

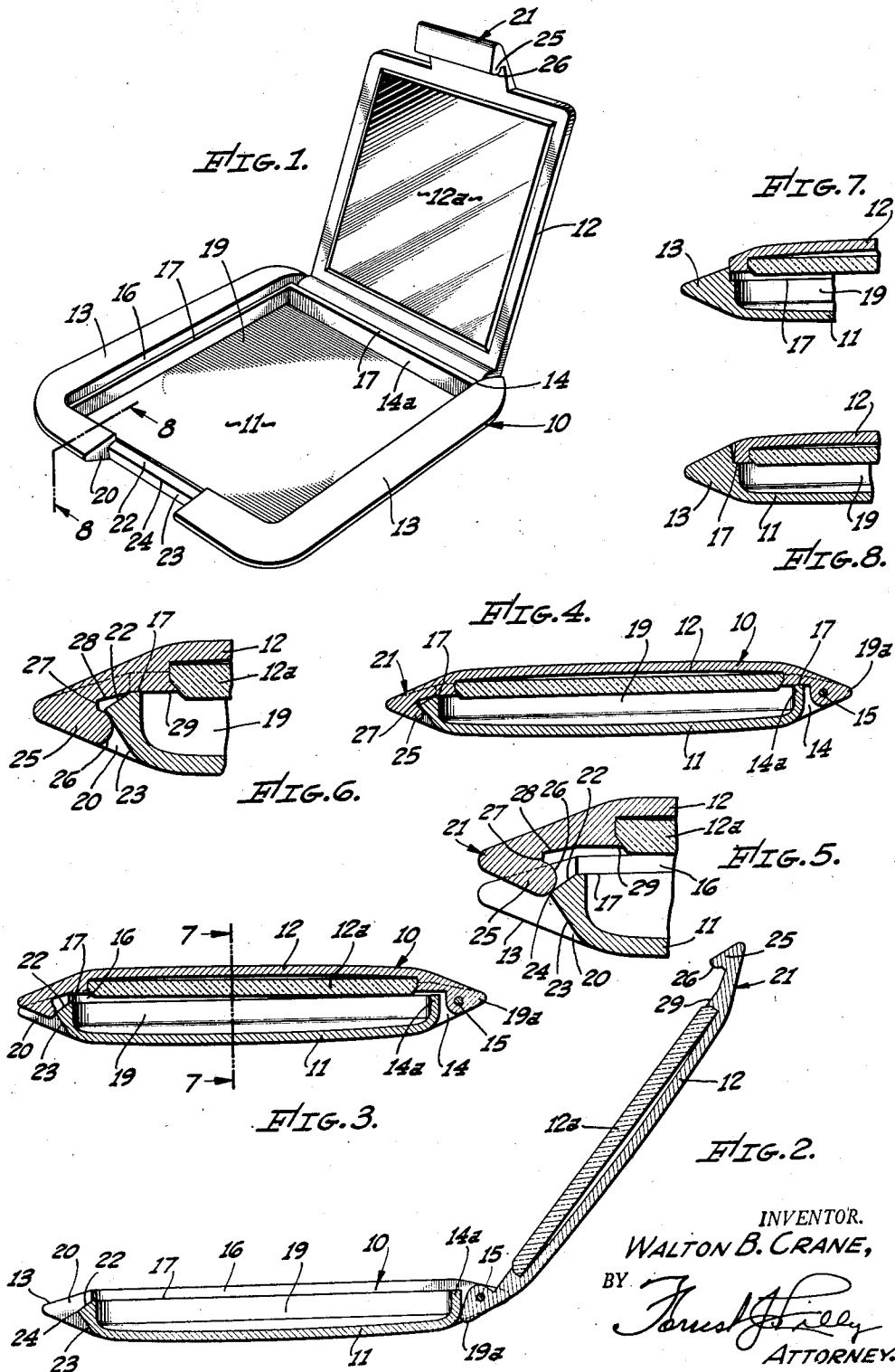
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W. B. CRANE

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INTEGRAL CATCH FOR SYNTHETIC RESIN VANITY CASES

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INVENTOR.
WALTON B. CRANE,
BY *James H. Kelly*
ATTORNEY.

