilst the lock has been described in some detail as a one way lock mechanism the said type of lock is not necessarily the only type which may be used, as any kind of locks may be used for instance magnetic locks as what is advantageous in accordance with the present invention is the fact that the box file (2) would remain locked when left standing vertically on one of its side or whilst in the act of being removed from its stored location on the racks or shelves.

[0029] Whilst the said spring clip (28) has been illustrated in some detail as being affixed to the fourth panel member (10) the above is not necessarily the only manner in which the spring clip may be affixed, for example the spring clip (28) may also be affixed to the third panel member (8) or the connecting side units (16) however, what is advantageous in accordance with the present invention is the fact that the box file of the present inven-

tion can be knocked down.

[0030] While the preferred embodiment of the present invention and their advantages have been disclosed in the above Detailed Description, the invention is not limited thereto but only by the spirit and scope of the appended claim.

Claims

1. A box file comprising a first and a second panel member (4) (6), a third panel member (8) having one of its longer side edges attached to one of the side edges of said second panel member (6), and a fourth panel member (10) provided between said first and second panel members (4) (6), said panel members (4) (6) (8) (10) being formed from a single flat sheet of material at predetermined folding lines (14); and further comprising two connecting side units (16) attachable to at least said third and fourth panel members (8) (10) thereby maintaining said third and fourth panel members in a substantially perpendicular relationship to said second panel member (6). 5 10 15 20
2. The box file of Claim 1 wherein the side units are attachable to the second panel member 25
3. The box file of Claim 1 or 2 wherein the side units are attachable to and releasable from at least the third and fourth panel members. 30
4. The box file of Claim 1 or 2 wherein the side units are attachable to and releasable from the second, third and fourth panel members. 35
5. The box file of any preceding Claim wherein the fourth panel member is provided with a clip (32). 40
6. The box file of any preceding Claim wherein the first panel is releasably lockable to the third panel. 45
7. The box file according to Claim 1 wherein at least a clip (28) is affixed to said fourth panel member by fastening means to enable filing of materials; said connecting side unit (16) being further provided with a pair of parallel inwardly directed flanges (20) (22) forming a groove (24) destined to abut the respective shorter side edges of said third and fourth panel members (8) (10) with the shorter side edges of said second panel member (6) by manual means resulting in said third and fourth panel members (8) (10) being interposed between said first and second panel members (4) (6) thereby maintaining the third and fourth panel members (8)(10) in perpendicular relationship to the first and second panel members (4) (6) thus creating an enclosure defined by the walls of said panel members (4) (6) (8) (10) and said connecting side units (16); said inwardly directed flanges 50 55

(20) (22) are in turn provided with protrusions (22A) (22B) which protrudes into the groove (24) towards each other destined to abut and lodge within the complementary indentations (13) provided on the shorter side edges of said second, third and fourth panel members (6) (8) (10); said box file (2) being further provided with a lock mechanism having complementary components (26A) (26B) located on said third and first panel members (8) (4) respectively for engagement to lock and unlock the box file (2).

