Sept. 15, 1953 D. GRABER ET AL 2,652,300

FOLDING END EXTENSIBLE TABLE WITH ELEVATING STRUCTURE

Filed Feb. 3, 1950

3 Sheets-Sheet 1

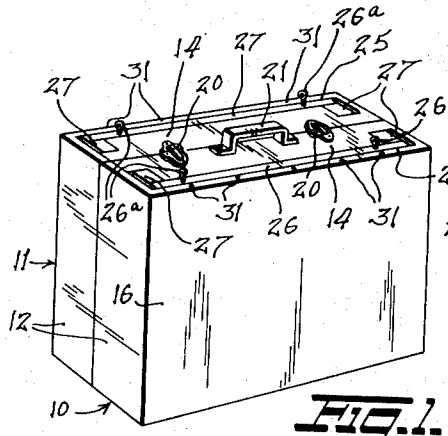

FIG. 1.

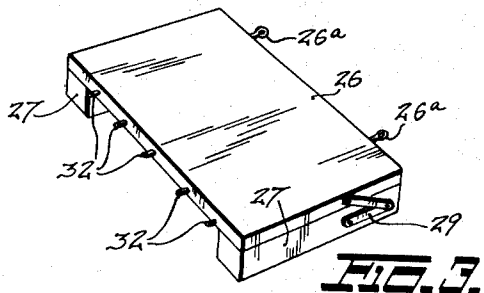

FIG. 3.

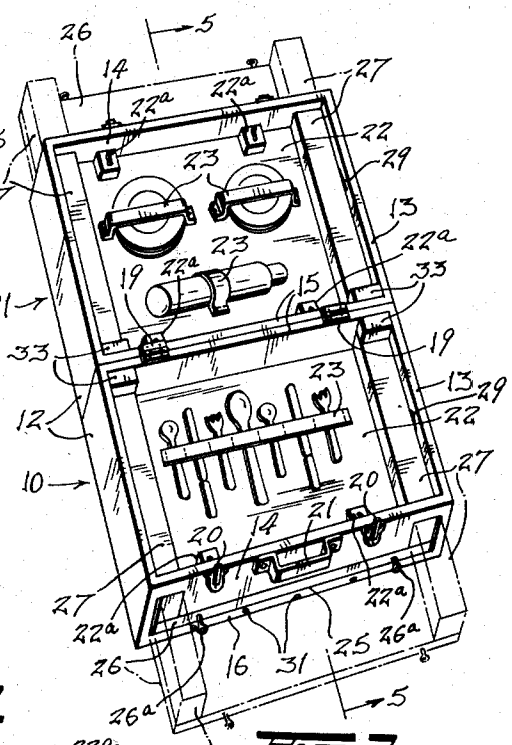

FIG. 2.

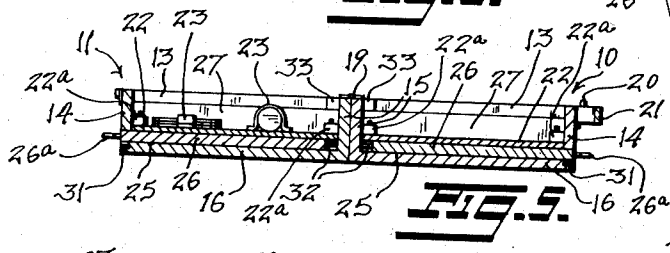

FIG. 5.

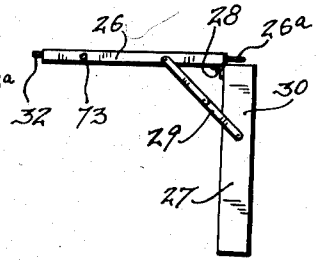

FIG. 4.

