United States Patent [19]

Johnson

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[45] **Jan. 30, 1973**

[54] LID HINGE

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[52] **U.S. Cl.** .....**229/44 M,** 16/150, 217/57

[51] **Int. Cl.** **B65d 13/04**

[58] **Field of Search** .....16/139, 143, 150; 229/44 M; 220/32; 217/57, 58, 60 B, 60 R

[56] **References Cited**

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[57] **ABSTRACT**

The invention involves the use of a flat piece of flexible metal attached to both the lid and side of a container to enable one to raise the lid to a preselected position and have the lid remain in such position until a change in position is desired.

6 Claims, 8 Drawing Figures

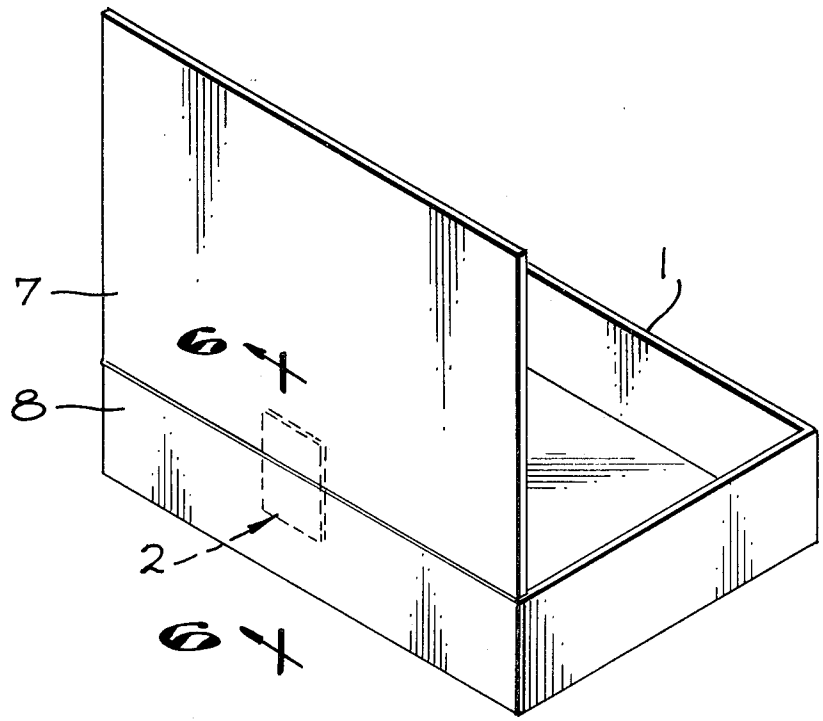


Fig. 1

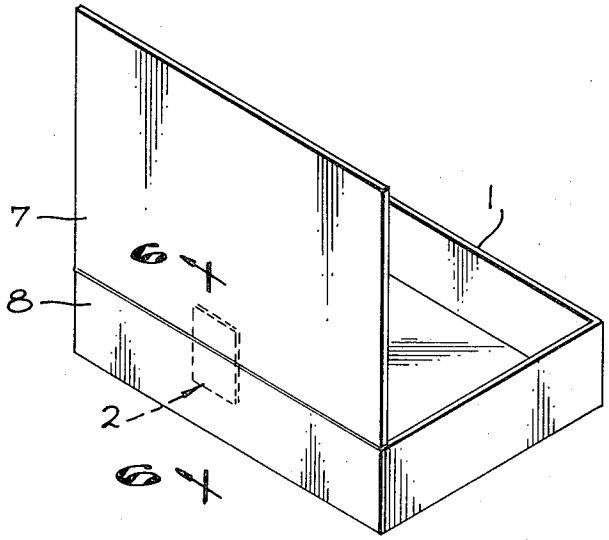


Fig. 2

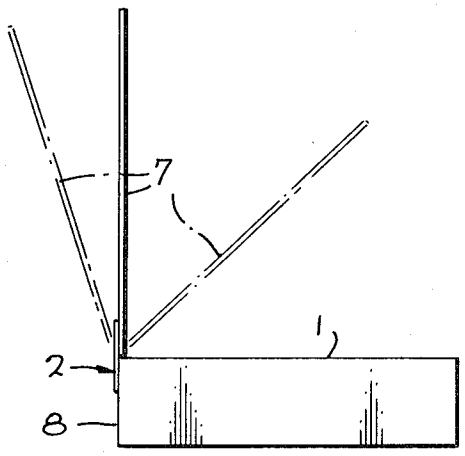


Fig. 3

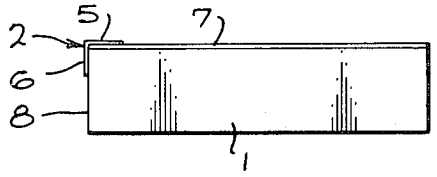


Fig. 4

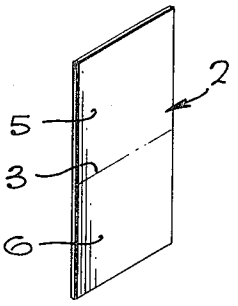


Fig. 5

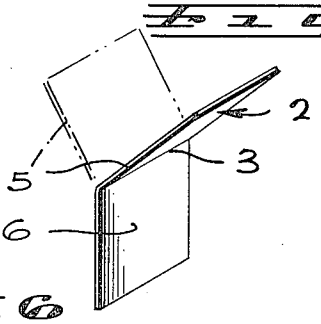


Fig. 6

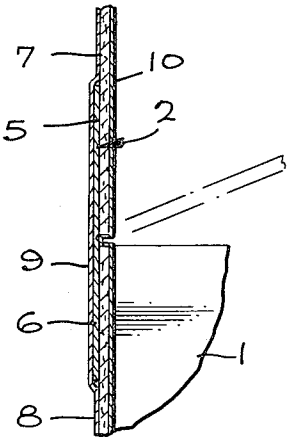


Fig. 7

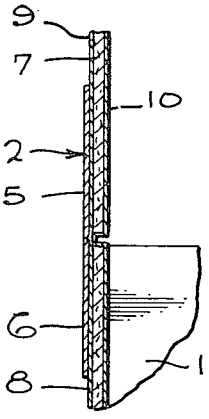
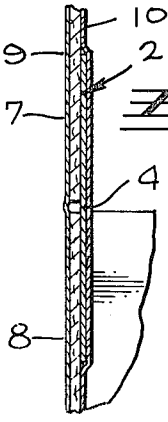


Fig. 8



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LID HINGE

BACKGROUND OF THE INVENTION

1. Field of the Invention

The field of the invention is the art of hinges and hinging devices; more specifically, hinges which are designed to attach the lid of a container while performing the additional function of maintaining the lid in a series of fixed positions with respect to the container. The invention has particular application to the field of cigar boxes and like containers.

2. Description of Prior Art

