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PISTOL SIMULATING CIGAR AND CIGARETTE LIGHTER

Filed Feb. 14, 1950

2 Sheets-Sheet 1

FIG. 1.

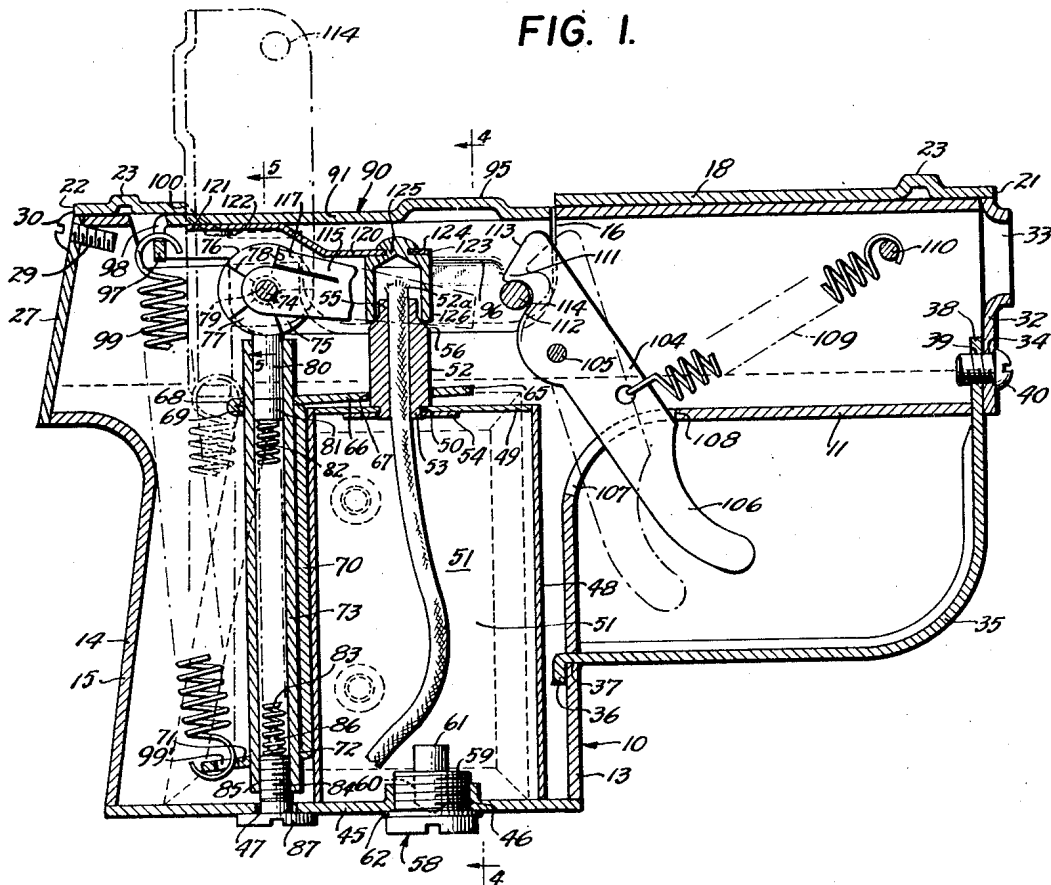
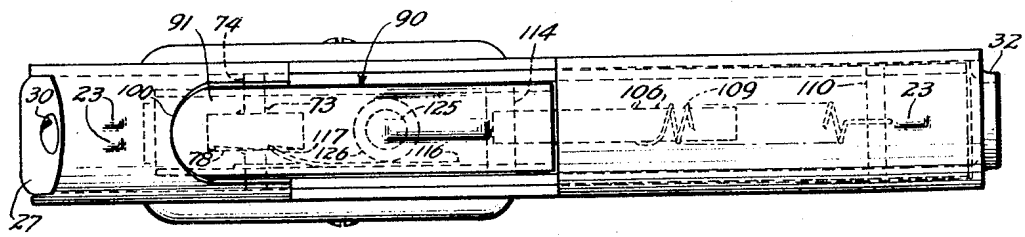


FIG. 2.



