Dec. 5, 1950 A. L. LANGEL 2,532,818

RECEPTACLE CLOSURE

Filed Feb. 12, 1948 5 Sheets-Sheet 1

Fig. 1

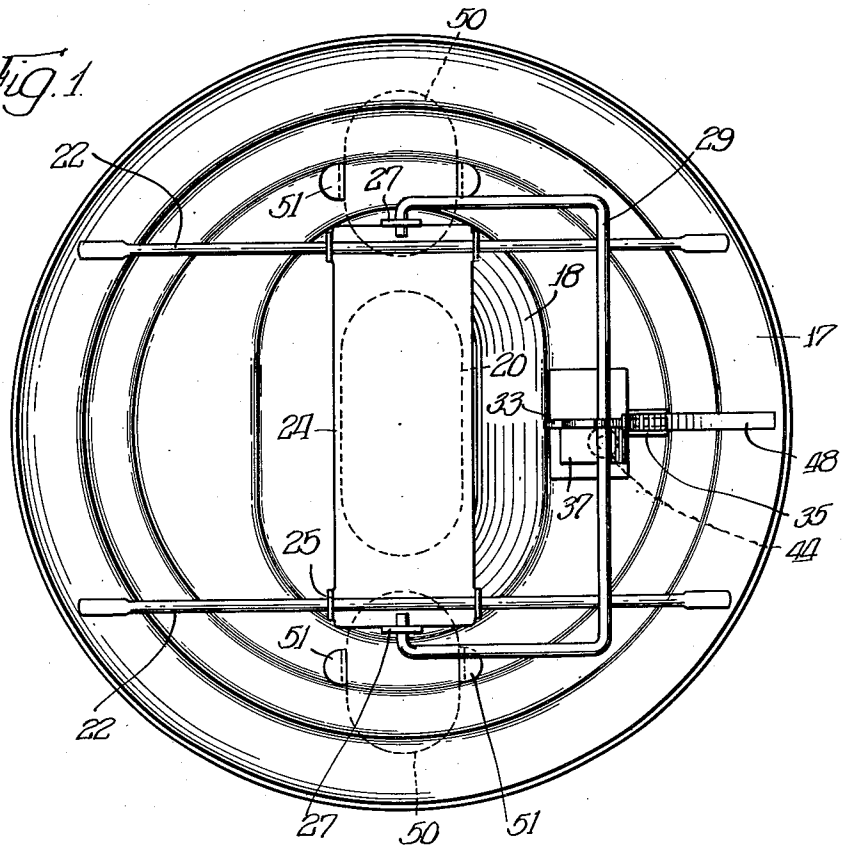
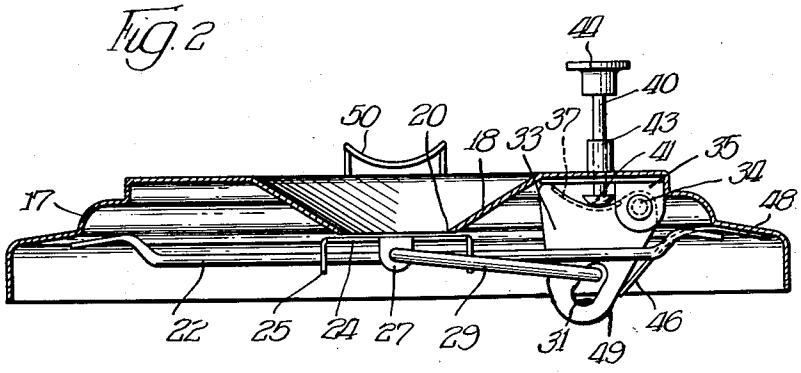


Fig. 2



INVENTOR.
Adrien L. Langel,
BY
Wilkinson Huxley Byron & Hume
Attys.

