Feb. 12, 1935. C. R. PFLAGING 1,991,258

COMBINATION CIGARETTE HOLDING, EJECTING, AND ELECTRIC IGNITING MEANS

Filed July 20, 1933 3 Sheets-Sheet 1

Fig. 1.

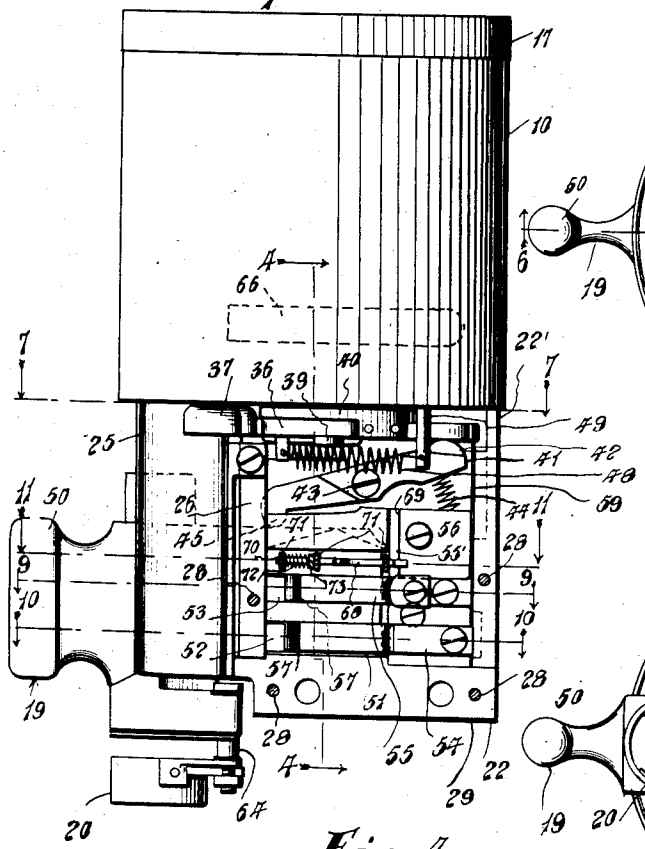


Fig. 2.

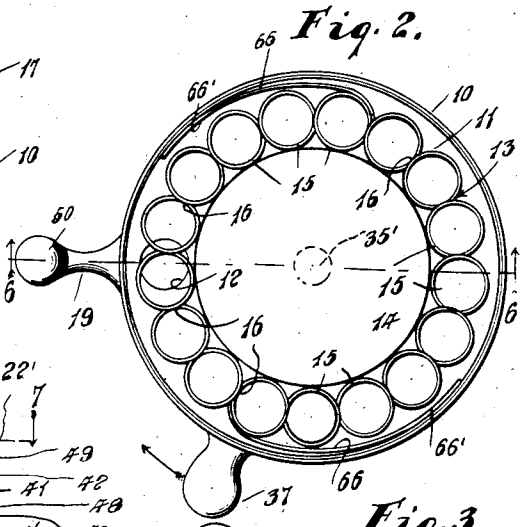


Fig. 3.

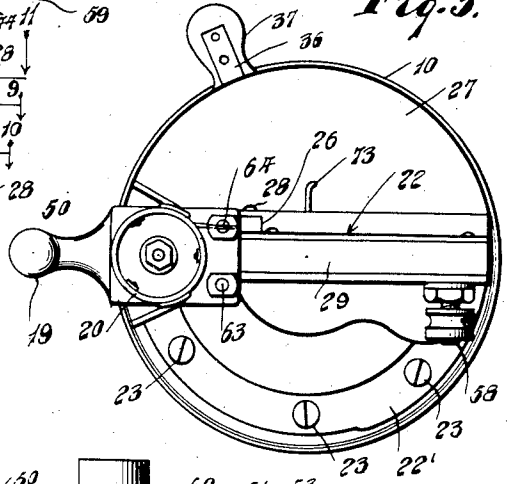


Fig. 4.

