

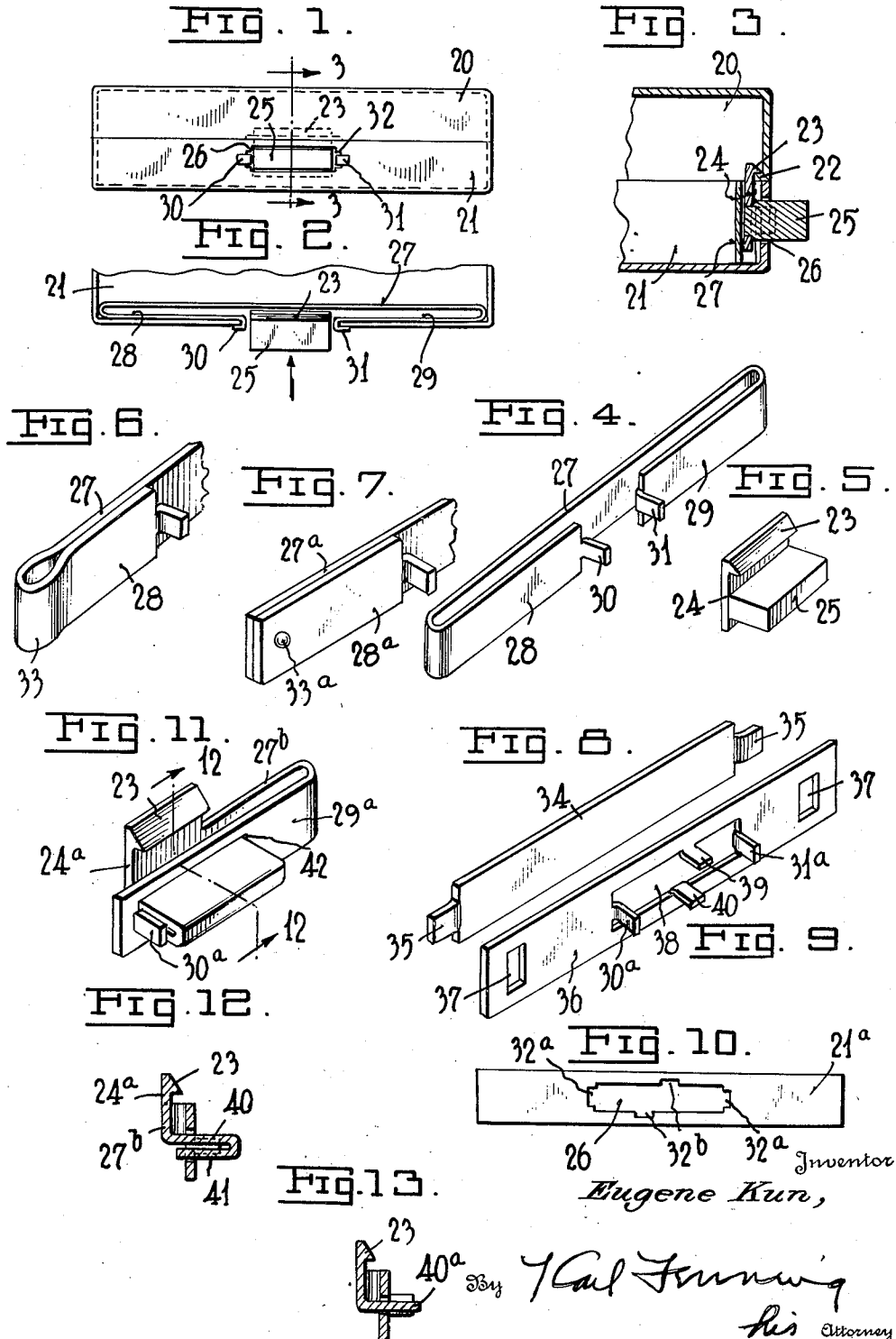
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CATCH

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The invention relates to a catch which may be employed for holding together two separable members. Examples of such devices to which the catch may be specially adapted are the main body and cover of compacts, vanity cases, cigarette cases and the like. It will be understood, of course, that the invention is not limited to such specific uses.

A purpose of the present invention is to provide a catch which may be simple in its construction and sure and easy of operation. The catch may be resiliently held in engaging position and may be released by pressure. Preferably the construction is such that it is made of simple, readily available materials by a few steps and with the use of a few simple tools. The catch is provided with supporting or attaching means which are simple and sure in operation and easy to install. Preferably the supporting or attaching means may be closely associated with the operating means so that the appearance of the device to which the catch is attached may be interfered with as little as possible.

