

Feb. 19, 1957

H. MAYER
TABLE LIGHTER

2,781,652

Filed March 8, 1955

3 Sheets-Sheet 1

Fig. 1

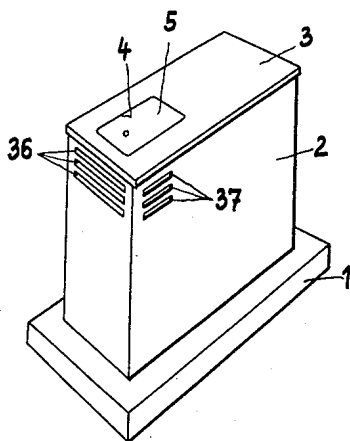


Fig. 7

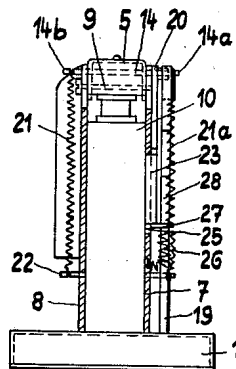
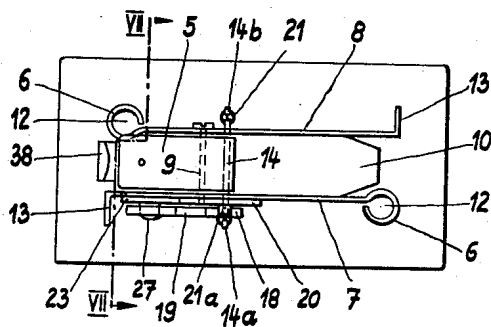


Fig. 2



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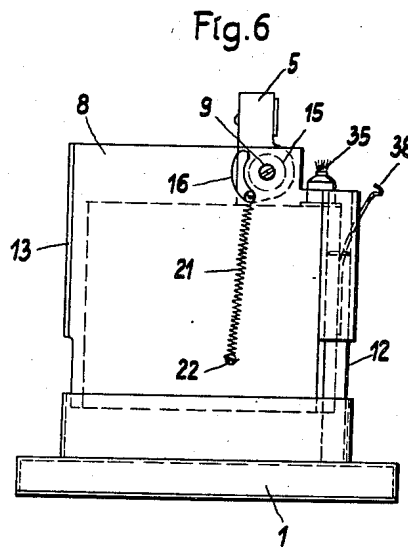
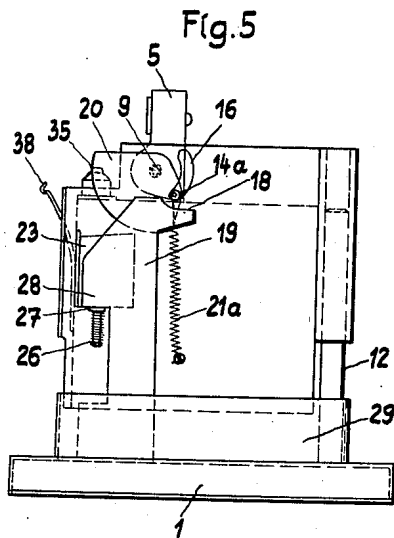
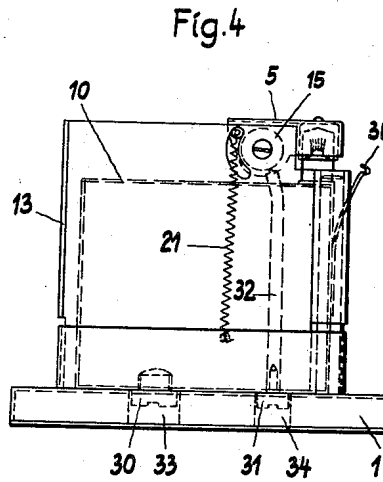
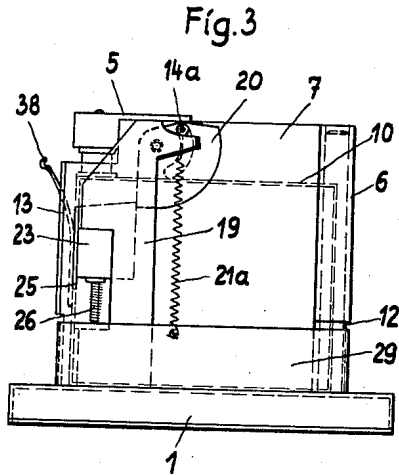
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TABLE LIGHTER

