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APPARATUS FOR LATCHING AND OPENING CONTAINER COVERS

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FIG. 1.

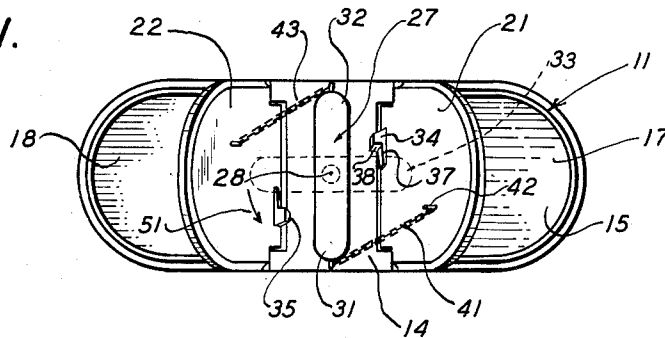


FIG. 2.

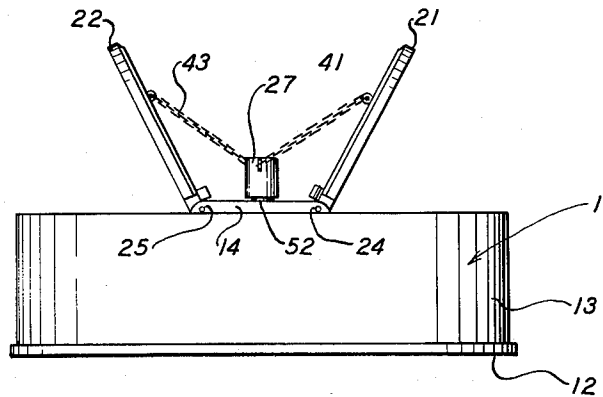


FIG. 3.

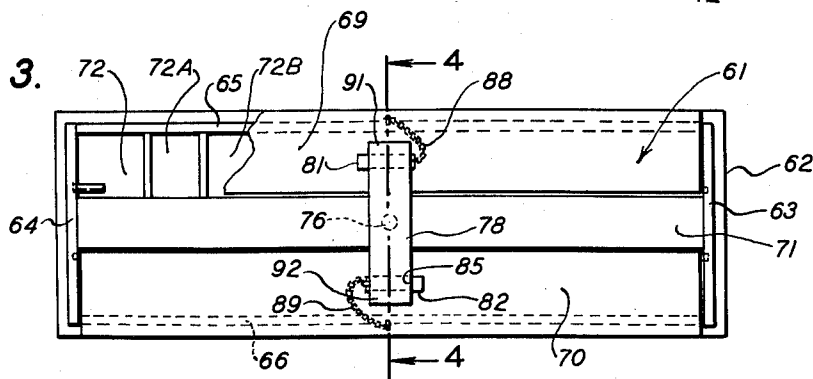
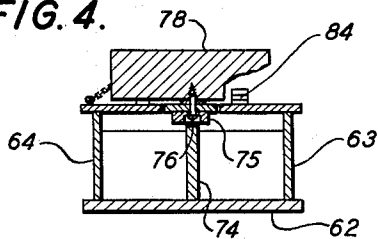


FIG. 4.



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APPARATUS FOR LATCHING AND OPENING CONTAINER COVERS

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The invention relates to apparatus for opening and latching covers of containers and more particularly to such covers that are hinged in pairs to open oppositely.

Many different types of containers are carried about from place to place by their users. Closed or covered containers such as women's handbags and purses, tool boxes and containers for small parts for assemblies, are normally carried closed. When access to the container is desired, the container is usually placed on some stable surface and the container is opened and the desired object is removed from it. Often times objects other than the container being carried interfere with removing another object from within the container. Many closing arrangements of containers such as purses and tool boxes, etc., require both hands to open the container. This of course is a handicap when the bearer of the container is carrying more than the container. I have invented a container which may be opened with one hand to give complete access to its interior. The apparatus of the invention preferably includes latching means to hold the cover or covers of the container closed in an effective manner.

The invention contemplates apparatus such as a container having a hinged cover over the container openings. A carrying handle is pivotably mounted near the hinge line of the cover. Preferably the carrying handle for the container extends outwardly away from the pivot axis of the handle. The handle is so mounted that it may pivot over the outer surface of the hinged cover. A link which may be flexible extends between the handle and a point remote from the hinge line of the cover. The length of the link is such that when the link is fixed to a point on the handle remote from its pivot axis rotation of the carrying handle away from the cover draws the cover away from the container opener, giving access to the container interior.

