

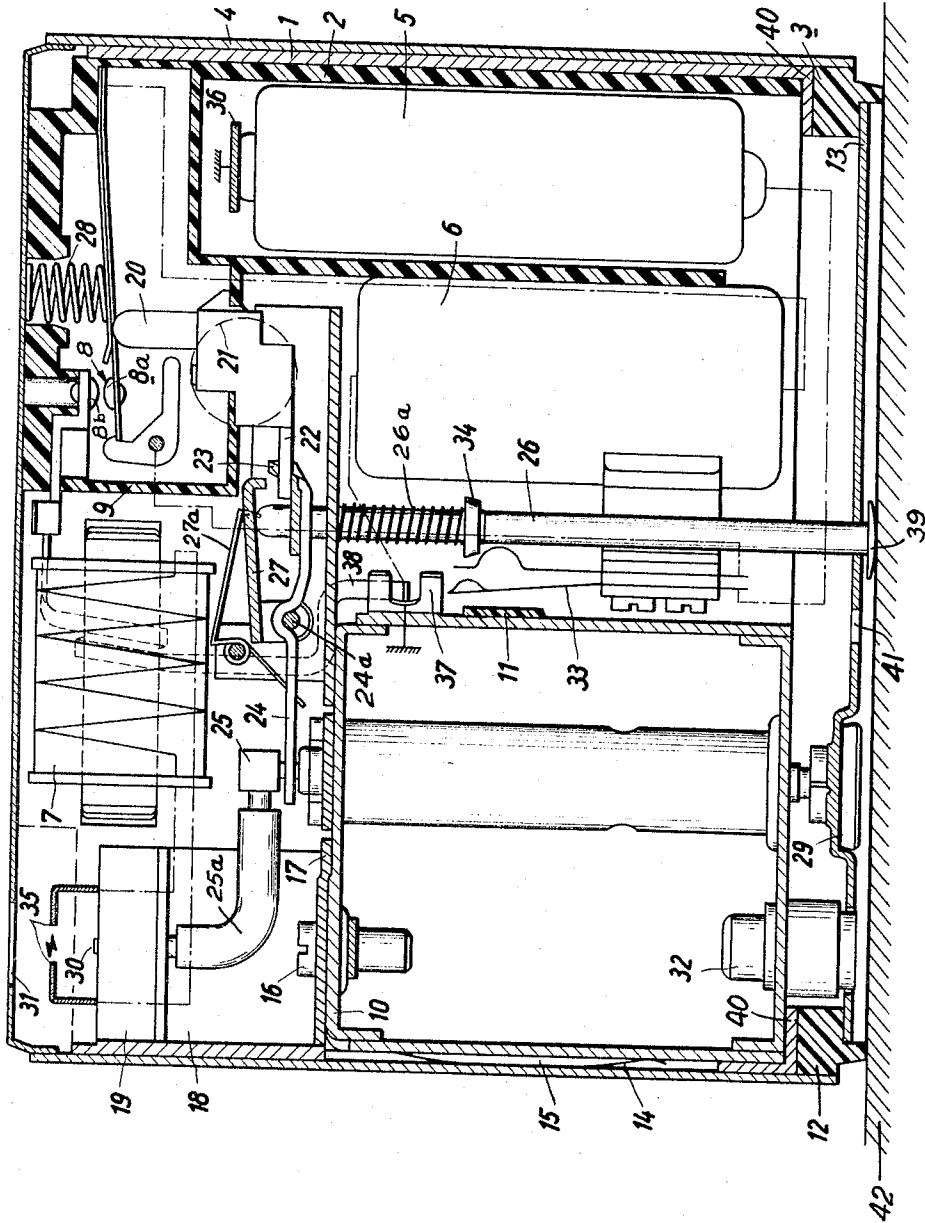
Feb. 21, 1967

H. REMY ET AL

3,305,701

ELECTRIC IGNITION TABLE-LIGHTER

Filed March 25, 1964



Inventors
HERMANN REMY
OTTO ADLER
MARTIN GRÜNBAUER
BY *Haase and Nudisch*
ATTORNEYS

3,305,701

ELECTRIC IGNITION TABLE-LIGHTER

Hermann Remy, Frankfurt am Main-Niederrad, Otto Adler, Heusenstamm, near Offenbach am Main, and Martin Grünbacher, Offenbach am Main, Germany, assignors to Rowenta Metallwarenfabrik G.m.b.H., Offenbach am Main, Germany, a firm

Filed Mar. 25, 1964, Ser. No. 354,629

Claims priority, application Germany, Apr. 1, 1963, R 25,885

7 Claims. (Cl. 317-86)

The present invention relates to a table lighter, and more particularly to an electrically ignited gas-fueled table lighter.

