

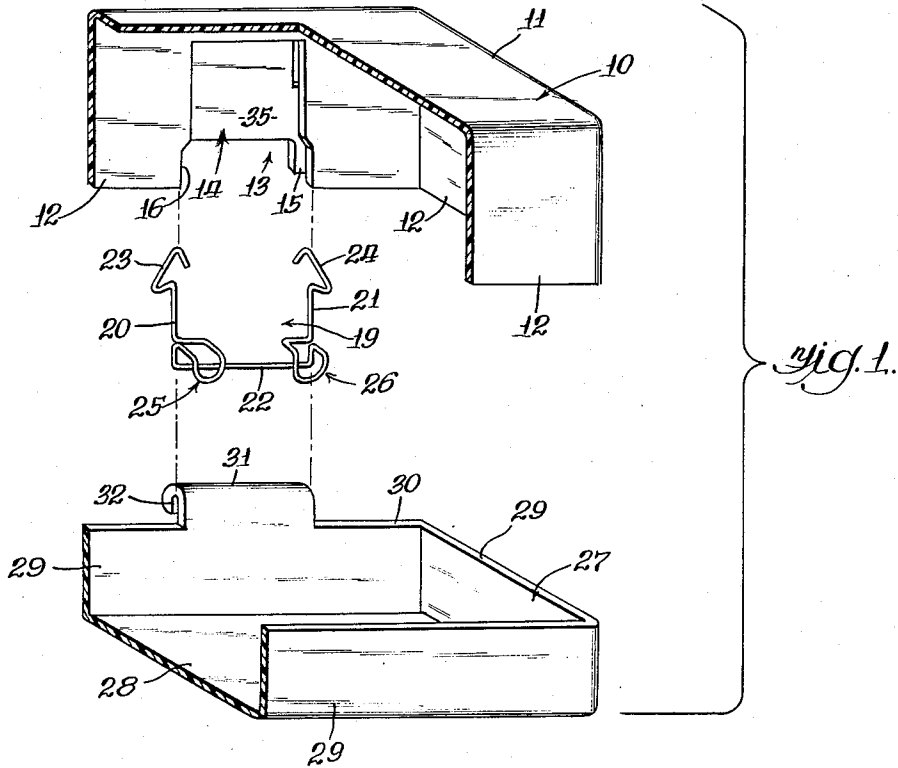
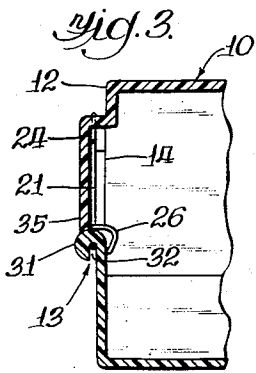
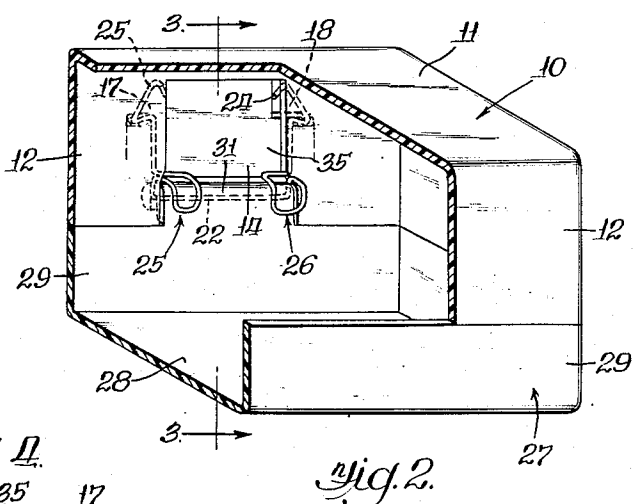
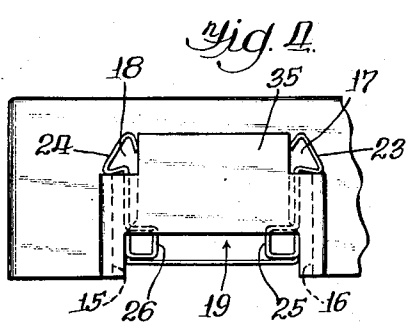
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HINGE STRUCTURE

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HINGE STRUCTURE

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3 Claims. (Cl. 220—31)

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The present invention relates to hinged receptacles and more particularly to an improved hinged cabinet for a portable radio or the like.

In plastic containers, such as the cabinets of portable radios, jewel boxes, vanity cases or the like, it is often desirable to provide an inexpensive hinge arrangement for connecting the cover to the body of the receptacle. It is desirable that such arrangements be sufficiently rugged for practical commercial use, and yet be secured to the container by some means other than screws or the like for economy reasons. While hinged receptacles incorporating these features are known to the art, they have been heretofore still relatively expensive to manufacture so that the cost of the articles with which they are used is still comparatively high. Moreover, because usually receptacles of the type mentioned above are composed of a somewhat brittle plastic material, it is important that the hinging arrangement be such that the hinge itself provide some resilience to preclude cracking or breaking of the container when closed with undue force.

