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R. W. POST

2,050,896

MOLDED CASE

Filed March 15, 1934

Fig. 1.

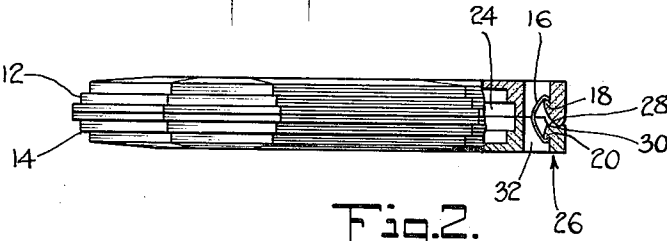


Fig. 2.

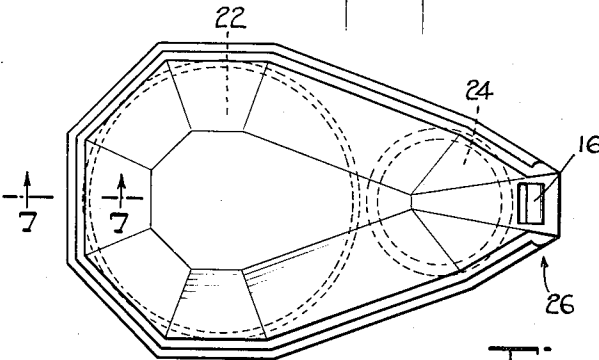


Fig. 3.

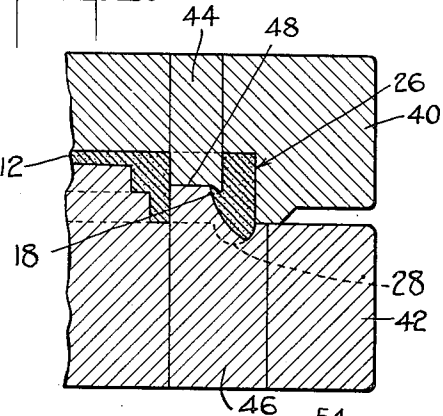


Fig. 5.

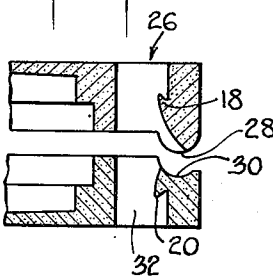


Fig. 6.

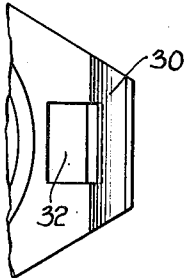


Fig. 4.

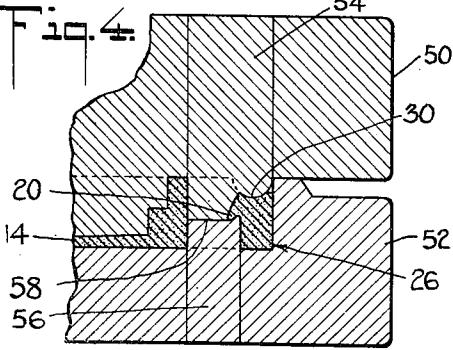
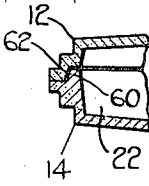


Fig. 7.



INVENTOR
Ronald W. Post

BY
James + Neuman
ATTORNEYS

UNITED STATES PATENT OFFICE

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MOLDED CASE

Ronald W. Post, Boonton, N. J., assignor to
Boonton Molding Company, Boonton, N. J., a
corporation of New Jersey

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9 Claims. (Cl. 217—57)

This invention relates to molded cases or receptacles, and more particularly to thin pocket cases such as a vanity case, a cigarette case or the like.

Articles molded from semi-plastic materials and particularly from synthetic resins such as condensation products of phenol or urea have proved popular because of the durability, strength and lustre of the material, as well as the facility and economy with which it may be shaped as desired. The application of this art to hinged receptacles, such as jewelry boxes and the like, has been promoted by forming the receptacle with molded separable mating pivot means and locking the same together by means of a spring which further operates to hold the cover in either open or closed condition, thereby dispensing with a special latch for the purpose.

The primary object of the present invention is to make this type of construction applicable to thin flat cases such as a vanity case, a cigarette case or other pocket case and to devise such cases embodying the spring hinge in question.

Still another object of my invention is to make possible rapid repetitive molding of such cases by a single simple direct molding operation in an ordinary two-part mold and to provide a molding method and molding apparatus for this purpose.