Dec. 5, 1950 A. L. LANGEL 2,532,818

RECEPTACLE CLOSURE

Filed Feb. 12, 1948 5 Sheets-Sheet 2

Fig. 3

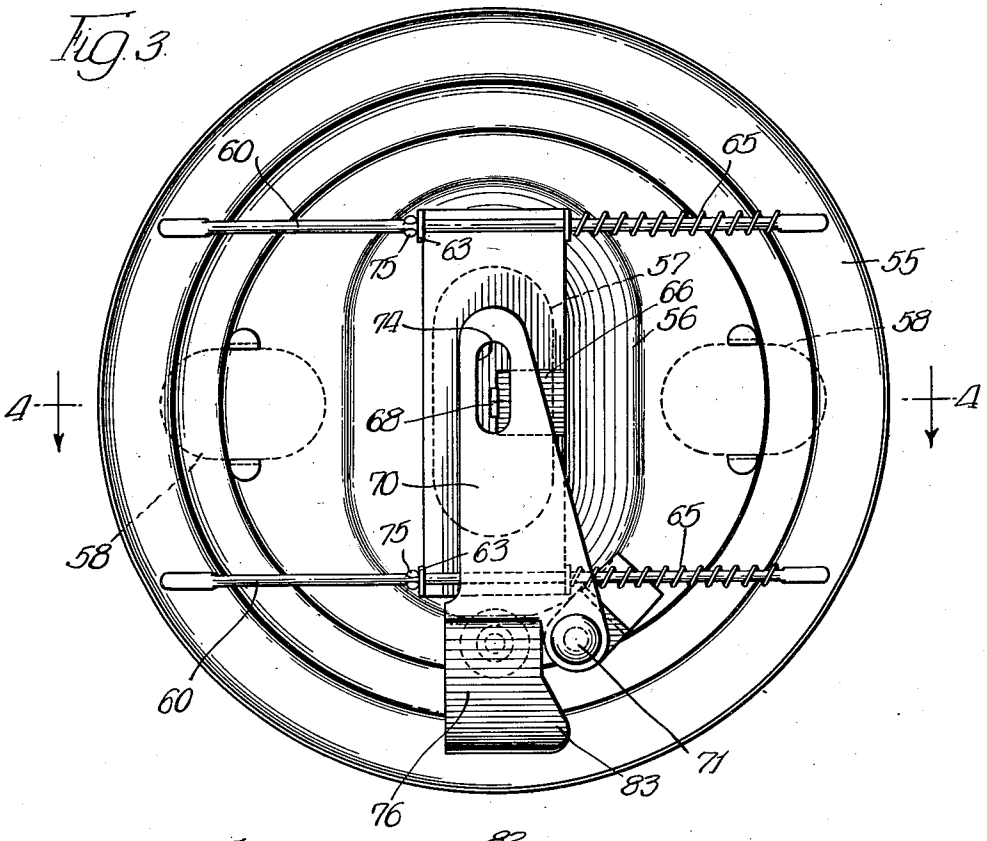


Fig. 4

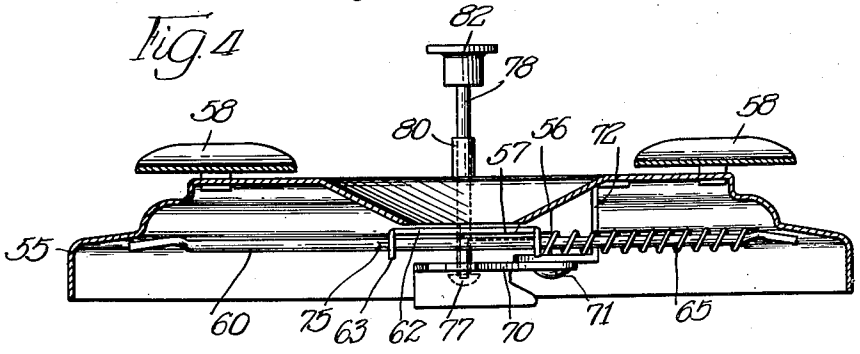
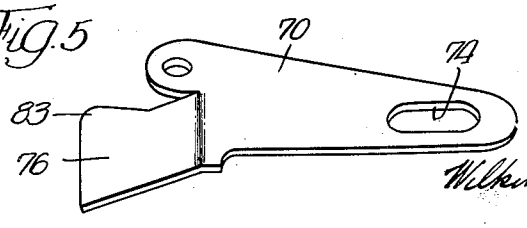


Fig. 5



INVENTOR.
Adrien L. Langel,
BY
Wilkinson Huxley Byron & Hume
attys.