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FIG. 3.

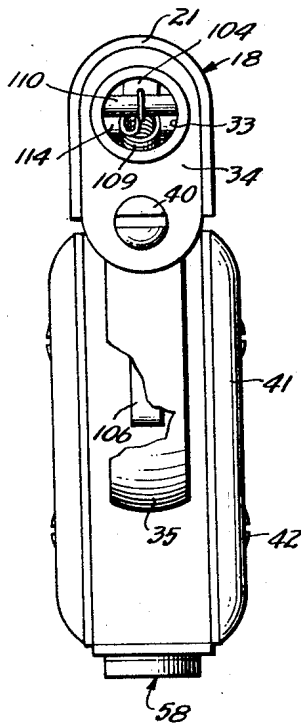


FIG. 4.

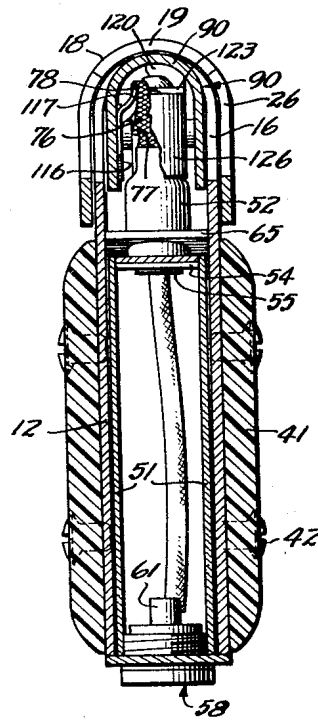
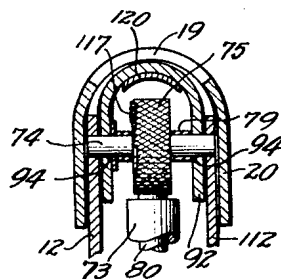


FIG. 5.



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PISTOL SIMULATING CIGAR AND CIGARETTE LIGHTER

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5 Claims. (Cl. 67—7.1)

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This invention relates to automatic igniters and to cigar and cigarette lighters and more particularly to igniters of the type employing a pyrophoric sparking medium which when subjected to friction gives off sparks which pass to a suitable combustible substance adapted to sustain a flame; though it is noted that in some of the claims the invention is not limited to sparking devices nor even to cigarette or cigar lighters.

Objects of the invention are to provide an improved device or apparatus of this kind which is very artistic in appearance and convenient to handle and carry.

Other objects are to provide a lighter wherein it is easy to replace parts requiring replacement and easy to replenish the fuel.

Other objects of the invention are to provide an improved device of this kind which simulates an automatic pistol and is operated by pulling a trigger.

Additional objects of the invention are to effect simplicity and efficiency in such lighters and apparatus and to provide an extremely simple, rugged and strong device of this kind which is efficient, reliable and durable in operation and economical to manufacture.

Still other objects of the invention will appear as the description proceeds; and while herein details of the invention are described in the specification and some of the claims, the invention as described in the broader claims is not limited to these, and many and various changes may be made without departing from the scope of the invention as claimed in the broader claims.

The inventive features for the accomplishment of these and other objects are shown herein in connection with an automatic igniter or lighter which briefly stated, includes a hollow body simulating a pistol and having a cut-out at its rear upper part below which is disposed a reservoir having an upper tubular wick holder. A holder plate secured in said handle from side to side has an opening receiving the wick holder and has upper and lower openings at the rear of the reservoir receiving a flint tube carrying a flint. A shaft across the body carries a spark wheel pressing on the flint and having ratchet teeth engaged by a ratchet spring mounted in an elongated extinguisher in said cut-out of the body and having side openings receiving said shaft. A spring urges the extinguisher upwardly when released by a trigger fulcrumed in and projecting from said body and having an upper hook holding a catch pin in the extinguisher.