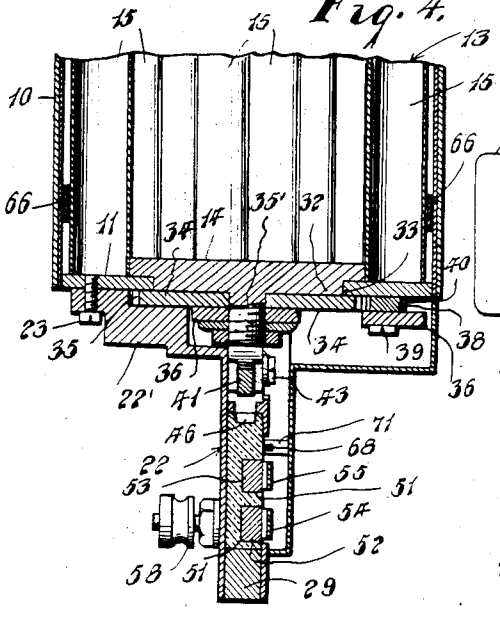
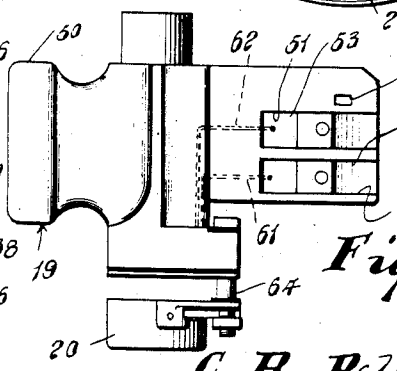


Fig. 5.



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COMBINATION CIGARETTE HOLDING, EJECTING, AND ELECTRIC IGNITING MEANS

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Fig. 6.

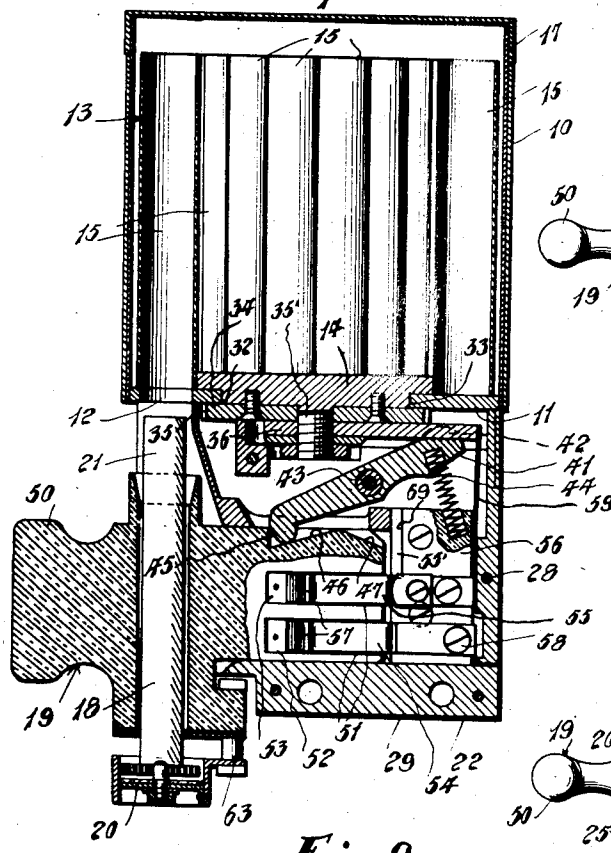


Fig. 7.

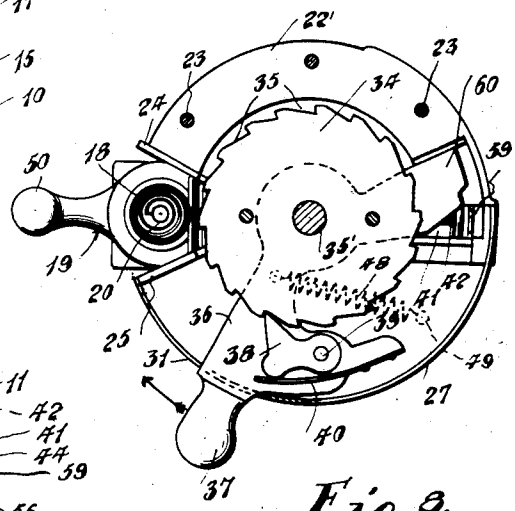


Fig. 8.

