

Sept. 22, 1936.

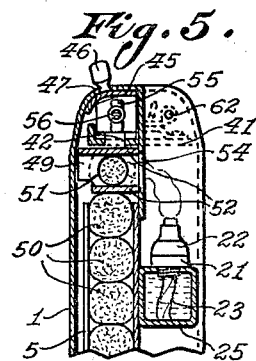
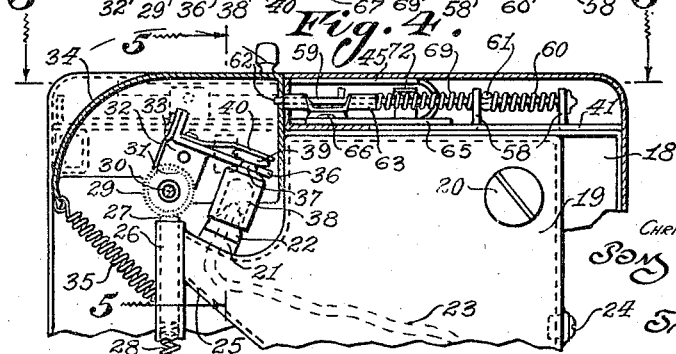
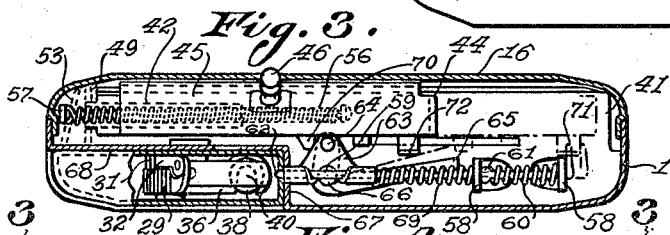
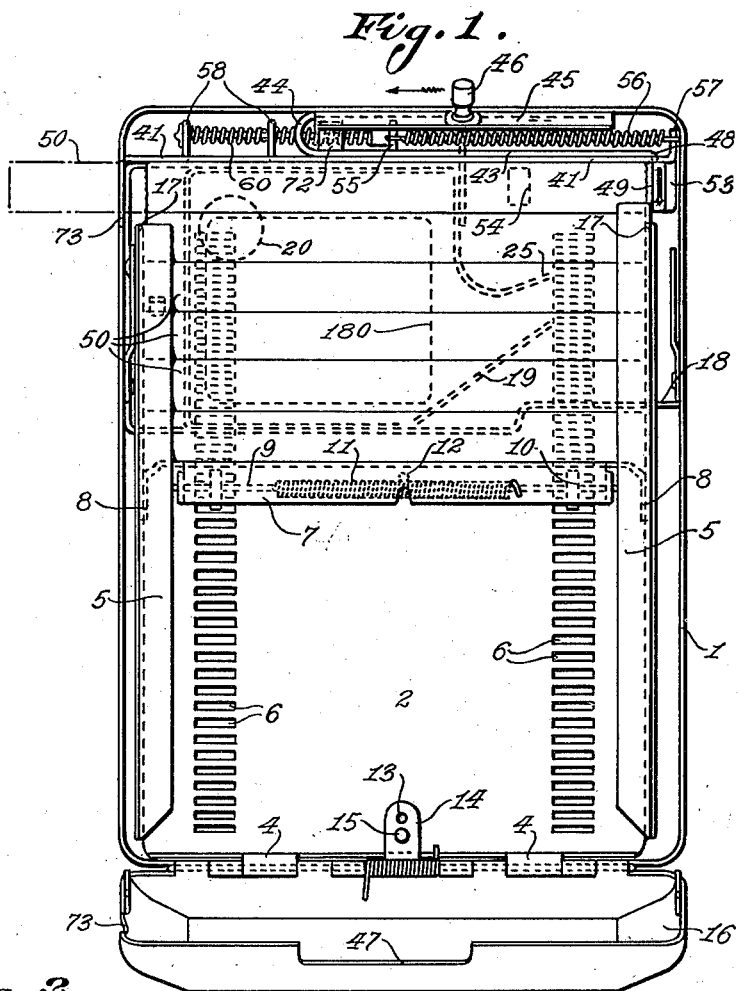
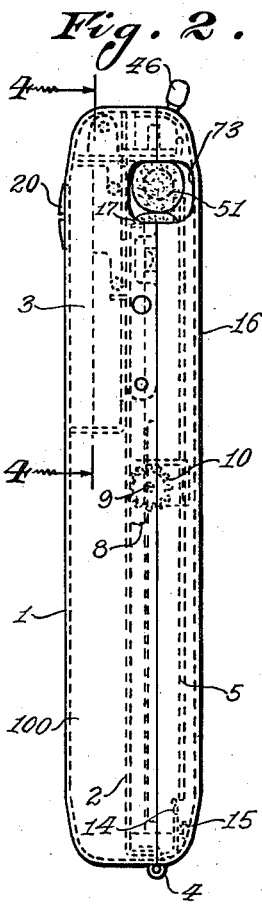
C. P. SHAW ET AL

