Jan. 31, 1950 E. T. BELMONT 2,495,687

BOX FOR LOOSE-LEAF HOLDERS

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FIG. 4.

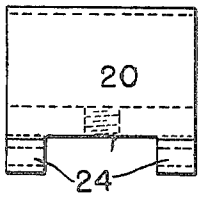


FIG. 3.

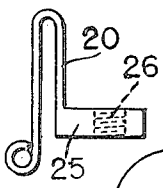


FIG. 1.

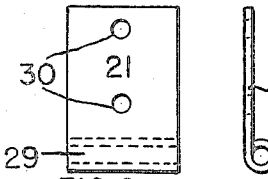


FIG. 6.

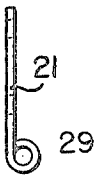


FIG. 5.

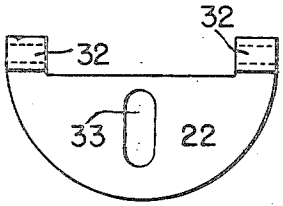
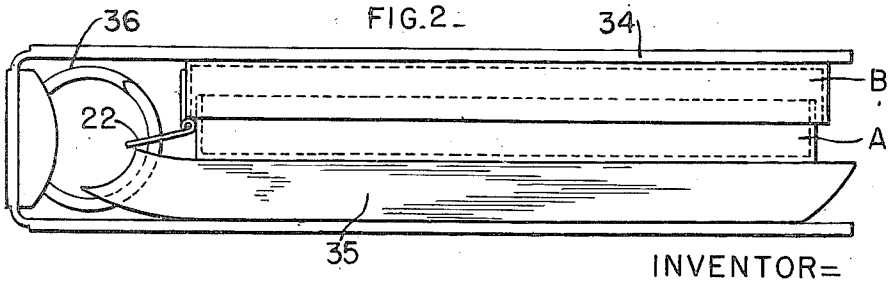


FIG. 7.

FIG. 2.



INVENTOR=

Elliott T. Belmont,

BY

Arthur F. Randall

ATTY.

Jan. 31, 1950 E. T. BELMONT 2,495,687

BOX FOR LOOSE-LEAF HOLDERS

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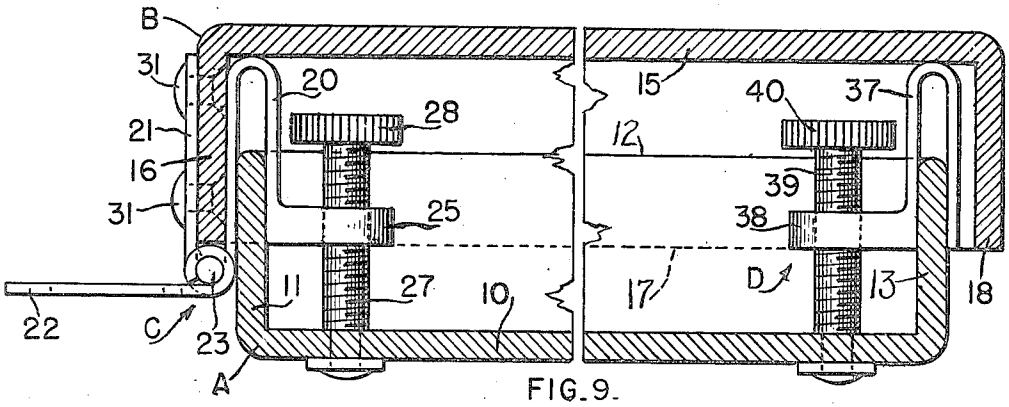
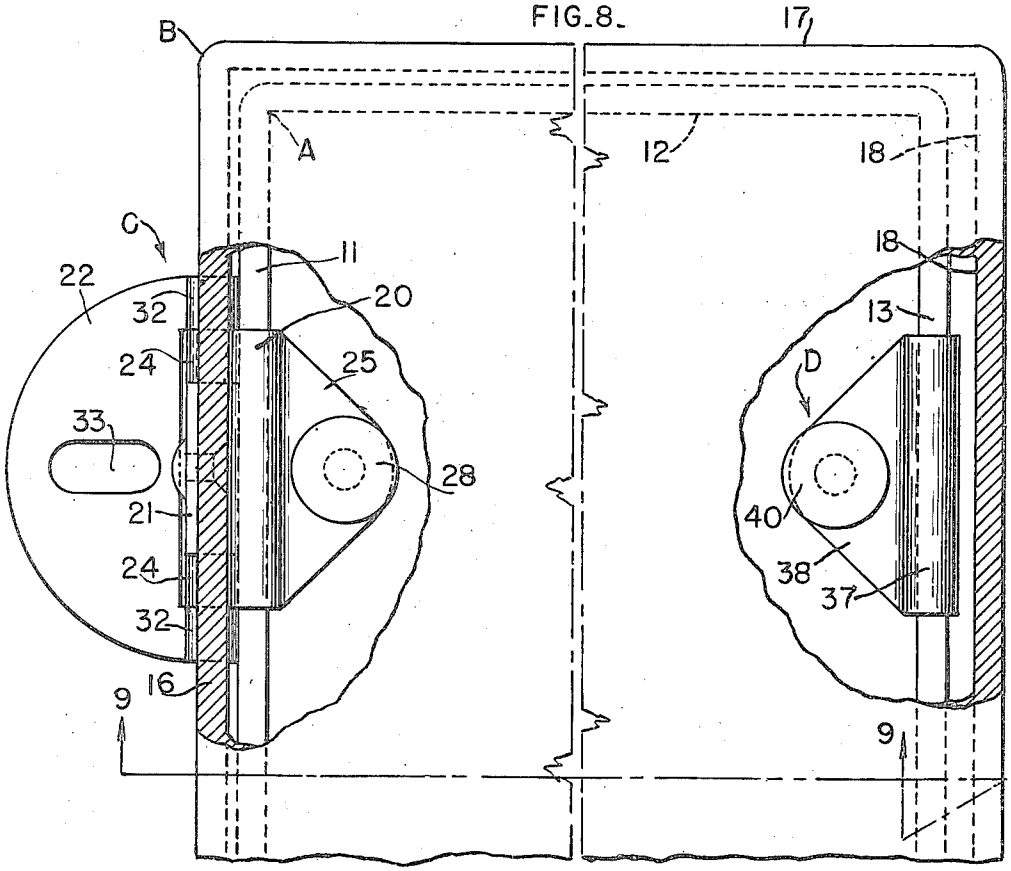