To the accomplishment of the foregoing and such other objects as will hereinafter appear, my invention consists in an article and the method and apparatus for manufacturing the same as hereinafter more particularly described in the specification and sought to be defined in the claims. The specification is accompanied by a drawing, in which:

Fig. 1 is a partially sectioned side elevation of a vanity case embodying features of my invention;

Fig. 2 is a plan view of the same;

Fig. 3 is a section through a mold during the molding of the upper part of the casing;

Fig. 4 is a similar section through a mold during the molding of the lower part of the casing;

Fig. 5 is a section showing the hinge portion of the casing prior to attachment of the spring;

Fig. 6 is a plan view of the hinge portion of the lower part of the casing; and

Fig. 7 is a section on the plane of the line 1—7 of Fig. 2.

Referring to the drawing, the invention is shown applied to a vanity case, the top and bot-

tom parts 12 and 14 of which are hingedly related through the use of a single spring 16. It will be understood, however, that the invention is equally applicable to thin flat pocket cases such as cigarette cases and the like and that the hinged parts may be connected by more than one spring clip.

The outstanding manufacturing difficulty in connection with a case of this kind centers about the provision of the necessary undercut seats 18 and 20 for anchoring the spring 16 in place. When dealing with a box-like receptacle, the seats 18 and 20 may be provided on the inside of the rear wall of the box and the spring 16 may be disposed within the box. When the case is thin, however, there is insufficient room within the case for the spring, or if there be barely sufficient room, difficulty nevertheless arises in attempting to mold the spring seats 18 and 20 in place.

In accordance with my invention, the case comprises not only one or more receptacle portions 22 and 24 but also a hinge portion 26 formed integrally with and immediately adjacent the receptacle portion. This hinge portion is formed with separable but mating pivotal means such as the convex edge 28 on upper portion 12 which mates with concave edge 30 on lower portion 14. The hinge portion 26 is also cut through from top to bottom to form a passage 32 on one side of which the spring seats 18 and 20 are formed and within which the spring 16 is received and housed. From a different viewpoint, it may be considered that the material of the hinge portion 26 is cut away above and below the spring seats 18 and 20 to expose the spring seats, or in a completed article, to expose the spring 16. On reflection it will be evident that with this construction the article may be made very thin, even substantially thinner than that shown in the drawing, for the thickness may be reduced down to the length of spring 16 and even less if a slight projection of the rounded ends of the spring is not objectionable. My construction is also desirable in that the spring 16 is partitioned from the receptacles 22 and 24 so that when these receptacles are provided with powder, rouge and powder puffs, as is contemplated, the contents will not pass or catch behind spring 16.

The present invention is also valuable in simplifying the process and apparatus for manufacturing the receptacle or case. The spring seats 18 and 20 are undercut and as ordinarily manufactured, require that the mold be a multi-

part mold provided with loose side followers or plates which are withdrawn from the mold together with the freshly molded article. These side plates must afterward be separated from the article and returned to the mold. With my invention, however, the halves or parts of the case may all be molded in finished form in a single simple molding operation by means of an ordinary two-part mold. The parts may therefore be molded in rapid succession at minimum cost.

Referring to Figure 3 of the drawing, the upper part 12 of the case is shown molded in a two-part mold 40, 42, the mold being appropriately recessed and shaped to form the receptacle portions 22 and 24 and being further provided with fixed keys or inserts 44 and 46 which pass through the hinge portion 26 from the opposite sides thereof, coming together at a parting line 48. Key 44 acts as an integral part of mold portion 40, while key 46 acts as an integral part of mold portion 42. Together the parts shape the spring seat 18 as well as the convex bead 28. It may be mentioned that the mold 40, 42 is shown inverted in order to keep the upper part 12 of the case in its position in use.

A generally similar description is applicable to the molding of the lower part 14 of the case, as illustrated in Figure 4. The case is molded between upper and lower die portions 50 and 52, respectively provided with fixed keys or inserts 54 and 56 which pass through the hinge portion 26 of the article and come together at parting line 58. The keys 54 and 56 form the spring seat 20 as well as the concave hinge bearing 30.

It will thus be appreciated that by cutting away the material from the spring seats to the outside of the casing, it becomes possible to mold the spring seats directly without the use of loose side followers or plates in the mold, despite the necessary undercut shape of the spring seats.

The parts 12 and 14 of the case are preferably held in alinement not only by the spring-hinged construction, but also by the use of a flange 60 formed around the lower part of receptacle 22 and mating with a recess 62 formed around the upper part of receptacle 22, this construction being best shown in Figure 7 of the drawing.