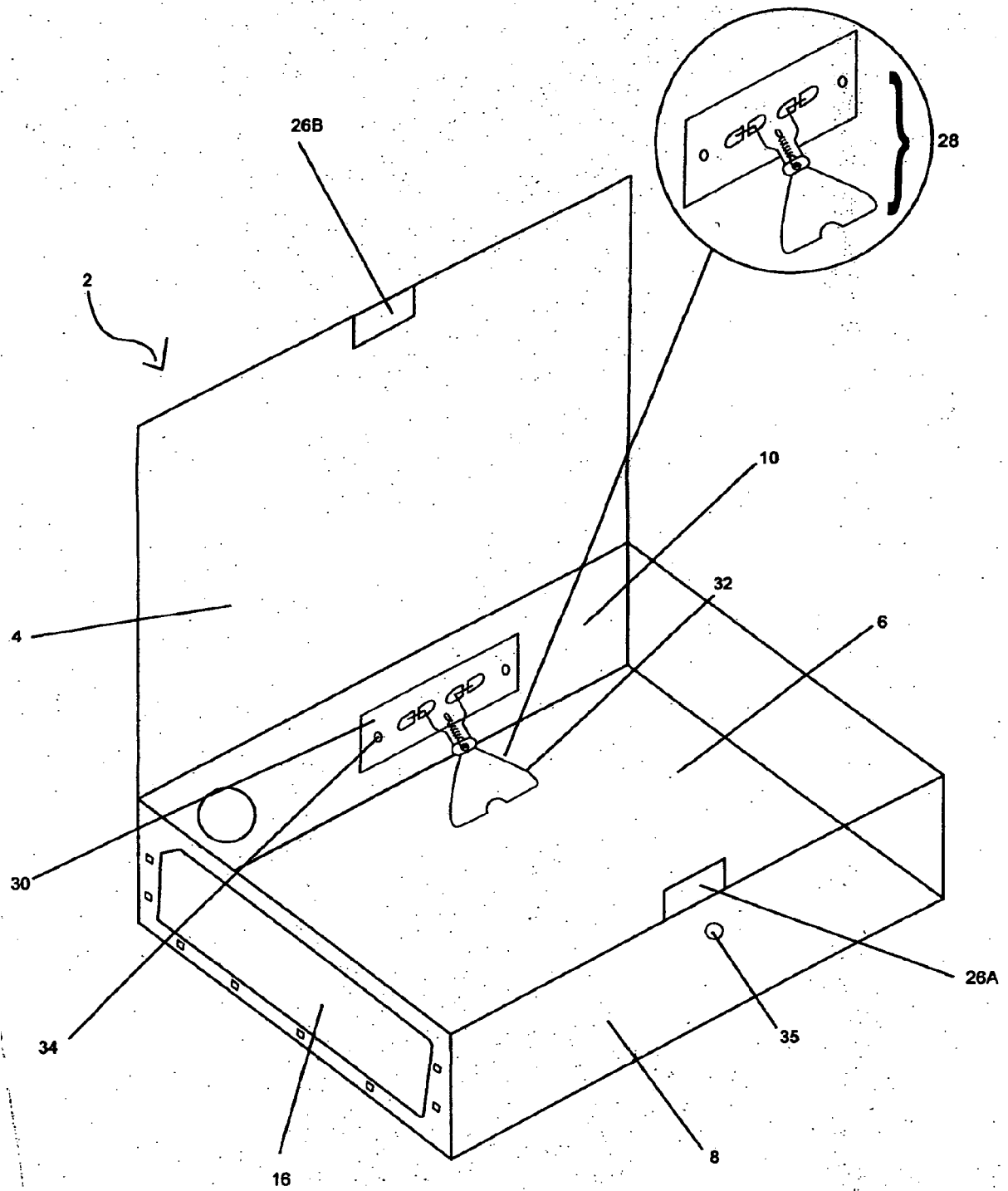


FIG.1

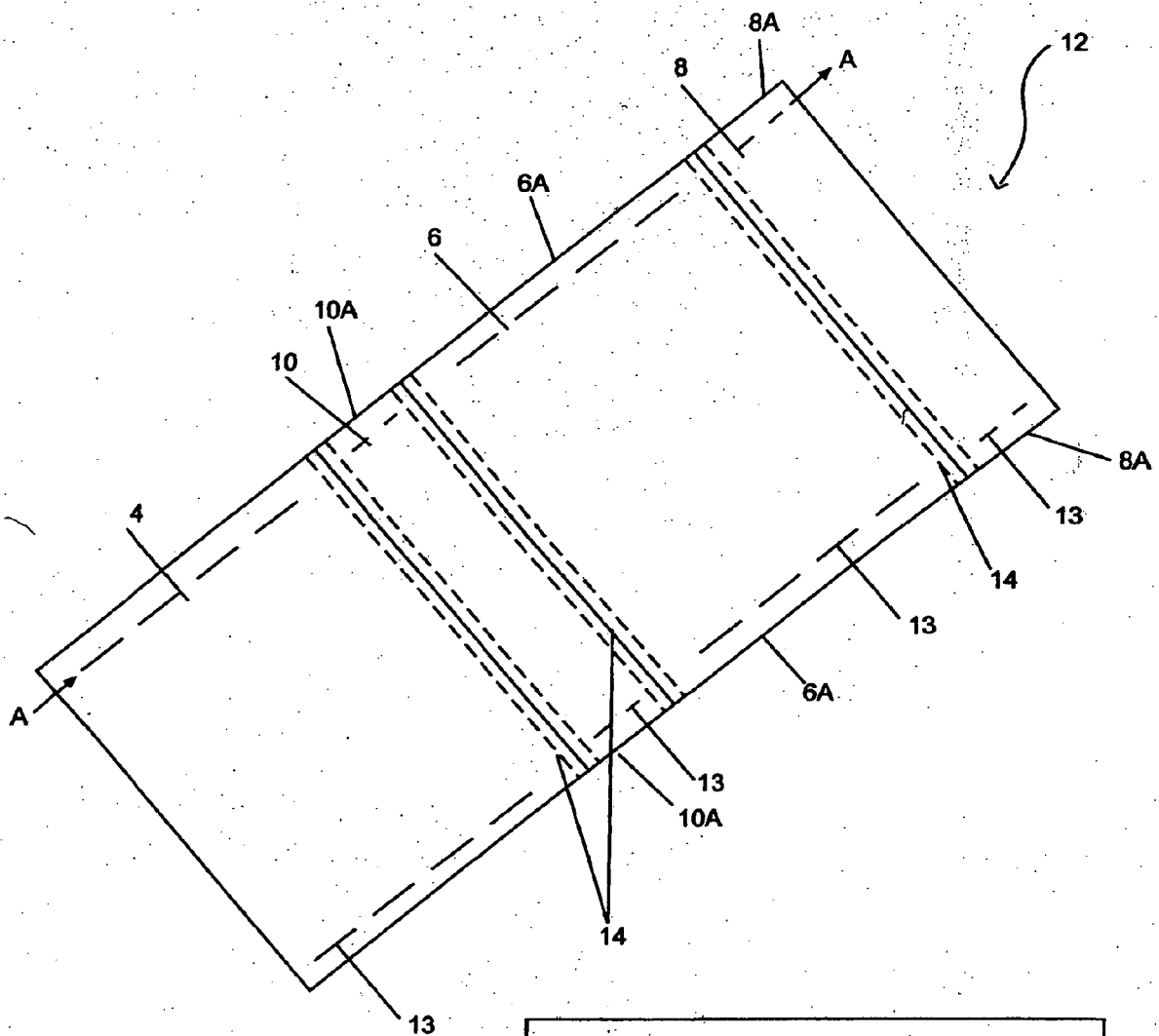


FIG. 2