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INTEGRAL CATCH FOR SYNTHETIC RESIN
VANITY CASESWalton B. Crane, Beverly Hills, Calif., assignor to
Allied Plastics Company, Los Angeles, Calif., a
copartnership

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1 Claim. (Cl. 220—60)

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This invention relates generally to plastic cases such as compacts, cigarette cases, and the like.

The provision of a suitable clasp for plastic cases such as compacts and cigarette cases has been found to present a problem of extraordinary difficulty, and the many plastic cases heretofore manufactured in which the attempt has been made to utilize an all-plastic clasp have been subject to various troubles. To begin with, the plastic materials in principal common use; e. g., cellulose acetate, are subject to a certain cold flow, with the result that the clasp even though nicely operable at times of molding, soon becomes loose either in or out of service. Again, some of the clasps heretofore used have caused the two halves of the case to snap closed from a considerable separation distance, which in the case of powder compacts results in blow-out of powder during the closing operation. A still further difficulty has been encountered in the initial assembly in that it has heretofore been very difficult to install the hinge pins with the lid in proper position relative to the base so that the clasp will function as intended.

A general object of the present invention is the provision of a plastic case having an improved, easily operable, effective all-plastic clasp means which does not become loose by warping or cold flow.

A further object is to provide a clasp arrangement such that the two halves of the case will be nearly closed before the clasp snaps into place, whereby blowout of powder from a powder compact is avoided.

A further object is the provision of a plastic case so constructed as to provide positive assurance that the lid is in precisely the proper position relative to the base for proper clasp functioning at the time the hinge pins are installed.

A still further object is to provide a compact in which the lid and base parts are so supported that cold flow and warping of the plastic such as might interfere with closure of the lid and tightness of the clasp are inhibited.

The present invention will be best understood from the following detailed description of one present illustrative embodiment thereof, reference for this purpose being had to the accompanying drawings, in which:

Figure 1 is a perspective view of a plastic compact in accordance with the invention, shown in open position;

Figure 2 is a vertical medial section through the compact, shown in open position;

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Figure 3 is a view similar to Fig. 2, but showing the lid partially closed;

Figure 4 is a view similar to Fig. 3, but showing the lid completely closed;

Figure 5 is an enlarged view, showing the clasp in a position shortly preceding that of Fig. 3 in the closing operation;

Figure 6 is a view similar to Fig. 5, but showing the clasp entirely closed;

Figure 7 is a detail taken on line 7—7 of Fig. 3; and

Figure 8 is a detail taken on line 8—8 of Fig. 1, but with the lid in closed position.

In the drawings, numeral 10 designates generally a plastic compact, embodying a base 11 and a hinged, slightly arched lid 12, carrying a mirror 122a. The compact shown for illustrative purposes is to be taken as representative of any plastic case or receptacle in which the improvements of the invention may be incorporated, and the invention is, of course, not to be taken as limited to the specific type of case here shown.

In the particular improvement of the invention shown for illustrative purposes, the base 11 and lid 12 are both approximately square in general outline, but with rounded corner portions as indicated.

The front and side walls of base 11 have a peripheral tapered flange 13, which is cut away or notched at the rear, as at 14, to receive the rearward portion of lid 12, the latter being connected to the base by means of hinge pins 15. The notch 14 forms the rear of the base with a rear wall 14a. Lid 12 is snugly receivable in a shallow recess 16 of corresponding outline sunk in base 11, and when in closed position, engages downwardly against a narrow upwardly facing ledge or shoulder 17 formed on the four walls of the base at the bottom of said recess to effect a powder-tight seal (Fig. 4). At the rear, of course, this ledge 17 consists of the upper ledge of rearward wall 14a. Formed in base 11 inside and below this ledge is the interior compartment 19 for the usual powder puff, sifter and powder, not shown. When the lid is tilted back (Fig. 2) a rearward projection 19a, to the rear of the hinge axis, engages against rear wall 14a as a support.