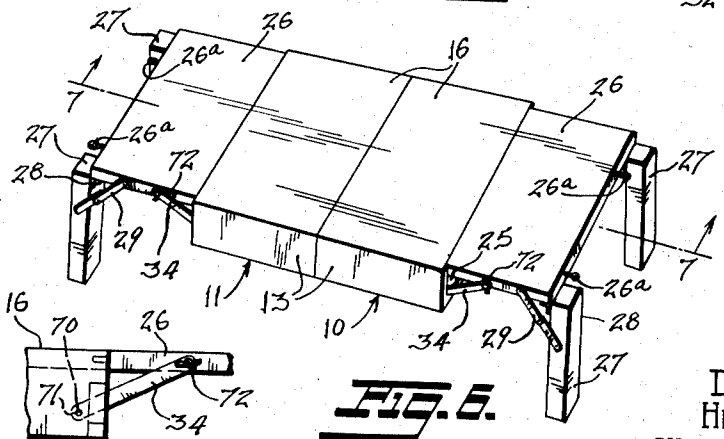

FIG. 6.

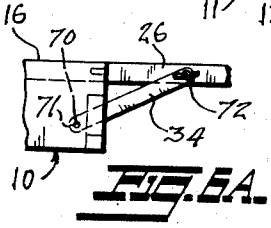

FIG. 6A.

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3 Sheets-Sheet 2

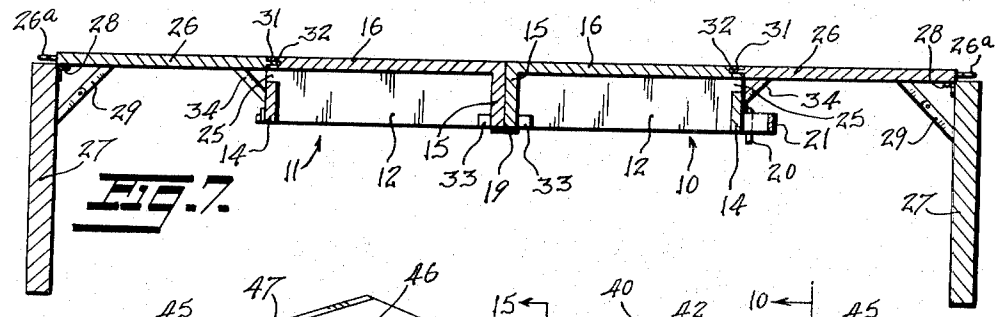

FIG. 7.

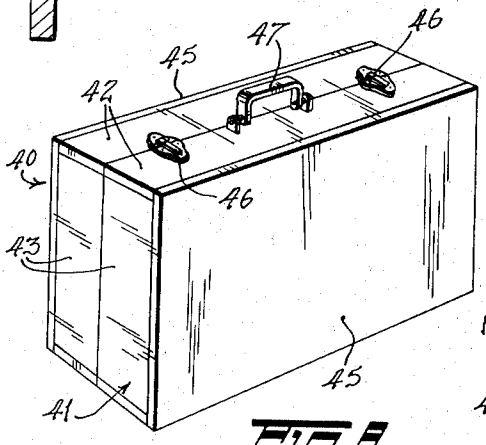

FIG. 8.

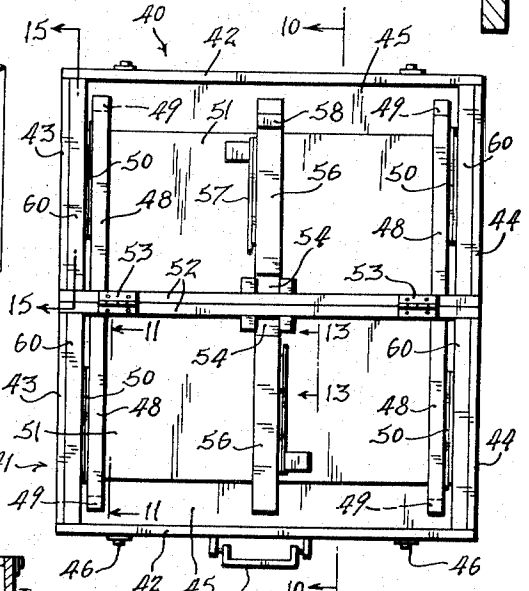

FIG. 9.

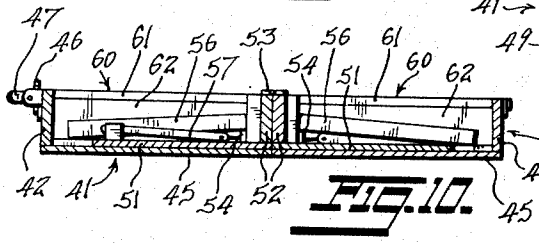

FIG. 10.