2,055,052

CIGARETTE CASE

Filed Dec. 27, 1932

2 Sheets-Sheet 1



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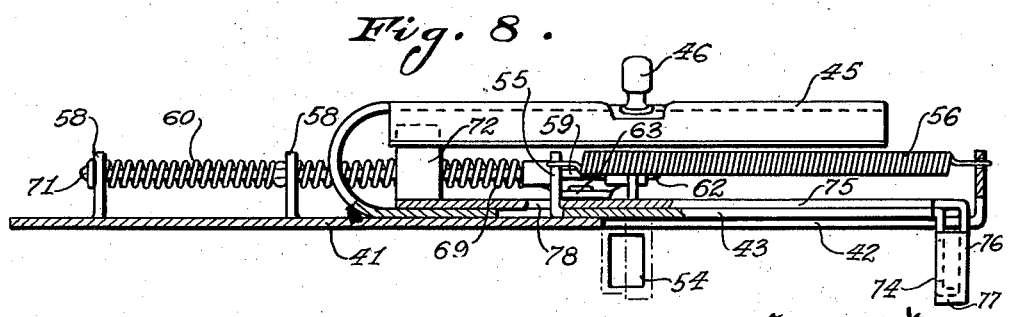
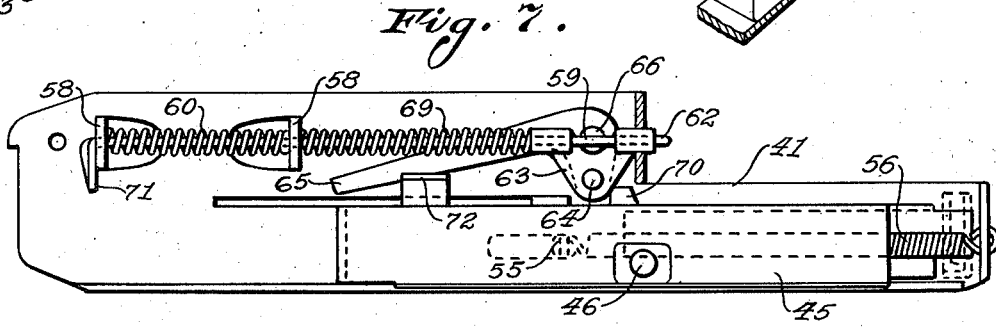
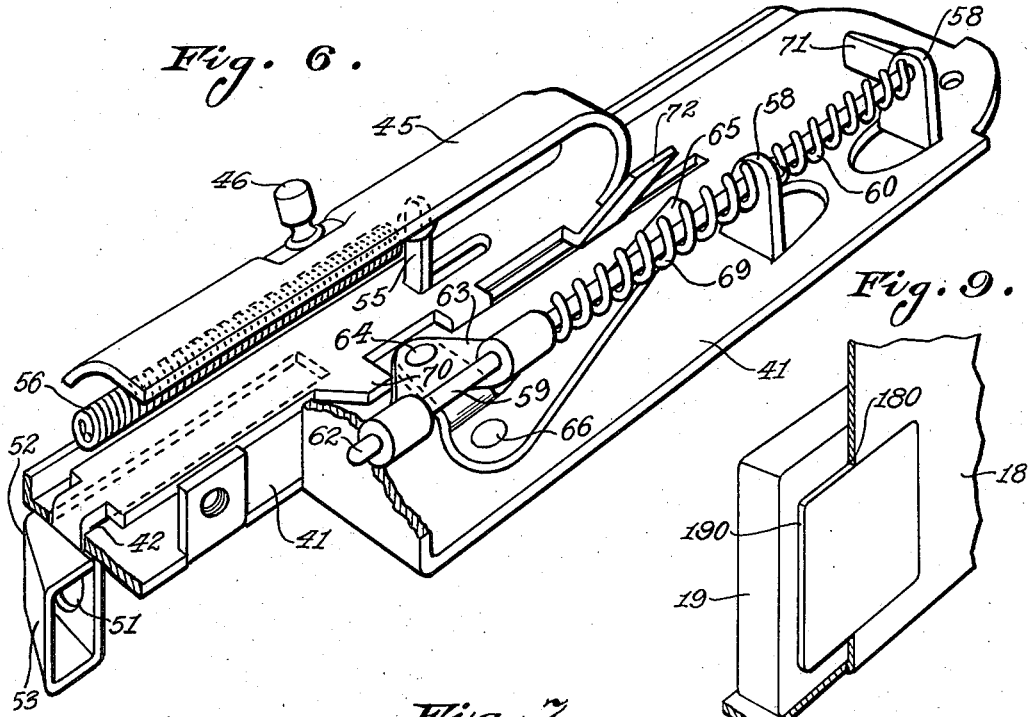
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CIGARETTE CASE