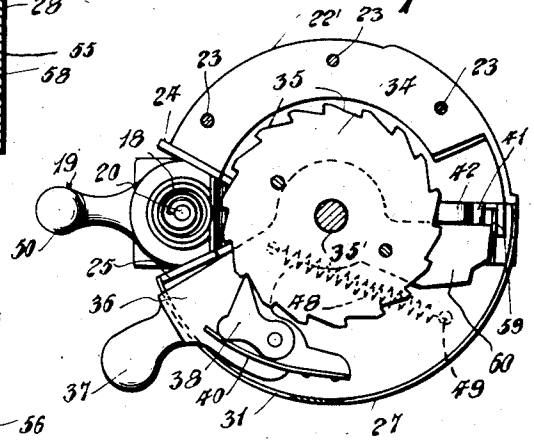


Fig. 9.

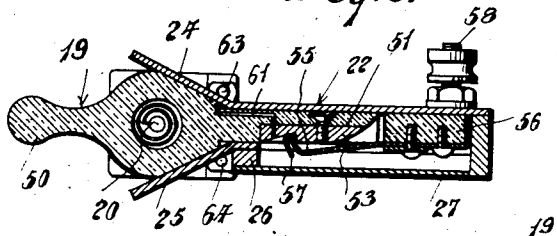


Fig. 10.

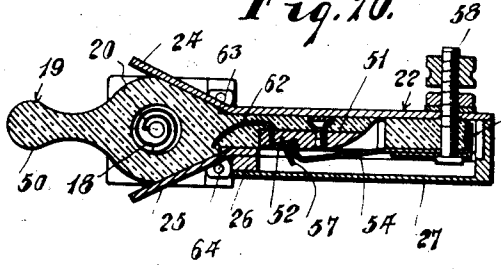
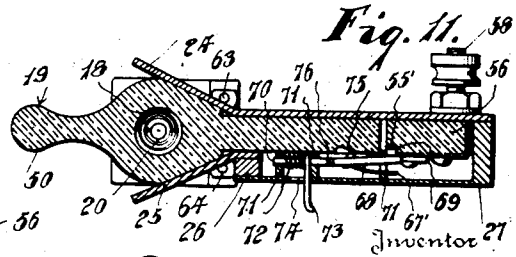


Fig. 11.



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COMBINATION CIGARETTE HOLDING, EJECTING, AND ELECTRIC IGNITING MEANS

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Fig. 12.

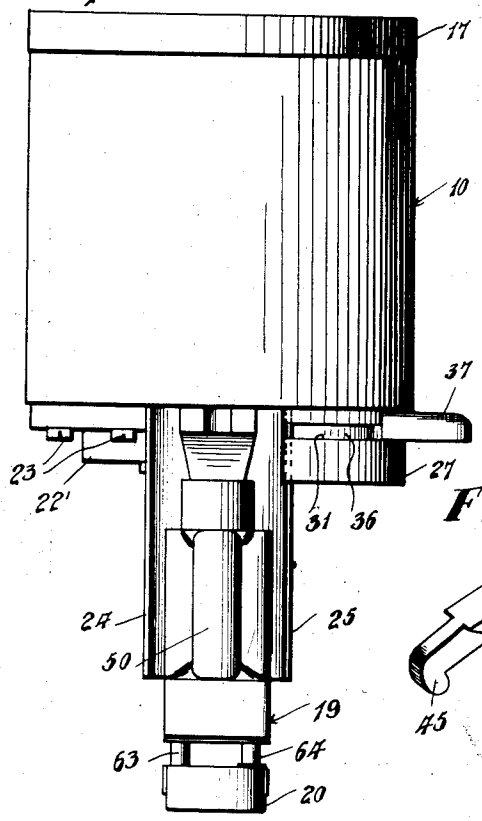


Fig. 13.

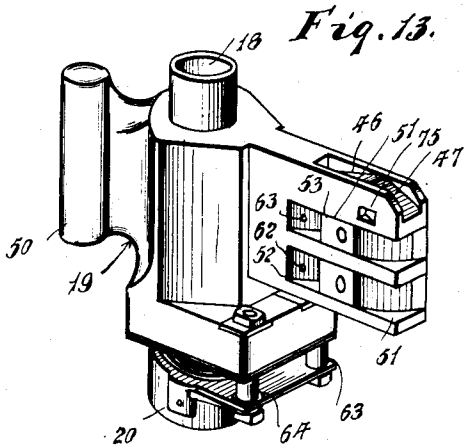


Fig. 17.