Dec. 5, 1950 A. L. LANGEL 2,532,818

RECEPTACLE CLOSURE

Filed Feb. 12, 1948 5 Sheets-Sheet 3

Fig. 6

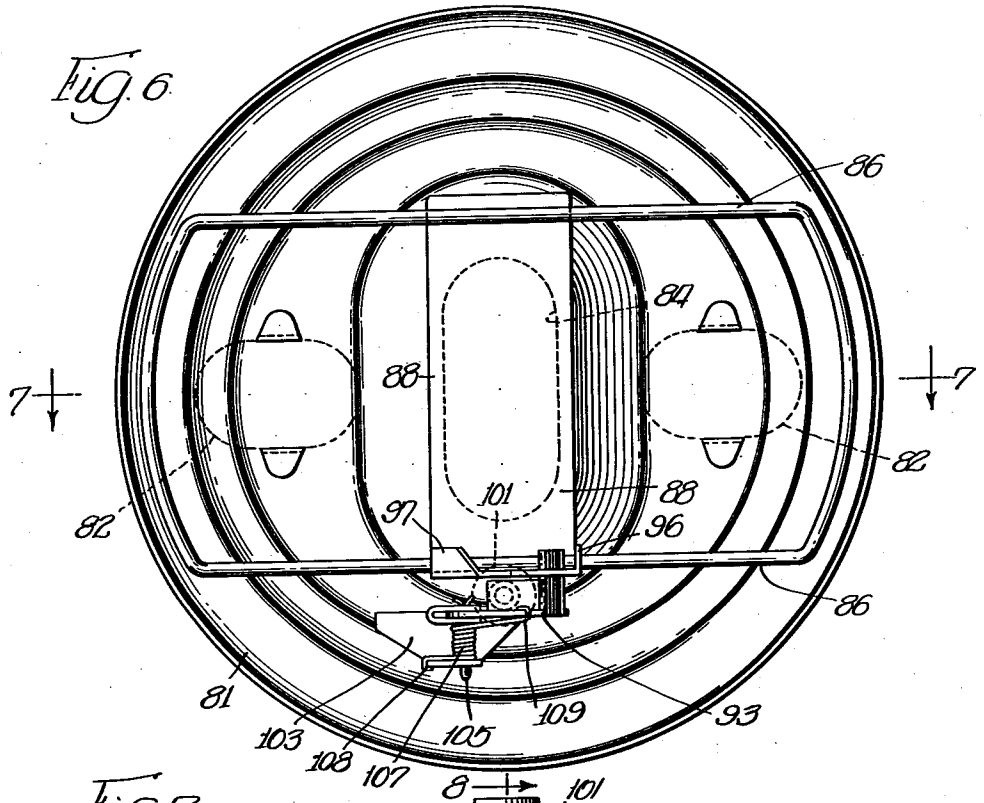


Fig. 7

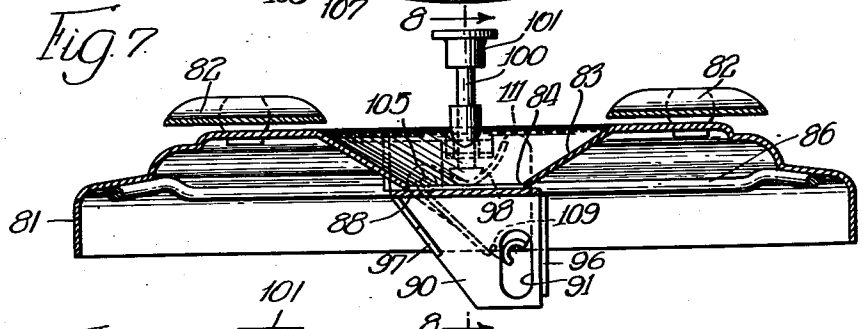
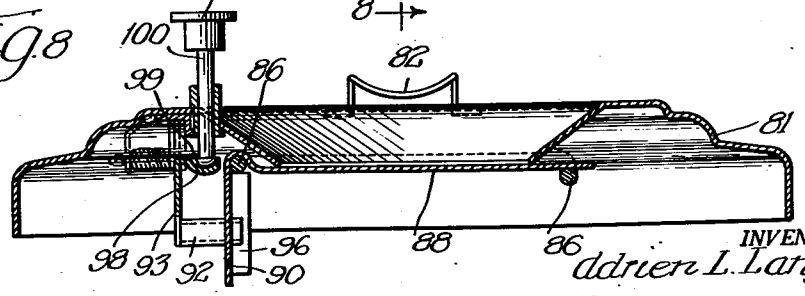