FIG. 9.

FIG. 8.



INVENTOR=

Elliott T. Belmont,

BY Arthur F. Randall

ATTY.

Patented Jan. 31, 1950 2,495,687

UNITED STATES PATENT OFFICE

2,495,687

BOX FOR LOOSE-LEAF HOLDERS

Elliott T. Belmont, Boston, Mass.

Application July 23, 1948, Serial No. 40,247

5 Claims. (Cl. 206—1)

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This invention relates to boxes and like receptacles such as are made in most part from sheet material and comprise two telescopically associated sections that are hingedly connected so that the box or the like can be opened and closed.

The primary object of the invention is to provide an improved box or receptacle of the class referred to which will be particularly constructed to adapt it to be incorporated within, and constitute a part of, a loose leaf binder which may be of otherwise ordinary construction.

It is also an important object of the invention to provide a box or receptacle of the class referred to wherein the hing or hinges connecting the two sections thereof is or are particularly constructed and arranged to provide for varying the relationship of the two sections thereby to vary the voluminal capacity of the box or the like in its closed condition as may be desired or required.

To these ends I have provided an improved box of the class described which, in the preferred embodiment thereof, may be constructed as set forth in the following description, the novel features of the invention being particularly pointed out and defined in the claims at the close of the description.

In the accompanying drawings:

Figure 1 is a top plan view of my improved box.

Figure 2 is an end view of a loose leaf binder having incorporated therein the box shown in Fig. 1.

Figures 3, 4, 5, 6 and 7 are details of each of the two hinges of the box shown in Figures 1 and 2.

Figure 8 is an enlarged plan view, partly broken away and in section, of an end portion of the box shown in Figures 1 and 2.

Figure 9 is a section on line 9—9 of Figure 8.

The box illustrated in Fig. 1 and Figs. 3 to 9, inclusive, comprises a body section A and a top closure section B, each of said two sections being made from any suitable sheet material such as sheet metal, synthetic thermoplastic sheet material, or the like, and both of which are preferably capable of being molded to shape. Examples of thermoplastic sheet materials of the kind referred to are found on the market under the trade name of "Lucite," "Vinylite," etc.

Body section A is of rectangular shape and comprises a bottom wall panel 10 bordered by four relatively perpendicular side walls 11, 12, 13 and 14. Closure section B is also of rectangular shape and comprises a top wall panel 15

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bordered by four relatively perpendicular side walls 16, 17, 18 and 19 which are of approximately the same depth as the side walls of body section A. The closure section B is made somewhat larger interiorly than section A so that the two box sections can be telescopically associated with section A disposed within section B as shown in the drawings.

