

June 28, 1955

W. F. WAGNER

2,711,639

LIGHTER

Filed April 6, 1951

2 Sheets-Sheet 1

FIG. 1

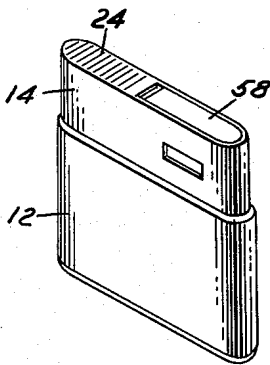


FIG. 2

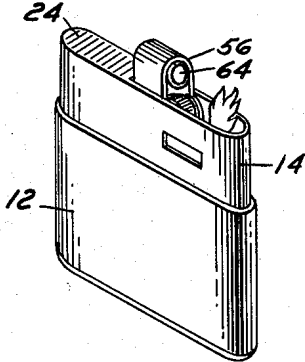


FIG. 3

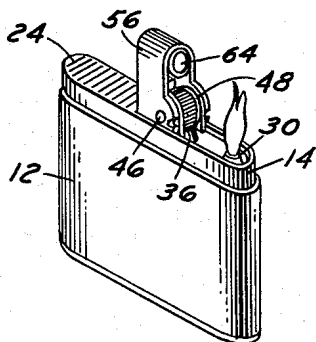
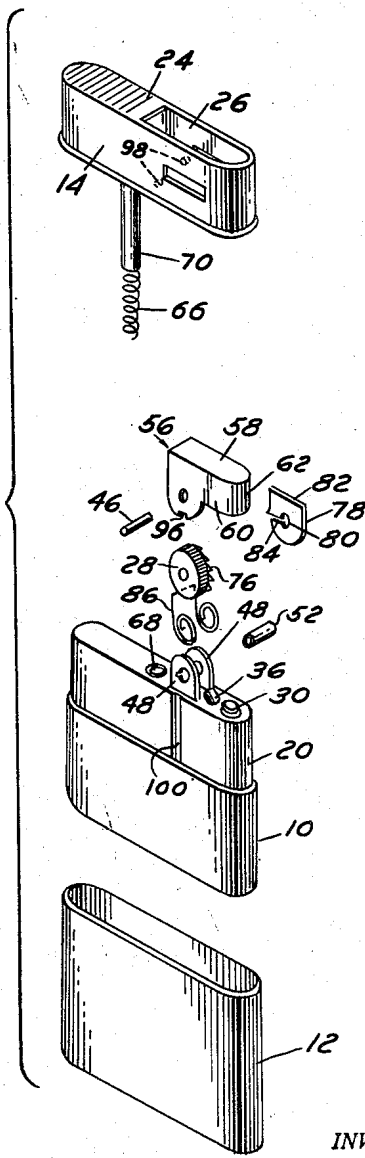


FIG. 4



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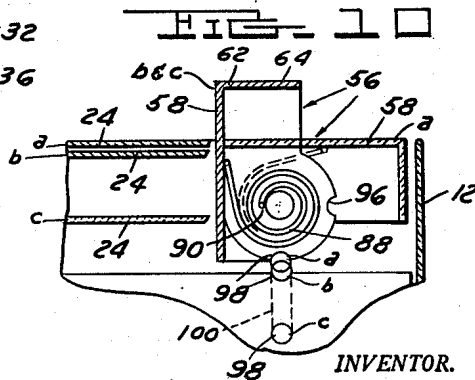
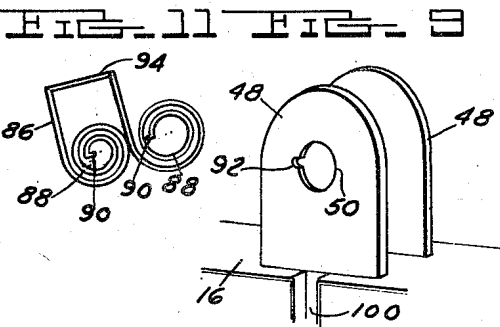
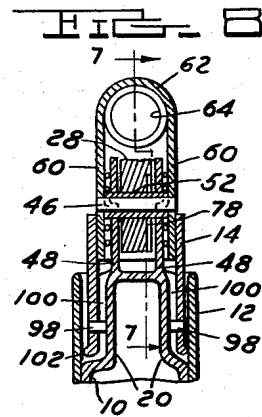
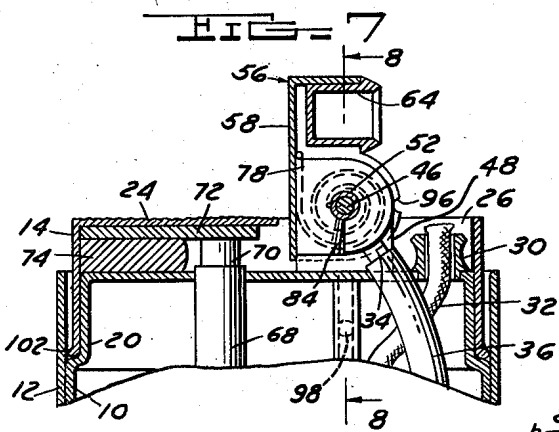
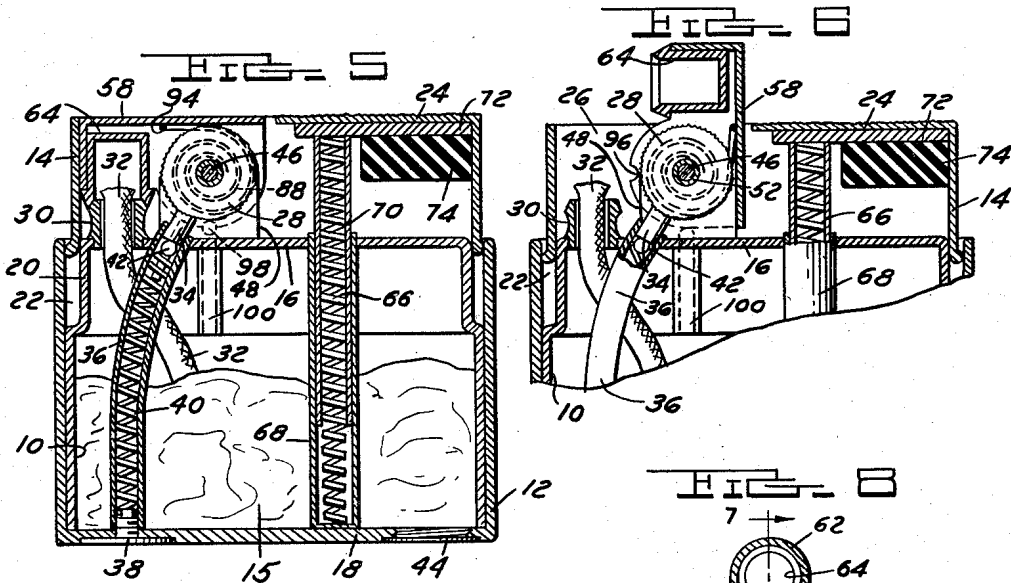
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2 Sheets-Sheet 2