Fig. 8



INVENTOR.
Adrien L. Langel.
BY
Wilkinson Huxley Byron & Hume
attys

Dec. 5, 1950 A. L. LANGEL 2,532,818

RECEPTACLE CLOSURE

Filed Feb. 12, 1948 5 Sheets-Sheet 4

Fig. 9

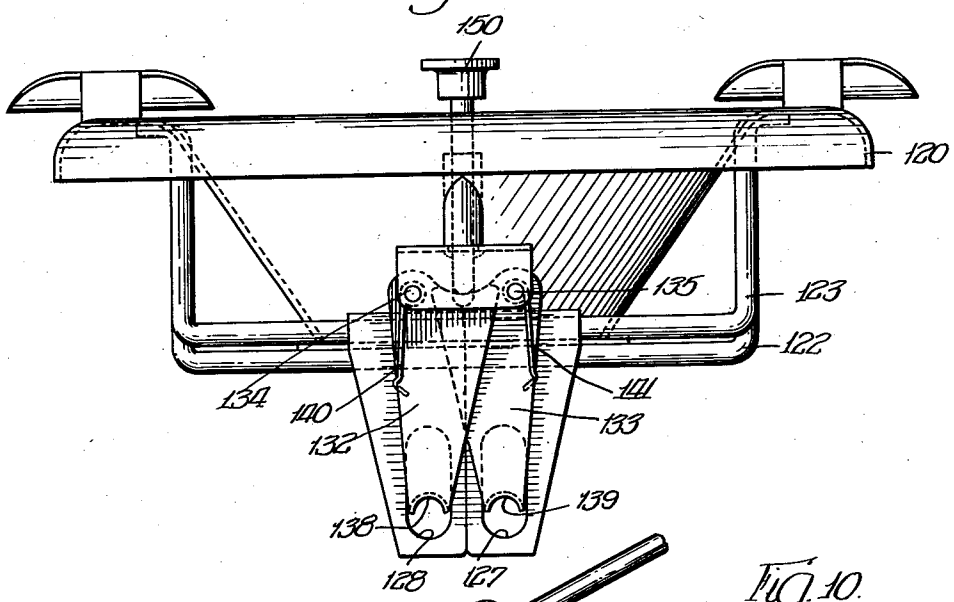


Fig. 10.

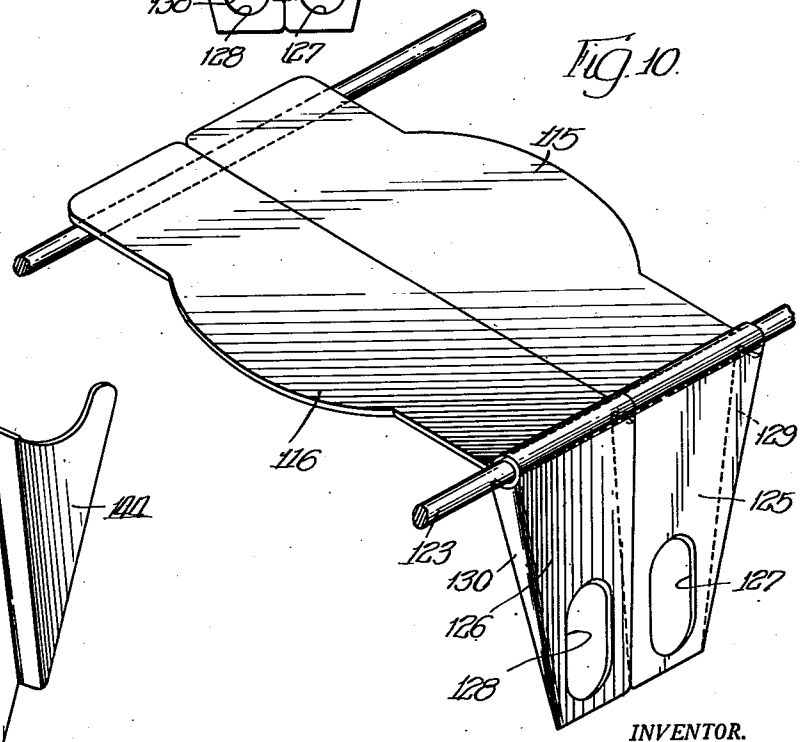
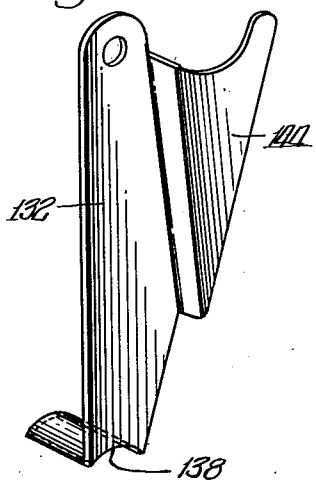


Fig. 11



INVENTOR.
Adrien L. Langel,
BY
Wilkinson Huxley Byron & Hume
ATTYS.

Dec. 5, 1950 A. L. LANGEL 2,532,818

RECEPTACLE CLOSURE

Filed Feb. 12, 1948 5 Sheets-Sheet 5

Fig. 12.

