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COMBINED CIGARETTE CASE AND FRICTION LIGHTER

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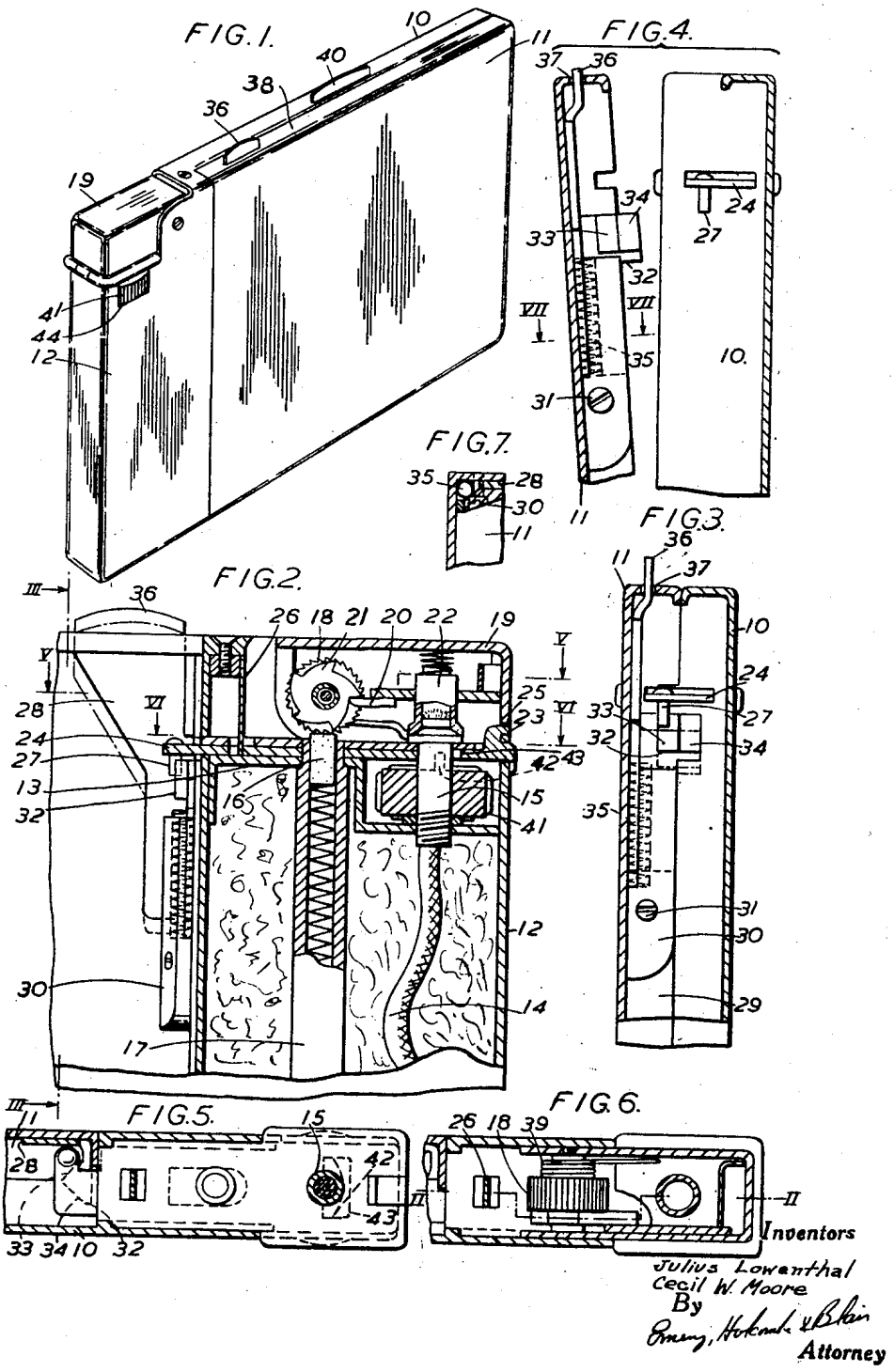

Inventors
Julius Lowenthal
Cecil W. Moore
By
Emery, Hokanson & Blair
Attorney

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COMBINED CIGARETTE CASE AND FRICTION LIGHTER

Julius Lowenthal, London, and Cecil Wilfred Moore, Leeds, England, assignors to Colibri Lighters Limited, London, England, a company of Great Britain

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This invention relates to cigarette cases with which are incorporated friction lighters. It has previously been proposed to provide a cigarette case with an automatic friction lighter mounted on one end thereof, the cigarette case having a hinged lid and the arrangement being such that during the operation of closing the hinged lid the friction lighter mechanism is released whereupon the lighter is operated.

The chief object of the present invention is to provide a combined cigarette case and friction lighter having new or improved release means for the operating mechanism of the friction lighter.

