Jan. 19, 1943. M. L. RATHBUN 2,308,625

CLOSED RECEPTACLE OR CASE

Filed May 12, 1939 2 Sheets-Sheet 1

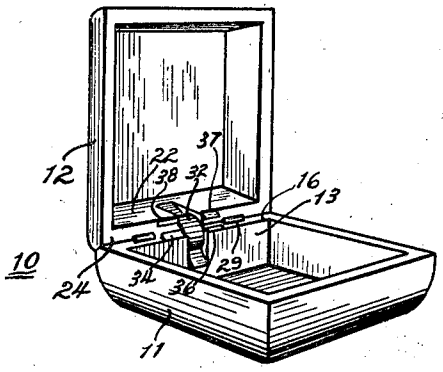


FIG-1

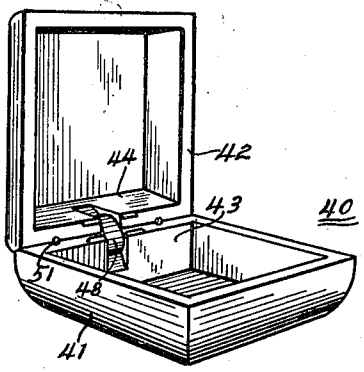


FIG-7

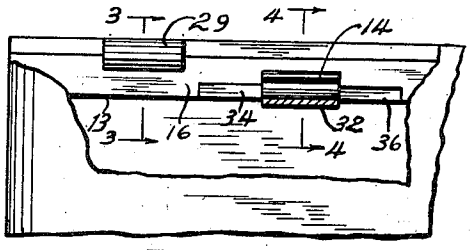


FIG-2

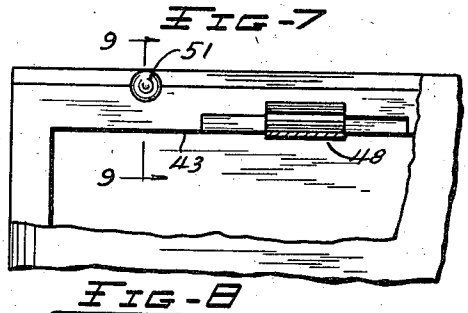


FIG-8

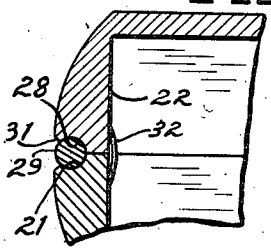


FIG-3

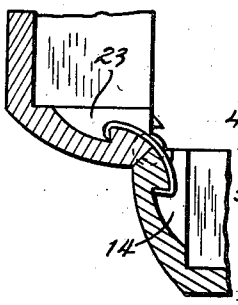


FIG-5

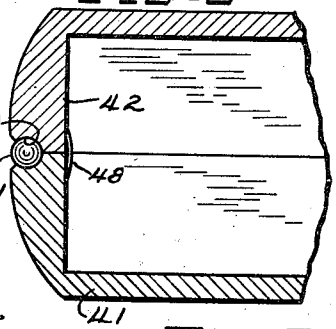


FIG-9

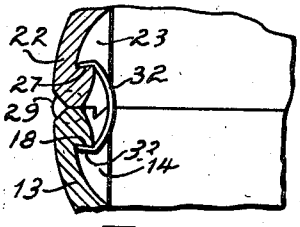


FIG-4

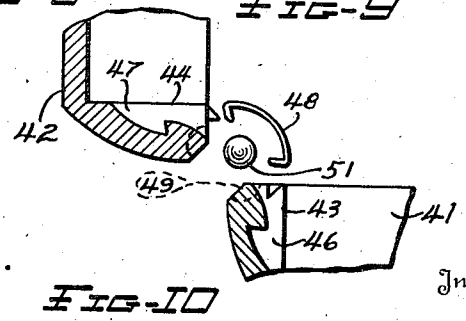


FIG-10

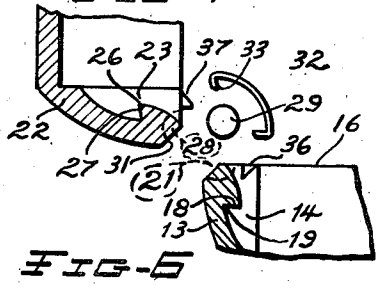


FIG-6

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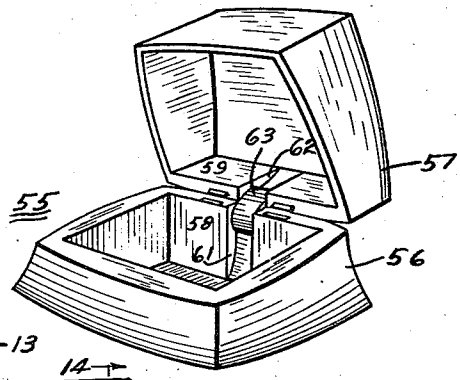