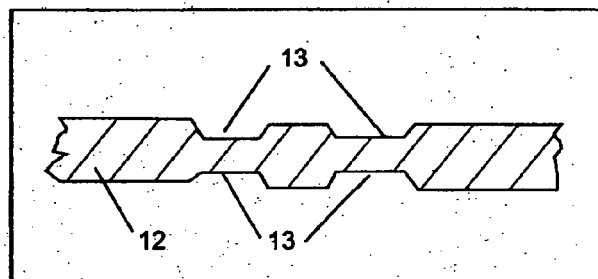


FIG. 2-A
Section A - A

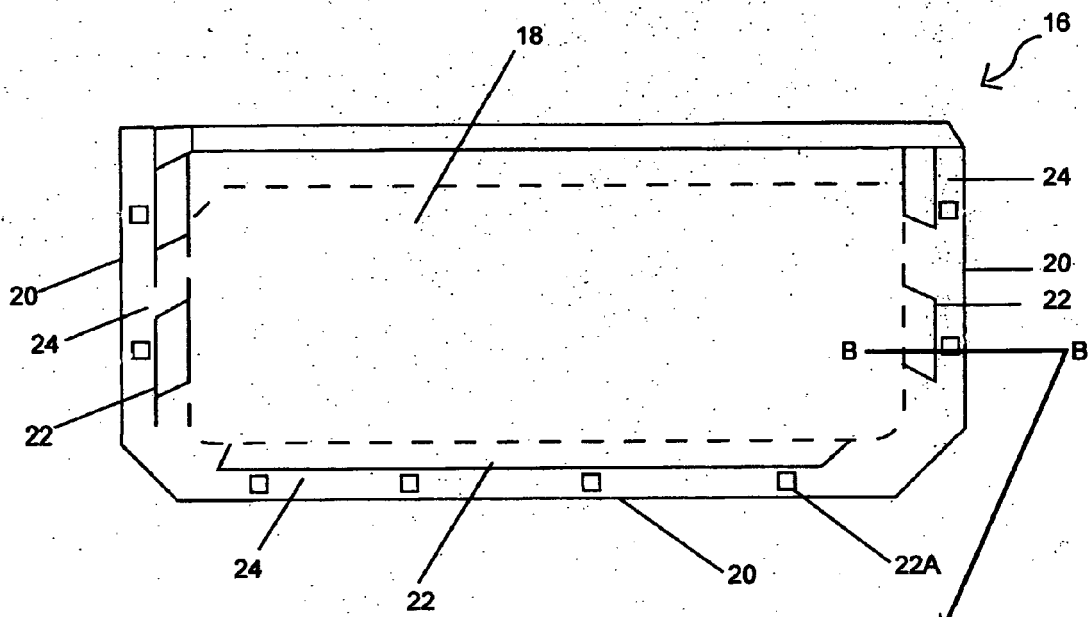


FIG. 3