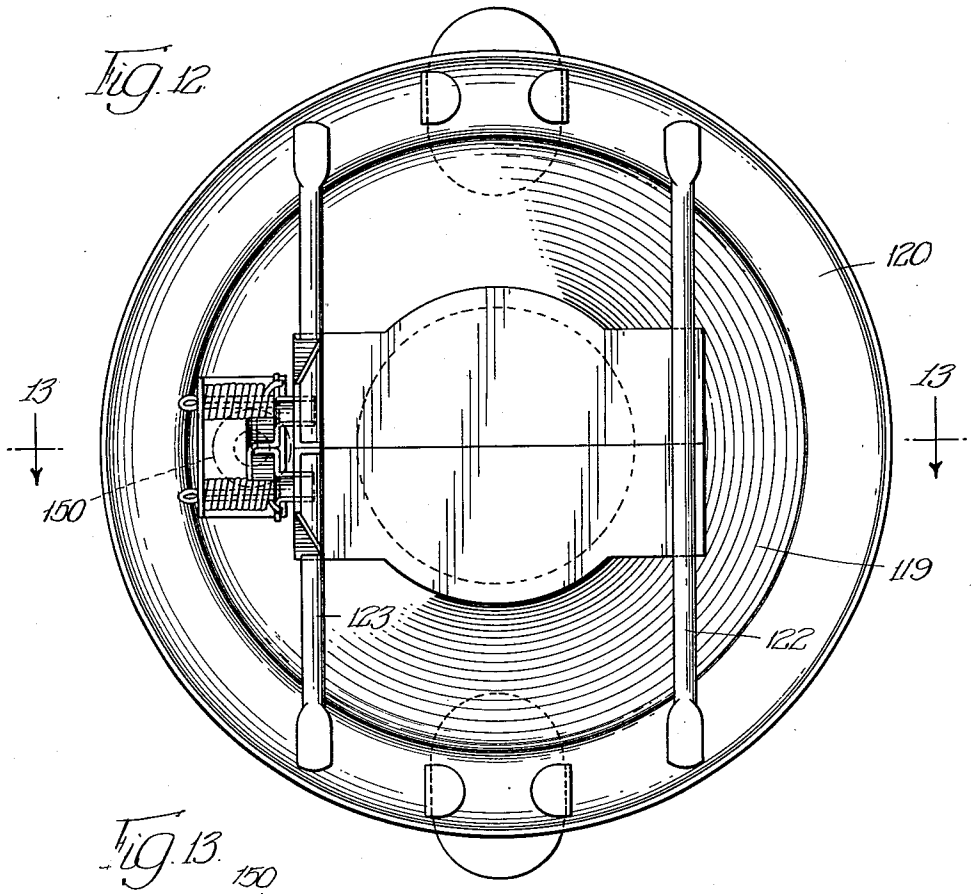
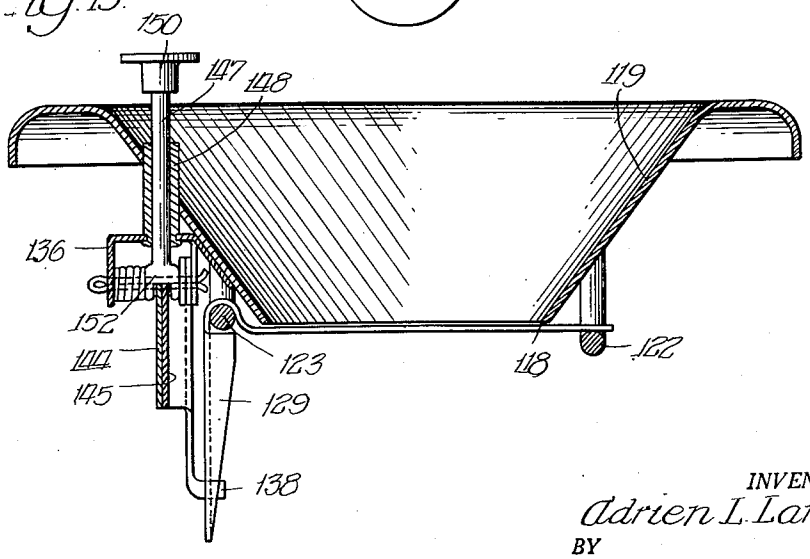


Fig. 13.



INVENTOR.
Adrien L. Langel.
BY
Wilkinson, Huxley, Byron & Hume
Attys.