In the accompanying drawing showing, by way

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of example, one of many possible embodiments of the invention,

Fig. 1 is a longitudinal vertical sectional view, partly in elevation, showing the lighter in normal position;

Figs. 2 and 3 are respectively plan and front end elevation of the lighter;

Fig. 4 shows a section taken on the line 4—4 of Fig. 1, looking in the direction of the arrows of said line; and

Fig. 5 is a fragmental transverse vertical sectional view, partly in elevation, showing the sparking wheel mounting, the section being taken substantially on the line 5—5 of Fig. 1, looking in the direction of the arrow of said line.

The improved pistol simulating cigarette and cigar lighter comprises a body 10 of sheet steel or other suitable metal or material consisting of two halves welded together and shaped to form a barrel 11 and the sides 12 and front 13 and rear 14 of the handle 15 to simulate an automatic pistol, the body having a cut-out as at 16 over the interior of the handle to the rear of the upper part of the barrel. Herein when it is stated that parts are welded together it is understood that the parts may be integral, welded or otherwise suitably secured together. A barrel top 18 having a rounded top part 19 and vertical sides 20 removably disposed over the top and sides of the barrel, slightly projects at the front and rear ends 21, 22 and has gun sight simulating projections 23 upwardly pressed at opposite ends of the barrel. The barrel top also has a cut-out 26 substantially registered with the cut-out of the body. A back plate 27 disposed across the body at the rear of the body above the handle is welded in the projecting rear end 22 of the barrel top and is provided at its upper part with a threaded opening 29 receiving a screw 30 engaging under the rear part of the upper wall of the body for releasably holding the rear part of the barrel top in place.

A nose plate 32 welded within the projecting front end 21 of the barrel top and disposed against the front end of the barrel is provided with an outwardly flanged opening 33 coaxial with the barrel and simulating the end of a pistol barrel, and a threaded aperture 34 below the opening. A trigger guard 35 having a lower rear downturned end 36 secured in a slot 37 in the lower part of the front of the handle has an upturned front end 38 secured in a recess in the lower part of the front end of the barrel and having an aperture 39 registered with the aperture of the nose plate. A screw 40 in said aper-

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tures detachably holds the nose plate on the guard 35 thereby holding the barrel top in place. Butt plates 41 (Figs. 3 and 4) of plastic or other suitable material are secured on each side of the handle and provided with upper and lower openings receiving screws 42 securing the plates to the handle to enhance the simulation of the automatic pistol.

A reservoir bottom 45 secured across the bottom of the handle and having a large inwardly flanged internally threaded opening 46 under the forward part of the cut-outs 16 and 26 and a smaller opening 47 under the rear part of said cut-outs supports a reservoir 48 beneath said cut-outs having a top wall 49 having an opening 50 therein, and side walls 51 secured liquid tight to the top wall and the reservoir bottom 45. A tubular wick holder 52 carrying the wick 52a has a lower reduced diameter end 53 riveted in a washer 54 or otherwise secured liquid tight in said opening 50 of the reservoir top and has an upper reduced end 55 forming an intermediate rounded shoulder 56. A removable closure screw 58 for the reservoir having a large flat outer head has a screw body 59 engageable with the threads of the flanged opening 46 and provided with an inner recess 60 into which a spare flint 61 may be stored. A gasket 62 around the screw between the head and the reservoir bottom is pressed by the head into liquid tight engagement with the bottom 45 to close the reservoir.

A holder plate 65 extending from side-to-side of the handle and welded in the handle is provided over the reservoir with an upper approximately horizontal part 66 having an opening 67 received on the wick holder. The rear part of said horizontal part is folded upon itself to form a rear projection 68 at the upper part of the reservoir provided with an upper opening 69. The upright part 70 of the holder plate is welded or otherwise secured against the rear face of the reservoir and has near the bottom of the handle a rearwardly turned ear 71 having a large opening 72 under said upper opening, said openings 69 and 72 receiving a flint tube 73 secured therein and extending nearly as high as the wick holder and nearly to said bottom plate.