FIG-II

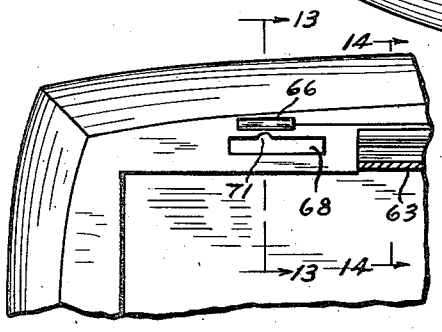


FIG-12

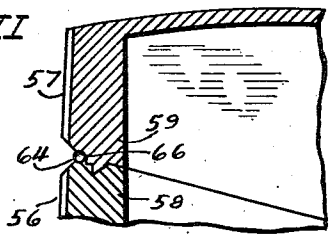


FIG-13

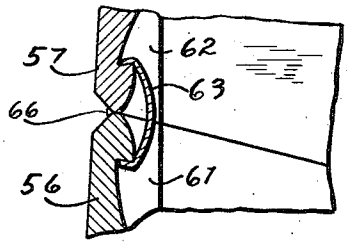


FIG-14

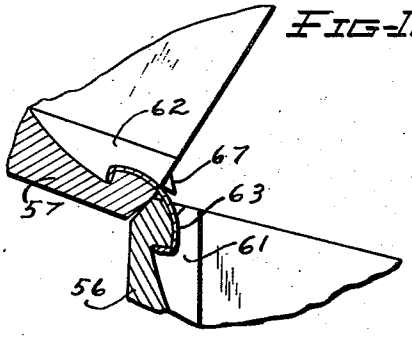


FIG-16

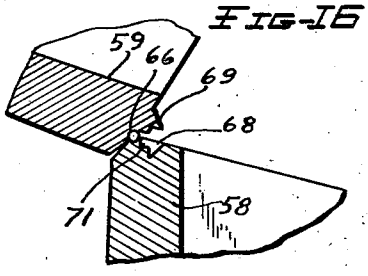


FIG-15

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Patented Jan. 19, 1943 2,308,625

UNITED STATES PATENT OFFICE

2,308,625

CLOSED RECEPTACLE OR CASE

Merrill L. Rathbun, Salamanca, N. Y.

Application May 12, 1939, Serial No. 273,283

1 Claim. (Cl. 217—57)

This invention relates to improvements in closed receptacles or cases and more particularly to means for pivotally attaching a cover to the body of the receptacle.

The invention is directed to modifications of my Patent #1,833,305, which discloses a body portion and cover, these elements having pivotal means held in operable pivotal relationship through the use of one or more springs. Adaptation of the structure of the above mentioned patent to receptacles for a variety of commercial uses has necessitated certain changes and improvements. It is these changes and improvements with which the present invention is primarily concerned. The material from which the elements of the receptacle are formed has no bearing on the invention, inasmuch as all moldable substances, such as rubber, Bakelite, and synthetic rosins, as well as wood or metal, may be utilized.

One of the objects of the invention lies in the provision of complementary pivotal means carried by the body and cover of a receptacle, a spring being engageable with the body and cover to secure the pivotal means in operable pivotal relationship.

Another object of the invention lies in the provision of a pivotal structure for closed receptacles that is extremely sturdy and is readily adaptable in different sizes for the pivotal requirements of a swingable element of substantially any size and shape.

Another object of the invention lies in the provision of a pivotal structure for closed receptacles that makes possible the use of duplicate cover and body elements.

Another object of the invention lies in the provision of a pivotal structure for a closed receptacle in which there are more than two relatively pivotable surfaces.

Another object of the invention lies in the provision of a pivotal structure for closed receptacles that makes possible an improved appearance in the meeting edges of the body and cover by the elimination of an integral pivotal element.