Patented Dec. 5, 1950 2,532,818

UNITED STATES PATENT OFFICE

2,532,818

RECEPTACLE CLOSURE

Adrien L. Langel, Chicago, Ill., assignor to Chicago Metallic Manufacturing Company, Chicago, Ill., a corporation of Illinois

Application February 12, 1948, Serial No. 7,867

2 Claims. (Cl. 220—20.5)

1

This invention relates to a new and improved receptacle closure and more particularly to a manually movable closure adapted for use with ash receivers for receiving smokers' ashes, matches and the like.

Receptacles of this general character are well known. Certain of them have been provided with downwardly swinging closures operated by push rods extending above the cover of the receptacle adjacent the disposal opening to be closed. These closures have a tendency to catch portions of cigars or cigarettes between the closure and the lower edge of the opening and defeat the purpose of the closure. The closure is intended not only to conceal the material intended to be dumped into the receptacle below the closure, but to close off smoke from still lighted cigars or cigarettes. With the tilting type of closure, the material must slide over the tilted closure and between it and the lower edge of the opening. If the closure is not fully tilted and maintained tilted until all material on it slides off into the receptacle it fails to function as intended. Thus, if the push rod is not fully pushed down and is not held down for a sufficient period of time, the device does not operate to fully dispose of waste on the closure.

The forms of construction of the present invention fully clear the opening in the receptacle cover so that any material resting thereon drops by gravity into the receptacle. The closure, which may comprise one or more members, is moved laterally in the plane of the opening so that any material which may tend to adhere to the closure is scraped off by the edges of the opening as the closure is moved mechanically by the operating lever or push rod.

It is an object of the present invention to provide a new and improved receptacle closure of the mechanically movable type.

It is a further object to provide such a closure which is moved laterally in substantially the plane of the opening which it closes.

It is another object to provide a closure which is adapted for use in connection with a smoker's ash receptacle or the like and which, in its open position, fully clears the opening which it covers in its closed position.

It is also an object to provide such a closure which is positively moved to open position and returned to closed position by spring means.

It is an additional object to provide a closure and operating mechanism which are simple in design and adapted for commercial production and use.

2

Other and further objects will appear as the description proceeds.

I have shown certain preferred embodiments of my invention in the accompanying drawings, in which—

Figure 1 is a view of one form of construction as seen from below;

Figure 2 is a vertical section through the cover shown in Figure 1 with the operating parts in elevation;

Figure 3 is a view of a modified form of construction seen from below;

Figure 4 is a vertical section taken on line 4—4 of Figure 3 with the operating parts shown in elevation;

Figure 5 is a perspective view of the operating lever of Figures 3 and 4;

Figure 6 is a view of a further modified construction as seen from below;

Figure 7 is a section taken on line 7—7 of Figure 6;

Figure 8 is a section taken on line 8—8 of Figure 7;

Figure 9 is a side view of a form of construction including double slides or closure members;

Figure 10 is a perspective view of the slides and guides of Figure 9;

Figure 11 is a perspective view of the operating lever of Figure 9;

Figure 12 is a view of the construction of Figure 9 as seen from below; and

Figure 13 is a section taken on line 13—13 of Figure 12.

Referring first to the form of construction shown in Figures 1 and 2, the cover 17 has the inner sloping surface 18 inclined downwardly to an elongated opening at 20. A pair of guide members 22 are carried by the under side of the cover 17, these guide members being located, as shown in Figure 1, at right angles to the major axis of the opening 20. These guides 22 may be spot welded or otherwise secured to the under face of the cover 17. The slide or closure member 24 is provided with downturned legs 25 which are forked to fit over the guide rods 22. It will be noted that the closure 24 is somewhat wider than the opening 20 so that, in its normal position, it fully closes this opening.

The closure 24 is also provided at each end with a downwardly extending perforated lug 27, these lugs receiving the inturned ends of the U-shaped bail or operating link 29. The central portion of this bail 29 fits in a notch 31 formed in the lower edge of the operating lever 33. This lever 33 is pivoted at 34 to a pivot lug 35 which is spot welded

or otherwise secured to the under face of the cover 17. This lever 33 has a lateral flange 37 extending from its upper edge, this extension being arcuate in vertical cross section, as shown in Figure 2. The push rod 40 has a rounded head 41 engaging the upper face of this flange 37 of the operating lever 33. The push rod 40 is fitted in a bushing 43 secured to cover 17 and is provided at its upper end with a finger button 44. The flat spring 46 is secured to the under face of the cover 17 at 48 and engages the face 49 of the lever 33 and serves to normally maintain the parts in the position in which they are shown in Figures 1 and 2. The cover is shown as provided with the rests 50 adapted to receive cigars or cigarettes, these rests being secured in position on the upper face of the cover 17 by the ears 51 which pass through corresponding slots in the cover and are clinched against the under face of the cover.