It is, accordingly, an object of the present invention to provide a hinged structure of the type described above which does not require screws or the like, and which provides an efficient and practical commercial unit.

A further object of the invention is to provide such a hinged structure which may be easily assembled and which does not require screws, fusing or any other extraneous instrumentalities and operations for securing the hinge portion of the structure to the receptacle.

Yet another object of the invention is to provide such a hinged structure that may be constructed expeditiously and economically.

A still further object of the invention is to provide a hinged receptacle which is so constructed that the hinge portion resiliently absorbs excess strains during closure of the receptacle to protect the container itself from damage.

A feature of the invention is the provision of a hinged structure which includes two casing sections and a hinge comprising a wire bent into a unique U-shaped configuration to be removably supported in one section and to rotatably support the other section.

Another feature of the invention is the provision of a hinged receptacle having a hinge portion supported in a recess in one casing section and received in a channel formed by an overhanging lip in another casing section, and in which the hinge portion has loops formed therein which engage the overhanging lip to main-

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tain the hinge in the channel and yet allow rotation of the second mentioned casing section and resiliently absorb the force of such rotation when the receptacle is closed.

The above and other features of the invention which are believed to be new are set forth with particularity in the appended claims. The invention itself, however, together with further objects and advantages thereof, may best be understood by reference to the following description when taken in conjunction with the accompanying drawing in which:

Figure 1 is an exploded view of the hinged structure of the invention;

Figure 2 is a representation, partly in section, of the invention;

Figure 3 is a sectional view of the structure taken along the lines 3—3 of Figure 2; and

Figure 4 is a rear view of the structure.

The hinged structure of the invention comprises a first casing section having a recess formed therein adjacent one edge thereof, the recess having a pair of spaced parallel grooved sides extending inwardly from the aforesaid edge and each terminating a selected distance from the edge in an enlarged shoulder-receiving portion.

A hinge is provided which comprises a resilient wire having a generally U-shaped configuration to constitute a pair of spaced parallel legs interconnected by a cross-bar, with the extremity of each of such legs having an outwardly extending shoulder configuration. The contiguous portion of the cross-bar with each of the legs has a looped-over configuration extending upwardly out of the plane of the legs and cross-bar and outwardly over the cross-bar. The hinge is supported within the aforementioned recess with the legs disposed in the grooved sides thereof and with the extremities of the legs supported in the aforementioned shoulder-receiving portions, thereby to prevent movement of the hinge within the recess. The hinged structure has a second casing section having an edge contiguous to the aforesaid edge of the first casing section with an overhanging lip portion adjacent the recess. The lip portion has a generally rounded outer surface and has an inner surface defining a channel parallel to the edge of the second casing section. This channel receives the aforementioned cross-bar of the hinge with the looped portions thereof engaging the outer surface of the lip portion to maintain the cross-bar within the channel and to allow rotation of the second casing section about the cross-bar.

With reference now to the drawing, the hinged

structure of the invention includes a first casing section 10. Section 10 has a top portion 11 and sides 12 extending perpendicularly thereto. One of the sides 12 has a notch 13 in one edge thereof, and also has a recess 14 formed therein adjacent the notch. Recess 14 has a pair of spaced parallel grooved sides 15, 16 extending inwardly from notch 13, and terminating respectively a selected distance from the notch in a pair of enlarged shoulder-receiving portions 17, 18. The recess also has a back 35, and the shoulder receiving portions 17 and 18 extend through the back, as shown in Figure 4, to facilitate molding of the structure.

The assembly also includes a hinge 19 comprising a resilient metallic wire having a generally U-shaped configuration to constitute a pair of spaced parallel legs 20, 21 interconnected by a cross-bar 22. The extremity of each of the legs 20, 21 has an outwardly extending shoulder configuration 23, 24 within the plane of the legs and cross-bar. The contiguous portion between the cross-bar 22 and the respective legs 20, 21 has a looped-over configuration 25, 26 extending upwardly out of the plane of the legs and cross-bar and outwardly over the cross-bar.

Hinge 19 is supported within recess 14 with legs 20, 21 disposed in the groove sides 15, 16 and with the extremities 23, 24 of the legs supported in the shoulder-receiving portions 17, 18. In this manner, movement of the hinge 19 within the recess in all directions is prevented.

A second casing section 27 is also provided and has a top 28 and sides 29 extending perpendicularly thereto, one of the sides 29 having an edge 30 contiguous to the edge of section 10 in which notch 13 is formed and from which crevice 14 extends. Edge 30 has an overhanging lip portion 31 extending into notch 13. The lip portion has a generally rounded outer surface and has an inner surface defining a channel 32 parallel to edge 30. Channel 32 receives cross-bar 22 of hinge 19 with looped portions 25, 26 engaging the outer surface of the lip portion 31 to maintain the cross-bar within channel 32 and to allow rotation of the second casing section about the cross-bar.

A portion only of the hinged structure 10 is shown in the drawing, with hinge 19 mounted at one end thereof. It is evident that a similar hinge may be supported at the other end of the structure in the same manner.