FIG. 3 B
Section B-B

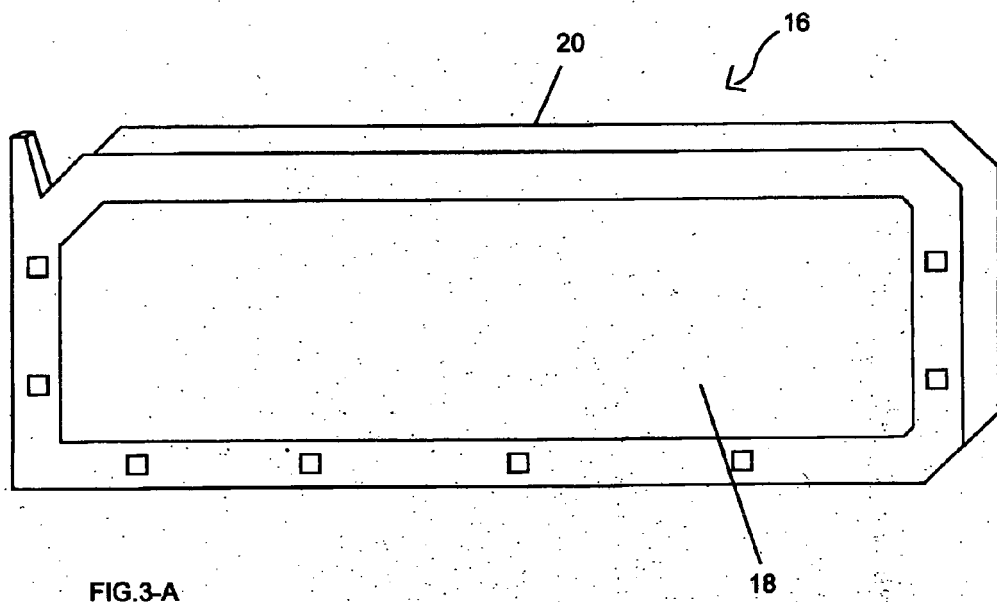
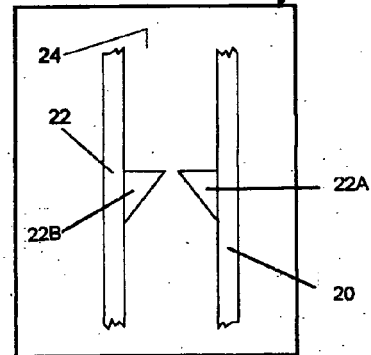