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3 Sheets-Sheet 3

Fig. 8

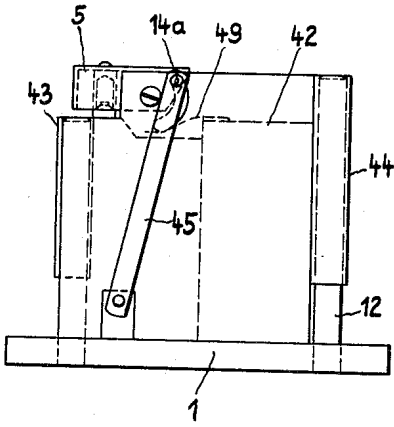


Fig. 10

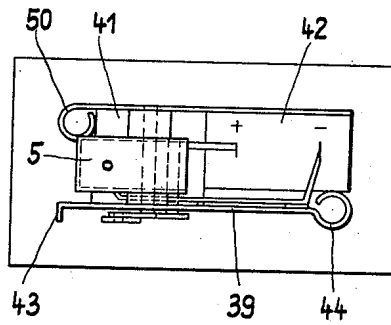


Fig. 9

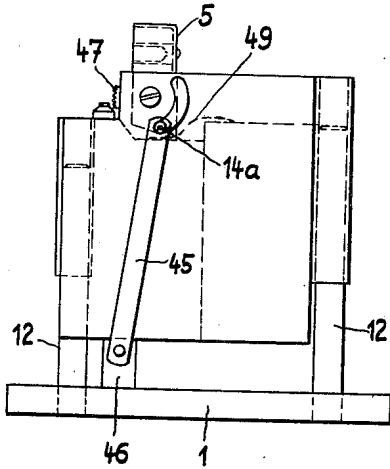
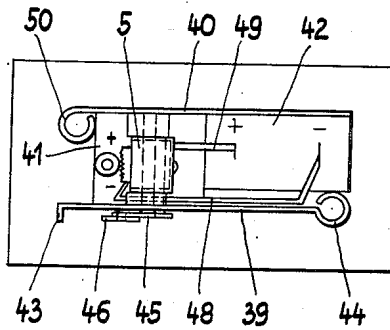


Fig. 11



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2,781,652

TABLE LIGHTER

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21 Claims. (Cl. 67-4.1)

The invention relates to a table lighter having upper and lower sections which are displaceable relatively to one another and the actuation of which is effected by the force of gravity of the said two sections.

A cylindrical table lighter of this type of construction having friction wheel ignition is known in which are provided a substantially semi-cylindrical fuel container consisting of a single casting and an actuating means for ignition and extinguishing purposes consisting of elbow levers, coupling rods and tension springs, the said actuating means being arranged below the fuel container between the bottom thereof and a base plate which is connected to the latter by stay bolts.

The above-mentioned actuating means is connected to the extinguishing cap by way of a complicated linkage arranged laterally of the fuel container. This known table lighter is therefore expensive to manufacture, and it is also to be taken into account that complicated castings are necessary both for the fuel container and for the housing. It is difficult to obtain access to the actuating means of this lighter for repair purposes, and in addition, due to the arrangement of the actuating means below the fuel container, the overall height of the table lighter is considerably increased, with the result that the stability of the lighter is also insufficient, although this is of relatively great importance with table lighters of this type, since the lighter ignites when it falls over and thus there is danger of fire.

The above-mentioned disadvantages of this known table lighter are obviated by the specific and simple construction of the table lighter according to the invention, in which the upper section consists of two flat frame plates which are each rolled at one side edge to form guide sleeves and between which is mounted an ignition lever simultaneously forming the extinguishing cap, the fuel tank also being fixed between the said plates, and at least one frame plate being made U-shaped by outward flanging or beading of the side edges, and in which also the actuating means for the igniting and extinguishing operations is arranged on one or both outside surfaces of the frame plates between the U-shaped space, and a box-shaped hood or cover is provided which is detachably connected to the frame plates and the cover plate of which comprises an outlet opening for the extinguishing cap.

This novel design of the table lighter renders possible a simple and cheap production, since the essential parts of the lighter may be made out of stamped and bent sheet metal parts. The flat frame plate enables the actuating means to be mounted in a satisfactory and simple manner, so that the said means is readily accessible and therefore both the assembly and also repairs may be carried out substantially more easily.