A shaft 74 rotatively mounted in the upper part of the sides of the body above the flint tube and abutting the sides of the barrel top carries thereon a friction or spark wheel 75 over the flint tube and having a roughened periphery 76 and on one side, ratchet teeth 77 having abrupt shoulders 78 so positioned that when a tooth is at the upper part of the wheel the shoulder faces forwardly. Collars 79 hold the wheel centered on the shaft over the flint tube. A flint 80 in the tube pressing against the periphery of the wheel is pressed upwardly by a spring tip 81 of cylindrical shape slidable in the tube and having a lower reduced diameter portion 82 in which is received a helical compression spring 83 compressed between said tip and a screw 84 removably received in threads 85 in the lower part of the flint tube and having an upper reduced diameter portion 86 receiving the spring, said screw having a lower flat head 87 engaged against the lower face of the bottom plate 45, said spring serving for yieldably pressing the flint against the sparking wheel.

An extinguisher 90 comprising a cover plate of sheet material is disposed in said cut-out of the body and has an upper rounded part 91 forming a substantial continuation of the upper part of the barrel of the body, and downturned sides 92 having openings 94 rotatively receiving said shaft.

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Said upper part and sides have outwardly pressed parts 95, 96 simulating parts on a pistol. The extinguisher plate has a downturned rear end part 97 having a perforation 98 therein in which is secured a tension spring 99 having its lower end secured in a perforation 99' in said ear 71 of the holder plate, whereby the extinguisher plate, when released as will be explained, may be quickly raised to upright position against the end face 100 of the cut-out of the barrel top, as shown by the dotted lines of Fig. 1.

A trigger lever 104 intermediately fulcrumed on a trigger shaft 105 below the front end of the cut-outs 16 and 26 has a downwardly and forwardly inclined trigger 106 projecting through a trigger slot 107 in the body and engageable with the forward end 108 of the slot to limit the forward movement of the lower end and to position the upper end influenced by a helical spring 109 tensioned between the trigger lever below the shaft and an anchor pin 110 on the forward upper part of the side of the body to draw the lower arm of the lever against the end of the slot. The upper end of the trigger lever has a rearwardly pointing hook 111, a recess 112 below the hook, and a cam 113 extending upwardly and forwardly from the point of the hook; and when the trigger engages the forward end 108 of the trigger slot said cam 113 is in position to be engaged and pushed forward as the extinguisher is closed by a catch pin 114 mounted across the extinguisher, to allow the catch pin to automatically snap into said recess 112 under the hook, whereby the extinguisher may be releasably held closed against the action of said tension spring 99 or on pulling the trigger may be quickly moved by the spring 99 to an upright position against the rear end 100 of the cut-away of the top.

A ratchet spring 115 of strip spring metal having one end 116 mounted fast on the inner face of the lower part of the forward end of one side of the extinguisher, has its other end perforated and received on the spark wheel shaft, and provided with a part 117 inwardly turned to engage the shoulder 78 at upper part of an upper ratchet tooth of the wheel, whereby when the trigger is pulled to release the extinguisher from closed position under the action of the tension spring 99 the extinguisher will fly to upper position and cause the ratchet spring to engage an upper ratchet tooth and cause the lower part of the wheel to move quickly forwardly and throw sparks from the flint to the wick to ignite the wick. A snuffer spring 120 having its rear end 121 secured by a rivet 122 to the rear part of the inner face of the upper part of the extinguisher 90 has its forward end portion 123 downwardly off-set and provided with an opening 124 receiving and holding therein an upper headed stem 125 of an inverted cup-shaped snuffer 126 fitted over said wick holder, against said shoulder 56, whereby when the extinguisher is closed to cause the pin 116 to catch on the hook 111, the snuffer is placed over the tubular wick holder and the wick to extinguish the wick. When the extinguisher is moved to upright position the damper is removed to allow a spark from the flint to reach the wick.