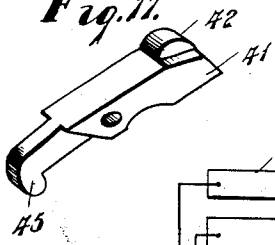


Fig. 15.

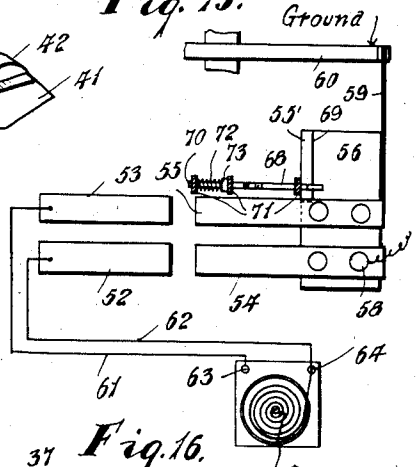


Fig. 14.

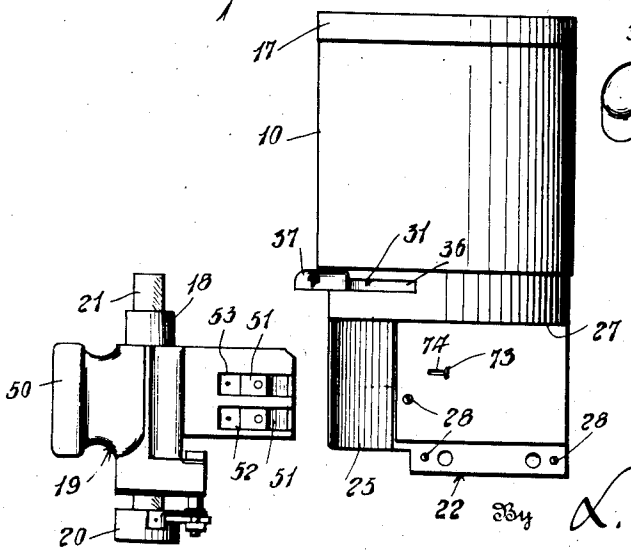
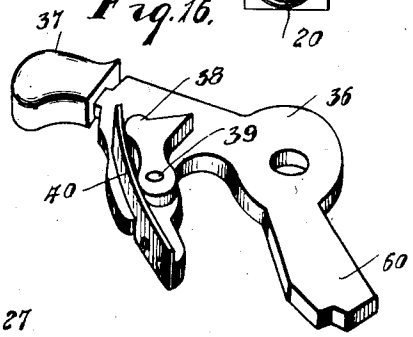


Fig. 16.



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Patented Feb. 12, 1935 1,991,258

UNITED STATES PATENT OFFICE

1,991,258

COMBINATION CIGARETTE HOLDING, EJECTING, AND ELECTRIC IGNITING MEANS

Charles R. Pflaging, Miami, Fla., assignor of one-eighth to Frederick A. Koenig, Miami, Fla., and one-eighth to William Painter Meeker, Coconut Grove, Fla.

Application July 20, 1933, Serial No. 681,353

10 Claims. (Cl. 312—86)

This invention relates to a means constituting a cabinet to hold cigarettes, cigars or the like in convenient location, as on shipboard, in automobiles, also in clubs, homes, etc., and which may be operated from time to time to eject a cigarette and light the same, at the lowermost end, the holding and igniting means with the cigarette therein being capable of removal from the device and the cigarette arranged between the lips while still in place in the holder.

One important object is to provide a novel electric circuit means adapted to be closed to an igniting unit through an ejecting or dispensing operation.

Another object is to provide a novel means whereby an electric circuit may be established through the igniting element independently of an ejecting or dispensing operation, upon failure of the cigarette to light.

It is further aimed to provide a novel construction of magazine to hold the cigarettes individually so that they cannot bind one with the other to interfere with dispensing and to provide the magazine in the form of a row of tubes, each cut away at a portion thereof to receive the adjacent tube to the end that the row may be of minimum size.

The more specific objects and advantages will become apparent from a consideration of the description following taken in connection with accompanying drawings illustrating an operative embodiment.