It is evident that the hinged structure of the invention may be assembled in a simple and expeditious manner. For such assembly, it is merely necessary to insert cross-bar 22 in channel 32 by turning the hinge 19 in a direction away from the interior of section 27 until the looped portions 25, 26 allow the cross-bar to be inserted in the channel. With the cross-bar so inserted, the hinge 19 is turned in a clockwise direction to trap the cross-bar within the channel, and legs 20, 21 are then squeezed together and inserted into the grooved sides 15 and 16 of recess 14 until their shoulders 23, 24 snap into engagement with portions 17 and 18.

With the resulting assembly, when casing section 27 is opened its lip portion 31 pivots about cross-bar 22, the cross-bar being maintained within channel 32 by looped portions 25, 26. Moreover when the structure is closed, the tips of looped portions 25, 26 engage the inner side of lip 31 adjacent edge 30 and cause hinge 19 resiliently to absorb the resulting stress. In this manner, since the hinge acts as an absorber, the

danger of cracking or breaking the structure when the cover is closed with undue force is greatly reduced.

The invention provides, therefore, a hinged structure that may be manufactured and assembled cheaply and expeditiously and yet which is ideally suited for commercial applications.

While a particular embodiment of the invention has been shown and described, modifications may be made and it is intended in the appended claims to cover all such modifications as fall within the true spirit and scope of the invention.

I claim:

1. A hinged structure including in combination, a first casing section having a recess formed therein adjacent one edge thereof, said recess having a pair of spaced parallel grooved sides extending inwardly from the aforesaid edge and each terminating a selected distance from said edge in an enlarged shoulder-receiving portion; a hinge means comprising a resilient wire having a generally U-shaped configuration to constitute a pair of spaced parallel legs interconnected by a cross-bar, with the extremity of each such legs having an outwardly extending shoulder configuration, and with the contiguous portion of said cross-bar with each of said legs having a looped configuration extending upwardly out of the plane of said legs and cross-bar and outwardly over said cross-bar, said hinge being supported within the aforesaid recess with said legs disposed in the grooved sides thereof and with the extremities of said legs supported in the aforesaid shoulder-receiving portions, thereby to prevent movement of said hinge within said recess; and a second casing section having an edge contiguous to the aforesaid edge of said first casing section with an overhanging lip portion adjacent said recess, said lip portion having a generally rounded outer surface and having an inner surface defining a channel parallel to said edge of said second casing section, said channel receiving the aforesaid cross-bar of said hinge with the aforesaid looped portions thereof engaging the outer surface of said lip portion to maintain said cross-bar within said channel and to allow rotation of said second casing section about said cross-bar.

2. A hinged structure including in combination, a first casing section having a notch in one edge thereof and also having a recess formed therein adjacent said notch, said recess having a pair of spaced parallel grooved sides extending inwardly from the aforesaid notch and each terminating a selected distance from said notch in an enlarged shoulder-receiving portion; a hinge comprising a resilient metallic wire having a generally U-shaped configuration to constitute a pair of spaced parallel legs interconnected by a cross-bar, with the extremity of each such legs having an outwardly extending shoulder configuration within the plane of said legs and cross-bar, and with the contiguous portion of said cross-bar with each of said legs having a looped-over configuration extending upwardly out of the plane of said legs and cross-bar and outwardly over said cross-bar, said hinge being supported within the aforesaid recess with said legs disposed in the grooved sides thereof and with the extremities of said legs supported in the aforesaid shoulder-receiving portions, thereby to prevent movement of said hinge within said recess; and a second casing section having an edge contiguous to the aforesaid edge of said first casing section with an overhanging lip portion extending into the afore-

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said notch, said lip portion having a generally rounded outer surface and having an inner surface defining a channel parallel to said edge of said second casing section, said channel receiving the aforesaid cross-bar of said hinge with the aforesaid looped portions thereof engaging the outer surface of said lip portion to maintain said cross-bar within said channel and to allow rotation of said second casing section about said cross-bar.

3. A hinged structure including in combination, a first casing section having a recess formed therein adjacent one edge thereof, said recess having a back section and a pair of spaced parallel grooved sides extending inwardly from the aforesaid edge and each terminating a selected distance from said edge in an enlarged shoulder-receiving portion extending through said back section; hinge-means comprising a resilient wire having a generally U-shaped configuration to constitute a pair of spaced parallel legs interconnected by a cross-bar, with the extremity of each such legs having an outwardly extending shoulder configuration, and with the contiguous portion of

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said cross-bar with each of said legs having a looped configuration extending upwardly out of the plane of said legs and cross-bar and outwardly over said cross-bar, said hinge being supported within the aforesaid recess with said legs disposed in the grooved sides thereof and with the extremities of said legs supported in the aforesaid shoulder-receiving portions, thereby to prevent movement of said hinge within said recess; and a second casing section having an edge contiguous to the aforesaid edge of said first casing section with an overhanging lip portion adjacent said recess, said lip portion having a generally rounded outer surface and having an inner surface defining a channel parallel to said edge of said second casing section, said channel receiving the aforesaid cross-bar of said hinge with the aforesaid looped portions thereof engaging the outer surface of said lip portion to maintain said cross-bar within said channel and to allow rotation of said second casing section about said cross-bar.

No references cited.