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Application April 6, 1951, Serial No. 219,678

12 Claims. (Cl. 67-7.1)

This invention relates to lighters and particularly to an improved cigar and cigarette lighter primarily adapted for igniting cigars and cigarettes.

The invention relates particularly to cigar and cigarette lighters of the character having a fuel receptacle and a flame producing mechanism supported on the upper end of the receptacle. Heretofore, the general practice has been to mount the parts of the flame producing mechanism in exposed condition on top of the receptacle. An important object of the invention is to provide an improved lighter having the parts of the casing and the flame producing mechanism designed and associated together in a novel manner for economical fabrication and assembly and which in the normal position of the parts exhibits an artistic contour completely concealing the flame producing mechanism from view. Another important object of the invention is to provide a lighter of this character combining with the desirable exterior contour a highly efficient yet simple mechanical action for exposing and operating the flame producing mechanism.

An important feature of the invention is the design of the major pieces of the lighter such that they may be separately produced under deep drawing dies and which in assembled position cooperate together to form a complete enclosure for the flame producing mechanism and the combustible material. One of the exterior parts of the lighter is an inverted generally cup-shaped member constituting a hood or cover for the flame producing mechanism. This cover member is mounted for depressible telescoping movement between an interior body constituting the fuel receptacle and a surrounding exterior casing part. Another important feature of the invention is the provision of a cap member pivoted to the top of the fuel receptacle and functioning as a flame snuffer and as the means for initiating the rotation of the friction wheel. The cap member is shaped to interfit within the depressed cover member and in the inoperative normal position of the parts extends flush therewithin. The cap member is designed with side walls which embrace the friction wheel supporting posts and extend between the same and the side walls of the depressible cover member to improve the appearance of the lighter.

An important feature of the invention is the provision of means for actuating the flame snuffing cap member which operates independently of the depressible telescoping cover member and with a spring action immediately swings the cap member to flame emitting position as soon as the depressible movement of the cover member is initiated. Another important feature of the invention is the construction and mounting of the spring means for providing independent movement of the cap member. A further important feature of the invention is the novel provision for releasably locking the snuffer cap member in closed position which is self-operable to release the cap member for swinging movement to fully opened position upon slight initial depression of the telescoping cover member.

2

Various other objects, advantages and meritorious features of the invention will become more fully apparent from the following specification, appended claims and accompanying drawings, wherein:

5 Fig. 1 is a perspective view of a lighter designed in accordance with the invention and showing the same in normal closed condition,

Fig. 2 is a perspective view of the lighter in Fig. 1 showing the position of the parts assumed immediately after the telescoping cover member is initially depressed and further showing the snuffer cap member in fully opened wick igniting position,

Fig. 3 is a perspective view similar to Fig. 2 but showing the telescoping member in fully depressed condition,

10 Fig. 4 is an exploded perspective view of the parts of the lighter,

Fig. 5 is a vertical longitudinal sectional view through the lighter of Figs. 1 to 3 showing the position of the parts in the normal closed position of the lighter,

15 Fig. 6 is a vertical longitudinal sectional view through the upper portion of the lighter showing the position of the parts immediately after initial depression of the telescoping cover member,

25 Fig. 7 is a vertical longitudinal sectional view through the upper portion of the lighter showing the position of the parts following complete depression of the telescoping cover member and further showing the snuffer cap and friction wheel assembly on a section line taken along 7-7 of Fig. 8,

30 Fig. 8 is a vertical sectional view through the snuffer cap and friction wheel assembly taken along line 8-8 of Fig. 7,

Fig. 9 is an enlarged perspective view of the mounting posts for the friction wheel and snuffer cap assembly,

35 Fig. 10 is a diagrammatic view illustrating the relation of the movement of the snuffer cap member to the movement of the depressible telescoping cover member, and

Fig. 11 is a perspective view of a spring member for actuating the snuffer cap member.