In said drawings:—

Figure 1 is a view of the invention in side elevation, a portion being removed to disclose details;

Figure 2 is a plan view of the device, with the cover of the magazine removed;

Figure 3 is an inverted plan view of the device;

Figure 4 is a vertical sectional view taken on the line 4—4 of Figure 1;

Figure 5 is a side elevation of the cigarette holding and heating unit alone;

Figure 6 is a vertical sectional view taken on the line 6—6 of Figure 2;

Figure 7 is a horizontal sectional view taken on the line 7—7 of Figure 1;

Figure 8 is a view similar to Figure 7 with the parts in cigarette-ejecting position;

Figure 9 is a cross sectional view taken on the line 9—9 of Figure 1;

Figure 10 is a cross sectional view taken on the line 10—10 of Figure 1;

Figure 11 is a cross sectional view taken on the line 11—11 of Figure 1;

Figure 12 is a front elevation of the device;

Figure 13 is a perspective view of the cigarette holder and heating unit alone;

Figure 14 is a side elevation of the device, the holding and igniting unit being detached and containing a cigarette;

Figure 15 is a view in diagram showing the electrical connection;

Figure 16 is a detail perspective view of the contact closing member, and

Figure 17 is a detail perspective of the detent lever.

Referring specifically to the drawings, the device employs a cylindrical container section 10, having a bottom 11 therein provided with a single opening 12 through which cigarettes are adapted to be ejected or discharged one at a time. The term "cigarette" is to be taken as broad since obviously the device may be used in connection with cigars or equivalent smokers' articles. Rotatable on the bottom 11 is a cigarette-holding magazine generally designated 13. This magazine consists of a disk or plate 14 resting on the bottom 11 and having an annular row of tubes 15 soldered thereto and to each other. Each tube is adapted to have a cigarette disposed therein and to be refilled from time to time. In order that the tubes may occupy minimum space, it will be noted that the tubes are arcuate or cut away so that each interfits with its neighbor as at 16 in Figure 2.

Due to the individual tubes or holders 15, one cigarette does not crowd another and discharge thereof by gravity when the tubes successively register with the opening 12 is assured. Container 10 preferably has a removable cover or closure 17 thereon telescoped over the container 10.

As the cigarettes drop from the tubes 15 through the opening or port 12, they fall into chamber 18 of a removable holder 19, the latter carrying a heating unit 20 of conventional electric design arranged in spaced relation to and opposite the lower end of the chamber 18, so that the lower end of the cigarette will rest directly on the heater 20 and receive the necessary air for ignition, the upper end of the cigarette projecting above the holder, to the end that when the holder is withdrawn from the device, the upper end of the cigarette may be engaged between the lips and the holder thereupon disengaged from the cigarette and rein-

serted into the device. A cigarette is shown at 21.

A suitable casing for the control and electrical parts, forming a support for the magazine and container, is shown at 22, as shown in Figure 4, consisting for example of a section 22' screwed as at 23 to the bottom 11. Section 22' carries a guide wall 24 opposed to which is a guide wall 25 carried by a section 26 of the casing. To section 26, is removably attached a casing section 27 by means of screws 28, several of the latter also securing in place a bar 29 between the sections 22 and 26. Section 27 has an annular wall equipped with an elongated slot 31. The said disk 14 has a reduced portion 32 which is journaled in an opening 33 in the bottom 11 and against which is disposed a ratchet wheel 34 having teeth 35. The plate or disk 14 and ratchet wheel 34 overlaps opposite sides of the plate 11 and are held together against relative turning by means of a stud 35'. Journaled on said stud 35' is an actuating lever 36 having secured thereto a finger piece 37 thereon of insulation and projecting outwardly through the slot 31. Lever 36 carries a pawl 38 adapted to engage the teeth 35, the pawl being pivoted to the lever at 39 and urged into engagement with the teeth 35 by a leaf spring 40 on the lever. The number of teeth 35 correspond to the number of tubes 15 and the extent of movement of the lever 36 is such that each operation of the lever 36 advances the magazine the extent of one tube. Movement of the lever 36 to ejecting or dispensing position is limited by its contact with the wall 25 as best shown in Figure 8. The lever 36 cannot return from such position to the normal position, which latter is shown in Figure 7, since it is detained through the upward movement of a detent lever 41, at a lug 42 into its path of movement as shown in Figure 8. Detent 41 is pivoted as at 43 to the casing and urged upwardly at its upward end through the action of an expansive spring 44. The rear end 45 of the detent 41 travels on reversely inclined portions 46 and 47 of a cam formed in the upper surface of the holder 19. As a result, a dispensing movement of the lever 36 in the direction of the arrow shown in Figure 7, causes a cigarette to discharge from the magazine through the opening 12 into the holder 18, and such lever will be restored by a contractile spring 48 connected thereto and to a dependent 49 on the bottom wall 11 through removal of the holder 19 since the cam 46 raises the end 45 of the detent and lowers the end 41, thus freeing such actuating lever 36.