Filed Dec. 27, 1932

2 Sheets-Sheet 2



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# UNITED STATES PATENT OFFICE

2,055,052

## CIGARETTE CASE

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13 Claims. (Cl. 206—41.4)

This invention pertains to cigarette cases and more particularly to that type of case which has combined therewith a cigarette lighter and means for ejecting a cigarette and positioning the same to be lighted by the lighter.

One of the objects of this invention is to provide a cigarette case with means whereby a cigarette may be partially ejected therefrom and positioned to be lighted by the lighter in a simple and convenient manner.

Another object is to provide automatic means whereby the positioning of the cigarette and the operation of the igniter may be accomplished by a single operation.

Another object is to provide improved igniter mechanism for the lighter.

Another object is to provide means whereby the flame of the igniter will be confined to the cigarette to be lighted and an adjacent cigarette in the holder will be guarded from the action of the flame.

Another object is to provide improved means for feeding cigarettes along the holder.

Further objects will appear from the following description taken in connection with the accompanying drawings, in which:

Figure 1 is a front view of a cigarette case embodying this invention shown with the cover open;

Figure 2 is a left edge view of Figure 1, but with the cover closed;

Figure 3 is a section taken on line 3—3 of Figure 4;

Figure 4 is a partial vertical section taken about on line 4—4 of Figure 2;

Figure 5 is a detail section taken on line 5—5 of Figure 4;

Figure 6 is an enlarged perspective view showing the ejector mechanism;

Figure 7 is an enlarged plan view illustrating another embodiment of this invention;

Figure 8 is a front view partly in section illustrating the embodiment of Figure 7; and

Figure 9 is an enlarged perspective detail of the fuel tank mounting.

Referring to the drawings 1 designates a casing adapted to house a cigarette holder 2 and a lighter indicated generally by the reference numeral 3. The cigarette holder 2 is hinged at 4 to the casing 1 and is provided with turned-over flanges 5 adapted to receive and guide the cigarettes which are placed side by side therein. The back plate of the holder 2 is provided with two series of alined perforations 6 providing racks ex-

tending along the holder in direction of the feed of cigarettes. The cigarettes are fed along the guide flanges 5 by a follower 7 whose ends 8, bent at right angles to follower 7, are also guided by grooves in the flanges 5. These ends also prevent tipping of the follower and assist in maintaining its alinement. The follower 7 has journalled therein a shaft 9 having fixed thereto at each end a pinion 10 engaging one of the racks 6. The shaft 9 is rotated by a spring 11 secured at one end to the shaft and at the other end to the follower 7. This spring provides a motor adapted to drive the shaft 9 and the pinions 10 so as to move the follower 7 by engagement with the racks 6.