FIG. 3-A

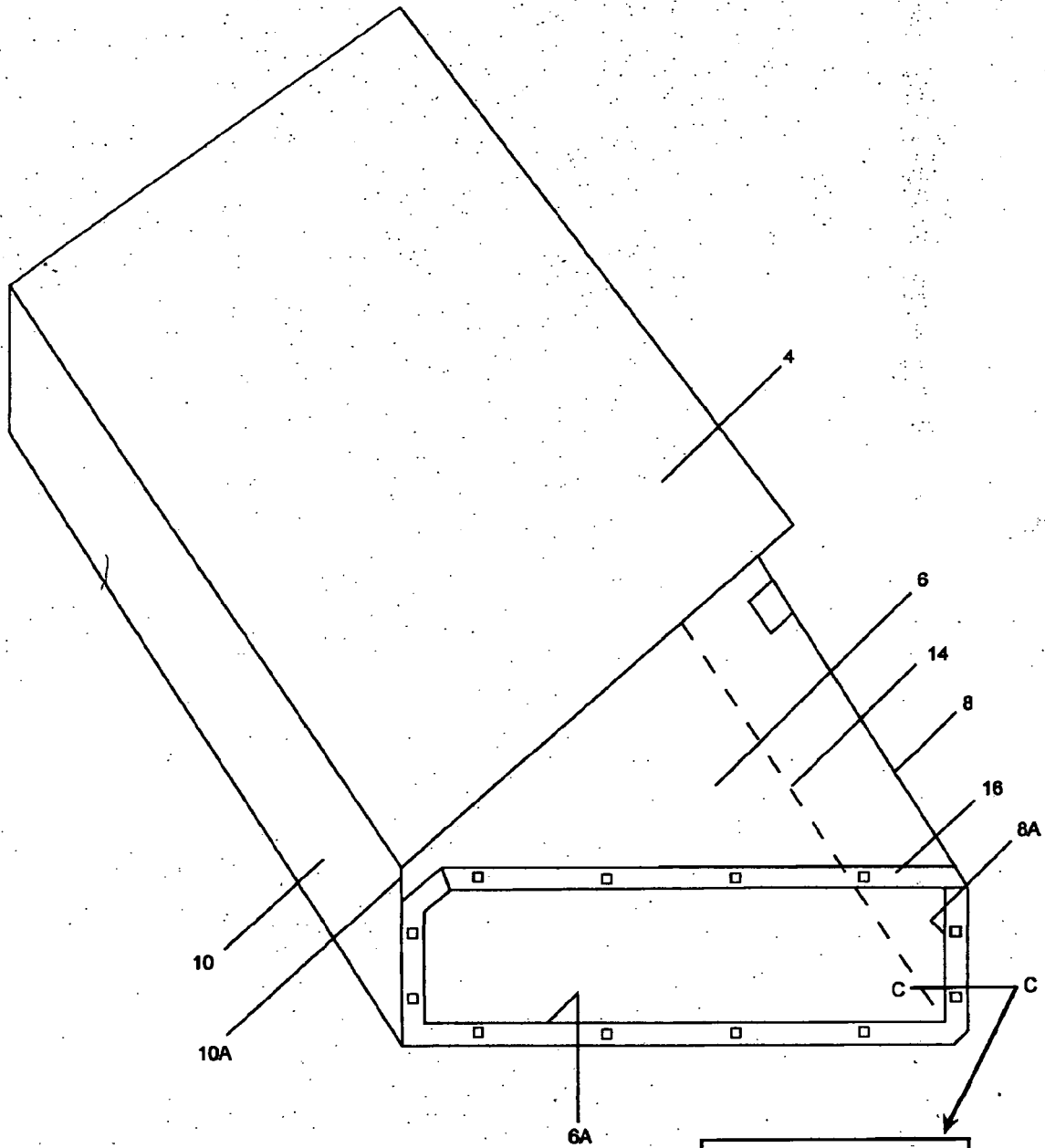


FIG. 4

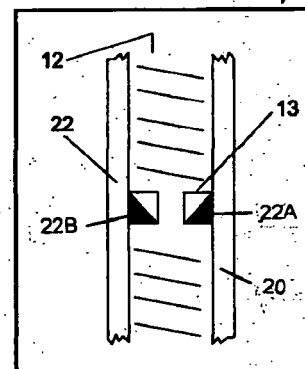