The operation of the construction of Figures 1 and 2 will be understood from a consideration of the drawings. When it is desired to dump any waste material through the opening 20, the finger button 44 is pushed downwardly. This moves the push rod 40 downwardly in its guide bushing 43 and the rounded end 41 thrusts against flange 37 of the lever 33. This rocks that lever in the counterclockwise direction about its pivot 34 against the resistance of the spring 46. The bail 29, fitting in slot 31, is consequently pulled to the right, as seen in the two figures, carrying with it the slide closure member 24. This fully clears the opening 20 and permits any material resting thereon to fall through the opening into any suitable container upon which the cover may be placed. Upon release of finger pressure on the button 44, the spring 46 returns the parts to their original position with the slide 24 completely closing the opening 20. The receptacle upon which this closure and the other closures shown in the other figures of the drawings are used may vary in form and constitute no part of the present invention.

In the form of construction shown in Figures 3 to 5 inclusive, the cover member 55 is generally similar to the cover member of Figures 1 and 2, having the inner surfaces 56 sloping to an opening 57. The cover is provided with rests 58 for holding cigars or cigarettes. The pair of guide rods or wires 60 are secured to the under face of the cover 55 at right angles to the major axis of the opening 57. These wires 60 are provided with stops 75 formed therein. The slide 62 has the downturned legs 63 which fit on the guide 60. The coil springs 65 fitted around the rods 60 normally urge the slide 62 to the left, as seen in Figures 3 and 4. The slide 57 is shown formed with an integral portion of the material turned under at 66, this being flat against the under face of the slide or closure 62 and having at its end a downturned lug portion 68. The operating lever 70, shown in perspective in Figure 5, is pivoted on the pivot pin 71 carried by the bracket 72. This lever 70 has the elongated slot 74 formed therein, this slot loosely coacting with the downturned lug 68 on the under side of the closure 62. The lever 70 is also provided with the downwardly inclined portion 76 which coacts with the rounded end 77 of the push rod 78. This push rod 78 is guided in the bushing 80 which is secured to the cover 55 and carries the finger button 82 at its upper end. The sloping portion 76 of the lever 70 has a lateral extension 83 which serves to extend the contact surface for maintaining contact with the rounded member 77 on the push rod throughout the swinging movement of the lever 70.

The form of construction shown in Figures 3 to 5 inclusive is operated by downward pressure on the push button 82. This causes the rounded contact member 77 to thrust against the downwardly inclined portion 76 of the lever 70, the lever 70 being pivoted at 71. This downward pressure has a camming action against the sloping surface 76 and swings the lever in the clockwise direction, as seen in Figure 3. The sides of the slotted opening 74 in the lever thrust against the lugs 68 in the under side of the slide 62 and move that slide to the right, as seen in Figures 3 and 4, compressing the coil springs 65. Upon release of pressure on the push button, the spring returns the parts to their initial position with the closure member 62 against the stops 75.

The form of construction shown in Figure 6 to 8 inclusive comprises the same general type of cover member 81 having the brackets 82 for receiving cigars, cigarettes or the like. It also has the inwardly and sloping surface 83 inclining toward the elongated opening 84. The guide bars or wires 86 are secured to the under side of the cover by spot welding or by other suitable means. The slide or closure member 88 rides on the upper surface of these wires and is of adequate size to completely close the opening 84. As best shown in Figure 8, this member 88 has a downwardly depending extension 90 which is provided with an elongated opening 91 to receive the curved operating arm 92 on the operating lever 93. The inwardly depending portion 96 of slide 88 is provided with the inwardly extending flanges 96 and 97 which serve to stiffen the member and also, since they extend under the adjacent guide wire 86, they retain the closure in proper position thereon.

The lever 93 is provided with an arcuate upper surface 98 to receive the rounded button 99 on the push rod 100. This push rod is provided with the usual finger button 101. As best shown in Figure 6, the operating lever 93 is pivotally supported on bracket 103 which is secured to the under face of the cover 81. It is shown as pivoted on the cotter pin 105 and the coil spring 107 fits around the cotter pin and has one end 108 secured to the bracket. The other end 109 of the spring 107 engages the under side of the operating lever and tends to swing it in the counterclockwise direction about its pivot, as seen in Figure 7. This normally maintains the lever arm in its upper position with an upper rounded portion 111 engaging the under side of the cover 81, as shown in Figure 7. With the parts in this position, the slide 88 fully covers the opening 84.