The length and tension of the spring 11 are adjusted so as to transmit a substantially uniform pressure on the end cigarette regardless of the number of cigarettes in the holder. In other words, the rate of increase in spring tension as the follower is pressed back is just enough to take care of the increased friction of the additional cigarettes. This arrangement reduces the tendency of the stack of cigarettes to buckle in the holder.

Thus the pinions 10, being fixed to the shaft 9, are driven equally along the racks and accordingly the follower 7 is controlled so as to maintain parallel relation with its normal or initial position. The follower 7 is provided on the underside of its top flange with a short pin 12 adapted for engagement in a perforation 13 in a spring catch 14 mounted at the end of the casing 1 adjacent the hinge 4. When the follower 7 is pulled all the way down in Figure 1 the pin 12 may be made to engage in the perforation 13 so as to retain the follower in this retracted position against the tension of the spring motor 11. This makes it convenient to hold the follower out of the way while inserting cigarettes in the holder 2. The catch 14 is provided with a button 15 adapted to be engaged by the cover 16 of the casing when closed. Such engagement causes the cover to depress the catch 14 so as to disengage the perforation 13 from the pin 12 thereby releasing the follower 7 for movement to feed the cigarettes. Suitable stops 17 may be provided to prevent the follower from being fed clear out of the holder.

Between the holder 2 and the back of the casing 1 in the lower part of the casing a compartment 100 is formed which may be used for storing extra cigarettes, or for holding a lady's compact or the like. This compartment is quickly accessible by moving the hinged holder 2.

Removably mounted in the upper end of the casing 1 is a support 18 upon which is mounted an ejector assembly and a cigarette lighter. The cigarette lighter comprises a fuel tank 19 provided with a filling opening closed by a suitable cap 20, and a wick opening provided with a suitable fitting 21 formed for attachment thereto of a demountable wick tube 22. The wick tube 22 is separately assembled on the wick 23 so that the same may be detached for the easy insertion in the fuel tank of a new wick. The tank is provided with an auxiliary opening closed by a suitable plug 24, Figure 4, said opening being placed on the opposite side of the tank from the fitting 21 so that the insertion of a new wick may be facilitated by means of a suitable implement inserted through the opening at 24 so as to draw the wick into the tank.

The support 18 is provided with an angular recess 180 and the fuel tank is provided on its flat side with a projecting portion 190 fitting said recess and projecting thereinto. These inter-fitting parts serve to position the fuel tank and its wick tube accurately in proper relation to the igniting mechanism.

The fuel tank 19 is provided with a laterally projecting portion 25 on which the fitting 21 is mounted. There is also mounted on the projection 25 a so-called flint tube 26 adapted to receive a stick of pyrophoric material 27. A spring 28 supported in any suitable manner forces the end of the stick 27 against a toothed wheel 29. The wheel 29 is journaled on a pin 30 mounted in the support 18. The wheel 29 has fixed thereto a ratchet wheel 31 engaged by a spring pawl 32 mounted on a bracket 33. The bracket 33 is fixed to the inside of a cap 34 pivoted on the pin 30 and tensioned by a spring 35 whose other end is secured at a suitable point on the support 18. The bracket 33 has an arm 36 provided with a lateral notch adapted to receive the reduced neck portion 37 of a snuffer 38. The snuffer 38 has a hollow end adapted to fit over and seat upon the wick tube 22 as illustrated in Figure 4. The reduced neck portion 37 is a loose fit in the notch of the arm 36 and the head 39 of the snuffer is pressed downwardly by a spring 40 secured to the bracket 33. The spring holds the snuffer yieldingly in place while permitting universal movement of the snuffer so as to align itself to a proper seat on the wick tube 22.

The support 18 is provided with a transverse plate or flange 41 provided with a longitudinal slot 42. An ejector 43 is arranged to slide on the plate 41 and has its end portion bent back upon itself at 44 to provide a guard 45 carrying a manipulating button 46. The guard 45 is adapted to close the slot 42 in the casing 1 provided for the movement of the button 46. The ejector 43 has its other end bent downwardly at 48 to pass through the slot 42 in the plate 41 and provided below said plate with an abutment 49 adapted to engage the end of a cigarette 50 to be ejected. The abutment 49 is provided with perforation 51 through which the flame of the lighter may reach the cigarette as will be more fully explained later. The abutment 49 is formed with side and rear walls 52 and 53 so as to provide an enclosed passage for the flame of the igniter to pass through, the rear wall 52 providing a guard for the adjacent cigarette as shown in Figure 5. The movement of the ejector is such as to carry the abutment 49 to such a position that this flame passage is positioned opposite an opening 54 in the support 18. This opening is positioned

opposite the point at which the flame of the igniter will be produced so that by inhaling on the ejected cigarette the flame will be drawn through the opening 54 and the flame guide formed by the abutment 49 and through the perforation 51 so as to light the cigarette. The perforation 51 acts to localize the flame in the center of the end of the cigarette and to avoid igniting the side portions of the cigarette.

