April 7, 1931. F. J. VIERLING 1,800,035

CIGARETTE CABINET

Filed Dec. 21, 1928

Fig. 4

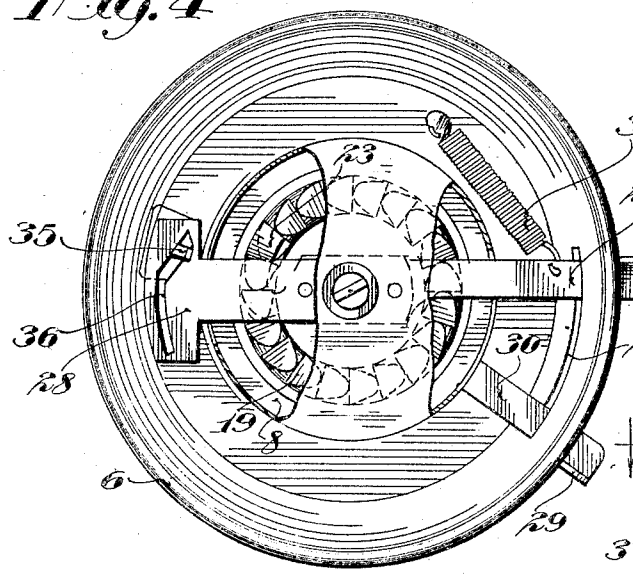


Fig. 2

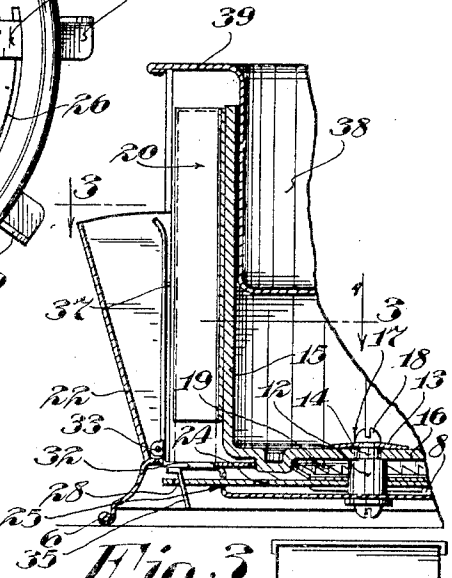


Fig. 5

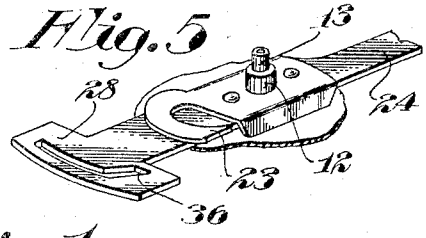


Fig. 3

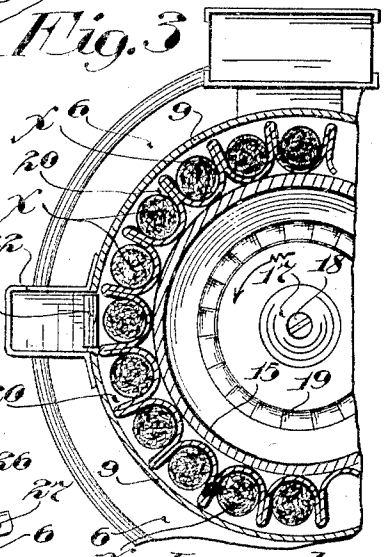
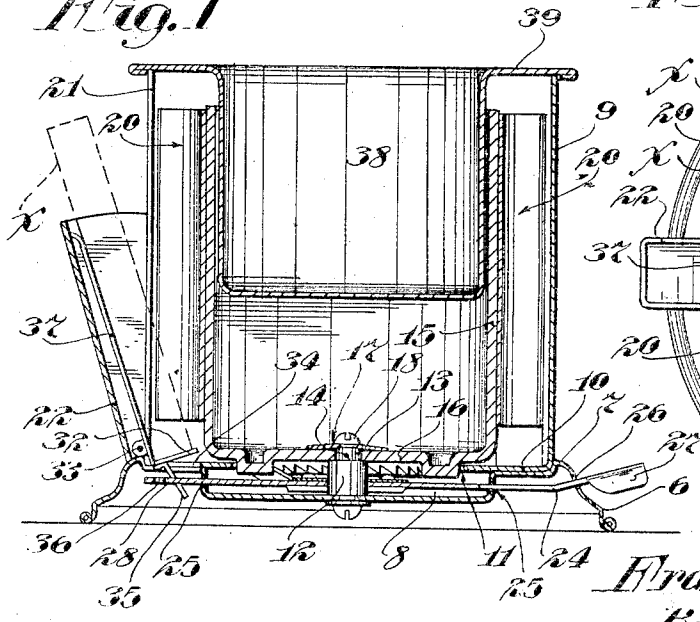


Fig. 1



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UNITED STATES PATENT OFFICE

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CIGARETTE CABINET

Application filed December 21, 1928. Serial No. 327,593.