40 The embodiment of the invention illustrated in the drawings comprises, in general, an inner hollow body or member 10 which preferably constitutes the fuel container or receptacle, an outer casing member or shell 12 which encloses the receptacle, and a depressible cover member 14 which forms part of the casing of the lighter and in the illustrated construction telescopingly interfits between the fuel receptacle and the casing member and in normal position projects thereabove. Mounted on the upper end of the fuel receptacle 10 and normally enclosed by the cover member 14 is a flame producing mechanism. The fuel receptacle and the casing and cover members are preferably elongated in horizontal cross-section so as to form a relatively flat lighter for convenient portability and handling.

55 The fuel receptacle 10 is closed by an upper horizontally extending end wall 16. Although the bottom end of the fuel receptacle may be closed by an end wall integrally connected to its side walls, it is preferred for economical manufacture to omit such an end wall and leave the lower end of the receptacle open. As in conventional practice, the receptacle is filled with absorbent material such as cotton 15 which is saturated with an inflammable liquid. To close the bottom opening of the receptacle, the outside casing member or shell 12 is provided with a lower end wall 18 which may be integrally connected to the side wall of the casing member as shown. In the assembled position of the parts shown in Fig. 5, the bottom wall 18 overlies the opened end of the receptacle 10 completing the enclosure of the saturated absorbent material therein.

70 The upper end portions of the fuel receptacle 10 and the outer casing member 12 are shaped to telescopingly

slidingly receive the cover member 14 therebetween. As shown in Figs. 5 to 8, this is preferably accomplished by reducing the upper end of the fuel receptacle on all sides thereof to form an inwardly spaced wall section 20 therearound which forms a clearance 22 between the receptacle 10 and the casing shell 12 which as shown may be slightly wider than the thickness of the wall portion of the cover member 14. The cover member is designed and shaped to embrace the upper portion of the fuel receptacle and to slidingly telescopingly reciprocate in the clearance provided between the casing member and the upper part of the fuel receptacle as shown by comparison of Figs. 6, 7, and 8 with Fig. 5. The cover member 14 exhibits an inverted cup-shaped configuration, the side wall portions of which are slidingly received in the clearance 22. In assembled position, the cover member forms a hood for the upper end of the lighter which in the normal inoperative position of the parts encloses the flame producing mechanism of the device. The upper end of the cover member, which would normally be considered the base of its cup formation, is partially closed by an end wall 24. In the illustrated embodiment of the invention this end wall occupies approximately one half of the cross sectional area of the upper end of the cover member, the balance being open and forming an aperture 26 for the purpose described hereinafter.

It is evident that the description of the device thus far made that the three members constituting the major pieces of the lighter, namely the receptacle 10, casing 12 and cover 14, are cup-shaped in formation. Constructed in this manner, they are able to be economically and rapidly produced under deep drawing dies.

The flame producing mechanism of the present embodiment of the invention comprises certain parts which are conventionally employed on lighters of this character but the organization and relation of these parts to one another and to the major pieces of the device and the manner of actuating the moving parts of the mechanism constitutes a distinct improvement. Supported on the upper end wall 16 of the fuel receptacle is an axially bored friction or abradent wheel 28. The wheel is mounted in line with the opening 26 of the cover member and on a transverse axis located approximately one third of the distance from one of the opposite narrow side walls of the cover member. Between the friction wheel and the nearest narrow side wall of the receptacle, is a fuel emission outlet in the form of a wick guide 30. The wick guide assumes the formation of a short open-ended tube of conventional shape supported in upright position on the end wall 16 and opening into the interior of the fuel receptacle. The upper end section of a wick 32 extends through the wick guide and projects slightly thereabove.

Yieldingly pressed against the underside of the friction wheel 28 is a pyrophoric element or flint 34. The flint is supported in a guide 36 which is in the form of an elongated tube opening out through the end wall 16 at its upper end and extending downwardly in the fuel receptacle and terminating in substantial abutment with the bottom wall 18 of the casing member as shown in Fig. 5. The bottom wall 18 is provided with an opening in alignment with the lower end of the tube 36 which is normally closed by a screw threaded cap 38. A coiled spring 40 is positioned in the tube 36 and extends substantially the length thereof. One end of the spring is seated on and secured to the cap 38. Carried by the opposite end of the spring is a ball shaped member 42 which abuts the inner end of the flint. Since the spring in the assembled position of the parts is under compression it yieldingly urges the flint against the abraded periphery of the wheel. The spring 40 and its associated parts are of conventional design. However, to provide a balanced symmetry to the lighter the flint tube 36 is curved outwardly from the wheel to bring the lower flint admitting end of the tube closely adjacent to one of the ends of the bottom wall 18 of the fuel receptacle. The opposite end of the bottom

wall 18 is provided with an opening through which inflammable liquid is introduced into the receptacle. This opening is closed by a removable screw threaded cap 44 similar in exterior appearance to the cap 36. As in conventional lighter designs, the two caps 38 and 44 may be provided with transversely extending key slots for receiving the edge of a coin or the like for loosening and tightening the caps.