It is believed that the construction of my spring-hinged mounting and pocket case embodying the same, as well as the method and apparatus for molding the same and the many advantages thereof will be apparent from the foregoing detailed description. By providing a hinge portion adjacent but outside of the receptacle portion of the article, I am enabled to employ a simple and efficient spring-hinged construction even when the article is extremely thin. A thin hinge portion may also be provided on articles of more substantial dimension. In any case, the molding process and apparatus for forming the article are very markedly simplified and the cost of the article may be correspondingly reduced.

It will be apparent that while I have shown and described my invention in preferred form, many changes and modifications may be made without departure from the spirit of the invention defined in the following claims.

I claim:

1. A receptacle or case made of a molded composition material and having hingedly related sides provided with molded seats for spring

means, spring means anchored in said seats and operating to hold the case in open or closed condition, said spring means comprising a piece of spring metal having its ends bent to form hooks fitting over the aforesaid seats, a side of said case being cut away at its spring seat through to the outside of the case, thereby exposing the end of the spring.

2. A molded receptacle or case having hingedly related sides formed integrally with readily separable molded mating pivot means and further provided with molded seats for spring means, spring means anchored in said seats and holding the pivot means against separation and further operating to hold the case in open or closed condition, said spring means comprising a piece of spring metal having its ends bent to form hooks fitting over the aforesaid seats, said case being cut away at the spring seats through to the outside of the case.

3. A thin flat molded receptacle or case having hingedly related sides formed integrally with readily separable molded mating pivot means and further provided with molded seats for spring means, spring means anchored in said seats and holding the pivot means against separation and further operating to hold the case in open or closed condition, said spring means comprising a piece of spring metal having its ends bent to form hooks fitting over the aforesaid seats, said case being so cut away at the spring seats through to the outside of the case that the sides of said case may be completely molded in a single molding operation by means of a simple two-part mold.

4. A case made of a molded composition material and comprising a receptacle portion and a hinge portion adjacent but outside of the receptacle portion, the hinge portion of said case being provided with molded seats for spring means, spring means anchored on said seats and operating to hold the case in open or closed condition, said spring means comprising a piece of spring metal having its ends bent to form hooks fitting over the aforesaid seats, the hinge portion of said case being cut through to the outside above and below the spring seats, thereby exposing the ends of the spring.

5. A molded case comprising a receptacle portion and a hinge portion adjacent but outside of the receptacle portion, at least the hinge portion of said case being thin and having integrally formed therewith readily separable molded mating pivot means and molded seats for spring means, spring means anchored on said seats and holding the pivot means against separation and further operating to hold the case in open or closed condition, said spring means comprising a piece of spring metal having its ends bent to form hooks fitting over the aforesaid seats, the hinge portion of said case being cut through to the outside above and below the spring seats.

6. A molded case comprising a receptacle portion and a hinge portion adjacent but outside of the receptacle portion, at least the hinge portion of said case being thin and having integrally formed therewith readily separable molded mating pivot means and molded seats for spring means, spring means anchored on said seats and holding the pivot means against separation and further operating to hold the case in open or closed condition, said spring means comprising a piece of spring metal having its ends bent to form hooks fitting over the aforesaid seats, the hinge portion of said case being so cut

through to the outside above and below the spring seats that the parts of the case may be completely molded in a single molding operation by means of a simple two-part mold.

5 7. A case made of a molded composition material and comprising upper and lower portions matingly recessed to form a receptacle and including a hinge portion located outside of the receptacle, spring seats formed in said hinge
10 portion, and a spring anchored on said seats, said spring means comprising a piece of spring metal having its ends bent to form hooks fitting over the aforesaid seats, the hinge portion of said case being cut away outside of said seats to expose the same.

15 8. A vanity or like pocket case made of a molded composition material and comprising thin upper and lower sides matingly recessed to form one or more receptacles, one of said sides being flanged and the other portion matingly
20 recessed to receive the flanges, said case including a hinge portion located outside of the receptacles and formed integrally with readily

separable molded mating pivot means and molded seats for spring means, and a spring anchored on said seats and holding said pivot means against separation and further operating to hold the case in open or closed condition.

5 9. A molded vanity or like pocket case comprising thin upper and lower sides matingly recessed to form one or more receptacles, one of said sides being flanged and the other side matingly recessed to receive the flanges, said case
10 including a hinge portion located outside of the receptacles and formed integrally with readily separable molded mating pivot means and molded seats for spring means, a spring anchored on
15 said seats and holding said pivot means against separation and further operating to hold the case in open or closed condition, the hinge portion of said case being so cut through from top to bottom at the spring seats that the sides of
20 the case may be completely molded in a single molding operation by means of a simple two-part mold.

RONALD W. POST.