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C. H. WHITLOCK

1,936,465

HINGE CONNECTION FOR MOLDED PRODUCTS

Filed Oct. 26, 1932

Fig. 1

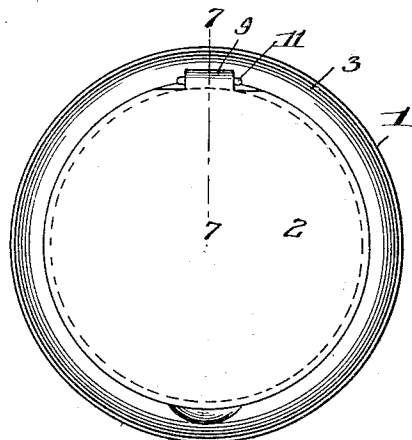


Fig. 2

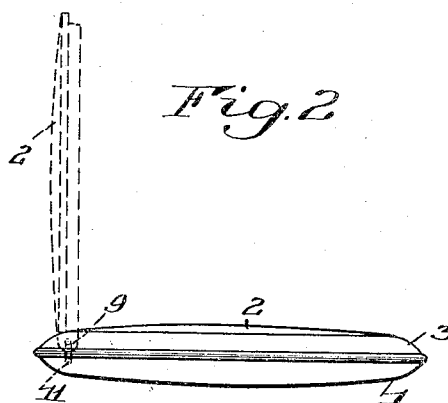


Fig. 3

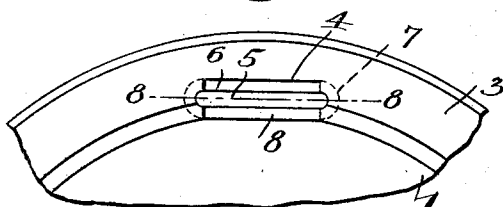


Fig. 4

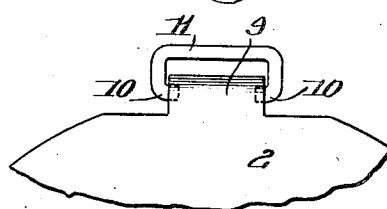


Fig. 5

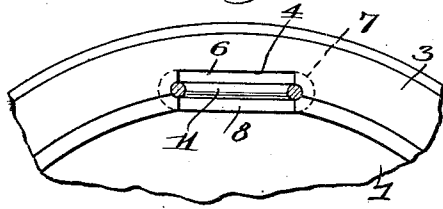


Fig. 6

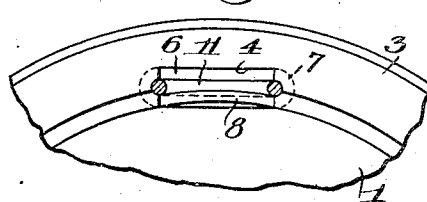


Fig. 7

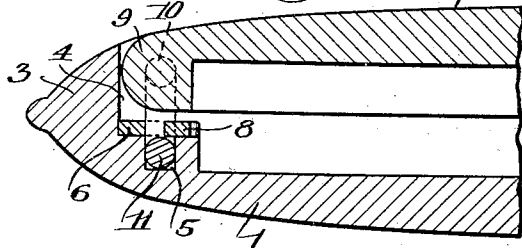
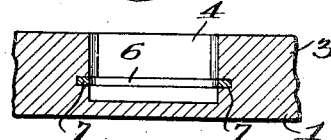


Fig. 8



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HINGE CONNECTION FOR MOLDED PRODUCTS

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5 Claims. (Cl. 16—128)

My present invention relates to molded products and more particularly to the manufacture of small articles, especially receptacles, such as toilet compacts, powder boxes and cases for various other uses, which embody two or more relatively hinged parts, such as a body and a cover therefor, and the invention has for its object to provide a simple, light, secure and well-appearing hinge connection for such manufactures which will be also inexpensive to make and capable of being easily and quickly assembled.

To these and other ends, the invention resides in certain improvements and combinations of parts, all as will be hereinafter more fully described, the novel features being pointed out in the claims at the end of this specification.

In the drawing:

Fig. 1 is a top plan view of a compact holder constructed in accordance with and illustrating one embodiment of my invention;

Fig. 2 is a side view thereof, showing in dotted lines the position of the lid or cover when raised;

Fig. 3 is an enlarged top view of a fragment of the receptacle, showing the formation of the hinge knuckle or bearing therein;

Fig. 4 is a top plan view, showing the corresponding fragment, enlarged, of the cooperating knuckle on the cover with the pintle in place thereon;

Fig. 5 is a view similar to that of Fig. 3, but showing a section of the pintle link assembled to its operative position;

Fig. 6 is a view similar to that of Fig. 5, showing the pintle link secured in its assembled position in accordance with my preferred method of assembly;

Fig. 7 is an enlarged fragmentary section taken on the line 7—7 of Fig. 1, and

Fig. 8 is a further enlarged fragmentary detailed section taken substantially on the line 8—8 of Fig. 3.

Similar reference numerals throughout the several views indicate the same parts.