The friction wheel 28 is supported and journaled for rotation above the upper end of the fuel receptacle by means of a transversely extending shaft 46. The opposite ends of the shaft are supported by a pair of similarly shaped flat posts or ears 48—48 which are fixed to the upper end wall 16 of the fuel receptacle and project thereabove in spaced parallel relation to one another as best shown in Fig. 9 and along the opposite sides of the wheel. Each ear 48 is provided with a circular hole 50 therethrough which aligns with the hole in the other ear and through which the adjacent end of the shaft is received. The shaft is slidingly fitted in the holes of the ears and the axial bore of the wheel 28 and as will be explained more fully hereinafter is capable of being slidably shifted axially for removal and replacement in order to detach the wheel and its associated parts and assemble the same on the lighter. The two ears 48—48 are disposed in planes spaced slightly inwardly from the opposite side walls of the receptacle as shown in Figs. 8 and 9 for the purpose described hereinafter. Preferably the upper ends of the ears are rounded on a radius of the wheel in order to extend flush with the upper peripheral portion of the wheel as shown in Figs. 3 and 5.

In assembled position, the central part of the shaft 46 is encircled by a sleeve shaped element 52 which is oversized the two holes 50 in the posts or ears 48—48. The shaft projects beyond the ends of the sleeve as is evident in Fig. 8, and its extremities are received in the holes of the two ears 48—48. The sleeve 52 has an axial dimension just sufficient to be received between the two posts as is evident in Fig. 8.

As previously described the cover member 14 has its upper end closed by a wall 24, the balance of the upper end being opened and forming the aperture 26. Forming a subsidiary cover for the opening 26 and serving as a flame or wick snuffer is a cap 56. In general, the cap is like conventional wick snuffers in that it is constructed with a flat plate-like top wall 58, opposed parallel side walls 60—60 and a rounded front end wall 62 which merges with the side walls. However, the cap 56 is designed and supported in an improved manner to fit the aperture 26 of the cover member and in the closed position of the lighter to have its top wall extend flush with the end wall 24 of the cover member and its side and end walls received within the cover member in juxtaposed relation to the side wall portions of the latter as shown in Figs. 1, 2, 5 and 8. In the closed position of the cap, the top wall thereof occupies substantially the entire area of the opening 26 and cooperates with the end wall 24 of the cover to form a flat surface on the top of the lighter.

Carried on the underside of the cap 56 at its forward end is an inverted snuffer cup 64 which in the closed position of the lighter is arranged to enclose the projecting end of the wick 32 and rest on the upper end of the wick guide 30 as shown in Fig. 5. The side wall of the snuffer cup is cylindrical and is snugly fitted in and secured to the side and end walls of the cap as in conventional practice.

The cap 56 is mounted for movement from a normal horizontally extending closed position to an upright open position. For this purpose, the cap is preferably rockingly supported on the same axis upon which the friction wheel is rotated. For this purpose, the rear portions of the two side walls 60—60 of the cup are provided with aligned circular holes of a size to slidingly

receive the shaft 46. To provide sufficient wall material around all sides of the shaft, the rear portions of the side walls 60—60 are extended downwardly relative to the top wall 58 and may be rounded on a radius of curvature having the axis of the shaft as the center. The depending rear portions of the side walls 60—60 overlie the outer surfaces of the two ears 48—48 in slight spaced relationship thereto and extend into the clearance between the same and the side wall portions of the cover member as shown in Figs. 1, 2 and 8. The shaft receiving holes in the side walls 60—60 are so located with respect to the top plate 58 of the cap that in the closed position of the cap the top plate extends horizontally and flush with the end wall 24 of the cover member 14. In the open position of the cap, its top plate 58 extends substantially vertically and perpendicular to the end wall 24 of the cover member.

The cover member 14 is mounted as previously described for telescoping movement relative to the fuel receptacle 10 and the surrounding shell or casing 12. It is collapsible downwardly toward these members and retractable upwardly away therefrom. The cover member is urged to its upper normal position by spring means which may take the form shown of a coiled spring 66 extending the vertical length of the lighter. The spring 66 is housed in the telescoping sleeves 68 and 70, the former being secured in depending relation to the upper wall 16 of the fuel receptacle and the latter being secured to the underside of the end wall 24 of the cover member. The sleeve 68 is closed at its lower end to form a seat for the coiled spring. The upper end wall 24 of the cover member may be reinforced by a plate 72 and if such is provided it may be interposed between the end wall and the upper end of the sleeve 70. In such a mounting the upper end of the coiled spring seats on the plate 72 and since in the assembled position of the parts the spring is under compression it exerts a continuous force tending to raise the cover member to its normal projected position shown in Figs. 1 and 5.

The end wall 24 of the cover member serves as a finger engaging surface for depressing the cover member. To improve the frictional engagement of the finger with the cover member and to quickly indicate how the device should be held, the upper surface of the end wall 24 may be provided with crossing serrations as best shown in Figs. 1, 2 and 3. The lighter may be held in the hand in any convenient manner and operated by exerting finger pressure to depress the cover member. The top and bottom portions of the device on the serrated side of the cover member may be grasped between the thumb and either the forefinger or the next finger of the hand. Upon squeezing the two fingers together, the cover member is depressed. To eliminate a metallic click when the cover member is depressed and to absorb the shock of its contact with the receptacle, there may be provided a block 74 of resilient material carried on the underside of the plate 72. The block 74 is of a size to abut the top wall 16 of the receptacle just before the side walls of the cover member strike the shoulder at the bottom of the clearance 22.