The field of hinging devices is quite extensive and includes numerous hinges varying from the very simple to the very complex, depending generally, on the intended use or application of the particular hinge. In many instances, a particular hinge will have a plurality of functions. Such is the case here. Applicant's invention has specific application to cigar boxes. An ideal cigar box hinge might enable one to have said hinge provide a movable connection between the cigar box lid and the cigar box rear panel, while still enabling the lid to be raised to and maintained in an upright position. Cigar boxes are ordinarily placed in display cases, with the lids opened and maintained in an upright position to enable one to view the contents of the box, as well as the printed material on the underside of the lid. Present cigar boxes achieve the dual function hereinabove set forth by providing two separate and distinct mechanisms; namely, a simple sheet paper glued to the lid and rear panel of the cigar box serving only as a pure and simple hinge, and a separate and distinct retainer adapted to hold the lid in an upright position. This retainer generally takes the form of a wire-like member adapted to be inserted between the side panel of box and the edge of the lid. When in place, this member holds the lid in a preselected fixed position. The use of such a retainer has presented difficulties in practice. It has been found that since the wire-like member has pointed ends, these ends have sometimes pierced cigar wrappers while being inserted into position, causing the cigars to dry out or be damaged. Furthermore, the sharp points sometimes scratch the operator's hands. Since these wire retainers are not integral with the cigar box, they are stored in a separate location and are easily lost or stolen. Additionally, since they utilize a spring bias when in place, operators sometimes lose their grip on them while inserting them in place, causing them to fly across the room, thereby becoming a potentially dangerous missile. These disadvantages are overcome by applicant's invention, as shall hereafter be shown.