The ejector 43 is provided with a post 55 to which is attached a spring 56 whose other end is attached at 57 to the support 18. This spring serves to retract the ejector to a position to clear a cigarette moving from the holder. Slidably mounted in suitable supports 58 on the support 18 is a latch pin 59. This pin is tensioned by spring 60 engaging an upset portion 61 on the pin so as to retain the protruding end 62 of the pin in latching engagement with a suitable perforation in the cap 34. Slidably mounted on the pin 59 is a member 63 pivoted at 64 to one arm of the latch member 65, said latch member being pivoted at 66 on the plate 41 of the support 18. As will be seen from Figures 3 and 4 that portion of the member 63 which surrounds the pin 59 extends through a perforation in a transverse wall 67 of the casing 1 so as to abut against the end wall of the cap 34, said cap being movable in a recess in the casing 1 formed by the transverse wall 67 and a wall 68 at right angles thereto. A spring 69 surrounds the pin 59 and bears at one end against one of the supports 58 and at the other end against the member 63. This spring acts through the member 63 to maintain the latch member 65 in the position for latching engagement with a lug 70 on the ejector 43 when the latter is moved to the right, Figure 3. The pin 59 has its right-hand end, Figure 6, bent over and flattened to provide an arm 71 positioned to be engaged by an outwardly projecting lug 72 on the ejector.

The operations performed in ejecting and lighting the cigarette are as follows. The follower 7 urges the cigarettes upwardly, Figure 1, against the plate 41, the last cigarette being positioned in front of but clear of the abutment 49. The operator moves the button 46 in the direction indicated by the arrow in Figure 1 against the tension of the spring 56. The ejector is moved until at the end of its stroke the lug 72 engages the arm 71 and further movement then retracts the pin 59. As this movement is completed the latch 65 drops behind the lug 70, as indicated in dotted lines, Figure 3, so as to retain the ejector in this position. During this movement the abutment 49 has forced the first cigarette 50 out through an opening 73 in the casing 1 and has positioned the end of the cigarette adjacent the opening 54. The withdrawal of the pin 59 at the end of the ejector movement releases the cap 34 which is tensioned by the spring 35 for rotation about the pin 30. When released the cap 34 executes a quick rotary movement carrying with it the toothed wheel 29 by virtue of the engagement of the pawl 32 with the ratchet wheel 31. Rotation of the wheel 29 over the end of the pyrophoric stick 27 produces a shower of sparks directed so as to ignite the end of the wick 23. It will be noted that this movement of the cap 34 not only carries the snuffer clear of the wick, but opens the side of the casing to the atmosphere so that plenty of air is provided for the flame which is positioned directly opposite the opening 54.

The lips are now applied to the protruding end

of the cigarette 50 and by inhaling thereon the flame of the lighter is drawn through the opening 54 and the perforation 51 to the end of the cigarette to light the same. When this cigarette has been lighted it is entirely withdrawn through the opening 73. The operator then moves the cap 34 about the pivot 30 back to its original position. This carries the snuffer 33 down on the flame to extinguish it. At the end of the closing movement of the cap 34 its end wall engages the end of the member 63 which now protrudes slightly through the perforation in the wall 67, having been moved to this position by the spring 69 when the cap was released. As the cap is closed the protruding element 63 is moved to the right, Figure 3, thereby rotating the latch 65 on its pivot so as to disengage it from the lug 70 whereupon the ejector is released and returns to its original position under the tension of the spring 56. As the ejector is returned the next cigarette is fed into position to be ejected in a similar manner.