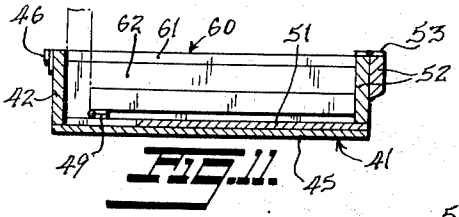

FIG. 11.

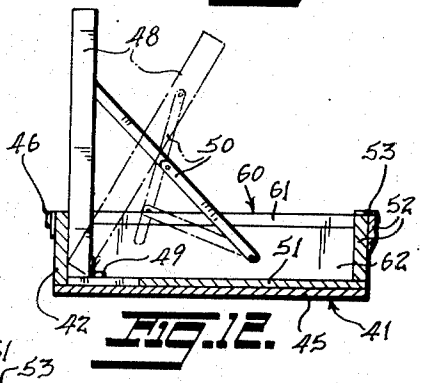

FIG. 12.

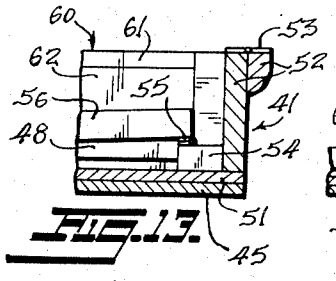

FIG. 13.

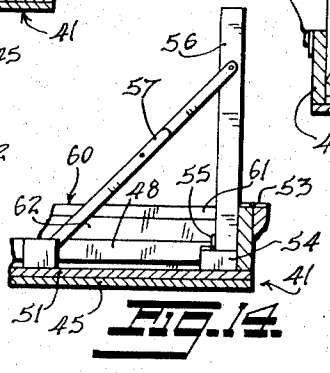

FIG. 14.

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3 Sheets-Sheet 3

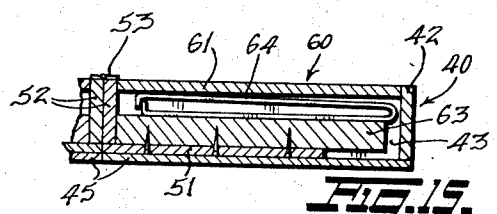


FIG. 15.

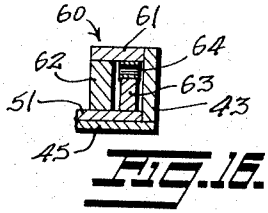


FIG. 16.

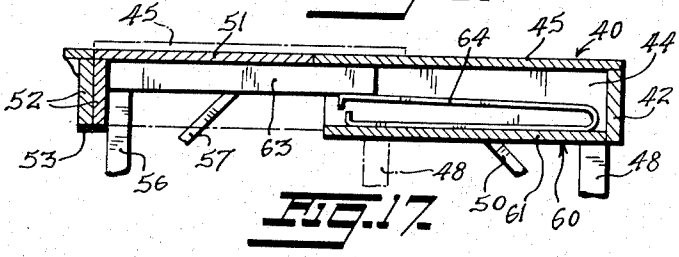


FIG. 17.

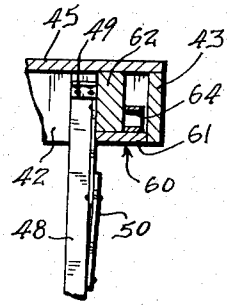


FIG. 18.

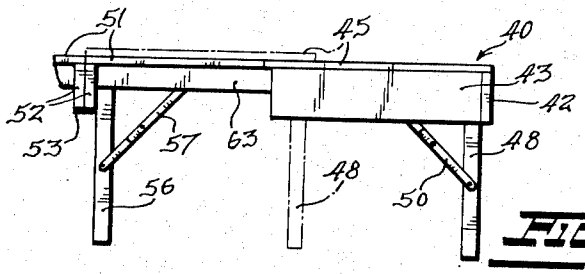


FIG. 19.