The holder 19 has a finger grip as at 50 and the holder is made of suitable insulation, for instance, indurated fibre. Such holder has grooves 51 in which are fastened, in spaced relation, metallic contacts 52 and 53, each having a shoulder or step at 54. Such contacts 52 and 53 are adapted for detachable and wiping engagement with contacts 54 and 55, respectively, attached to insulation 56 carried by the casing, such contacts 54 and 55 having hooked ends as at 57 adapted for engagement with the shoulders 54 as best shown in Figures 9 and 10. The block or material 56 insulates the contact 54 from the casing and is adapted to receive current from one side of a circuit through a binding post 58. The casing, aside from the part 56, is of conducting metal and grounded to the other side of the same electric circuit which includes the binding post 58 and the contact 55 is thus adapted for electrical connection in the grounded side of the circuit. Contact 55, however, carries a spring finger 59 which normally breaks such circuit since contact 59 as shown in Figure 7 is normally spaced from an arm 60, of the lever 36, which lever is in the grounded side of the circuit referred to through its connection or contact with parts of the casing. Suitable conductors 61 and 62 are embedded in the holder 19 and extend from the contacts 52 and 53 to bolts 63 and 64, respectively, which fasten the heating unit 20 to the holder and are in the circuit thereof, the heating unit being conventional and primarily having a resistance coil.

It will thus be seen that when the actuating lever 36 is moved to a cigarette-ejecting position, as in Figure 8, a cigarette is not only ejected or permitted to fall into the holder 18 resting on the heating unit 20, but the arm 60 as shown in Figure 8 wipes the finger 59 of the contact 55, thus establishing an electric circuit through the heater or igniting unit 20, accordingly igniting the cigarette, after which the holder may be withdrawn so that the cigarette held by the holder may be brought into engagement with the lips and the holder thereupon removed and replaced in the apparatus. The removal of the holder 19 as previously stated, causes the retraction of the detent 41 so that the actuating lever returns to its normal position of Figure 7, breaking the electric circuit through its disengagement with the finger 59.

The magazine is held against movement by inertia through the action of leaf springs 66 fastened to certain of the tubes 15 and having dragging contact on container 10 at free ends 66'.

Means are provided whereby the holder with a cigarette therein may be returned to the machine, in the event of failure of ignition, and the igniter energized without again operating the actuating lever 36, which would cause another ejecting movement. To this end, a continuation 55' of contact 55 is provided. A movable contact 68 is adapted to engage the same under the action of a spring 67' when the contact 68 is moved toward the handle 50, the contact passing a shoulder 69 on the holder, whereby it may snap into engagement with the contact 55' under the urgency of spring 67'. Contact 68 is carried by a slidable rod 70 mounted in bearings 71 and surrounded by an expansive spring 72 abutting one of the bearings and a finger piece 73 on the slide extending through a slot 74 of the casing section 27. It will be understood that after the holder has remained in position long enough for energization of the coil 20, contact 68 will be restored to normal position through withdrawal of the holder 19 by contact of a cam surface 75 thereon with a lug 76 on the contact 68, and through the expansion of the spring 72.

Various changes may be resorted to provided they fall within the spirit and scope of the invention.

I claim as my invention:—

1. A device of the class described comprising a magazine, a holder removable from the device having an igniter, normally open electric circuit means for the igniter between the holder and device, and means operable to discharge a cigarette into the holder and to simultaneously close said circuit comprising a ratchet on the magazine, an actuating lever having means co-

acting with the ratchet, said lever being in the electric circuit and engageable with another part in said circuit through actuating movement, a detent operable to hold the lever in actuated position, and means on the holder operable to release the detent through removal of the holder.