It is an object of the invention to provide a novel and improved table lighter of the general kind above referred to in which the principal components of the electric ignition assembly of the lighter are supported by one chassis, and the principal components of the fuel supply and valve assembly of the lighter are supported by a second chassis, a base supports both chassis and a casing covers the chassis and the components supported thereby, whereby the lighter presents a compact and uncluttered appearance.

A more specific object of the invention is to provide a novel and improved lighter of the general kind above referred to which comprises a first chassis supporting the electric ignition assembly of the lighter; a second chassis supporting the fuel tank, and a fuel valve controlling the release of gaseous fuel from the tank; an operative linkage; a base supporting both chassis; and a casing fitted upon said base and covering both chassis and the components mounted thereon, ignition of the lighter flame being effected by retracting an externally accessible control rod in reference to the casing whereby the ignition system is activated by closing a switch thereof and the fuel valve is operated, and extinguishing of the flame being effected by pushing the rod into the casing whereby the fuel valve is closed. Such an arrangement has the advantage that waste of lighter fuel and an inadvertent ignition of the lighter are prevented.

Another and more specific object of the invention is to provide a novel and improved lighter of the general kind above referred to the casing of which includes an air space assuring the continuous presence of a volume of combustion air within the casing sufficient to effect ignition of gaseous fuel released upon opening of the fuel valve.

Other and further objects, features and advantages of the invention will be pointed out hereinafter and set forth in the appended claims constituting part of the application.

In the single figure of the accompanying drawing an elevational view, partly in section, of a table lighter according to the invention is shown by way of illustration, and not by way of limitation.

The exemplified lighter comprises a first chassis 1, a second chassis 2, a base 3 and a casing 4. Chassis 1 and 2 are telescoped into each other and rest on base 3. Casing 4 encases both chassis and is supported by base 3, partly encompassing the same, as is clearly shown in the figure.

Chassis 2 supports the principal components of the electric ignition assembly of the lighter, to wit, a battery 5, a capacitor 6 and a transformer 7. A switch 8 having a movable contact 8a and a stationary contact 8b is mounted within a switch casing 9 injection-molded onto chassis 2. The circuit connections of the ignition assembly are not disclosed in detail, as they do not constitute part of the invention. It suffices to state that the battery, the transformer and the capacitor are connected in a

charging circuit for the capacitor, as is indicated in the figure by dash-dotted lines. Closing of switch 8 discharges the capacitor across a spark gap formed by a pair of electrodes 35.

5 Chassis 1 supports the remaining principal components, to wit, the fuel supply and valve assembly of the lighter, such as a fuel tank 10 containing, for instance, butane. The tank is retained in position by a bracket 11 extending from the chassis. The fuel tank and components of the ignition assembly, such as battery 5 and capacitor 6, are disposed adjacent to base 3, as is clearly shown. The base is secured to the chassis 1, for instance, by four flanges 40 extending into the interior of the lighter. The base is formed of a plastic frame 12 and a cover plate 13.

15 A flexed leaf spring 14 is secured to the left-hand side wall of the tank and engages through an opening 15 in chassis 1 the adjacent side wall of casing 4, thereby frictionally retaining the casing in position on the chassis and the base.

20 The top of the fuel tank supports, secured thereon, for instance, by a screw 16, a bracket 17. This bracket has a bent-up lug 18 which mounts a holder 19 for electrodes 35. The top of the tank further supports a fuel valve 25 of conventional design. The valve is biased into its closed position and controls the flow of gaseous fuel through a duct 25a to a burner nozzle 30, which is disposed in alignment with the spark gap defined by electrodes 35 and also an opening 31 in casing 4. The fuel valve extends through the entire height of tank 10. A throttle valve 29 serves to adjust the volume of gas discharged through the fuel valve upon opening of the same and thus the height of the flame emerging at burner nozzle 30. The tank may be refilled by means of a filler valve 32 which is accessible through cover plate 13 of base 3.

35 The mechanism for controlling normally open switch 8 and fuel valve 25 is operable by a push button 21 indicated by a dotted line. The push button is accessible from the outside of the casing, and when pressed in, pivots a lever 24 about a pivot 24a by the pressure exerted by an arm 22 controlled, in turn, by button 21. The other end of lever 24 coacts with valve 25 to open the same. In addition, pressing in of button 21 actuates a stem 30, which, in turn, closes switch 8, thereby causing a spark discharge across electrodes 35.