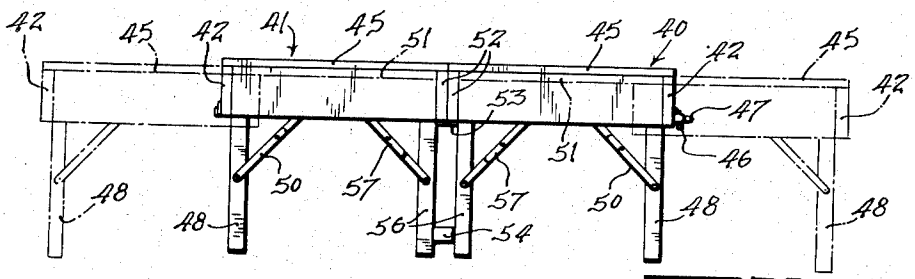


FIG. 20.

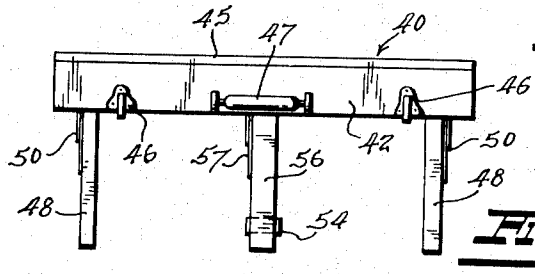


FIG. 21.

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# UNITED STATES PATENT OFFICE

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## FOLDING END EXTENSIBLE TABLE WITH ELEVATING STRUCTURE

Dorothy Graber and Herman Graber, Bronx, N. Y.

Application February 3, 1950, Serial No. 142,182

1 Claim. (Cl. 311—90)

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This invention relates to extensible tables and pertains particularly to an extensible table which when collapsed assumes the form of a valise.

One object of the present invention is to provide an extensible table which is readily portable in its collapsed form.

Another object of the present invention is to provide a portable extensible table which when extended is substantially sturdy.

Another object of the present invention is to provide an extensible and portable table which when collapsed assumes the form of a valise and still retains article carrying space.

Still another object of the present invention is to provide a reliably sturdy portable table which is extensible with a minimum of effort.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawings, and to the appended claim in which the various novel features of the invention are more particularly set forth.

In the accompanying drawings forming a material part of this disclosure:

Fig. 1 is an isometric view of the first embodiment of the invention showing the same collapsed and closed.

Fig. 2 is an isometric view of the embodiment of Fig. 1 showing same partially opened.

Fig. 3 is an isometric view showing one of the sliding leaves.

Fig. 4 is a side elevational view illustrating one of the leaves with the folding legs thereof extended.

Fig. 5 is a view taken along the lines 5—5 in Fig. 2.

Fig. 6 is an isometric view showing the table completely extended.

Fig. 6A is an enlarged detailed side elevational view of a portion of Fig. 6.

Fig. 7 is a sectional view taken along the lines 7—7 in Fig. 6.

Fig. 8 is an isometric view showing a second embodiment of the invention as it appears when collapsed and closed.

Fig. 9 is a plan view of the embodiment of Fig. 8 showing the interior thereof.

Fig. 10 is a sectional view taken along the lines 10—10 in Fig. 9.

Fig. 11 is a partial section taken along the lines 11—11 in Fig. 9 showing the hinged arrangement of the corner legs.

Fig. 12 is a partial sectional view showing the hinged corner legs partially and fully extended.

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Fig. 13 is a fragmentary sectional view taken along the lines 13—13 in Fig. 9 and shows the hinged arrangement of one of the center legs.

Fig. 14 is a fragmentary sectional view showing one of the center legs extended.

Fig. 15 is a sectional view taken along the lines 15—15 in Fig. 9 and illustrates the resilient means whereby the center leaves are positioned before the table is extended.

Fig. 16 is a fragmentary sectional view showing the relation between the resilient means and the leaves before the table is extended.

Fig. 17 is a fragmentary sectional view showing the dispositions of the various components when the table is extended.

Fig. 18 is another fragmentary sectional view showing the appearances of certain of the components when the table is open.

Fig. 19 is a partial front elevational view illustrating the manner in which the second embodiment is extended.

Fig. 20 is a front elevational view of the second embodiment showing same fully extended.

Fig. 21 is a side elevational view of the second embodiment extended.