FIG. 4-A
Section C-C

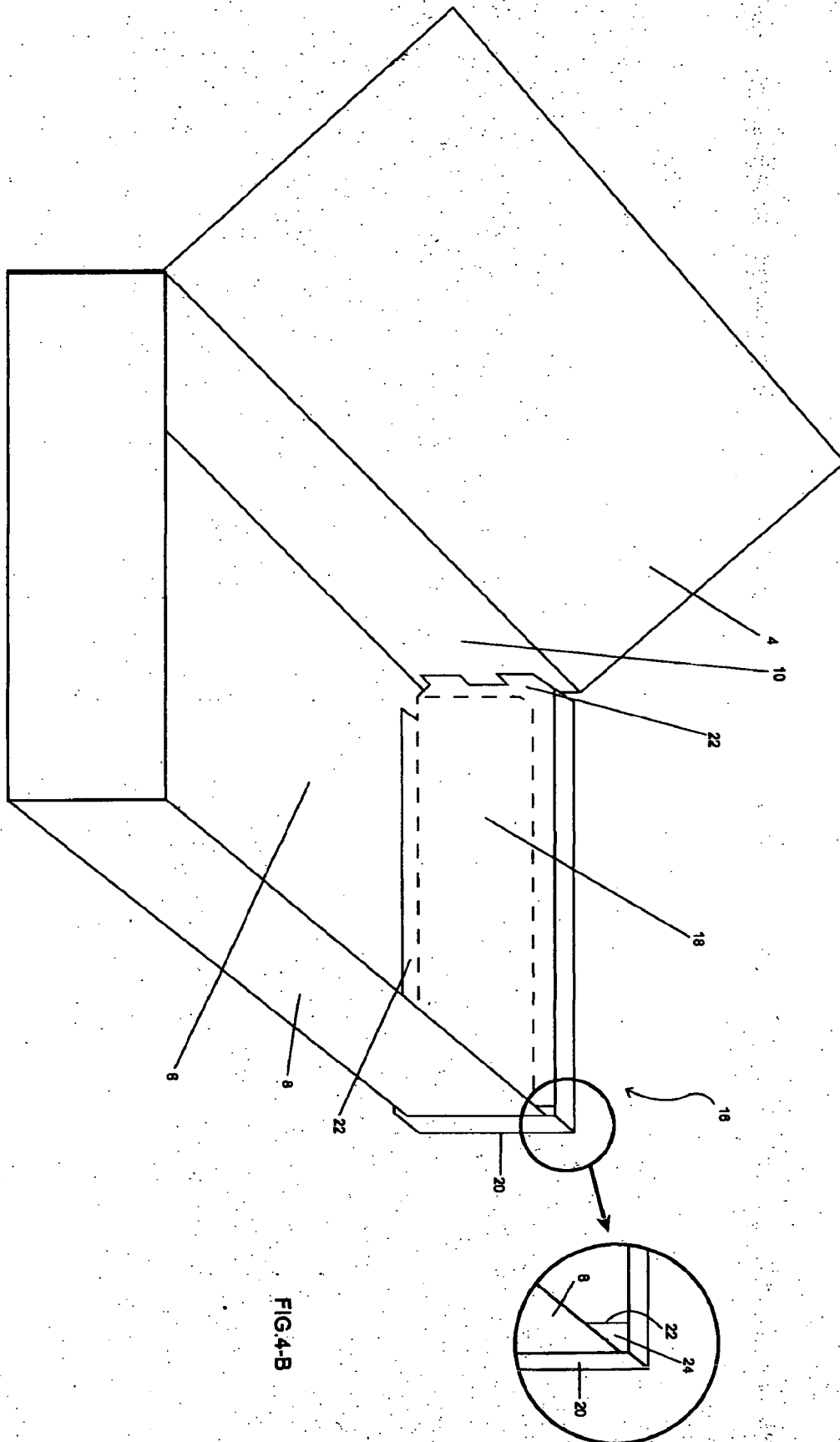


FIG. 4-B