Since the friction wheel 28 and its supporting posts or ears 48—48 are located on the aperture side of the cover member they will upon relative depressible movement of the cover member project upwardly through the aperture 26 as shown by a comparison of Figs. 5 and 7. The reciprocating movement of the cover member and the wheel mounting are so designed that in the fully depressed position of the cover member, as shown in Fig. 3, the ends of the shaft 46 are exposed to view. In this position a small pointed tool may be used to forcibly slide the shaft out of the wheel and the supporting posts and permit separation of the shaft carried parts from the lighter. Contrariwise, the full depression of the cover member is utilized to assemble the shaft and the parts carried

thereby on the lighter. In any other position except the fully depressed position of the cover member, the side walls of the cover member overlap upon the ends of the shaft and hold the same against axial shiftable movement. In the fully depressed position of the cover member the shaft will not normally shift in its mounting for the reason that the pressure of the spring urged flint 34 will force the wheel against one side of the shaft and in turn press the shaft against one side of its bearing mounting in the posts 48—48. This will frictionally hold the shaft in position until the side walls of the cover member return to shaft overlapping position.

The movement of the cap 56 is employed to rotate the friction wheel 28 against the flint 34. A one-way drive connection is provided between the cap and the friction causing the wheel to rotate during the opening movements of the cap but remaining stationary during the return or closing movement of the cap. As in conventional lighter practice, the friction wheel 28 is provided on one side thereof with ratchet teeth 76 as shown in Fig. 4. Interposed between the ratchet side of the wheel and the adjacent supporting post 48 is a thin relatively flat plate or washer 78. The plate is provided with a hole 80 through which the shaft 46 extends and further provided with a straight edge 82 which abuts the underside of the cap top wall 58 as shown in Fig. 7. In this manner the plate will partake of the same movement as the cap. The washer or plate 78 is slit on a line 54 extending radially of the shaft's axis and one edge formed by the slit is inturned toward the wheel to form a pawl for engaging the ratchet teeth 76 of the wheel. The pawl is so related to the turning movement of the cap that it will engage one of the ratchet teeth on the upward opening movement of the cap and cause the wheel to rotate in the same direction therewith. However, on the downward closing movement of the cap, the pawl will skip past the teeth. It is understood that the movement of the abrasive periphery of the wheel over the flint will produce sparks for igniting the projecting end of the wick 32.

The cap 56 is driven to open position by spring means. This spring is preferably constructed in the manner shown in Figs. 4 and 11 and comprises a single strand of flexible wire 86 bent generally into a U-shaped formation. The opposite end sections of the wire are helically coiled upon one another as shown at 88. The extremity of each helically coiled portion 88 is inturned to form a short prong or hook 90. These two inturned prongs or hooks 90 are disposed in alignment with one another and in the assembled position of the spring member engage in notches 92 formed in the walls of the holes 50 of the posts 48—48. In this manner, the inner ends of the helically coiled portions 88—88 are locked against turning movement relative to the rotating axis of the cap. In mounted position, the coiled portions 88—88 of the spring member 86 straddle the posts 48—48 as shown in Fig. 8 and lie along the outside thereof.

The closed end of the U-shaped wire spring 86 assumes a straight formation as shown at 94 and in the assembled position of the part this closed end portion engages the underside of the top 58 of the cap. After the cap 56 is assembled on the shaft 46 and the inturned ends 90—90 of the spring member 86 are hooked in the notches 92 of the posts, a turning movement of the cap to closed position will place the coiled portions of the wire member under tension. It is clearly evident that the tension of the wire member is applied against the cap member in the direction to swing it to open position.

In the normally closed position of the lighter, the cap member 56 is releasably held in closed position. For this purpose, the rounded periphery of the depending rear portion of the side walls 60—60 of the cap are provided with aligned recesses or notches 96. In the closed position of the cap, these notches are disposed below and in the vertical plane of the shaft 46. Form-

ing part of the telescoping cover member 14 and secured thereto are two small pins 98—98. Each side wall of the cover member 13 is provided with a pin 98 which are arranged as shown in Figs. 4 and 8 to project inwardly of the cover member in axial alignment with one another. For most of the telescoping movement of the cover member, the two pins 98—98 are guided in vertical grooves or slots 100 formed in the reduced upper end portion 20 of the fuel receptacle 10. In the uppermost positions of the cover member, such as shown in Fig. 5, the pins 98—98 travel out of their respective grooves and are capable of interengagement with the notches 96 formed in the side walls 60—60 of the cap member. When so engaged, these pins function to releasably hold the cap in closed position as shown in Fig. 5. It is evident that upon retraction of these pins from the recesses that the cap member 56 is free to swing to open position as a result of the tension exerted thereon by the spring member 86.