It will be noted that, as the lighter is not released for operation until the final portion of the ejector movement, the ejector may be operated to expel a cigarette partly from the casing without operating the lighter. For this purpose it is only necessary to stop the movement of the button 46 before the lighter is operated. This is convenient when one wishes to dispense cigarettes to several friends, for which purpose the ejector may be operated to project a cigarette from the casing which is then handed to the other, who may grasp and withdraw the projected cigarette. The repeated operation of the lighter and accompanying waste of fuel are thereby avoided.

Referring now to Figures 7 and 8 the mechanism is similar to that already described, except that a modified form of ejector is provided. The ejector slide 43 has an abutment 74 which projects downwardly through the slot 42 as in the previous embodiment. The abutment 74 is provided with a perforation 51 as in the construction described above. Mounted to slide on the member 43 is a loose plate 75 which has a member 76 projecting through the slot 42 and lying behind the member 74. The outside edges of the members 74 and 76 are bent toward each other as indicated at 77. These parts are dimensioned so as to telescope one within the other, as indicated in dotted lines in Figures 7 and 8. The plate 75 has a perforation 78 through which the post 55 projects and which cooperates with said post to guide the sliding movement of the plate 75. The lengthwise dimension of this perforation is also such as to limit the extent of movement of the plate 75 with reference to the plate 43. The upstanding lug 72 is in this instance formed on the plate 75.

In the operation of this mechanism, with the ejector in normal position as shown in Figure 8 the parts 74 and 76 are in telescoped or collapsed relation. In this position these parts take up a minimum of space so that the width of the casing 1, as shown in Figure 1, may be reduced. When the ejector is moved to the left, Figure 8, in order to eject a cigarette the abutment 74 moves the cigarette, as previously described, for the abutment 49. At the limit of movement of the ejector the lug 72 engages the arm 71, as previously described, so as to withdraw the pin 59. It will be noted that since the plate 75 is loose on the plate 43, engagement of the lug 72 with the arm 71 will hold the plate 75 while the plate

43 moves on until the post 55 engages the left-hand end, Figure 8, of the perforation 78. This movement separates the member 76 from the member 74 so as to provide ample space therebetween for the flame of the igniter to be conducted to the cigarette, as previously described. These members are separated a sufficient distance to provide adequate space to accommodate proper combustion. After such movement to separate the parts 74 and 76, the lug 72 will move the arm 71 and the pin 59 to release the igniter cap as has already been explained. At the end of these movements the parts 74 and 76, having been separated or extended, are positioned at the opening 54, as indicated in dotted lines in Figure 8, so as to provide a flame guide and also a guard to protect the following cigarette, as previously pointed out. After igniting and removing the cigarette the igniting cap is closed and the ejector is returned to normal position by the spring 56. This return movement to normal position brings the member 76 against the end wall of the casing 1 which operates to bring the members 74 and 76 to their normal telescoped position.

It will be seen, therefore, that this invention provides a combination cigarette case and igniter which is automatic in its operations throughout. The entire operation may be carried out with one hand. Upon ejecting the cigarette the same is positioned for igniting so that it is only necessary to inhale at the projecting end and then withdraw the cigarette from the case with the lips. The cap 34 may then be closed with the index finger of the same hand and when so closed the ejector is retorted to its original position and a new cigarette moved into position to be ejected. It will be noted that the possibility of handling all of these operations with one hand makes it possible for the driver of an automobile, for instance, to light a cigarette quickly and conveniently while at the same time keeping one hand on the wheel. It will be noted further that the structure is such as to be certain in its operation and so as to be easily cleaned and repaired.

While this invention has been described as embodied in a unitary device, it will be understood that certain individual features, or subcombinations thereof, may be useful by themselves without reference to other features, or the rest of the combination. It is understood that the employment of such individual features, or subcombinations of features is contemplated by this invention and within the scope of the appended claims. It is further obvious that various changes may be made, within the scope of the appended claims, in the details of construction without departing from the spirit of this invention; it is to be understood, therefore, that this invention is not limited to the specific details shown and/or described.

Having thus described the invention, what is claimed is:

1. A cigarette case, comprising, a cigarette holder, an igniter, means for moving a cigarette from said holder to a position to be ignited by said igniter, and a flame guide providing an enclosed flame passage from said igniter to the moved cigarette.