My improvements also relate to a novel method of forming and assembling and securing the hinge parts, in accordance with which I proceed generally, as follows:

I mold the two parts of the receptacle in presses, as usual, or in any desired or preferred manner, according to the material being worked upon, the body and cover portion being respectively provided with cooperative knuckle elements, one of which knuckle elements is fitted with a pintle. In the process of molding the companion member, which is formed with a

cavity to accommodate the pintle, I imbed in the material thereof adjacent to the cavity a relatively soft metal or bendable fastener which is, however, partly exposed or accessible for manipulation by the operator. The parts fit readily together and when assembled a simple operation so distorts the fastener that it locks the pintle in place and hence permanently secures the assembly, except that if occasion requires in instances of substitution or repair the fastener may be released and reengaged in a similar manner.

Referring more particularly to the drawing, the compact holder there illustrated as an example comprises a circular shallow dish-like body portion 1 having a lid or cover 2 counter-sunk within the bead 3 that constitutes the side walls of the body. On an inner face of the bead is formed a rectangular cavity 4 open at the top and at such inner face. Intersecting this cavity and wider and deeper than it is a slot-like extension thereof, indicated at 5, constituting a socket. At the bottom of the cavity 4 there is molded and imbedded in the material a link 6 of readily bendable material, such as soft brass. The looped eye or open center of this link is coincident with the slot 5 so that it surrounds it but, though its ends, indicated at 7 by dotted lines in Fig. 3, are sunk into the holding material, the side portions or bars are exposed, particularly the outside bar 8 on the inner face of the side wall of the receptacle, so that it is accessible to a tool at that point.

The lid 2 is formed with a projecting knuckle 9 at one edge adapted to fit and turn in the cavity 4, the ends of which constitute the complementary knuckle or bearing on that piece. The knuckle 9 is bored to receive the ends 10 of a pintle link 11 which may be sprung therein to form a pintle bearing. The body of the link 11 snugly fits the slot 5 of the body, as clearly shown in Fig. 5 and also in Fig. 7, and forms an anchorage disposing the pintle pivots 10 at their proper elevated point to provide for the exact swinging relationship of the lid and body that is required for them to properly fit into one another.

To secure the pintle link 11 in such anchoring position after it has been so inserted, as in Fig. 5, it is necessary only to distort or bend inwardly to a bowed position the bar 8 of the fastener link 6, as shown in Fig. 6, which can be done by pressure with a suitable tool. The pintle link 11 or the bar portion thereof lying, as it does, just below the bar 8, as clearly shown in Fig. 7,

the latter is forced partially over the same, holding it firmly against withdrawal from the socket 5 and against the bottom thereof. There is usually no occasion to detach the cover, but should occasion arise it is obvious that the pintle link can be released by spreading the bars of the fastener and restoring the bar 8 to its original form.

My improved hinge connection is strong and serviceable and neat in appearance, while the parts required are few and easy to manufacture. Modifications of the embodiment shown will readily occur to the minds of those skilled in the art from the above description, but as far as the general features of the invention are concerned, I believe that I am the first to adopt the broad idea of preparing the parts of molded articles of this kind to easily fit together in a hinged relationship that is maintained by the distortion of a key element or fastener fixed to one of the components during the molding process.

I claim as my invention:

1. In a hinge connection for molded receptacles or the like, the combination with a body member and a cover member, one of which is provided with a cavity and the other with a knuckle, of a pintle in the knuckle occupying the cavity in the other member, and a metallic fastener imbedded in the material of the latter adjacent to the cavity and holding the pintle and knuckle thereto.

2. In a hinge connection for molded receptacles or the like, the combination with a body member and a cover member, one of which is provided with a cavity and the other with a knuckle, of a pintle in the knuckle occupying the cavity in the other member, and a metallic fastener imbedded in the material of the latter adjacent to

the cavity and holding the pintle and knuckle thereto, said fastener being partially exposed and susceptible to distortion into and out of locking engagement with the pintle.

3. In a hinge connection for molded receptacles or the like, the combination with a body member and a cover member, one of which is provided with a cavity and the other with a knuckle, of a pintle in the form of a link having its ends turning in the knuckle and the loop of its body portion occupying the cavity in the other member, and a metallic fastener imbedded in the material of the latter adjacent to the cavity and projecting into the loop of the pintle.

4. In a hinge connection for molded receptacles or the like, the combination with a body member and a cover member, one of which is provided with a cavity and the other with a knuckle, of a pintle in the form of a link having its ends turning in the knuckle and the loop of its body portion occupying the cavity in the other member, and a metallic fastener imbedded in the material of the latter comprising a link surrounding the cavity and bent at one side into the loop of the pintle.

5. In a hinge connection for molded receptacles or the like, the combination with a body member and a cover member, one of which is provided with an open slot-like cavity and with a fastening link of relatively soft bendable metal imbedded in the material thereof and surrounding the cavity but partially exposed at one side, of a knuckle on the other member partially occupying the cavity, and a link-shaped pintle turning in the knuckle and having its loop occupying the cavity slot to be engaged and released by distortion of the fastening link.

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