Preferably no particular internal construction is required of the device to which the catch is applied. To this end the catch and its supporting and operating mechanism may be entirely attached to one wall of the receptacle and operate without interfering with the inside arrangement of the receptacle and without requiring any lining or the like to be inserted in the receptacle for cooperation with the catch. When desired the mechanism associated with the catch may be so arranged as to form a covering for the inside of one wall of the receptacle. The catch and its supporting mechanism without alteration of dimensions may be inserted into receptacles of various sizes.

Preferably the catch and its supporting mechanism may be securely mounted in the receptacle without welding, soldering, riveting or similar fastening means which have generally been found necessary in the past.

In the accompanying drawing embodiments of the invention are illustrated. Fig. 1 is a diagrammatic side or front elevation of a closed receptacle to which the catch has been applied. Fig. 2 is a fragmentary plan view of Fig. 1 with the cover removed. Fig. 3 is a fragmentary section on a larger scale on the line 3—3 of Fig. 1. Fig. 4 is a perspective view of one form of resilient catch supporting mechanism. Fig. 5 is a perspective view of one form of catch. Figs. 6 and 7 are fragmentary perspective views of other forms or constructions of the catch supporting mechanism. Figs. 8 and 9 are perspective views of cooperating members making another form of catch supporting mechanism. Fig. 10 is a plan view of one form of side member of a receptacle to which the catch may be applied. Fig. 11 is a

perspective view of another form which the catch and its supporting mechanism may take. Fig. 12 is a section on the line 12—12 of Fig. 11. Fig. 13 is a section similar to Fig. 12 of a somewhat modified form of catch.

A receptacle is shown consisting of a cover member 20 and a bottom member 21 to which the catch is shown as applied. As illustrated particularly in Fig. 3 the top member 20 may have an engaging lug 22 which may be engaged by the usual projecting lip 23 of the catch member 24. The lip 23 may be disengaged from the lug 22 by pressing on the catch operating member 25 which extends through an aperture 26 in the front wall of the lower portion of the receptacle. It will be understood that the lower portion 21 may be a cover and the portion 20 the receptacle itself. Obviously the catch may be employed to hold together any two members and the catch may be mounted in either of the cooperating members. Supporting the catch 24 as illustrated in Figs. 1, 2, 3, 4 and 5 is a resilient band preferably of some sort of spring metal. This consists of a back portion 27 against which rests the catch 24. The back portion 27 is continued into end members 28 and 29 which are bent inwardly toward the center of the back member 27 but leaving between their ends a recess large enough to receive the operating member 25. The end members 28 and 29 have at their ends outwardly turned lugs 30 and 31 which normally lie beside the ends of the operating member 25. In the face of the member 21 the opening 26 is of suitable size to receive the operating member 25 and may have enlargements 32 to receive the lugs 30 and 31. The catch member 24 is assembled with its resilient support 27, 28 and 29 and the assembled structure is associated with the member 21 by inserting the operating member 25 and the lugs 30 and 31 through the aperture 26. The lugs 30 and 31 may now be turned outwardly as indicated in Fig. 2 to grasp the wall 21 and hold the structure in position on the wall. In this position the back portion 27 will engage the catch 24 and tend to force it into latching position. Pressure on the operating member 25 will cause the resilient supporting member 27, 28, 29 to give and allow the lip 23 to be moved inwardly far enough to release the lug 22. The latch and its operating member have been shown in conventional form. They may be of any suitable shape or form such as oval, circular and the like, the rectangular construction illustrated not being essential to the invention.

The length of the member 27, 28 and 29 and the height thereof may be of any suitable dimensions. In some instances it may be convenient to have the member 27 substantially the length of the supporting wall of the member 21 as illus-

trated in Fig. 2 and the height of the member 27 may conveniently be substantially the height of the section 21 in which the latch is supported. There may be an advantage in this construction as thus the member 27 may make a smooth side wall to the receptacle section 21 but this is not essential to the invention. The back member 27 is shown as of the same width as the members 28 and 29 but this is not essential as they may be of any suitable width. The latch and its supporting mechanism may be made of a standard form and be applied to receptacles of various dimensions whether or not the member 27 covers the entire adjacent wall.

It will be noted that the members 28 and 29 lie closely adjacent the front wall of the section 21 and the member 27 is separated slightly from them. This may be an advantageous construction depending somewhat upon the shape and size of the catch. There may be an advantage in eliminating wholly or partly this gap between the members 28 and 29 and the member 27. One way of accomplishing this is illustrated in Fig. 6 in which the member 28 is illustrated as lying substantially in contact with the member 27. In this instance the bend between 27 and 28, which is indicated by the numeral 33, is preferably not a sharp bend but is curvilinear in outline. This may be desirable to avoid fracture or undue strain in the spring material. In Fig. 7 a similar result is accomplished by having the back member 27^a flat and the front member 28^a flat, each being separate pieces. The members 27^a and 28^a may be held together preferably toward their outer ends by any suitable means such as the rivet 33^a illustrated.

