

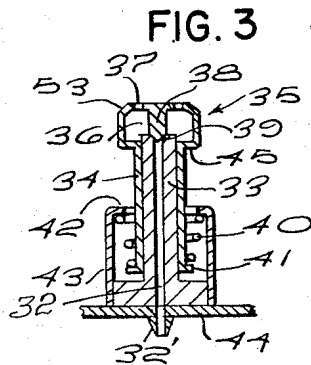
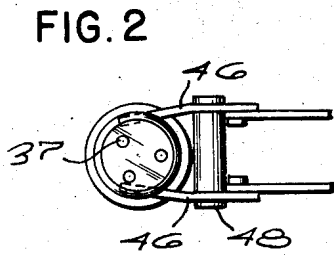
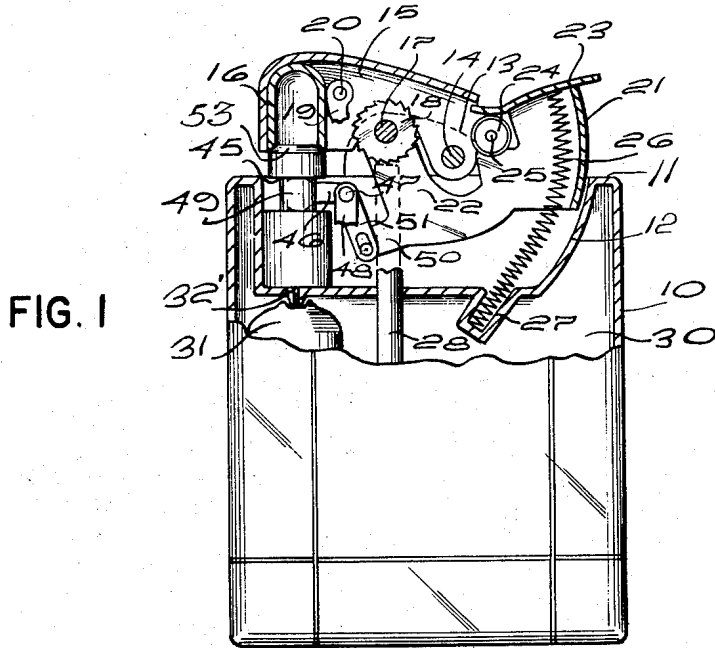
March 1, 1955

A. F. REILLY

2,702,999

GAS FUEL CIGARETTE LIGHTER

Filed July 22, 1950



INVENTOR.
Alfred F. Reilly
BY
Barlow & Barlow
ATTORNEY

1

2,702,999

GAS FUEL CIGARETTE LIGHTER

Alfred F. Reilly, North Attleboro, Mass., assignor to Evans Case Co., a corporation of Massachusetts

Application July 22, 1950, Serial No. 175,406

1 Claim. (Cl. 67—7.1)

This invention relates to a lighter of the pyrophoric ignition type in which the fuel is in the form of a compressed gas.

One of the objects of this invention is to provide a fully automatic lighter which will ignite in the same manner as liquid fuel lighters of the automatic type.

Another object of this invention is to provide a valve control for the gas conduit to the burner so that upon hand pressing a lever the valve will be opened, permitting the gas to escape, and at the same time a spark will be thrown to the gas for igniting the same, while upon release of the hand lever, the valve will be closed for extinguishing the light.

With these and other objects in view, the invention consists of certain novel features of construction, as will be more fully described and particularly pointed out in the appended claim.

In the accompanying drawings:

Figure 1 is a side elevation partly in section showing the operating mechanism of the invention;

Figure 2 is a fragmental detail showing in top plan a burner and part of the operating mechanism therefor; and

Figure 3 is a sectional view through the burner and the gas conduit thereto.

In proceeding with this invention, I utilize the ignition mechanism substantially as it is in the liquid fuel type of lighter which has heretofore been provided with certain changes so that a valve will be controlled as sparks are ignited and thrown toward the gas burner, the arrangement being such that with a small change of the usual mechanism, the adaptation may be accomplished.