45 In addition to switch 8, the circuit system comprises a switch 33 connected in the charging circuit of the capacitor. Switch 33 is biased into its open position and controlled by a collar 34 on a control rod 26. This rod is biased downwardly as seen in the figure by a spring 26a. One end of rod 26 protrudes from cover plate 13 and terminates in a head 39. The other end coacts with a lever 27 to hold the same in the illustrated position. The lever is biased by a spring 27a to press upon valve lever 24 to maintain the same in the position in which fuel valve 25 is closed.

50 A lug 36 bent out of chassis 2 and engaging one terminal of battery 5 and a lug 37 serve as ground connection, lug 37 being connected to the capacitor 6 and to a wire 31 leading to the primary winding of transformer 7.

60 As is clearly shown, electrode support 19 is separated from the top side of fuel tank 10 by a comparatively large space. This space constitutes an air space within the casing adjacent to burner nozzle 30 to assure that fresh combustion air is always present in the vicinity of the burner nozzle, so that gas emerging from the nozzle is ignited by a spark discharge. The combustion air space within the casing may communicate with the outside through louvers in casing 4 and also through vents 41 in the base.

70 Burner nozzle 30 and fuel valve 25 may be combined in a self-contained unit which is secured to electrode support 19.

The operation of the lighter is as follows:

Let it be assumed that the lighter is placed upon a base indicated at 42, then all the components of the lighter are in the illustrated positions. To ignite the lighter flame, the lighter is lifted. As a result, rod 26 is pressed downwardly by the action of spring 26a, causing closing of switch 33. If button 21 is now pressed in, fuel valve 25 is opened via lever 24, and switch 8 is closed, whereby a spark discharge across electrodes 35 is effected, as previously described. As a result, the gas now emerging from burner nozzle 30 is ignited. The downward movement of rod 26 also releases lever 27 so that the same is pressed by spring 27a against lever 24, whereby the fuel valve is held open.

To extinguish the lighter flame, control rod 26 is pressed upwardly, which can be effected by simply placing the lighter upon surface 42. As a result, switch 33 is opened, and arm 27 is forced upwardly by the tip of rod 26 so that the fuel valve can return into its closed position.

What is claimed is:

1. An electrically ignited gas-fueled table lighter comprising, in combination: a first chassis, a second chassis telescoped into the first chassis, a plate-shaped base frame supporting both said chassis, a casing encasing the first chassis and supported by said base frame partly overlying the same, a fuel supply and valve assembly supported by the first chassis, said fuel supply and valve assembly including a fuel tank and a burner nozzle disposed within the casing, an electric ignition assembly supported by the second chassis, said ignition assembly including a pair of electrodes defining a spark gap therebetween and disposed within the casing in coacting relationship with the nozzle for igniting gaseous fuel discharged therefrom, and control means for controlling the fuel supply and valve assembly for discharging gaseous fuel through said burner nozzle and for controlling the electric ignition assembly to effect a spark discharge across said spark gap.

2. An electrically ignited table lighter according to claim 1, wherein said fuel tank has a side wall parallel and adjacent to a side wall of the first chassis and of the casing, said adjacent chassis side wall having an opening therethrough, and wherein a spring is secured to said side

wall of the tank and biased through said chassis side wall opening into engagement with the casing side wall to retain the casing frictionally in position on the first chassis and the base.

3. An electrically ignited table lighter according to claim 1, wherein said casing includes a space disposed adjacent to said burner nozzle and said spark gap to constitute a combustion air space for the burner nozzle.

4. An electrically ignited table lighter according to claim 3, wherein said base frame includes at least one vent connecting said air space with the atmosphere to permit a flow of fresh air into said air space.

5. An electrically ignited table lighter according to claim 1, and comprising fastening means extending inwardly from said first chassis and engaging said fuel tank to secure the same in a position adjacent to said base frame, said control means being supported on the fuel tank secured thereto.

6. An electrically ignited table lighter according to claim 1, wherein said base is secured to the first chassis by flanges extending inwardly from said first chassis between the same and the base.

7. An electrically ignited table lighter according to claim 1, wherein said fuel tank mounts on its top a support member supporting said burner nozzle and said electrodes in coacting relationship.

References Cited by the Examiner

UNITED STATES PATENTS

2,482,794	9/1949	Peterson	67-7
2,516,843	8/1950	Bakst et al.	219-268
2,608,080	8/1952	Simon et al.	67-7.1
2,633,724	4/1953	Anderson.	
2,867,753	1/1959	Quandt	317-91
3,200,295	8/1965	Owens et al.	317-83

FOREIGN PATENTS

80,300	3/1951	Czechoslovakia.
689,253	3/1953	Great Britain.

RICHARD M. WOOD, *Primary Examiner.*

V. Y. MAYEWSKY, *Assistant Examiner.*