Base flange 13 has a notch 20 at the front of the case adapted to snugly receive a clasp arm 21 formed integrally with and projecting from the forward portion of lid 12. This notch 20 extends to ledge 17, and below and forwardly of said ledge its bottom is defined by two angular faces 22 and 23, of approximately 30° and 60°, respectively, with horizontal, converging to

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a ridge 24, the two faces being thus at approximately right angles to each other. Clasp arm 21 has a hook portion 25 adapted to engage over the angular projection formed by the converging faces 22 and 23 and to seat finally in locking position, against the latter. This hook-portion 25 has a rounded or somewhat cylindric engaging surface 26 adapted to engage first against and slide downwardly on the face 22 during the closing operation, then to slip over the ridge 24 defined by the faces 22 and 23, and finally to engage against the face 23. Cylindric surface 26 meets at the top on approximately vertical surface 27, connecting with the under surface 28 of the clasp arm. The latter is at an angle preferably a little less steep than the face 22 (Fig. 6), and merges with the flat under surface 29 of the lid which seats against the aforementioned base ledge 17.

The defining wall of the recess 16 has a slight inward slope, and the outer edge or periphery of the lid has a slight slope in the opposite direction, as shown with some exaggeration in Fig. 8. When the lid is in closed position, the opposed oppositely sloping walls of these members are tightly in engagement with one another, whereby the lid is supported against deforming cold flow. In the initial assembly of the article, the lid is first placed in closed position, and accurately positioned by engagement of these wall members. The hinge pins are then installed, and by this procedure, there is positive assurance that the lid and base have been hinged together precisely in their proper relationship.

In the closing operation, the rounded clasp surface 26 engages the face 22, which it does not quite clear (Fig. 5). The lid and base are then squeezed together with pressure, with the result that the clasp arm is extended slightly, and the surface 26 rides down the cam face 22 and finally clears and moves over the ridge 24 (Fig. 3). The lid thereupon snaps closed, the clasp surface 26 engaging the final seating face 23, and the lid returning to or nearly to its original arched form, so that the clasp is slightly retracted and engages very tightly against face 23. To open the compact, upward pressure is exerted on the clasp, causing the whole lid to give slightly, and in this way the clasp is freed or cleared from the seating face 23 and permitted to open.

The clasp thus utilizes the entire lid as a spring, which must be deformed slightly both in closing and in opening the compact.

Attention is drawn to the fact that the lid is nearly closed by the time the clasp finally snaps into locking position, the lid already being well within the recess 16, and just above seating ledge 17, so that opportunity for blow-out of powder is practically eliminated.

Attention is further drawn to the fact that the rounded clasp portion 26 in engagement with the angular locking face 23 might engage the latter at various points thereon and still retain its security. Thus should the lid lengthen slight-

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ly in service, owing to cold-flow of certain plastics of which the compact might be constructed, it will simply mean that the clasp surface 26 will engage a little higher up on the seat 23, and the spring action of the lid will still be sufficient to hold the clasp tightly against seat 23. At the same time, however, the construction of the present compact is such as to inhibit or minimize any such tendency for cold flow of the plastic, since when the lid is closed it is snugly received and supported by the recess 16, with its forward edge closely supported by the opposed defining surface of said recess (see Fig. 8). Being so supported, the lid does not tend to increase in length by cold flow as in prior constructions.

While the particular device herein shown and described in detail is fully capable of attaining the objects and providing the advantages hereinbefore stated, it is to be understood that it is merely illustrative of the presently preferred embodiment of my invention, and that I do not mean to limit myself to the details of construction or design herein shown, other than as defined in the appended claim.

I claim:

In a plastic case, the combination of a base member having front, rear and side walls and a bottom wall defining an interior chamber, an upwardly facing shoulder on said front and side walls spaced below the top edge thereof, said rear wall having its top edge in the same plane with said shoulder, said front and side walls having inwardly facing surfaces above said shoulder, a lid member hinged to said base to the rear of said rear wall, the front and side edges of said lid being receivable inside said inwardly facing surfaces and said lid having a continuous surface engageable with said shoulder and the upper edge of said rear wall, said front wall having a notch extending downwardly to said shoulder, and said front wall below said notch having a projecting angular formation defined by upper and lower converging surfaces, and a forwardly projecting hooklike clasp arm on said front edge of said lid receivable in said notch and having a hook-end portion engageable over said projecting angular formation on said front wall of said base and bearing on the lower surface thereof when said lid member is seated on said shoulder.

WALTON B. CRANE.

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