My present invention relates to a cigarette cabinet and is in the nature of an improvement on or a refinement of the cigarette cabinet disclosed and boardly claimed in my co-pending application filed January 25, 1928, under Serial Number 249,375.

The aims of this invention are to simplify the construction and operation of the cigarette cabinet and to provide the same with an injector for returning an ejected cigarette to the cabinet in case the same is not removed therefrom when the mechanism of the cigarette cabinet is again operated to prevent the ejected cigarette from being caught between fixed and movable parts of the cigarette cabinet and broken or otherwise damaged.

To the above end, generally stated, the invention consists of the novel devices and combinations of devices hereinafter described and defined in the claims.

In the accompanying drawings, which illustrate the invention, like characters indicate like parts throughout the several views.

Referring to the drawings:

Fig. 1 is a view of the cigarette cabinet principally in central vertical section and also showing cigarettes therein by means of broken lines;

Fig. 2 is a view corresponding to Fig. 1 with the exception that the mechanism is set in a cigarette injecting position;

Fig. 3 is a fragmentary view partly in plan and partly in horizontal section taken on the irregular line 3—3 of Fig. 2;

Fig. 4 is a fragmentary bottom plan view of the cigarette cabinet with some parts sectioned; and

Fig. 5 is a fragmentary view of the actuating lever and its fulcrum.

The numeral 6 indicates an annular hollow pressed metal base having on its top an annular upstanding retaining bead 7. Said base 6 at its top is depressed at its central portion to afford a chamber 8.

A cylindrical retainer case 9 having a closed bottom 10 and an open top is mounted on the base 6 within the retaining bead 7 with its bottom 10 resting on the top of said base and permanently secured thereto by spot welding or otherwise. The retainer case bottom 10 extends over the chamber 8 and has formed therein a large central annular opening 11 the axis of which is at the center of said bottom.

Rigidly secured to the base 6 at the axis thereof is a short post 12 that extends upward through the chamber 8 and opening 11 at the axes thereof. The diameter of the post 12 at the upper end thereof is reduced to form a fixed trunnion 13 and an annular shoulder 14 at the lower end of said trunnion. It will be noted that the shoulder 14 is slightly above the upper face of the retainer case bottom 10 for a purpose that will presently appear.

Rotatably mounted on the post 12 within the retainer case 9 is a cylindrical container 15 having a closed bottom and an open top. Formed in the bottom of the container 15 at the axis thereof, is a bore-like seat through which the trunnion 13 extends with the bottom 16 of said container resting on the shoulder 14 and supporting the container 15 with freedom for rotation on the trunnion 13. For yieldingly holding the container 15 where set, to prevent accidental turning thereof, there is provided a friction device 17 in the form of a spring washer detachably secured by a screw 18 to the upper end of the trunnion 13 with its peripheral edge portion bearing on the container bottom 16. This washer 17 is of concavo-convex formation with its concave face turned down and the concavity thereof is such that said washer is slightly flattened during its application to the trunnion 13 by the screw 18 and thereby placed under tension.

A ratchet wheel 19 is pressed from the container bottom 16 and the teeth thereof project from the under side of said bottom and extend into the chamber 8. In the periphery of the container 15 is a multiplicity of circumferentially spaced corrugations that extend perpendicular to the base 6 and afford open pockets 20 for independently holding cigarettes X in upright positions with their lower ends resting on the retainer bottom 10. The pockets 20 are formed by folding a sheet of metal, as shown in Fig. 3, and

securing the same around the container 15. These pockets 20 are normally closed by the retainer case 9 except for an escape passageway 21 which extends the full height of said case and of substantially the same width as one of the pockets 20. Under the rotation of the container 15 the pockets 20 are successively brought into registration with the passageway 21.

A holder 22 is permanently secured to the retainer case 9 outward of the escape passageway 21 and arranged to receive the cigarettes X one at a time as they are ejected from the pockets 20. The front wall of the holder 22 is outwardly and upwardly inclined to hold a cigarette X therein in an oblique or tilted position with its upper end extending above said holder when the same may be easily removed therefrom.