The parts of the herein lighter may be made of any suitable material. Various parts may be made of steel, other metal, plastic or other material. Without limiting to any particular material it may be stated that it has been found satisfactory to make parts 10, 18, 27, 32, 35, 45,

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49, 51, 52, 58, 65, 70, 75, 90, 110, 114, 122 and 126 of steel; parts 83, 99, 115 and 120 of spring steel; parts 42, 58, 81 and 84 of brass, and parts 41, 41 of plastic.

The operation of the lighter is obvious from the foregoing. With the lighter parts in the position of Fig. 1, if it is desired to use the lighter, it is grasped as an automatic pistol would be and the trigger 106 pulled, releasing the hook 111 from the catch pin 114, allowing the extinguisher 90 to fly up under the influence of the spring 99 to the position of the dotted lines of Fig. 1, thus removing the damper 126 from the wick 52a and wick holder 52. At the same time, the ratchet spring 115 pushing on a ratchet tooth 77 quickly rotates backwardly the sparking wheel a fifth of a rotation, thus throwing sparks from the flint 80 to the wick, igniting the wick and causing it to flame for lighting a cigarette or the like, after which the extinguisher 90 is closed to cause the catch pin 114 to push back the cam 113 and be engaged in the recess 112 under the influence of the spring 109, thus holding the extinguisher closed and the snuffer on the wick holder, extinguishing the wick and leaving the lighter ready for use again. During this return movement, the friction of the flint on the wheel prevents retrograde movement of the flint thus retaining the flint in a new position each time the lighter is used thus distributing the wear evenly around the wheel.

When it is desired to refill the reservoir, the lighter is turned upside-down, the screw 58 removed, lighter fuel poured in through the opening 46, and the screw replaced tightly.

When it is desired to replace the flint, screws 58 and 87, the spring 83, tip 81, the flint 80 and the extra flint 61 are removed. Then the new flint 61, the tip 81, the spring 83 and the screws 87 and 58 are replaced in the order stated to the position of Fig. 1.

To replace a worn sparking wheel it is only necessary to remove the screws 30 and 40 and the barrel top 18 thus exposing the ends of the shaft allowing the shaft to be pushed out. Then a new wheel and the collars 79 may be placed between the sides of the body in alinement with the openings, after which the shaft, then the barrel top and the screws 30 and 40 are placed in the order named.

The invention claimed is:

1. A pistol simulating cigarette and cigar lighter comprising a hollow body having a barrel and a handle having an opening in its upper rear part; the body having an upper cut-out over the interior of the handle to the rear of the upper part of the barrel; a barrel top of substantially inverted U-shaped cross-section disposed over the top and sides of the barrel and body and slightly projecting at its front and rear ends and having a cut-out substantially registered with the cut-out of the body; a back plate secured in the rear end of the top across the body and closing said opening at the rear of the handle; a screw in the back plate engaging under the rear of the upper part of the body to hold the rear of the top in place; a nose plate secured within the projecting end of the barrel top at the front end of the barrel and provided with an outwardly flanged opening coaxial with the barrel and an aperture below the opening; a trigger guard having a lower rear downturned end secured to the lower part of the front of the handle and an upturned front end having an aperture registered with the aperture of the nose plate; a screw in

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said apertures; and a flint, a spark wheel and a wick beneath the cut-outs.