Other an further objects and advantages of the invention will be more fully understood and appreciated from a consideration of the following specification, taken in conjunction with the accompanying drawings; and in which

Figure 1 is a perspective view of one modification of the invention embodied in a closed receptacle, the cover of which is shown in open position;

Figure 2 is an enlarged fragmentary plan view of the structure of Figure 1, parts being broken away to disclose certain structural details;

Figure 3 is a fragmentary vertical sectional view of the receptacle in closed position, being taken substantially on the line 3—3 of Figure 2;

Figure 4 is a fragmentary vertical sectional view of the receptacle in closed position, being taken substantially on the line 4—4 of Figure 2;

Figure 5 is a vertical sectional view similar to Figure 4, showing the cover of the receptacle in open position;

Figure 6 is an exploded vertical sectional view of the invention;

Figure 7 is a perspective view of a modification of the invention embodied in a closed receptacle, the cover of which is shown in open position;

Figure 8 is an enlarged fragmentary plan view of the receptacle shown in Figure 7, parts being broken away to disclose certain structural details;

Figure 9 is a fragmentary sectional view of the receptacle with the cover in closed position, being taken substantially on the line 9—9 of Figure 8;

Figure 10 is an exploded vertical sectional view of the pivotal elements and receptacle shown in Figure 7;

Figure 11 is a perspective view of a further modification of the invention applied to a closed receptacle, the cover of which is shown in open position;

Figure 12 is an enlarged fragmentary plan view of the invention as shown in the modification of Figure 11, parts being broken away to disclose certain of the structural details;

Figure 13 is a vertical sectional view showing the receptacle in closed position, being taken substantially on the line 13—13 of Figure 12;

Figure 14 is a fragmentary vertical sectional view taken substantially on the line 14—14 of Figure 12;

Figures 15 and 16 are vertical sectional views showing the position of the receptacle and pivot elements when the cover is open, being comparable to Figures 13 and 14 respectively.

Reference is had to Figures 1 to 6, inclusive, of the drawings wherein one modification of the invention is embodied in a closed receptacle generally indicated by the reference numeral 10. The receptacle comprises a body portion 11 and cover 12. The rear or hinge wall 13 of the body portion is formed with a recess or slot 14, which commences at the upper edge of the wall 13 and terminates at or near the base wall of the body portion. In the present illustration, the upper face 16 of the wall 13 is generally flat and in the same plane with the corresponding faces of the side

walls of the body portion. As may be noted in Figures 1 and 6, the base wall 17 of the recess 14 is formed with a projection 18 that provides a spring seat 19. One or more semi-circular recesses 21 are made in the face 16 of the wall 13. These recesses may be of any desired length and depth, this depending to some extent on the size and utility of the receptacle.

The cover 12 includes a rear or hinge wall 22 that corresponds to the wall 13 in the body portion. This wall is of sufficient proportions to be provided with a recess 23 that commences at the edge 24 of the wall. A projection 26 is made in the base wall of the recess and provides a spring seat 27. Formed in the edge 24 are one or more semi-circular recesses 28. The recesses 28 correspond in number, size and position to the recesses 21 of the body portion.

It is contemplated to provide a roller or pin 29 as a pivotal member for the elements of the receptacle. Roller 29 is mounted in the recess 21 and, when the cover 12 is placed on the body portion 11, the recess 28 cooperates to enclose the roller. In the present illustration the roller is positioned well toward the rear edges of the walls 13 and 22 of the receptacle elements and is to some extent exposed, due to the provision of beveled edges 31 which permit a desired degree of opening of the cover with respect to the body portion. When the elements of the receptacle have been assembled with one or more pins 29, a clip-like spring 32 is utilized to secure them in operable pivotal relationship. This spring includes flanged ends 33 that snap into place in the spring seats 19 and 27. When the spring has been mounted and the elements of the receptacle are in abutment, approximately one-fourth of the pin is visible. When the cover is moved to opened position, another relatively small portion of the pin is apparent. In either of these extreme positions, or in any position therebetween, the pin is sufficiently enclosed by the walls of the recesses 21 and 28 to prevent inadvertent displacement. In receptacles embodying a spring clip of the nature disclosed it is evident that the greatest tension of the spring is substantially midway between open and closed positions of the cover and, consequently, the cover will readily be maintained in either of these positions by such tension.

In some types of receptacles to which the invention may readily be applied it is found desirable to provide means for preventing lateral relative twisting of the cover and body portion when these elements are in abutment. This is readily accomplished by the provision of one or more projections 34 and recesses 36 in the upper face 16 of the wall 13 and corresponding projections 37 and recesses 38 in the edge 24 of the cover. When the cover is closed upon the body portion, projection 37 enters and engages the walls of recess 36 and recess 38 receives projection 34. Such interfitting of these elements of the body portion and cover adequately serves the purpose intended.