According to the present invention, a combined cigarette case and friction lighter is provided with a pair of co-operating members, one of which is connected to the lighter operating mechanism, and the other is carried by the cigarette case lid so that it will engage with the first member during the opening and closing movements of the lid to operate the lighter, and means are provided for displacing one of the co-operating members so that the lid can then be opened or closed without operating the lighter. Manually operable means may also be provided whereby the lighter can be operated independently of the movements of the lid of the cigarette case, and such manually operable means are preferably accessible externally of the lighter casing. The actuating member may be provided by a projection on a plate which is slidable within the lid of the cigarette case, the projection having two inclined surfaces and is so disposed that, as the lid is being closed, one of these inclined surfaces engages with, and displaces, a pin or other projection connected to the lighter operating mechanism to operate the lighter. During the opening movement of the lid, the other inclined surface co-acts with, and displaces the pin or projection connected to the lighter operating mechanism to operate the lighter. The sliding plate may be urged by a spring to maintain the projection in a position where it will co-act with the pin connected to the lighter operating mechanism during the opening and closing movements of the lid. An extension on the sliding plate may project through a slot in the lid, so that it can be depressed against the action of the spring to move the projection carried by the plate away from the pin connected to the lighter operating mechanism. The friction lighter may be of any suitable construction and preferably is of the kind having a hinged cover which, when urged by a spring into its open position, operates the

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spark producing means, and having means for retaining the lid in its closed position, such means being connected to the pin which co-operates with the actuating member carried by the cigarette case lid.

In order that the invention may be clearly understood and readily carried into effect, a combined cigarette case and friction lighter constructed according to the invention will now be more fully described, by way of example, with reference to the accompanying drawings in which:

Figure 1 is a perspective view of the combined cigarette case and lighter in the closed position;

Figure 2 is a sectional elevation through the friction lighter and showing the release mechanism carried by the cigarette case lid taken on the line II—II of Figure 6;

Figure 3 is a sectional view taken on line III—III of Figure 2;

Figure 4 is a view similar to Figure 3 showing the cigarette case lid partly opened;

Figure 5 is a sectional plan view on the line V—V of Figure 2;

Figure 6 is a sectional plan view on the line VI—VI of Figure 2; and

Figure 7 is a detailed sectional view on the line VII—VII of Figure 4.

Referring to the drawings, 10 is the cigarette case which has a lid 11 hinged at its lower end, not shown, to the case 10. At one end, the case 10 is extended to provide a fuel reservoir 12 for the friction lighter. The friction lighter may be of any suitable construction, in the one illustrated in this embodiment, the fuel receptacle 12 has a top plate 13 on which is mounted the lighter operating mechanism and the spark producing means. A wick 14 is housed within the fuel receptacle and one end of the wick projects through a tube 15 mounted in the top plate 13. A flint 16 is housed within a tube 17 and is urged by a spring to project through the upper end of the tube into engagement with the serrated or roughened periphery of a flint wheel 18. The flint wheel 18 is rotatably mounted above the top plate and when rotated it causes sparks to be thrown off the flint on to the projecting end of the wick 14.

The spark producing means are enclosed within a cover 19 pivotally mounted about the axis of the flint wheel 18 and a spring-pressed pawl 20 carried by the cover 19 co-acts with a ratchet wheel 21 secured to the flint wheel 18. The arrangement is such that when the cover 19 is turned about its pivot in an opening direction

the flint wheel is rotated by the pawl and ratchet mechanism to produce sparks for igniting the wick. A wick cap 22 is also carried by the cover 19 and serves as a snuffer to extinguish the flame from the wick when the cover is closed. The cover 19 is retained in its closed position by means of a hook member 23 provided or formed on one end of a slidable plate 24 and adapted to engage in an aperture or recess 25 in the cover. The plate 24 slides on the top plate 13 and is urged by a leaf spring 26 in a direction to cause the hook to engage in the aperture.