The two sections A and B are pivotally connected at one side of the box by two metallic hinges C, C, Figs. 1, 8 and 9, and each hinge C comprises three sheet metal straps 20, 21 and 22 and a pintle 23. The strap 20 is U-shaped to adapt it to receive within its crotch the side wall 11 of body section A on which it is mounted for sliding adjustment toward and from the top of said wall, as shown in Figs. 8 and 9. The extremity of one of the legs of this U-shaped strap is formed with a pair of spaced-apart eyes 24, 24, that are occupied by the pintle 23. The opposite leg of this U-shaped strap that is within the box section is provided with a relatively perpendicular lug 25 that is made with a threaded aperture 26 that is occupied by the threaded shank of a thumb screw 27, Fig. 9. The lower end of the shank of thumb screw 27 is reduced in diameter and rotatably confined against axial displacement in either direction within an aperture provided through the bottom wall 10 of box section A. The upper end of the shank of thumb screw 27 is provided with a circular head 28 which provides for convenient manual rotation of the thumb screw when adjusting the U-shaped strap 20 toward and from the top of wall 11 of section A.

Between the two eyes 24 of the U-shaped strap 20 is fitted the lower end of a second strap 21, Figs. 5 and 6, said lower end being formed with an eye 29 that is occupied by the pintle 23. This second strap is formed with two or more apertures 30, Fig. 6, for the reception of rivets 31, Fig. 9, by which said strap is fixedly mounted upon the outer face of the wall 11 of section A.

The third strap 22, Fig. 7, is shown as a flat semi-circular plate having oppositely disposed corners provided with alined eyes 32 that are occupied by the pintle 23, said eyes being spaced apart a distance to receive between them the pair of eyes 24 of strap 20. At its middle this strap 22 is made with a slot 33 that is disposed at right angles to the axes of the eyes 32.

As above described the box is constructed for use in connection with a holder 34 for loose leaves 35, each leaf, as usual, being provided with apertures for receiving the usual split rings whereof

one is shown at 36, and said rings being fixed to the intermediate back portion of the holder. When so used the rings of the holder are caused to extend through the slots 33 of straps 22 and when straps 22 are thus engaged with the rings, and the latter are closed, the box is securely locked to the holder but is freely adjustable angularly on the rings as well as on the axis of pintle 23.

As means for supporting the two sections A and B of the box in parallelism when the box is closed whatever be the adjustment of the two straps 20, I may equip the side wall 13 of body section A with a pair of adjustable props D each of which comprises a U-shaped prop member 37 whose crotch is occupied by the upper portion of said side wall 13. This prop member frictionally grips the wall 13 and the inner leg thereof is made at its lower extremity with a laterally and horizontally projecting lug 38 provided with a threaded aperture that is occupied by the threaded shank of a thumb screw 39, Fig. 9. The lower end of the shank of thumb screw 39 is reduced in diameter and rotatably confined against axial displacement in either direction within an aperture provided through the bottom wall of box section A. The upper end of the shank of thumb screw 39 is provided with a circular head 40 which provides for convenient manual rotation of the thumb screw to adjust the U-shaped prop member 37 toward or from the top of wall 13 of section A as may be required to place each member 37 horizontally opposite one of the straps 20.

What I claim is:

1. In a box of the class described, in combination, two box sections having side walls adapted to be fitted telescopically together to close the box; a hinge structure connecting two proximate relatively parallel side walls of said sections and adjustably connected with one of said side walls to provide for adjustment of said hinge structure on said wall to vary the voluminal capacity of the box when in its closed condition, and means for fixing said hinge structure in adjusted position on said wall while permitting said sections to be pivotally adjusted relatively on said hinge structure to open and close the box.

2. In a box of the class described, in combination, two box sections having side walls adapted to be fitted telescopically together to close the box; a hinge structure connecting two proximate relatively parallel side walls of the box, said hinge structure comprising a strap fixedly mounted upon one of said two proximate side walls, a strap adjustably mounted upon the other of said two side walls, and a pintle connecting said two straps; and means carried by the section of said other side wall and manually operable to adjust said last-mentioned strap on said other side wall thereby to vary the voluminal capacity of the box when in its closed condition while permitting said sections to be pivotally adjusted relatively on said hinge structure to open and close the box.

3. In a box of the class described, the combination of claim 2 wherein said last-mentioned manually operable means comprises a thumb screw having a threaded shank whereof one end is rotatably connected with the section of said other side wall and whereof the intermediate portion occupies, and is in threaded engagement with, a threaded aperture of said adjustably mounted strap.

4. In a box of the class described, the combination of claim 2 wherein said hinge structure also comprises a third strap pivotally supported by said pintle and made with an aperture for engagement with an element of a loose-leaf holder by which element the box is retained within the latter.

5. In a box of the class described, the combination of claim 2 wherein a prop is adjustably mounted upon a side wall of one of said sections other than the two proximate side walls referred to in claim 2, and wherein means is provided for holding said prop in position to maintain said two box sections in parallelism when the box is closed.

ELLIOTT T. BELMONT.

No references cited.