A comparison of Figs. 5 and 6 will show the function of the pins 98—98 and the respective positions of the parts immediately after the initial depression of the cover member 14. As shown in Fig. 5, the pins 98—98 are received in the recess 96 of the cap 56 holding the latter against open swinging movement. Since the pins 98 are associated with the cover member 14 and move therewith, it is only necessary to exert a slight depression on the member to carry the pins out of the recesses 96. Fig. 6 illustrates such condition and it is evident from that figure that immediately after the initial depression of the cover member the cap 56 is swung to open position. During this opening movement the friction wheel 28 rotates with the cap, scraping its abrading surface across the flint 34 and causing the production of sparks for igniting combustible material such as the wick 32. It is therefore possible to produce a flame on the wick 32 after a slight depressible movement of the telescoping cover member 14. If desired, the parts may be retained in the position shown in Figs. 2 and 6 without further depression of the cover member. In this position, the side walls of the cover member form an enclosing shield around the wick which may be helpful in drafty or windy conditions to prevent extinction of the flame. However, to provide greater access to the flame, the cover member may be depressed to its full extent, such as shown in Figs. 3 and 7, to more fully expose the upper end of the wick 32 and the flame issuing therefrom.

To close the lighter device, the operator merely loosens his finger grip on the device sufficient to permit the telescoping cover member to rise and while this is occurring he exerts finger pressure on the cap 56 in the closing direction to rotate it against the resistance of the spring member 86. The cover actuating spring 66 continuously urges the cover member to its extended position thereby causing the pins 98—98 to bear against the rounded periphery of the depending portions of the side walls 60—60 of the cap. As soon as the cap has been rotated to bring its top wall 58 into flush relationship with the end wall 24 of the cover member, the recesses 96 will align with the grooves 100—100 and will be in position to receive the pins 98—98. Urged by the spring 66, the cover member will cause the pins 98—98 to enter the recesses 96—96 and releasably hold the cap in closed position. In actual practice, if the lighter is held between the thumb and forefinger with the thumb engaging the serrated end wall 24 of the cover member, it is only necessary to wipe the thumb across the upper surface of the lighter to swing the cap to the closed self-locking position.

Fig. 10 schematically illustrates the positional relationship of the cap 56 to the cover member 14 as the latter is telescopically depressed from its normal extended position. In the normal closed position of the parts, the top wall 58 of the cap extends in the same plane or flush with the thumb engaging end wall 24 of the cover member as shown in Fig. 10 by the positions marked "a" for

each element. In this position, the aligned pins 98—98 carried by the cover member are at their highest cap engaging level, which position is similarly marked by the letter "a". Upon slight depression of the cover member 14 to the position exhibited by the end wall 24 at "b", the pins 98—98 are cleared out of the recesses 96 permitting the cap to swing to open upright position under the influence of the spring member 86. Thus, the cap 56 assumes its fully opened position during the initial depressible movements of the cover member. In this condition of the parts, the pins 98—98 are shown in Fig. 10 as entering the upper end of the grooves 100. During any further depressible movement of the cover member, the cap 56 remains in upright open condition. The fully depressed position of the cover member and the pins 98—98 is shown at "c" in Fig. 10.

When the cover member 14 is released for upward movement, the pins 98—98 travel upwardly therewith and will abut the rounded edge of the depending portions of the side walls 60—60 of the cap. If the cap has already been swung to closed position the pins enter the recesses 96—96. The abutment of the pins with the side walls of the cap stops further rise of the cover member. The cover member can only be disassembled after removal of the cap.

The depressible cover member 14 forms a part of the casing of the lighter and in its raised position a large area of its side walls are exposed to view. To prevent marring or scratching of the exterior side wall surfaces of the cover member as it reciprocates in the clearance 22, the lower edge of the cover member may be turned out slightly as shown in Figs. 5, 6, 7 and 8 to form a projecting ridge or lip 102. The lip extends completely around the lower edge of the cover member and slidably bears on the inside surface of the casing member or shell 12 preventing direct metal-to-metal contact between the balance of the cover member and the shell. For the purpose of clarity, the width of the clearance 22 and the lip 102 has been shown in exaggerated condition.

What I claim is:

1. In a lighter, a main supporting body, a flame producing mechanism including a friction wheel, a snuffer cap pivotally mounted on the body and swingable from a closed flame extinguishing position to an open flame permitting position, a sleeve-like casing member telescopically embracing the upper end of the body and movable from a raised position surroundingly enclosing the flame producing mechanism to a depressed position exposing the friction wheel and the snuffer cap, means yieldingly resisting depressible movement of the member and operative to lift the same to its raised position, means yieldingly resisting swinging movement of the snuffer cap to its closed position and continuously acting to urge the snuffer cap to its open position, means for releasably holding the snuffer cap in closed position against the action of said last mentioned means, and means responsive to the initial depression of said casing member for releasing said holding means and permitting the snuffer cap to swing to open position.