Downward pressure on the button 101 thrusts the push rod 100 and the rounded member 99 downwardly against the curved contact portion 98 of the lever 93. This swings that lever in the clockwise direction, as seen in Figure 7, against the influence of the spring 107. The arm 92, through engagement with the adjacent edges of the slotted opening 91 of the depending portion 90 of the slide 88, moves that slide to the left, as seen in Figure 7, to clear the opening. A release of pressure on the button 101 will permit the spring to restore the parts to the closed position, as shown in the drawings.

The form of construction shown in Figures 9 to 13 inclusive is in some respects similar to the form shown in Figures 6 to 8 inclusive. The construction of Figures 9 to 13, however, com-

prises a pair of closure members 115 and 116 which jointly close a circular opening 118 formed in the inwardly sloping sides 119 of the circular cover member 120. The guide rods 122 and 123 are provided secured to the under side of the closure member 120. It will be noted, from an examination of Figures 9 to 13, that the rod 123 has its intermediate guiding portion located on a higher level than the corresponding portion of the guide rod 122. The slides 115 and 116, as best shown in the perspective of Figure 10, curve upwardly and then outwardly and downwardly around the guide rod 123, the downwardly extending portions 125 and 126 being provided with the elongated openings 127 and 128. These downwardly extending portions 125 and 126 are also provided on each side with the inwardly extending flanges 129 and 130, respectively. These flanges serve to stiffen the structure and, also, to retain it in position on the guide rod 123.

A pair of similar but reversely facing operating levers 132 and 133 are suspended from pivot pins 134 and 135 which are carried by the bracket 136, this bracket being secured to the under face of the cover 120. As shown in Figure 9, the operating levers 132 and 133 are provided with inturned flanges 138 and 139, these fitting in the elongated slots 127 and 128 of the slide closure members. The two operating levers 132 and 133 are provided with springs 140 and 141 fitted about the pivot pins 134 and 135, these springs tending to swing the two levers 132 and 133 toward each other. The engagement between the closure slide members 115 and 116 serves to limit this movement as the slides close the opening. The levers 132 and 133 are provided with overlapping operating arms 144 and 145, each of which has an arcuate upper face. The push rod 147 is guided in the bushing 148 secured to bracket 132. This push rod is provided with the usual button 150 for manual operation. As shown in Figure 13, the lower end 152 of the push rod 147 is bifurcated so that it fits over both of the overlapping arms 144 and 145.

Downward movement of the button 150 thrusts the push rod 147 downwardly and its lower end 152, therefore, simultaneously thrusts downwardly on the upper arcuate surfaces of both operating arms 144 and 145 of the levers 132 and 133. This serves to swing the lever 133 in the counterclockwise direction about its pivot 135 while, at the same time, swinging the lever 132 in the clockwise position about its pivot 131.

Thus, the two levers move the slide closures 115 and 116 in opposite directions along the guide rails 122 and 123 to fully uncover the opening 118 in the cover. Upon release of pressure on the button 150, both slides are returned to the closed position by the force of the two springs 140 and 141.

While I have shown certain preferred embodiments of my invention, they are to be understood as illustrative only as it is capable of modification to meet differing conditions and requirements, and I contemplate such variations as come within the spirit and scope of the appended claims.

I claim:

1. In a device of the class described, a cover for a receptacle, the cover having an opening formed therein, spaced guide members carried upon the lower side of the cover, a closure slidably supported on said guide members, said closure having a downwardly depending extension adjacent one of said guides, the extension having means engaging the under face of said guide, a pivoted lever carried by the cover and engaging the extension, and a push rod for actuating the lever to move the closure along said guides.

2. In a device of the class described, a cover for a receptacle, the cover having an opening formed therein, spaced guide members carried upon the lower side of the cover, a closure slidably supported on said guide members, said closure having a downwardly depending extension adjacent one of said guides, the extension having means engaging the under face of said guide, the extension having a slot formed therein, a pivoted lever carried by the cover, an arm on said lever engaging the extension slot, and a push rod engaging the lever for rotating it about its pivot to move the closure along said guides.

ADRIEN L. LANGEL.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
308,634	Seinecke	Dec. 2, 1884
1,196,385	Mutch	Aug. 29, 1916
1,265,148	Warren	May 7, 1918
1,420,293	Smith	June 20, 1922
1,865,902	Grunwald	July 5, 1932
2,004,537	Parkinson	June 11, 1935