SUMMARY OF THE INVENTION

An object of the invention is to provide a new hinge.

Another object of the invention is to provide a hinge having a dual function.

A further object of the invention is to provide a hinge which is adapted to attach a lid to a container.

Yet another object of the invention is to provide a hinge for attaching a lid to a container and further allowing one to set the lid in an infinite number of positions.

A still further object of the invention is to provide a hinge for a cigar box lid which will allow one to readily open and close the lid and furthermore permit the lid to be maintained in a plurality of open positions merely by movement of the lid and without any manipulation of the hinge.

Still another object of the invention is to provide a mechanism for hingedly securing a lid to a cigar box, which mechanism permits the lid to be moved to and maintained in an infinite number of open display positions, and yet permit such mechanism to be easily de-activated.

As previously noted, a serious objection to prior art devices was the fact that they involved the use of a device which was separate from rather than an integral part of the container. Applicant generally provides a flat strip of metal adapted to be suitably attached and fixedly secured to both the lid and rear panel of a cigar box or like container. One function of this strip is to serve as a simple hinge between the lid and rear panel. However, a further function of the strip is to hold and maintain the lid in any of an infinite variety of open positions. When in place, the strip, due to its flexibility, bends along its width as the lid is raised. When one ceases to further move the lid, the lid does not fall down and close the box, but rather is maintained in its open position because of the metal strip. If one desires to de-activate the hinge member, one can rapidly move the lid back and forth until the metal strip fractures at its bend line due to the heat generated thereof. After such fracture, the hinge is of no further effect.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of a container, showing the metal strip in position through a cut-away portion of the outer wrapper.

FIG. 2 shows a side view of a container having the metal strip in place and showing, in phantom, other positions of the lid.

FIG. 3 is a side view of a container with the lid in a closed position.

FIG. 4 is a perspective view of the metal strip.

FIG. 5 is a perspective view of the metal strip bent along its bend line.

FIG. 6 is a detailed side sectional view taken along lines 6—6 of FIG. 1 of a typical cigar box with the metal strip attached to the outside of the cigar box, but under the outer paper wrapper.

FIG. 7 is a detailed side view of a typical cigar box with the metal strip attached to the outside of the cigar box and on the outer paper wrapper.

FIG. 8 is a detailed side view of a typical cigar box with the metal strip attached to the underside of the lid and inside the rear cigar box panel underneath the inner paper wrapper.

DESCRIPTION OF THE PREFERRED EMBODIMENT

FIG. 1 generally shows a preferred application of the invention; i.e., as used on a cigar box 1. FIG. 4 clearly shows the metal strip 2 which generally takes the form of a relatively thin flexible sheet of metal which can be readily bent along a bend line, such as line 3, shown in FIG. 5. The strip can be made of any suitable flexible sheet of material, including steel, aluminum, copper, etc. To facilitate such bending, a score line can be provided at such bend line, as may be seen at 4 in FIG. 8, but such a score line is not considered essential to the operation of the instant invention.

The strip 2 has its upper portion 5 attached to lid 7 while the lower portion 6 is attached to the rear panel 8 of the box 1. The strip 2 can be attached by any convenient means including an adhesive, riveting, clamping, etc. In one embodiment of the invention, a strip 2 is bent along its bend line in a 90° angle and is adhesively attached to the lid 7 and rear panel 8 of a closed cigar box, as shown in FIG. 3. When the cigar box 1 is then opened to any of numerous upright positions, as shown in FIG. 2, the lid will be maintained in such position by the strip 2. The cigar box 1 in FIGS. 2 and 3 do not have any paper wrappings thereon.