2. In a lighter, a main supporting body, a flame producing and extinguishing mechanism on the upper end of the body including a rotatable friction wheel and a pivotally mounted snuffer cap, an exterior shell enclosing the body and having the upper end portion thereof spaced from the body to form a clearance therearound, a sleeve-like member embracing the upper end of the body and normally surroundingly enclosing the flame producing mechanism, said sleeve-like member telescopically fitting the clearance between the body and the shell and being depressible thereinto to expose the flame producing mechanism, means yieldingly resisting depressible movement of the sleeve-like member and continuously acting thereon to raise the same relative to the body to its normal enclosing position, an operative connection between the snuffer cap and the friction wheel for caus-

ing joint rotation thereof when the snuffer cap is swung to open position, means yieldingly urging the snuffer cap to open position, and means carried by the sleeve-like member for releasably holding the snuffer cap in closed position and operative upon depression thereof to re-

3. In a lighter, a hollow main supporting body forming a fuel containing receptacle, flame producing and extinguishing mechanism mounted on the upper end of the body including a rotatable friction wheel and a hinged snuffer cap, said snuffer cap being swingable from a closed flame extinguishing position to an open flame permitting position, spring means operatively interposed between the snuffer cap and a fixed part of the body and continuously acting to urge the snuffer cap to swing to open position, means operatively connecting the snuffer cap to the friction wheel to rotate the latter when the snuffer cap is swung to open position, a casing member of inverted cup-shaped formation so dimensionally shaped that its depending side wall portions slidably embrace all sides of the body and being mounted thereon for telescoping movement from a raised position in which it encloses the flame producing mechanism to a depressed position exposing the flame producing mechanism, and means carried by the casing member for releasably holding the snuffer cap in closed position and operative upon initial depressible movement to release the snuffer cap for swinging movement to its open position.

4. A lighter comprising, in combination, a fuel containing receptacle having a pyrophoric material guide in the upper end thereof and a friction wheel rotatably mounted on the upper end of the fuel receptacle and engageable with the pyrophoric material in the guide for producing sparks, a snuffer cap, means pivotally mounting the cap on the upper end of the receptacle and providing swinging movement of the cap from a closed substantially horizontal flame extinguishing position to an open upright flame permitting position, means operatively coupling the cap to the friction wheel and effective upon opening movement of the cap to rotate the wheel against the pyrophoric material for producing sparks, a depressible cover member of inverted cup-shaped formation telescopically embracing the upper end of the fuel receptacle and in raised position enclosing the friction and the pyrophoric material guide, said cover member being provided with an aperture in the end wall constituting the bottom of its cup-shaped formation through which the frictional wheel projects when the cover member is depressed, resilient means yieldingly urging the cap to open flame permitting position, means for releasably holding the cap in closed position including a pin carried by the cover member and a recess formed on the cap into which the pin is engageable, said pin being engageable in the recess of the cap when the latter is in closed position and the cover member is in its raised position and being disengageable from the recess upon depression of the cover member.

5. In a lighter including a fuel containing receptacle having a fuel emitting outlet and a pyrophoric element guide opening through the upper end thereof and further having a friction wheel rotatably mounted on the upper end thereof and engageable with a pyrophoric element in the guide therefor for producing sparks, a snuffer cap for said fuel emitting outlet, means pivotally mounting the snuffer cap on the upper end of the receptacle for swinging movement from a closed substantially horizontal position overlying the fuel emitting outlet to an open upright position exposing the fuel outlet, an exterior shell enclosing the body and having the upper end portion thereof spaced from the body to form a narrow upwardly opening cavity completely therearound, a sleeve-like casing member telescopically received in said cavity and normally projecting above the upper end of the receptacle to

surround the friction wheel and said fuel outlet and said pyrophoric element guide, said casing member having a horizontal thumb engaging wall section extending across a part of the upper end thereof on a level normally above that of the friction wheel, the balance of the upper end of the casing member being open to provide an aperture vertically aligning with the friction wheel and being of a size to permit the same to project therethrough, said casing member being telescopically depressible into said cavity from its normal projecting position to a depressed position at which level of the thumb engaging wall section is disposed below the upper portion of the friction wheel, means yieldingly urging the casing member to its normal projecting position, means operatively coupling the cap to said friction wheel and effective upon opening movement of the cap to rotate the friction wheel against the pyrophoric element to produce sparks for igniting the fuel, means yieldingly urging the cap to its open position, and means carried by the casing member and engageable with the cap to releasably hold the same in its closed position, said last means being operative upon initial depressible movement of the casing member to release the cap for swinging movement to its open position.

6. In a lighter including a fuel containing receptacle and flame producing mechanism on the upper end of the receptacle adjacent to one side thereof, an exterior casing shell enclosing the fuel receptacle, the upper portions of the shell and the receptacle together forming a narrow upwardly opening cavity completely therearound, a depressible cover member of inverted cup-shaped formation having a side wall slidably telescopically received in said cavity and forming a hood normally enclosing the flame producing mechanism, said cover member having an aperture in the end wall forming the base of its cup-shaped formation in overlying relation to the flame producing mechanism and being of a size to permit the latter to project therethrough upon depressible movement of the cover member, a snuffer cap hinged to the upper end of the receptacle for swinging movement from a closed position extending substantially flush with said end wall of the cover member to an open position, means operatively connecting the snuffer cap to the flame producing mechanism and effective upon opening movement of the cap to produce a flame, and means carried by the side wall of the cover member engageable with the snuffer cap when the cover member is in its raised position to releasably hold the cap in closed position, said last means being disengageable from the cap to permit swinging movement thereof to its open upright position upon depression of the cover member.