Attention is now directed to Figures 7 to 10, inclusive, wherein is shown a modification of the structure described. In this instance, a receptacle generally indicated by the numeral 40 consists of a body portion 41 and cover 42. To simplify the illustration, it is mentioned that the body portion and cover are identical with the body portion 11 and cover 12 above described, being each provided with substantially identical rear walls 43 and 44. Recesses 46 and 47 cooperate to provide accommodation for a spring 48 that, as heretofore illustrated, serves to secure the elements of the receptacle in operable pivotal relationship.

The adjacent edges of the walls 43 and 44 are formed with semi-spherical recesses 49. In the present disclosure, two of these are provided in each wall and, when the cover is brought into abutment with the body portion, recesses 49 cooperate to provide nearly complete spherical compartments. Mounted in these compartments are balls 51. To facilitate the desired degree of opening of the cover with respect to the body portion the rear of the adjacent edges of walls 43 and 44 are slightly beveled and thus the balls 51 are in a small measure exposed when the receptacle is viewed from the rear. However, the balls are sufficiently enclosed to prevent inadvertent displacement thereof under any circumstances of use of the receptacle. It will be understood that the number of pins or balls 29 or 51 may be increased as may be required in larger receptacles for the purpose of providing additional pivotal support.

Reference is now had to Figures 11 to 16, inclusive, wherein a further modification of the invention is shown, being embodied in a receptacle generally indicated by the reference numeral 55. The receptacle comprises a body portion 56 and cover 57. Corresponding pivot carrying walls 58 and 59 of the body portion and cover are formed with recesses 61 and 62 that together provide seats and accommodate a spring 63 within the vertical limits of these walls. Formed in the adjacent faces of the rear walls 58 and 59 of the receptacle are small semi-circular recesses 64 that cooperate to provide nearly complete cylindrical compartments in which are mounted pins 66. The adjacent faces of the walls 58 and 59 immediately to the rear of the recesses 64 are beveled to provide the desired degree of opening of the cover of the receptacle.

With the use of small pins or rollers 66, it may be found advantageous to provide means by which to prevent inadvertent displacement of the pins under any and all circumstances of use of the receptacle. To this end projections 67 are formed in the lower face of the wall 59 of the cover and corresponding recesses 68 in the adjacent face of the wall 58 of the body portion. It will be noted these projections and recesses are spaced somewhat forwardly of the recesses 64 that receive pins 66. Within this space, and secured to or formed integral with the projection 67, is a lug 69. A corresponding ledge or recess 71 is made adjacent the recess 68 to accommodate the lug when the cover is closed on the body portion. The lug 69 may be of extremely small proportions and, when the cover is in closed position, contacts the pin 66. On occasion, when the cover is moved to open position, unnecessary force may be applied thereto that would tend to displace the pin 66. Referring to Figure 15, it will be noted that the pin 66 is protected against such displacement by reason of the lug 69.

It is evident from the disclosure of three modifications of the invention, as well as the description pertaining thereto, that rollers or balls of various sizes may be employed to provide suitable pivotal surfaces as between the cover and body portion of a closed receptacle. Furthermore, that these pivots may be located forwardly or rearwardly of the corresponding walls of the elements of the receptacle for change in appearance, as well as variations in the degree of opening the cover. The pivots may, in the case of

the rollers, extend substantially the full length of the back wall of the receptacle thus simulating to some extent a conventional pin butt hinge. It will, therefore, be understood that the invention, as illustrated and described, may be varied to adapt it to many uses and requirements, and that such variations and modifications are contemplated insofar as they are within the spirit and scope of the invention as defined in the hereunto annexed claim.

Having thus set forth my invention what I claim as new and for which I desire protection by Letters Patent is:

A receptacle comprising body and cover elements adapted to be joined for relative pivotal movement along common walls thereof, the adjacent contacting surfaces of said common walls being substantially plane and non-cooperative with respect to the pivotal movement of said elements, said surfaces having arcuate recesses of an area such as to be within and spaced from the side edges of said body, the recess of one element being complementary to the recess of the other element to provide a compartment circular in cross section when the body and cover elements are assembled, a pivot member mounted in the compartment formed by the assembled elements, the rear edges of said contacting surfaces terminating substantially on a line axially of said pivot member, and a spring engaged with said common walls and serving to retain said pivot member in said compartment and said receptacle elements in operable pivotal assembly, said spring being mounted in a recess formed jointly by slots traversing the plane surfaces of said common walls.

MERRILL L. RATHBUN.