2. A cigarette case, comprising, a cigarette holder, an igniter, means for moving a cigarette from said holder to a position to be ignited by said igniter, means for controlling the draft inhaled through the positioned cigarette to guide the flame of said igniter to the end of the ciga-

rette, and a guard protecting the edges of the end of the cigarette so as to localize the flame at the center of the cigarette.

3. A cigarette case, comprising, a cigarette holder, an igniter, means for moving a cigarette from said holder to a position to be ignited by said igniter, and a collapsible flue adapted to conduct the flame from said igniter to the end of the positioned cigarette, said flue being expandible to provide adequate combustion space for the flame.

4. In a cigarette case, a cigarette holder provided with means to permit removal of the cigarettes therefrom one at a time, a follower adapted to feed the cigarettes along said holder, and propelling means at both ends of said follower connected to positively feed both ends thereof equally so as to maintain parallel relation with the normal position of the cigarettes.

5. In a cigarette case, a cigarette holder provided with means to permit removal of the cigarettes therefrom one at a time, a follower adapted to feed the cigarettes along said holder, racks on said holder adjacent the ends of said follower, pinions on said follower engaging said racks, and means for driving said pinions equally.

6. In a cigarette case, a cigarette holder provided with means to permit removal of the cigarettes therefrom one at a time, a follower adapted to feed the cigarettes along said holder, propelling means at both ends of said follower connected to positively feed both ends thereof equally so as to maintain parallel relation with the normal position of the cigarettes, and means for driving said follower adapted to provide a substantially uniform tension on the end cigarette in the holder.

7. A combined cigarette case lighter and ejector, consisting of a case provided with an opening in alinement with the ejector, a magazine for holding a plurality of cigarettes, a guide for feeding the cigarettes to the ejector, means for maintaining the longitudinal alinement of the cigarettes to be fed one by one to the ejector to take the place of the one ejected and removed, an ignition means, means for ejecting cigarettes one by one, said means cooperating to eject a cigarette and light the ignition means for effecting the ignition of the exposed cigarette and means for controlling and directing the flame of the ignition means to the exposed cigarette and to prevent the ignition of the successive cigarettes in the magazine.

8. A cigarette case, comprising, a casing, a wick lighter associated therewith, an ejector movable to eject a cigarette from said casing and position the same for ignition by said lighter, operating means for said ejector, and a loose connection

between said operating means and said lighter adapted for operating engagement after the initial ejection of a cigarette by said ejector.

9. A cigarette case, comprising, a casing, a wick lighter associated therewith, an ejector movable to eject a cigarette from said casing and position the same in partly expelled position and for ignition by said lighter, operating means for said ejector, means for actuating said lighter, and means positioned at the end of the so positioned cigarette adapted to protect the following cigarette in said casing from the flame of said lighter.

10. A cigarette case, comprising, a casing, a wick lighter associated therewith, an ejector movable to eject a cigarette from said casing and position the same in partly expelled position and for ignition by said lighter, operating means for said ejector, means for actuating said lighter, and means positioned at the end of the so positioned cigarette providing an enclosed flame passage from said lighter to the end of the ejected cigarette.

11. A cigarette case, comprising, a cigarette holder, an ejector movable to eject a cigarette from said holder, a lighter normally tensioned for operation, means for feeding the cigarettes in said holder into the path of said ejector, means for releasing said lighter for operation, and an element normally spaced from said releasing means and connected for movement upon operation of said ejector to engage and operate said releasing means after ejection of the cigarette.

12. A cigarette case, comprising, a cigarette holder, an ejector movable to eject a cigarette from said holder, a lighter normally tensioned for operation, means for feeding the cigarettes in said holder into the path of said ejector, means for releasing said lighter for operation, an actuator for said releasing means, and an abutment normally spaced from said actuator and connected for movement upon operation of said ejector to engage said actuator after ejection of the cigarette.

13. A cigarette case, comprising, a cigarette holder, an ejector movable to eject a cigarette from said holder, a lighter normally tensioned for operation, means for feeding the cigarettes in said holder into the path of said ejector, means for releasing said lighter for operation, an actuator for said releasing means, and an abutment normally spaced from said actuator and connected for movement upon operation of said ejector to engage said actuator after ejection of the cigarette, and tension means for returning said ejector.

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