The preferred embodiment of the invention combines the above recited apparatus with a latch cam on the container which is engaged when the carrying handle is pivoted over the cover. The engagement between the handle and the cover by means of the latch cam is such that the cover cannot be lifted away from the container opening. The linking means between the carrying handle and the cover is such that the means exerts no force to open the cover when the handle is positioned to latch the cover.

The invention is equally applicable to containers having two hinged covers and it is particularly adapted to use with containers having hinged covers whose hinge lines are parallel and whose covers open oppositely. In apparatus of this nature latching cams are provided to be associated with each cover and linking means are provided between the carrying handle and each cover.

The apparatus of the invention makes possible by economical mechanical apparatus a family of containers whose covers are easily opened by simply twisting the handle with one hand, giving easy access to the interior. The preferred embodiment of the invention provides means for latching the covers in tightly closed position when the handle is turned so that the covers close the container openings. These and other advantages of the invention are apparent in the following detailed description and drawing in which:

FIG. 1 is a plan view of a preferred embodiment of the invention in which the carrying handle is oriented to

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draw each of the covers of the container into open positions;

FIG. 2 is an elevational view of the apparatus of FIG. 2;

FIG. 3 is an alternate embodiment of the invention utilized with a partitioned container; and

FIG. 4 is a sectional elevation partly broken away and taken along line 4—4 of FIG. 3.

A container 11 in FIGS. 1 and 2 has a bottom wall 12, a curving continuous side wall 13 and a top mounting piece 14 located centrally of the top area of the container. Access to the interior 15 of the container is had through openings 17 and 18 on opposite sides of mounting piece 14.

A pair of covers 21, 22 are hinged to opposite sides of the mounting piece by pairs of hinge pins 24, 25 respectively. A carrying handle 27 is pivotably mounted at the center of the mounting piece. The handle pivots about a pivot point indicated at 23. The carrying handle extends in ends 31, 32 sufficiently displaced from the pivot axis that the handle when turned overlies the closed covers in the position shown by dotted lines 33 FIG. 1. The handle may be pivoted to the mounting piece in the manner shown and described later with respect to the device of FIGS. 3 and 4.

Each of the covers 21, 22 has a latch cam 34, 35 respectively. A first flexible link 41 extends from end 31 of the carrying handle and is fixed at a point 42 on cover 21 remote from its hinge line. The opposite end of flexible link 41 is fixed by conventional means to the extreme outer portion of carrying handle 27. A second flexible link 43 connects between end 32 of handle 27 and cover 22. The second link is oriented with respect to the handle and cover similarly but oppositely to first link 41.

It can be appreciated from the drawing and description that with handle 27 turned to the orientation shown in FIGS. 1 and 2 links 41 and 43 are pulled taut and draw the covers 21 and 22 away from openings 17 and 18 to give access to interior 15 of the container. Conversely, when the handle is pivoted to the position indicated by dotted lines 33, the flexible links slacken and the covers return to closed position.

The preferred embodiment as heretofore described has means for latching the covers into closed position. The embodiment of FIGS. 1 and 2 is provided with latch cams 34, 35 against which the pivoted carrying handle bears. Further pivoting of handle 28 in the direction of arrow 51 causes the bottom surface 52 on either end of the carrying handle to engage ramps 37 of the latch cams and thereby latch the covers into closed position. The friction bind between the handle and the latch cams is such that the handle does not turn by itself to unlatch the covers.

FIGS. 3 and 4 illustrate an embodiment of the invention in which the interior of a container 61 is divided into a plurality of compartments beneath the hinged covers. Such a container might be used as a parts tray for various types of craftsmen. As in the previously described embodiment, container 61 of FIGS. 3 and 4 has a bottom wall 62, pairs of parallel side walls 63, 64 and 65, 66 which support oppositely opening hinged covers 69, 70 and a central mounting piece 71. The interior of the container is divided into a plurality of compartments such as the compartments 72, 72A, 72B. A central divider 74 separates the compartment into two rows and also helps support mounting piece 71.