With reference to the drawings, 10 designates a case which has its top wall 11 recessed as at 12 providing a well therein. The side walls extend upwardly as shown in dotted lines at 13 to provide a mounting for a pivot pin 14 upon which a snuffer arm 15 is pivotally mounted carrying a snuffer 16 therein. This support also carries the pivot pin 17 upon which a friction wheel 18 is rotatably mounted and actuated by a ratchet secured to the wheel and ratchet arm 19 (shown as broken off) pivoted as at 20 to the snuffer arm 15 and engaging the ratchet so that as the snuffer arm swings upwardly about its center 14, the friction wheel is actuated. Hand lever 21 has an arm 22 which is pivoted on the shaft 17 and has a finger piece 23 which engages a roll 24 on shaft 25 carried by the snuffer arm so that as the finger piece is pressed downwardly, the snuffer arm is lifted. A long spring 26 resting in socket 27 serves to lift the lever 21 to its raised position and close the snuffer. A tube 28 guides pyrophoric material into engagement with the wheel 18 and has in it a spring for pressing the pyrophoric into engagement with the wheel in a usual manner.

Within the chamber 30 of the casing there is provided a container 31 of compressed fuel gas which discharges through the opening 32 through a puncturing prong in

2

the bottom of the recess of the top wall so that gas is conveyed through the conduit 32 in the member 33 (see Figure 3). This member 33 has a sleeve 34 of the burner designated generally 35 which is slidably mounted thereon. This sleeve is enlarged into a chamber 36 having burner openings 37 and a plug 38 which will engage the valve seat 39 formed at the end of the conduit 32. A spring 40 engages the flange 41 at the inner end of the sleeve and also the flange 42 on the cap 43 which engages the enlarged portion 44 of the member 33 so as to force the sleeve downwardly as shown in Figure 3 with the plug 38 engaging the valve seat 39 to close the conduit 32.

This chamber 36 has shoulders 45 by reason of its extending outwardly and a bell crank lever is pivoted as at 47 on stands 48 with arms 46 having rounded ends 49 engaging beneath the shoulders 45. The lever 21 has an extension arm 50 connected to arm 51 of said lever so that as the lever 21 is pushed downwardly, the plug closure 38 for the conduit 32 is pushed upwardly allowing gas to pass into the chamber 36 and out through the openings 37. At the same time that this burner is supplied with gas, the friction wheel will be rotated to throw a spark from the pyrophoric material to the gas which is escaping through the openings 37 so as to ignite the same.

When the finger piece 23 is released, the spring 26 will move to the ignition mechanism and snuffer to engage the beveled edge 53 of the burner nozzle and will move the same downwardly assisted by the spring 40 to close the conduit 32 through which the gas escapes, thus snuffing off air by reasons of the snuffer 16 and also shutting off the fuel in order that the light may be extinguished.

I claim:

A lighter comprising a receptacle for a gaseous fuel under pressure and having an upper wall, a discharge nozzle attached to said wall to be held stationary thereon and having a stem portion provided with a bore there-through forming a conduit from said receptacle, a valve seat surrounding said bore at the upper end of said stem, a burner having a sleeve portion slidably received on said stem portion and having an upper perforated wall spaced from said valve seat, a valve plug adapted to engage said seat and carried by said perforated wall, said burner being resiliently biased to hold said valve plug in engagement with the valve seat to close said conduit to the flow of fuel therethrough, ignition material, a rotatable wheel engaging said material and when rotated throwing a spark to said burner, a manually operated lever, and a bell crank lever coupled to said first named lever to engage said burner and slidably move said burner in the direction to unseat said valve plug, said first named lever rotating said wheel to throw a spark to said burner so as to ignite the fuel discharge from said nozzle.

References Cited in the file of this patent

UNITED STATES PATENTS

1,508,600	Guinn	Sept. 16, 1924
1,875,821	Nazare	Sept. 6, 1932
1,889,849	Aronson	Dec. 6, 1932
2,099,284	Strelow et al.	Nov. 16, 1937
2,153,432	Reich	Apr. 4, 1939
2,482,794	Peterson	Sept. 27, 1949
2,561,270	Felt	July 17, 1951
2,571,435	Flamm	Oct. 16, 1951

FOREIGN PATENTS

288,913	Great Britain	Apr. 19, 1928
612,226	Great Britain	Nov. 10, 1948
923,219	France	Feb. 17, 1947