The first embodiment, as seen best in Figs. 1 and 2, includes two open box members 10 and 11 which are similar to those found in the construction of any ordinary valise. Each of said box members includes a left and a right side panel 12 and 13, respectively, a front and rear panel 14 and 15, respectively, and a top panel 16. Said box members are hingedly connected as at 19 and are provided with latching means 20 whereby they may be maintained in closed relation when it is so desired. Also, a handle 21 mounted on the front panel 14 of at least one of said box members enables the arrangement to be handled and carried like any valise.

Positioned in each of said box members and spaced from said top panels 16 are false bottom panels 22 (Figs. 2, 5 and 7) which bottom panels are provided with retaining means such as straps 23 for receiving and holding articles such as knives, forks, plates, etc.

The false bottom panels 22 are retained in position by means of spring latches 22a, see Figs. 2 and 5, having spring pressed bolt members which engage into complementary keeper notches in the front and rear panels 14 and 15 for removably retaining the panels 22 in position. The construction is such that the latches may be disengaged from their keeper notches in the front and rear panels 14 and 15 freeing the false bottom panels 22 to be lifted out of the box mem-

bers 10 and 11 together with the articles mounted thereon, prior to converting the valise into a table, so that the articles will be available for use when needed.

Provided in each of the front panels 14 and entering into the spaces afforded between the said top and false bottom panels 16 and 22, respectively, are openings 25 (Figs. 1 and 2). Slidably carried in the aforementioned spaces between the top and bottom panels of said box members are table leaves 26 (Figs. 1, 3 and 4) which leaves are each provided with a pair of legs 27 attached thereto by hinges 28. Foldable braces 29 are provided between said leaves and legs to limit the swing of said legs.

As clearly apparent from Figs. 1 and 2, the leaves 26 are somewhat narrower than the width of the openings 25 providing a clearance between the sides of the leaves and the inner faces of the side panels 12 and 13 for the braces 29. When the leaves 26 are in position within the box members 10 and 11, as shown in Figs. 2 and 5, the legs 27 extend along the sides of the false bottom panels 22, the panels being of a width to fit snugly between the legs 27 and retain the leaves 26 against possible lateral shifting within the wider openings 25. The front edges of the leaves 26 are provided with small pull knobs 26a, in the form of eyelets, by which a grip can be had on the leaves for pulling them from their positions within the box members 10 and 11.

As seen in Figs. 1 and 2, the front side of each of said top panels 16 is provided with a plurality of dowel holes 31; and, as seen in Figs. 3 and 4, the side of each of the table leaves 26 opposite that at which the legs are attached is provided with a corresponding plurality of projecting dowel pins 32.

Means is provided for retaining the leaves 26 against the edges of the top panels 16 in which the dowels 32 will be retained in position within the dowel holes 31. The leaf retaining means is characterized by braces 34 which are extended diagonally between the side panels—the inner faces of the side panels 12 and 13—and the adjacent side edges of the leaves 26. The inner ends of the braces 34, see particularly Fig. 6A, are provided with outwardly extended pins 70 which fit into complementary holes 71 on the inner faces of the side panels 12 and 13. The outer ends of the braces 34 carry threaded winged screws 72 which are screwed into complementary threaded holes 73, see Figs. 3 and 4, formed in the side edges of the leaves 26. When the table is to be collapsed, the winged screws 72 are unscrewed from the holes 73 and the pins 70 are disengaged from the holes 71 completely separating the braces 34 to be stored within the completely collapsed valise. If desired, one of the false bottom panels 22 could be provided with straps beneath which the braces 34 could be engaged when the valise is completely collapsed.

Normally, or when the table is unextended, the table leaves 26, with the legs 27 folded thereagainst are carried in said box members between said bottom and top panels and, to insure against any tendency for the said legs to unfold, blocks 33 are provided and secured at the lower corners of said box members (Figs. 2, 5 and 7).

When it is desired to extend the table to assume the form thereof seen in Figs. 6 and 7, the false bottom panels 22 are first removed and the table leaves 26 are removed slidingly from the box members through the openings 25, and the box members are folded back until the rear panels 15 thereof are in face-to-face engagement and the top panels 16 are coplanar. Then the legs 27 are swung to an unfolded position and the braces 29 are thereby extended. The mentioned dowel pins 32 are then inserted in the dowel holes 31 and the leaves 26 are thereby attached to their respective box members in coplanar relation with the top panels 16 thereof. The braces 34 are then employed for retaining the leaves 26 in their coplanar alignment with the top panels 16.