In Figs. 8 and 9 is shown another arrangement in which the latch supporting mechanism consists of a back plate 34 against which the catch may rest and which is provided with end lugs 35. The back member 34 is associated with a front member 36 which is provided with holes 37. The member 34 will be of resilient material such as spring metal and the lugs 35 and the plate 36 may if desired be made of similar or any other suitable material. The plate 36 is provided with a central aperture 38 through which may be placed the operating member 25 for the latch 24. The plate 34 may then be bent and the lugs 35 passed through the openings 37. This will hold the latch in place. Associated with the aperture 38 are lugs 30^a and 31^a at its ends. At the top and bottom of the aperture 38 are indicated additional or alternative lugs 39 and 40. The assembled plates 34, 36 carrying the catch may then be associated with a plate 21^a of a section of a receptacle or the like such as illustrated in Fig. 10 in which the opening 26 is shown as provided with supplemental openings 32^a at its ends and additional supplemental openings 32^b at its top and bottom through which may pass the lugs 30^a, 31^a, 39 and 40 and over which the lugs may be turned to hold the assembled structure in appropriate operative position. It is obvious that the position and number of the various lugs on the ends or top and bottom of the aperture 26 is immaterial. Any of the lugs desired may be omitted and the remaining lugs employed to hold the structure in proper position.

The catch 24 and the operating member 25 may be made as a unit or they may be connected together in any suitable well known manner. In Figs. 11 and 12 is illustrated a form in which the catch operating member and supporting member may be made of a single piece of metal. Thus

the back member 27^b of the supporting mechanism may have an integral rising portion 24^a on which may be formed the lip 23 of the catch. Opposite the lip 23 an extending portion of the member 27^b may be turned at substantially right angles to the member 27^b and turned back on itself as at 40, 41. The end of the back member 27^b may be bent over on itself forming the front member 29^a in which may be an aperture 42 which may pass over the folded portion 40, 41 which thus becomes an operating member for the catch 24^a. At the sides of the hole 42 may be formed lugs such as 30^b by which the catch and its supporting mechanism may be attached to the wall of the section 21. In Fig. 11 it will be noted that the back member 27^b ends with the catch 24 and does not extend there-beyond, the resilient band being bent at one end only. This single end construction may be advantageous in some situations. It may save metal and allow ready, convenient support and installation. A similar single end construction might be employed in connection with other forms of the catch supporting mechanism illustrated.

In Fig. 13 is illustrated a form similar to Fig. 12 in which the catch operating member consists of a single member 40^a the folded-back portion 41 illustrated in Fig. 12 being omitted.

It will be noted that in the various constructions illustrated the resilient member for supporting the catch is mounted at and through the hole through which passes the catch operating member. This construction makes it possible to have the entire supporting wall of the section 21 solid and without its integrity broken or interfered with at any portion other than the hole through which the operating member passes. No attachment is necessary at any other point. This not merely avoids holes in the wall but also eliminates any necessity for welding even, which in addition to its cost and difficulty of operation might interfere with the character of the metal of the wall and make its proper decoration difficult.

It will be noted that the resilient supporting member is fastened at one of its ends through the hole and the catch rests against the portion of the resilient member farthest removed from the attaching means along a linear line through the resilient mechanism. For instance it will be observed in Fig. 2 that the catch 24 rests against the member 27 at about its middle. Pressure, then, on the operating member 25 will bring into play the entire resilience of the supporting member the tendency being not merely to flex the member 27 but also to flex the members 28 and 29 themselves. When desired the flexible member may be made relatively small but the elasticity due to the entire length of the member may be employed.

Several embodiments of the invention have been illustrated and described for the purpose of explaining the invention but are not to be taken as limitations on the invention. The invention may be embodied in other forms.

I claim as my invention:

1. In a receptacle comprising a plate having a hole therein or aperture therethrough, a catch on the inner side of the plate, an operating member for the catch extending through the hole to the outer side of the plate, a resilient member attached to the plate at the hole and extending along the inner side of the plate away from the hole and then back to the hole and engaging the catch at the portion of the resilient member

furthest from the hole along the length of the member so as to tend to hold the catch toward the plate and project the operating member through the hole.