Cooperating with the ratchet wheel 19 for imparting steps of rotary movement to the container 15 is a spring pawl 23 carried by a lever 24 intermediately fulcrumed on the post 12. The lever 24 extends diametrically through the chamber 8 with its end portions extending outward of said chamber through circumferentially extended slots 25 formed therein.

One end of the lever 24 projects outward of the base 6 through a slot 26 formed therein and is provided with a finger piece 27. Formed on the other end of the lever 24 outward of the chamber 8 and within the base 6 is a cam head 28. A fixed finger piece 29 is formed on a bar 30 which extends radially from the axis of the post 12 through the slot 26 at one end thereof, and is rigidly secured to the under side of the base 6, see Fig. 4. The lever 24 is yieldingly held in normal position at the opposite end of the slot 26, from the finger piece 29, by a coiled spring 31 one end of which is anchored to the base 6 and the other end thereof is attached to the lever 24. By taking the finger pieces 27 and 29 between the thumb and index finger and pressing the movable finger piece 27 toward the fixed finger piece 29, the lever 24 will be moved against the action of its spring 31 to cause its pawl 23 to engage one of the teeth of the ratchet wheel 19 and impart a step of movement to the container 15. It may be here stated that the number of teeth in the ratchet wheel 19 corresponds to the number of pockets 20 and that the pawl 23 has a slight movement before engaging one of the teeth of the ratchet wheel 19 for a purpose that will presently appear. When the lever 24 is released, its spring 31 returns the same to normal position and at which time the spring pawl 23 rides over the ratchet wheel 19. During this return movement of the lever 24, the friction device 17 holds the container 15 against backward rotation under the action of the pawl 23 riding over the ratchet wheel 19.

To eject a cigarette X from one of the pockets 20 as the same is brought into registration with the passageway 21, there is provided an ejector 32. This ejector 32, as shown, is in the form of a flat plate hinged at 33 to the sides of the holder 22 for raising and lowering movements within the retainer case 9. Normally the ejector 32 extends in an upwardly and inwardly inclined position and is arranged to be lowered horizontally into an opening 32 provided therefor in the bottom 10 in which its upper face is flush with the upper surface of said bottom. By reference to Figs. 1 and 2, it will be noted that the pockets 20 are spaced above the bottom 10 to permit free movements of the container 15 and ejector 32. The ejector 32 is raised and lowered and held stationary by a fixed depending cam finger 35 on said ejector that extends through a cam slot 36 in the cam head 28, see Fig. 4. This cam slot 36 is designed to cause the cam head 28 to normally hold the ejector 32 raised, as shown in Fig. 2.

During the initial movement of the lever 24, its pawl 23, as previously stated, has a slight movement in respect to the teeth of the ratchet wheel 23 but at which time the cam head 28 acting on the cam finger 35 moves the ejector 32 downward into the opening 34 so that the cigarette X in the pocket 20, that is about to be brought into registration with the passageway 21, will be moved onto said ejector. During further movement of the lever 24, its pawl 23 will engage one of the teeth of the ratchet wheel 19 and impart a step of movement to the container 15 and position another pocket 20 in registration with the passageway 21 and move the cigarette X thereon onto the ejector 32.

While the container 15 is being turned by the lever 24, the ejector 32 is held lowered by the cam head 28. Upon releasing the lever 24, its spring 31 returns the same to normal position. During this return movement of the lever 24 its cam head 28 acting on the cam finger 35 raises the ejector 32 and thereby tilts the cigarette X therein through the passageway 21 and into the holder 22 where the same projects above the holder, see Fig. 1.

An injector 37 is provided for returning a cigarette X from the holder 22 to the aligned pocket 20 in case said cigarette is not removed therefrom before the lever 24 is again operated to prevent said cigarette from being caught between the retainer case 9 and the side of the respective pocket 20 and thereby broken or otherwise damaged. This injector 37 is in the form of a flat member integrally formed with the ejector 32 at the outer edge thereof and extends perpendicular thereto. When the ejector 32 is raised the injector 37 is held thereby in an outwarlly inclined position and when said ejector is lowered the injector 37 is moved within the passageway 21. In case there is a cigarette X in the

holder 22 when the lever 24 is next operated the injector 37 will move said cigarette, which is resting on the ejector 32, back into the pocket 20 in registration with the passageway 21 before the container 15 is moved by said lever.

After a cigarette X has been returned to its pocket 20 by the injector 37 it is held by said injector during the movement of the container 15 and carried thereby past the passageway 21.

From the above description, it is evident that the initial movement of the lever 24 will operate the injector to return a cigarette to its pocket 20 and thereafter impart a step of movement to the container 15 while said injector 37 holds the cigarette X in said pocket.