2. A lighter comprising a hollow body in the shape of an automatic pistol having an upper cut-out and a handle; an upstanding reservoir having in the body under the cut-out an upstanding tubular wick holder; a holder plate secured in said handle having its edges secured to the sides of the handle and having just over the reservoir an upper approximately horizontal part having an opening receiving the wick holder; the rear part of said horizontal part being folded upon itself to form a rear projection at the upper part of the reservoir provided with an upper opening, the holder plate having an upright part secured against the rear face of the reservoir and having near the bottom of the handle a rearwardly turned ear having a large opening under said upper opening; a flint tube secured in said upper and large openings and extending nearly as high as the wick holder and nearly to said bottom plate and having internal threads at the lower end; a screw removably received in said threads; a spark wheel over the flint tube; a flint in the flint tube; means in the flint tube urging the flint against the wheel; said screw loosely passing an opening in the bottom part of the handle and engaging said means, whereby the flint may be replaced when said screw is removed.

3. A lighter comprising a hollow body simulating a pistol having a barrel an upper cut-out and a slot at the lower rear part of the barrel, and shaft openings in the body sides below the cut-out; a barrel top secured over the barrel and having sides and a cut-out substantially registered with the cut-out of the body; a shaft across the body in said openings held in place by said sides; a spark wheel on the shaft; a wick forward of the wheel in the body beneath the cut-out; an elongated extinguisher cover pivoted at its rear in the cut-out over the wick and wheel; a catch pin across the forward part of the cover; means for yieldably opening the cover; a trigger shaft mounted across the body above said slot; a trigger intermediately pivoted on said shaft and projecting through said slot and having at the upper end a rearwardly open recess and a cam extending upwardly and forwardly from the recess, the recess receiving the catch pin; an anchor pin across the forward upper part of the side of the barrel; a helical spring tensioned between the trigger lever below the shaft and said anchor pin to draw the lower arm of the trigger against the end of the slot, the slot being located to position the cam in position to be engaged and pushed by said catch pin when the extinguisher cover is closed to allow the catch pin to snap into said recess under the hook.

4. A lighter comprising a pistol simulating hollow body having a handle, a barrel, and an upper elongated cut-out at the rear of the barrel; shaft openings in the sides of the handle under the rear of the cut-out; a releasable shaft in said openings; a barrel top of substantially inverted-U-shaped cross section releasably secured over the barrel and handle and having sides engaging the sides of the body and engageable with the ends of the shaft, the top having a cut-out substantially registered with the cut-out of the body; a reservoir beneath said cut-out having an upper tubular wick holder; a holder plate secured in said body and secured to the side walls thereof and having an opening receiving the wick holder and having upper and lower open-

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ings at the rear of the reservoir; a flint tube in said upper and lower openings; a spark wheel rotatable on the shaft within the body over the flint tube and having ratchet teeth; a flint in the tube pressed against the lower part of the wheel; an elongated extinguisher cover in the cut-out of the body and having sides having rear openings pivotally received on the shaft; a spring for urging the extinguisher cover to upright position; releasable means for holding the extinguisher cover in closed position; and a ratchet spring carried by the cover and engaging the ratchet teeth.

5. A lighter comprising a pistol simulating hollow body having a handle, a barrel and an upper elongated cut-out at the rear of the barrel; shaft openings in the sides of the handle under the rear of the cut-out; a releasable shaft in said openings; a barrel top of substantially inverted-U-shaped cross section releasably secured over the barrel and handle and having sides engaging the sides of the body and engageable with the ends of the shaft, the top having a cut-out substantially registered with the cut-out of the body; a reservoir beneath said cut-out and secured in the handle; a tubular wick holder mounted in and through the reservoir top; a holder plate having its side edges secured to the side walls of said handle and having an opening receiving the wick holder and a rear projection at the rear of the upper part of the reservoir provided with an upper opening, and said plate

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having at the bottom of the reservoir a rearwardly turned ear having a large lower opening under said upper opening; a flint tube secured in said upper and large openings; a spark wheel rotatable on the shaft within the body over the flint tube and having ratchet teeth; a flint in the tube pressed against the lower part of the wheel; an elongated extinguisher cover in the cut-out of the body and having sides having rear openings pivotally received on the shaft; a spring for urging the extinguisher cover to upright position; releasable means for holding the extinguisher cover in closed position; and a ratchet spring carried by the cover and engaging the ratchet teeth.

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