7. In a lighter including a fuel containing receptacle having a fuel emitting outlet and a pyrophoric element guide opening out through the upper end thereof and further having an abradent wheel journaled on the upper end of the receptacle in position to engage the pyrophoric element in the guide therefor, a depressible cover member of inverted cup-shaped formation having a flat end wall portion overlying the upper end of the receptacle and further having depending side wall portions slidably telescoping the sides of the receptacle, said flat end wall portion of the cover member having an opening therein over the wheel and the fuel emitting outlet, a snuffer cap for closing the fuel emitting guide to extinguish the flame, said snuffer cap having a flat top wall proportioned to fit said opening of the end wall of the cover member and close the same and further having depending parallel side wall portions disposed inside of the side wall portions of the cover member, means pivotally mounting the side wall portions of the snuffer cap to the upper end of the receptacle for swinging movement about the axis of rotation of the wheel, said pivotal mounting so disposing the snuffer cap that in flame extinguishing position its top wall lies wholly in said opening of the cover member in flush relation to the flat end wall thereof, a driving connection between the snuffer cap and the wheel and operable to rotate the wheel

against the pyrophoric element in the guide therefor when the snuffer cap is swung to its open position, means yieldingly urging the snuffer cap to its open position, and means carried by the side wall portions of the cover member for engaging the depending parallel side wall portions of the snuffer cap to releasably hold the latter in its closed position, said last means being operable upon depression of the cover member to release the snuffer cap for swinging movement to its open position.

8. A lighter comprising, in combination, a fuel containing receptacle elongated in horizontal cross section, a casing shell of similar formation and shaped to enclose the receptacle and provide a narrow upwardly opening cavity completely around the receptacle, a depressible cover member of inverted cup-shaped formation and similarly elongated in horizontal cross section such that its depending side walls are slidingly telescopingly received in said cavity for reciprocating movement therein, means on the upper end of the receptacle adjacent to one narrow side thereof for emitting fuel from the interior of the receptacle to produce a flame, the end wall of said cover member forming the base of its cup-shaped formation being provided with an aperture over said last means to permit the flame to issue therethrough, a cap member shaped to fit within said opening and close the same to extinguish the flame, means pivotally mounting the cap member on the upper end of the receptacle for swinging movement from a closed flame extinguishing position to an open flame permitting position, spring means resisting depression of the cover member and yieldingly urging the same to a raised position, spring means yieldingly urging the cap member to its open position, and means carried by a side wall portion of the cover member and operable in the raised position of the cover member to engage the cap member to releasably hold the latter in closed position, said last means being disengageable from the cap member upon depression of the cover member to release the cap member for swinging movement to its open position.

9. In a lighter, a fuel containing receptacle having a fuel emitting outlet and a pyrophoric guide opening through the top of the receptacle and further having a friction wheel journaled on the top of the receptacle in position to engage the pyrophoric element in the guide therefor, a depressible cover member of inverted cup-shaped formation slidingly telescoping the upper end of the receptacle and being movable from a raised position where it forms a hood over the wheel and said guides to a depressed position below the level of the wheel, the upper transverse wall of the cover member which constitutes the base of its cup-shaped formation being substantially flat and having an aperture for that part of its extent overlying the wheel which is of a size to permit the wheel to project therethrough when the cover member is depressed, means yieldingly urging the cover member to its raised position, a snuffer cap for the fuel emitting outlet having a flat upper end wall, means pivotally connecting the snuffer cap to the top of the receptacle on the axis of rotation of the friction wheel and providing swinging movement of the snuffer cap from a closed flame extinguishing position wherein its upper end wall extends flush with said transverse wall of the cover member to an open flame permitting position wherein its upper end wall extends substantially perpendicular to the transverse wall

of the cover member, means yieldingly urging the snuffer cap to its open position, a laterally inwardly extending projection carried by the cover member and jointly movable therewith, said snuffer cap having a recess therein adapted in the closed position of the cap to align with the path of travel of the projection for receiving the same, said projection adapted in the raised position of the cover member to enter said recess to releasably hold the snuffer cap in its closed position but operable upon depression of the cover member to move out of the recess to free the cap for swinging movement to its open position.

10. In a lighter, a main supporting body, a flame producing mechanism mounted on the upper end wall of the body, a sleeve telescopingly slidingly embracing the upper end of the body and normally projecting thereabove to form a protecting shield extending completely around the upper end wall of the body, said sleeve being telescopingly depressible to expose substantially all of said flame producing mechanism, means yieldingly urging said sleeve to its maximum height relative to the upper end wall of the body, said flame producing mechanism being self-operable once its action is initiated, means for releasably holding the mechanism from operation, and means responsive to a slight depressive movement of the sleeve for releasing said holding means.

11. In a lighter, a main supporting body, flame producing and extinguishing mechanism mounted on the upper end of the body including a rotary sparking wheel, a fuel emission outlet and a hinged flame snuffer member swingable from a closed flame extinguishing position to an open flame permitting position, spring means urging said member to open position and acting through the member to rotate the wheel to produce sparks for igniting the fuel, a spring resisted depressible shield normally rising above the upper end of the body in substantially surrounding relation to said fuel outlet to form a protecting wall around the flame provided thereby, and means interengaging between the shield and the snuffer member and locking the latter in closed position when the shield is at its maximum height but permitting said spring means to swing the snuffer member to open position and to rotate the sparking wheel upon initial depressive movement at said height.

12. In a lighter, a main body, normally latched spring driven flame igniting mechanism on said body, flame supporting means adjacent said mechanism, a spring urged depressible member effective upon slight downward movement thereof to unlatch and trigger the action of said flame igniting mechanism, and a flame surrounding wind screen formed at one end of said depressible member, said screen being yieldably adjustable between flame enclosing and flame exposing positions by further depressive movement of said member.

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