Suspended with the container 15 is a removable ash receptacle 38 having an outstanding annular cover flange 39 which loosely rests on the upper edge of the retainer case 9.

What I claim is:

1. In a device of the class described, two members, one of which is movable in respect to the other, one of said members having a pocket and the other a passageway, operating connections for the movable member to successively bring the pocket into and out of registration with the passageway, said pocket being arranged when in registration with the passageway to permit an article therein to move into the passageway, and an injector for returning the article in the passageway to the pocket in advance of a movement of the movable member to move the pocket out of registration with the passageway.

2. In a device of the class described, two members, one of which is movable in respect to the other, one of said members having a pocket and the other a passageway, operating connections for the movable member to successively bring the pocket into and out of registration with the passageway, a movable ejector for causing an article in the pocket when in registration with the passageway to move into said passageway, and an injector for returning the article to the pocket in advance of a movement of the movable member to move the pocket out of registration with the passageway.

3. In a device of the class described, two members, one of which is movable in respect to the other, one of said members having a pocket and the other an escape passageway, operating connections for imparting steps of movement to said movable member to successively bring the pocket into and out of registration with the passageway, an ejector for causing an article in the pocket when in registration with the passageway to move into said passageway, and an injector for returning the article to the pocket in advance of a step of movement of the movable member to move said pocket out of registration with the passageway.

4. In a device of the class described, two members, one of which is movable in respect to the other, one of said members having a plurality of pockets and the other thereof having an escape passageway, operating connections for imparting steps of movement to said movable member to successively bring the pockets into and out of registration with the passageway, an ejector for causing an article in a pocket in registration with the passageway to move into said passageway, and an injector for returning the article to its pocket in advance of a step of movement of the movable member to move said pocket out of alignment with the passageway.

5. The structure defined in claim 1 in which the injector is actuated by the operating connections.

6. In a device of the class described, two members, one of which is movable in respect to the other, one of said members having an upright open pocket and the other normally closing the pocket and having a lateral passageway, operating connections for the movable member to successively bring the pocket into and out of registration with the passageway, a tiltable ejector for tilting an article in the pocket when in registration with the passageway into said passageway, and an injector for returning the tilted article in the passageway to the pocket in advance of a movement of the movable member to move the pocket out of registration with the passageway.

7. In a device of the class described, a rotatable container having a plurality of open pockets, a retainer case surrounding the container, normally closing its pockets and having a lateral escape passageway, operating means for imparting step by step movement to the container to successively bring its pockets into and out of registration with the passageway, an ejector actuated by the operating means for moving an article in a pocket when in registration with the passageway into said passageway, and an injector for returning the article in the passageway to its pocket in advance of a movement of the movable member to move said pocket out of registration with the passageway.

8. The structure defined in claim 7 in which said injector is actuated by the operating means.

9. In a device of the class described, a rotatable container having a plurality of open pockets, a retainer case surrounding the container, normally closing its pockets and having a lateral escape passageway, operating means for imparting a step by step movement to the container to successively bring its pockets into and out of registration with the passageway, said operating means comprising ratchet teeth on the container, a manually

operated spring retracted lever having a pawl arranged for action on the ratchet teeth, a tiltable ejector onto which an article in one of the pockets is moved at the time said pocket is moved into registration with the passageway, and a connection between the lever and ejector for operating the ejector to tilt the article into the passageway.

10. The structure defined in claim 9 in further combination with an injector for returning a tilted cigarette in the passageway to its pocket, said injector being arranged to be actuated by the lever in advance of a movement of the container to move said pocket out of registration with the passageway.

11. In a device of the class described, a rotatable container having a plurality of open pockets, a retainer case surrounding the container, normally closing its pockets and having a lateral escape passageway, operating means for imparting a step by step movement to the container to successively bring its pockets into registration with the passageway, said operating means including ratchet teeth on the container and a spring retracted manually operated lever having a pawl arranged for cooperation with the ratchet teeth, an ejector arranged to be positioned by the lever in advance of a movement thereby to impart a step of movement to the container to receive an article in one of the pockets as it is moved into registration with the passageway and tilt said article into the passageway, and an injector connected for common movement with the ejector and arranged to be positioned to receive an article from one of the pockets and to be moved out of the passageway, when the article is tilted into the passageway by the ejector, into a position to hold the article in its tilted position and to return the article to its pocket at the time the ejector is positioned to receive an article in the next following pocket and in advance of a step of movement of the container to move said pocket out of registration with the passageway.

In testimony whereof I affix my signature.

FRANK J. VIERLING.