2. A device of the class described comprising a magazine, a holder removable from the device having an igniter, normally open electric circuit means for the igniter between the holder and device, means operable to discharge a cigarette into the holder and to simultaneously close said circuit comprising a ratchet on the magazine, an actuating lever having means coacting with the ratchet, said lever being in the electric circuit and engageable with another part in said circuit through actuating movement, a detent operable to hold the lever in actuated position, and means on the holder operable to release the detent through removal of the holder comprising a cam on the holder, said detent being movable on an axis at a right angle to said lever.

3. A device of the class described comprising a magazine, a holder removable from the device having an igniter, normally open electric circuit means for the igniter between the holder and device, means operable to discharge a cigarette into the holder and to simultaneously close said circuit, said electric circuit including contacts in wiping engagement on the holder and on the stationary part of the device and both in circuit with conductor bolts securing the igniter to the holder.

4. A device of the class described comprising a magazine, a holder removable from the device having an igniter, normally open electric circuit means for the igniter between the holder and device, means operable to discharge a cigarette into the holder and to simultaneously close said circuit, said electric circuit including contacts in wiping engagement on the holder and on the stationary part of the device and both in circuit with conductor bolts securing the igniter to the holder, and a casing for the holder having flared walls facilitating insertion and removal of the holder, the holder having an enlarged portion normally abutting the flared walls, said enlarged portion having a cigarette-receiving chamber therein.

5. A device of the class described comprising a magazine, a holder removable from the device having an igniter, normally open electric circuit means for the igniter between the holder and device, means operable to discharge a cigarette into the holder and to simultaneously close said circuit, means to restore the second mentioned means to normal position after removal of the holder, and means carried by the holder adapted for positioning to be operable automatically through the replacement of the holder into the device to establish an electric circuit from the same source as said normally open circuit means through the igniter independently of operation of said second mentioned means.

6. A device of the class described comprising a magazine for cigarettes, a holder removable with respect to the magazine, a casing supporting the magazine and holder, means operable to discharge a cigarette from the magazine into the holder and into engagement with the igniter, means controlled by the actuating means to energize said igniter, and means on the holder operable independently of said second mentioned means to energize the igniter from the same source upon reinsertion of the holder into the device, and means operable to move the third mentioned means to normal position upon the succeeding removal movement from the device.

7. A device of the class described comprising a relatively fixed element having an opening, a magazine mounted opposite said element having a step-by-step movement to discharge cigarettes or the like through said opening, a removable holder having an igniter in line with said discharge opening, mechanism to impart said step-by-step movement to the magazine and close an electric circuit through said igniter, detent means operating automatically through insertion of the holder to hold the mechanism in circuit closing position, and means operating to release the detent means from the said mechanism automatically through the removal of the holder.

8. A device of the class described comprising a magazine, a holder removable from the device having an igniter, normally open electric circuit means for the igniter between the holder and device, means operable to discharge a cigarette into the holder and to simultaneously close said circuit, a detent to hold said last mentioned means in discharging and circuit-closing position, said electric circuit including contacts in wiping engagement on the holder and on the part of the device from which the holder is removable, and means on said holder to release said detent upon withdrawal of the holder.

9. A device of the class described comprising a magazine, a holder removable from the device having an igniter, normally open electric circuit means for the igniter between the holder and device, including normally engaged contacts on the holder and on the part of the device from which the holder is removable, and means operable to discharge a cigarette into the holder and to simultaneously close said circuit comprising a ratchet on the magazine, an actuating lever having means coacting with the ratchet, said lever being in the electric circuit and engageable with another part in said circuit through actuating movement, a detent operable to hold the lever in actuated position and means on the holder operable to release the detent through removal of the holder.

10. A device of the class described comprising a relatively fixed element having an opening, a magazine mounted opposite said element having a step-by-step movement to discharge cigarettes or the like through said opening, a removable holder having an igniter in line with said discharge opening, said holder also having contacts, contacts on the part of the device from which the holder is removable and engaged by the first mentioned contacts, mechanism to impart said step-by-step movement to the magazine and close an electric circuit through said igniter and contacts, detent means operating automatically through insertion of the holder to hold the mechanism in circuit closing position, and means operating to release the detent means from said mechanism automatically through the removal of the holder.

CHARLES R. PFLAGING.