The cigar boxes in FIGS. 1, 6, 7 and 8 do have outer paper wrappings thereon, as is the general practice in the cigar box industry. The cigar box and lid is generally made from rough paper stock. It is rather difficult to obtain a high quality printing on such paper stock, so the printing of the advertising message and product identification is generally performed on a higher grade paper which is subsequently attached to the unprinted cigar box. In prior art embodiments, this outer paper served to hold the lid to the rear panel of a cigar box.

In the embodiment of the invention shown in FIGS. 1 and 6, metal strip 2 is adhesively attached directly to the outside of the rear panel 8 and the top side of lid 7. Subsequently the printed outer paper 9 is glued over the lid 7, rear panel 8 and metal strip 2, thereby hiding the metal strip 2 from view. A printed inner paper 10 is also glued to the underside of lid 7 and the inner side of rear panel 8, and serves to carry the advertising message. We can here see that when the box is opened, the metal strip 2 maintains and holds the lid in an upright, open position thereby enabling a prospective purchaser to view both the cigars in the cigar box and the identification and advertising message carried on the underside of the lid 7. The lid 7 can be readily changed to any one of a number of positions and be automatically maintained in such position.

It is rather apparent that one can readily attach the strip 2 directly to the outside printed paper 9 as shown in FIG. 7, or to the inner printed paper 10 as shown in FIG. 8, without departing from the scope or spirit of the invention. The specific location of the strip 2 would be dictated by design considerations, as well as the most efficient method of manufacturing the entire cigar box. The specific dimensions of the strip 2 and the specific materials chosen for its manufacture would be dependent upon the desired operational characteristics. An essential requirement for the strip is that it be flexible rather than brittle and that it be so designed that it will hold the lid in a fixed position on its own. Within these parameter a wide discretion of inter-dependent material selection and attendant design configurations are allowed. If desired, one can employ a plurality of strips 2. Additionally, the strip 2 need not be square, rectangular, flat or of any other particular configuration to be able to function in the established mode and utilize the inventive aspects disclosed herein.

It is rather obvious that should one desire to de-activate the function of maintaining the lid in any of a number of open positions, one can flex the strip 2 by moving the lid rapidly and continuously from an open to a partially closed position, causing heat to be generated at the bend line and resulting in an ultimate fracture at such bend line. In this event, the hinge would be inoperative, but will still be maintained in place. Since the fractured strip 2 might present a safety problem in handling, one might employ the use of a cover member (not shown) over said bend line, made out of a material such as a cloth-based adhesive strip to prevent the scratching of one's fingers when handling the cigar box. Such a cover would have particular application where the metal strip is attached to the outside of the box, as seen in FIGS. 2, 3 and 7.

The specific embodiment of the invention shown here are meant to be illustrative only, it being the intent of applicant to limit his invention solely to the scope as defined in the appended claims.

What is claimed and desired to be secured by Letters Patent is:

1. A container comprising a base having a bottom and four sides, a lid of substantially the same size as said bottom adapted to completely close off said base, said lid adapted to be moved between an open and a closed position, and hinge means secured directly to said lid and directly to one of said four sides, said hinge having a score line on the surface of said hinge which faces the interior of the container, said score line extending substantially parallel to the top of said one of said four sides, said hinge means adapted to maintain said lid in spaced relationship and out of contact with said one of said four sides when the lid is in an open position, whereby said hinge means maintains said lid in any one of a plurality of fixed positions relative to said one of said four sides.

2. The container set forth in claim 1 wherein said hinge means is made out of a flexible material.

3. The container set forth in claim 2 wherein said hinge means is made out of metal.

4. The container set forth in claim 3 wherein said container has a printed paper attached to its outer surface area.

5. The container set forth in claim 1 wherein said hinge means is attached to the bottom of said lid and the inside of said side member.

6. The container set forth in claim 1 wherein said hinge member has a piece of material adhesively secured to said hinge member and extending along said score line.

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