The end of the sliding plate 24 opposite to the hook 23 projects through a slot in the partition wall between the friction lighter and the cigarette case, and this projecting end carries a pin 27. The hinged lid 11 carries a plate 28 slidably mounted between the end wall 29 of the lid and a plate 30 secured to the end wall 29 by a screw 31. A projection 32 on the slidable plate 28 has two inclined surfaces 33, 34 and is urged upwardly by means of a spring 35, and the upper end 36 of the plate 28 projects through a slot 37 in the upper wall 38 of the lid 11. The projection 32 is so disposed that during the first part of the opening movement of the lid 11, the inclined surface 33 engages with the pin 27, and during the last part of the closing movement of the lid 11, the inclined surface 34 thereon engages with the pin 27. Due to the inclined surfaces, such engagement will displace the pin 27 and cause the plate 24 to slide, against the action of the spring 26, in a direction to disengage the hook 23 from the aperture 25 in the cover 19. This releases the lighter operating mechanism, whereupon the cover is urged into its open position by means of a spring 39, the flint wheel is rotated by the pawl and ratchet mechanism, and sparks are thrown from the flint to light the exposed end of the wick. When it is desired to open or close the cigarette case without operating the lighter, the projecting end 36 of the plate 28 can be depressed by a finger or thumb against the action of its spring 35. This will cause the projection 32 to be depressed downwardly below the level of the pin 27, and consequently it will then be possible, whilst the projection 32 is maintained depressed, to open or close the cigarette case without operating the friction lighter. The lid 11 can be retained in its closed position by any suitable catch mechanism and is preferably provided with an externally accessible operating member 40, but as this catch device forms no part of the present invention, it will not be described. In order to permit the friction lighter to be operated independently of the movements of the cigarette case lid, a serrated wheel 41 is rotatably mounted on the wick tube 15. A cam member 42 is carried by the thumb wheel and projects through an aperture 43 in the sliding plate 24. The thumb wheel projects through slots 44 in the sides of the casing so that it can be gripped between a finger or thumb, or engaged by a finger or thumb, and can thereby be given a partial rotation. Partial rotation of the thumb wheel causes the cam 42 to engage with a flat edge of the aperture 43, thus moving the sliding plate, against the action of its spring, to release the lighter operating mechanism which then operates as previously described. When the thumb wheel is released, the spring 26 returns the sliding plate to its original position and at the same time, the engagement of the flat edge of the aperture 43 with the cam member returns the thumb wheel to its original position.

It will be seen that with a combined cigarette case and friction lighter according to the present invention, the lighter operating mechanism is released for operation by means of the projection 32, the inclined surfaces 33, 34 of which have a wedging action when engaging with the pin 27 to slide the plate 24. Also the friction lighter can be operated independently of the movements of the cigarette case lid, and further, the lid can, if desired, be opened or closed without operating the friction lighter.

Whilst in the embodiment described the manually operable release means for the lighter operating mechanism comprise a rotatable thumb wheel carrying a cam, any other suitable release means may be used, such, for example, as a projection on the outer end of the sliding plate which can be displaced to move the sliding plate. It is preferable, however, to employ means which cannot be accidentally actuated whilst the cigarette case and lighter are carried in a pocket.

We claim:

1. A combined cigarette case and automatic friction lighter mechanism comprising a casing having a cigarette compartment and a lighter compartment, a lid hinged to said casing for closing said cigarette compartment, a cover hinged to said casing for closing said lighter compartment, spring means urging said lighter compartment cover into an open position, means connected to said cover for actuating said friction lighter mechanism as said cover is opened, releasable latch means on said casing adapted to engage said lighter compartment cover to retain it in its closed position, a first operating member carried by said casing, connecting means between said first operating member and said latch means, and a second operating member carried by said cigarette compartment lid, said first operating member being disposed in the path traversed by said second operating member when said lid is being opened and closed so that movement of said lid will carry said second operating member past said first operating member and said second operating member will ride over and displace said first operating member and thereby move said latch means to permit said lighter compartment cover to be opened by said spring means and actuate said lighter mechanism, and disengaging means including a spring for displacing one of said operating members against the action of said spring whereby these two members will not then engage during opening and closing of said cigarette compartment lid.

2. A combined cigarette case and automatic friction lighter as claimed in claim 1 in which said second operating member is slidably connected to said cigarette compartment lid and which comprises spring means urging said second operating member into a position in which it will engage said first operating member during movement of said lid, said disengaging means being adapted to force said slidable second operating member against the action of said spring means into a position in which it will not engage said first operating member during movement of said cigarette compartment lid.

3. A combined cigarette case and automatic friction lighter as defined in claim 2 in which said first operating member comprises a slidable plate, one end of which projects into said cigarette compartment and a pin secured on said end of the slidable plate, said pin being disposed in the path of said second operating member during opening and closing of the cigarette com-

partment lid, and said second operating member has a cam surface for displacing said pin, said slidable plate and said latch means to disengage the latter from said lighter compartment cover.

4. A combined cigarette case and automatic lighter as defined in claim 3 in which said second operating member has two oppositely inclined cam surfaces for engagement with said pin during opening and closing movements respectively of said cigarette compartment lid.

5. A combined cigarette case and automatic friction lighter as claimed in claim 1 in which said latch means are engaged by an externally accessible member for releasing said latch means independently of the movements of said cigarette compartment lid.

6. A combined cigarette case and automatic friction lighter as defined in claim 1 in which said second operating member is slidably connected to said cigarette compartment lid and has a portion projecting beyond the outer surface thereof, in combination with spring means urging said second operating member to a position in which it will engage said first operating member during movement of said lid, said projecting portion of said second operating member constituting disengaging means for sliding

said second operating member against the action of said spring means into a position in which it will not engage said first operating member during movement of said cigarette compartment lid, and said projecting portion of said second operating member enabling the latter to be disengaged from said first operating member in opening movement and in closing movement of said lid as desired.

JULIUS LOWENTHAL.
CECIL WILFRED MOORE.

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