The mounting piece has a pivot bearing 75 centrally located at the midpoint of the container. A conventional wood screw 76 extends upwardly through the bearing to be fixed in a carrying handle 78. The bearing is free to turn with respect to the mounting piece so that the

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handle may pivot freely about the vertical axis of the screw. Many other pivoting arrangements may be used within the scope of the invention, but the presently described combination has proved to be smooth working and economical. A similar arrangement can be utilized in the embodiment of FIGS. 1 and 2, as previously suggested.

As in the first embodiment, latch cams 81, 82, are fixed one to each of the covers or lids 69, 70. Each latch cam has a sloping cam ramp 84 and a vertical stop shoulder 85. The cams latch the covers in their closed position when the handle is pivoted to the position of FIG. 3.

First and second links 88, 89 join handle ends 91, 92 to covers 69, 70 respectively. The links are preferably of fine link chain, but may be of nylon cord or fine braided wire. The links serve to draw the covers open when the carrying handle is pivoted about the axis formed by bearing 75 and screw 76. Each link is long enough that the handle clears the ramp of the two latch cams before the link becomes taut and lifts the covers into open position.

The embodiment of FIGS. 3 and 4 operates in the same manner as the embodiment of FIGS. 1 and 2. The carrying handle is pivoted in one direction to slacken the links and latch the cover or covers in closed position, and is pivoted in the other direction to release the latching action and draw the links taut to open the covers.

The illustrative embodiments have shown containers having two covers. The invention benefits containers having only one cover or a plurality of covers in the same fashion. The invention makes possible containers simpler to open than conventional covered containers. The most of manufacture is no greater than with conventionally secured covers, and the ease of access is increased many fold. While handbags and purses are the principal beneficiaries of the inventive structure, all types of containers are possible embodying the inventive principle.

I claim:

1. A container comprising an open top body portion having a planar bottom and sidewalls extending upwardly from said bottom and terminating in a plane substantially parallel to said bottom, a closure for the open top of the body portion comprising a planar cover mounting piece secured across the said open top with its plane paralleling the plane of said top and with a linear edge thereof transversing the open top, a cover member hinged to said linear edge for swinging movement between open and closed positions across the body portion top opening, an elongated carrying handle mounted on said mounting piece adjacent the hinge line of the cover for rotation about an axis perpendicular to the plane of the mounting piece, said handle having a portion thereof rotatable over a portion of the hinged cover, an elongated flexible link having one of its ends fixed to the cover at a point remote from the cover hinge and the

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other of its ends fixed to a point on the handle remote from the axis of rotation of the handle, an elongated latch cam fixedly secured to said hinged cover in spaced parallel relation to the cover hinge line and on that portion of the cover over which the handle is rotatable, said latch cam having a sloping cam surface inclined to the top face of the cover in a direction parallel to the cover hinge line, the lower face of said handle being engageable with said cam surface for latching the cover in closed position when the carrying handle is rotated over the cover portion and the flexible link is adapted to draw the cover away from the container opening when the carrying handle is rotated away from the cover.

2. A container comprising an open top body portion having a planar bottom and sidewalls extending upwardly from said bottom and terminating in a plane substantially parallel to said bottom, a closure for the open top of body portion comprising a planar cover mounting piece secured across the said open top with its plane paralleling the plane of said top and with parallel linear edges thereof transversing the open top and defining two openings, a cover member hinged to each of said linear edges for swinging movement between open and closed positions across the body portion top openings, an elongated carrying handle mounted on said mounting piece adjacent the hinge lines of the covers for rotation about an axis perpendicular to the plane of the mounting piece, said handle having a portion thereof rotatable over a portion of each hinged cover, a pair of elongated flexible links each having one of its ends fixed to a cover at a point remote from the cover hinge and the other of its ends fixed to a point on the handle remote from the axis of rotation of the handle, an elongated latch cam fixedly secured to each of said hinged covers in spaced parallel relation to the cover hinge line and on that portion of the cover over which the handle is rotatable, each of said latch cams having a sloping cam surface inclined to the top face of the cover in a direction parallel to the cover hinge line, limit stops on each cam, the lower faces of said handle on either side of the pivot being engageable with one of said cam surfaces for latching the covers in closed position when the carrying handle is rotated over the cover portions and the flexible links are adapted to draw the cover away from the container openings when the carrying handle is rotated away from the covers.

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