In a second embodiment a pair of box members 40 and 41 each include front panels 42, left and right side panels 43 and 44, respectively, and top panels 45 (Figs. 8, 9 and 10). Also included are latches 46 for maintaining the box members closed and a handle 47 for carrying the arrangement. Pair of legs 48 are provided in each of said box members and are hingedly connected thereto as at 49. As seen in Figs. 11 and 12, said legs 48 are adapted to fold and lie parallel to the said top panels 45 and are further adapted to be extended to positions at right angles to said top panels. Folding braces 50 are provided to brace said legs when in the just mentioned right angle positions.

In the present embodiment a pair of table leaves 51 are each provided with a cross piece 49 affixed to one side edge thereof, which cross pieces are hingedly connected at 53. Affixed to each of the leaves 51 at the side and mid-points of the cross pieces 52 are blocks 54. Hingedly attached to each block 54, as at 55, is a center leg 56, which legs may be extended in like manner to the aforementioned legs 48 and braced in similar fashion by folding braces 57 (Figs. 10, 13 and 14). A spacing block 58 affixed to one of said center legs 56 assists in bracing said legs when in their extended positions.

Now, with reference to Figs. 9 and 15–18, it will be seen that the said box members 10 and 11 are provided with spring housings 60, one coextensive with and adjacent each of the side panels thereof. Said housings are each formed by one of said side panels, a top panel, a top piece 61 and a side piece 62. The side pieces 62 are such as to permit the mentioned table leaves 51 to fit slidably between same and the respective top panels 45. Slide pieces 63 coextensive with and affixed at right angles to the side edges of said table leaves are adapted to fit slidably in the respective ones of said spring housings 60. Disposed in said housings 60 and adapted to associate with said slide pieces 63 are strap springs 64.

When it is desired to extend the present table arrangement in the manner seen in Figs. 19–21 the box members 40 and 41 are opened until the cross pieces 52 are in face-to-face engagement. Then all of the legs may be extended, the legs 48 to positions at right angles to the top panels 45 of the box members and the center legs 56 to positions at right angles to the leaves 51. At this point, in view of the equal lengths of all of the legs and the inclusion of the blocks 54 beneath the center legs 56, said center legs will be longer than the others.

However, when the box members are drawn apart the coaction between the slide pieces 63 affixed to the leaves 51 and the strap springs 64 carried in the above described spring housings 60 will cause said leaves to snap into a position in which they and the top panels 45 will be coplanar. This action also has the effect of leveling off all of the legs.

To close the table the box members are raised

slightly and a slight pressure is exerted on the leaves **51**. This effects the depression of the springs **64** and permits the slide pieces to slide into the spring housings **60** and the leaves to slide under the top panels and into the box members. Thereafter said box members may be closed and latched, and the resilience of the strap springs **64** is such as to afford sufficient frictional engagement between same and the slide pieces to thereby prevent the sliding of said leaves from said box members when the arrangement is being carried by the handle **47**.

The insides of the box members **40** and **41** of the form of the invention shown in Figs. 8 to 21 could be provided with false bottom panels, similar to the false bottom panels **22** employed in the form of the invention illustrated in Figs. 1 to 7, for carrying knives, forks, spoons, plates, vacuum bottles and other similar articles commonly used on picnics.

While we have illustrated and described the preferred embodiments of our invention, it is to be understood that we do not limit ourselves to the precise constructions herein disclosed and the right is reserved to all changes and modifications coming within the scope of the invention as defined in the appended claim.

Having thus described our invention, what we claim as new, and desire to secure by United States Letters Patent is:

An extensible table comprising a pair of hingedly connected table leaves to be opened to be coplanar, a pair of box members each including a front, side, and top panel and each receiving slidably therein adjacent said top panel one of said table leaves, spring housings mounted on each side of said table leaves, strap springs housed in said compartments, said housings being longer than said leaves and having spring members therein, said box members sliding along said leaves to an extended position, said housings forming supports for said box members in extended position and the top panels of said box members are coplanar with said leaves.



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