2. In a receptacle comprising a plate having a hole therein or aperture therethrough, a catch on the inner side of the plate, an operating member for the catch extending through the hole to the outer side of the plate, a resilient member attached to the plate at the hole at both ends and extending along the inner side of the plate away from the hole and then back toward and past the hole and then along the inner side of the plate to the hole and engaging the catch at the portion of the resilient member opposite the hole so as to tend to hold the catch toward the plate and project the operating member through the hole.

3. In a receptacle comprising a plate having a hole therein or aperture therethrough, a catch on the inner side of the plate, an operating member for the catch extending through the hole to the outer side of the plate, a resilient member attached to the plate at the hole and extending along the inner side of the plate away from the hole and then back substantially in contact with the first portion toward and past the hole and then substantially in contact with a part of the last named part along the inner side of the plate to the hole and engaging the catch at the portion of the resilient member opposite the hole so as to tend to hold the catch toward the plate and project the operating member.

4. In a receptacle comprising a plate having a hole therein or aperture therethrough, a resilient member attached to the plate at the hole and extending along the inner side of the plate away from the hole and then back toward and across the hole and having fixed on it a catch lying on the inner side of the plate, and an operating member for the catch extending through the hole to the outer side of the plate at the portion of the resilient member opposite the hole.

5. In a receptacle comprising a plate having a hole therein or aperture therethrough, a catch on the inner side of the plate, an operating member for the catch extending through the hole to the outer side of the plate, a resilient member attached at one end to the plate at the hole and extending along the inner side of the plate away from the hole, a second resilient member attached near the other end of the first resilient member and extending back toward and past the hole and engaging the catch at the portion of the resilient member opposite the hole so as to tend to hold the catch toward the plate and project the operating member through the hole.

6. In a receptacle comprising a plate having a hole therein or aperture therethrough, a catch on the inner side of the plate, an operating member for the catch extending through the hole to the outer side of the plate, a resilient member attached at both ends to the plate at the hole and extending in both directions along the inner side of the plate away from the hole and then back toward and past the hole and engaging the catch at the portion of the resilient member opposite the hole so as to tend to hold the catch toward the plate and project the operating member through the hole.

7. In a receptacle comprising a plate having a hole therein or aperture therethrough, a resilient member attached to the plate at the hole and extending along the inner side of the plate away from the hole and then back across the

hole, a catch member integral with the resilient member opposite the hole, and a catch operating member integral with the resilient member and extending through the hole in the plate.

8. In a receptacle comprising a plate having a hole therein or aperture therethrough, a catch on the inner side of the plate, an operating member for the catch extending through the hole to the outer side of the plate, a resilient member attached to the plate at both ends on opposite sides of the hole which tends to hold the catch toward the plate, lugs on the plate near the hole, and a frame member having a corresponding hole through which the lugs are fastened and through which the operating member extends.

9. A resilient band having both ends folded on the center but leaving an aperture between the ends, a catch between the ends and resting against the center, an operating member for the catch extending between the ends of the resilient band, a wall against which the ends of the band rest and having a hole therein, and means for attaching the ends at about the hole so that the operating member extends through the hole.

10. A catch comprising a resilient band having at about its middle point a projecting member forming a catch and opposite thereto a portion extending at right angles to the band forming an operating member the ends of the band being bent inwardly so as to nearly touch the operating member, lugs at the ends of the band and a supporting plate having a hole in it through which the lugs extend to hold the band and through which the operating member extends for exposure and operation.

11. A catch comprising a resilient band having at about its middle point a projecting member forming a catch and opposite thereto a doubled portion extending at right angles to the band forming an operating member the ends of the band being bent inwardly so as to nearly touch the operating member, lugs at the ends of the band, and a supporting plate having a hole in it through which the lugs extend to hold the band and through which the operating member extends for exposure and operation.

12. A catch comprising a resilient band having a projecting member forming a catch and opposite thereto a portion extending at right angles to the band forming an operating member an end of the band being bent inwardly so as to nearly touch the operating member, a lug at the end of the band, and a supporting plate having a hole in it through which the lug extends to hold the band and through which the operating member extends for exposure and operation.

13. A catch comprising a resilient band, a projecting member on the band forming a catch and opposite thereto a portion extending at right angles to the band forming an operating member the ends of the band being bent inwardly so as to nearly touch the operating member, lugs at the ends of the band, and a supporting plate having a hole in it through which the lugs extend to hold the band.

14. In a receptacle comprising a plate having a hole therein or aperture therethrough, a resilient member connected to the plate at the hole and extending along the inner side of the plate away from the hole and then back to the hole, a catch member supported by the resilient member, and a catch operating member supported by the resilient member and extending through the hole in the plate.