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J. M. MELICK

2,041,850

DETACHABLE HINGE

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FIG. 1

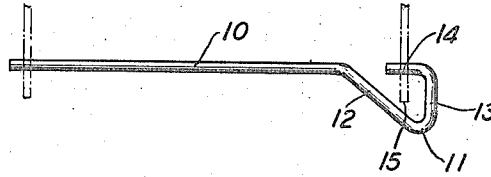


FIG. 2

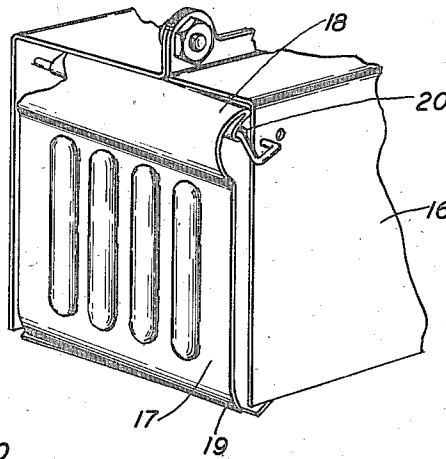


FIG. 4

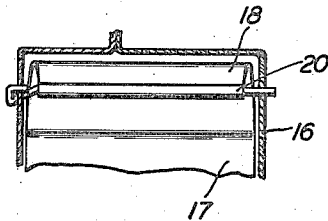
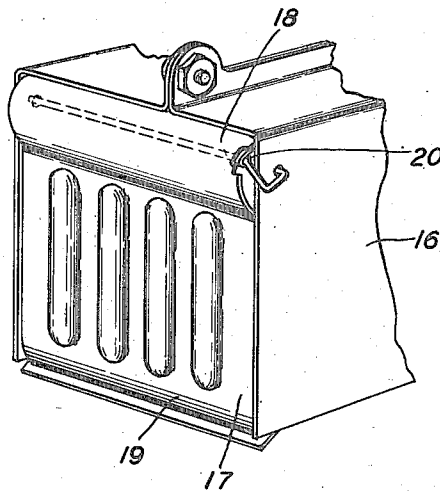


FIG. 3



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DETACHABLE HINGE

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1 Claim. (Cl. 16—176)

This invention relates to hinges and particularly to that type of hinge which is readily taken apart and reassembled.

In apparatus which is shielded or guarded by a hinged member, it very often happens that either the apparatus or the hinged member requires repair and the hinged member must therefore be removed. Unless this contingency is provided for in the design of the hinge and hinged member, the removal of the latter cannot be accomplished without destroying a part of the hinge, or alternatively, without taking apart a large amount of associated apparatus.

It is the object of this invention to provide a hinge and hinged member which are simple, rugged, inexpensive and readily removable from apparatus associated therewith.

In its preferred form, this invention comprises a bearing pin or pintle at one end of which is an unsymmetrical open loop, the purpose of which is to bypass a bearing. The end of the loop is bent to enter the bypassed bearing from the same side that the opposite end of the pintle enters its bearing. The hinged member may be assembled on the pintle and the pintle and hinged member inserted into the bearings as a unit by springing the loop until the ends of the pintle are in line with their respective bearings whereupon the pintle may be snapped into place.

For the purpose of illustration, this invention will be described with reference to a coin collector of a telephone pay station.

In the drawing which accompanies this specification and forms a part thereof,

Fig. 1 is a view of a pintle shaped in accordance with this invention;

Fig. 2 is a perspective of a portion of a coin collector of a telephone pay station showing a shutter mounted upon a pintle and about to be snapped into place;

Fig. 3 is a perspective or a portion of a coin collector showing a shutter and pintle in place; and Fig. 4 is a rear view of the hinge of Fig. 3.

Referring more particularly now to Fig. 1, it is seen that the pintle is comprised of a straight portion 10 and a partially closed irregular loop 11. Straight portion 10 is long enough to support a shutter and also to form at its left hand end a journal by which it is supported in the coin collector or other device. Loop 11 is comprised of an oblique portion 12, a substantially perpendicular portion 13 and an aligned straight portion 14, the terms "oblique", "perpendicular" and "aligned" being taken with reference to straight portion 10. Aligned portion 14 constitutes the right hand

journal or support of the pintle and is preferably made short. It should be of such a length, however, that it will still be in its bearing when the pintle is moved to the right as far as it will go, that is, when oblique portion 12 contacts forward edge 15 of the bearing. One of the functions of oblique portion 12 is therefore that of a stop for lateral movement of the pintle. Loop 11 should likewise be of sufficient length to permit straight portions 13 and 14 to be moved axially relative to one another without stretching or bending some part of the loop beyond its elastic limit and thus destroying the alignment of portion 14 with portion 10. The diameter of the pintle and the material of which it is made depend upon the elasticity desired in loop 11 and the weight to be supported. It can be formed with the aid of suitable dies operated by a punch press.

The pintle is shown in Figs. 2, 3 and 4 as used with coin collecting apparatus of a telephone pay station. The rectangular passageway 16 is a refund coin chute through which coins for which no service has been rendered are returned to the caller. The chute terminates in an opening in the box of the pay station (not shown) which is readily accessible from the outside and consequently those desiring to obtain access to the coins prior to their final disposition within the device can do so by means of wires, hooks, etc., unless the chute is blocked in some way. The usual manner of blocking ingress to the coin comprises a hinged shutter designed to swing outward to permit coins to be returned when authorized, but to resist swinging inward when forced by external means. A preferred form of shutter is shown in Figs. 2, 3 and 4 at 17 and comprises an embossed barrier with inwardly curved top and bottom edges 18 and 19 respectively. It is embossed for greater rigidity and the edges are curved inward to deflect wires, etc., which might be used to pass around the edges to obtain the coin fraudulently. Curve 18 of shutter 17 terminates in a bight 20 through which straight portion 10 of the pintle may be passed. The bight is, of course, shorter than portion 10.

Having described the more important mechanical features of this invention, its operation is almost self-explanatory. The shutter 17 is threaded over pintle 10, left hand edge of portion 14 is made to abut the wall of passageway 16, and left hand edge of portion 10 is made to enter its bearing. The pintle is then pushed inward to cause portion 14 to enter its bearing and, in doing so, outer edge 15 coacts with ob-

lique portion 12 to open loop 11 until portion 14 snaps into its bearing.

To remove the shutter, a flat instrument such as a screw driver is inserted between perpendicular portion 13 and the adjacent wall and portion 14 is forced outward, thereby withdrawing portion 14 from its bearing.

A pintle of the type described is insertable into both of its bearings simultaneously and not successively as in the ordinary pintles. It is, therefore, not necessary to place the shutter in its proper location in the coin collector first and then arduously thread the pintle through the apertures presented to it in their physical order but the shutter can be assembled on the pintle at any time or in any convenient location and the two then easily mounted in the coin collector as a unit. The pintle is not destroyed

when it is removed but it can be used over again indefinitely.

What is claimed is:

A pair of bearings, a hinged member, a pin adapted to be journaled in the bearing and to support the hinged member, said pin comprising a journal, a straight portion for supporting the hinged member adjacent the journal, a hook adjacent the straight portion and a journal adjacent the hook whereby the hinged member and pin may be simultaneously assembled with respect to the bearings by threading the pin through the hinged member, inserting the first mentioned journal into its bearing and then opening the loop until the last mentioned journal is snapped into its bearing.

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