Moreover, since the actuating means is not arranged beneath the fuel container but laterally of the latter, there is obtained a low overall height and therefore the stability of the table lighter is much greater.

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Embodiments of the invention are illustrated by way of example in the accompanying drawings, in which:

Figure 1 is a perspective view of a table lighter,

Figure 2 is a plan view of a table lighter with friction wheel ignition and with the cover removed,

Figures 3 and 4 are two side elevations of this table lighter with the extinguishing cap closed and without a cover,

Figures 5 and 6 are two side elevations of the said table lighter after it has been ignited, that is to say with the extinguishing cap open,

Figure 7 is a cross-section on the line VII-VII of Figure 2,

Figures 8 and 9 are side elevations of a table lighter equipped with electric ignition, showing the closed and open positions, respectively, and

Figures 10 and 11 are plan views of this table lighter in the closed and open positions, respectively.

With the closed table lighter according to Figure 1, it is only possible to see the base plate 1 of the bottom section, while the upper section which is adapted to be displaced upwardly relatively to the bottom section or base plate 1 is enclosed by a box-shaped casing 2, the top part 3 of which is formed with an outlet opening 4 for the extinguishing cap 5. As will be seen, the outlet opening 4 conforms to the size of the extinguishing cap and when the table lighter is closed, the said cap forms a closed flat surface with the cap casing part 3.

According to Figures 2 to 7, the upper section of the table lighter consists essentially of two flat frame plates 7 and 8 which are each rolled at one side edge to form guide sleeves 6. Pivotaly mounted between the said plates 7 and 8 on the pin 9 is the extinguishing cap 5 which also constitutes an ignition lever. The fuel tank 10 is also fixed between these plates.

The guide sleeves 6, being slidably engaged on guide pins 12 fixed to the base plate 1, enable the upper section to slide relatively to the lower section.

As will be seen from Figure 2, the frame plates 7 and 8 are also bent over outwardly on one side edge at 13. U-shaped frames are thus formed by the bent portions 6 and 13. The actuating means for igniting and extinguishing the lighter are arranged on the two outside surfaces of the frame plates 7 and 8 and inside the U-shaped space according to Figure 2.

In the constructional form illustrated, the ignition lever has fixed thereon a pin 14 which projects through arcuate openings 16 in the two frame plates, and one end 14a of this pin acts on a tension spring 21a which co-operates with a curved track 18 on a support 19 fixed to the lower section, while a tension spring 21 acts on that other end 14b of the pin which extends through a hole in a quadrant-shaped sector 20, the said spring 21 being fixed to the frame plate 8 at 22. The sector 20 is capable of pivoting with the ignition lever about the pin 9 and is locked by a slide member 23. The latter is mounted for vertical displacement on the outside of the frame plate 7 and engages by means of a rectangular projection in a vertical guide slot 25 in the plate 7. This slide member 23 is forced by means of a spring 26 into the locking position. The slide member also carries a projection 27 which co-operates with a releasing or unlocking hook 28 fixed to the bottom section.

As will be seen from Figures 3 and 4, the support 19 and the unlocking hook 28 consist of a single sheet metal element fixed to the bottom section or base plate 1. The bottom section of the table lighter consists of the solid base plate 1 which effects the unlocking or lighting movement by its own weight, and which has the support 19 and the guide pins 12 fixed thereon. The base plate also has fixed thereon a box-shaped casing frame 29 over which the casing 2 is pushed when the

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lighter is closed (see Figure 11) and which therefore is only visible when the lighter is open.

As will be seen from the drawings, the fuel tank 10 extends almost completely over the full width between the frame plates 7 and 8. The closure screw of the filling opening for the fuel tank is indicated at 30, while the closing screw for the flint housing passage 32 is indicated at 31. Access to these two screws is possible by way of suitable holes 33 and 34 in the base plate 1.

According to Figure 1, air supply slots 36 and 37 are provided in the casing 2 in the region of the wick 35 (Figure 5) and the upper section has fixed thereon a leaf spring, the end 38 of which engages in one of the slots 36 and thus detachably connects the upper section and the casing 2.

The operation of the table lighter is as follows: if the lighter is gripped by the casing 2 and is lifted, the lower section 1 slides downwardly in the guide sleeves 6 due to gravity. The hook 28 of the lower section strikes the projection 27 of the slide member 23, so that the latter is forced downwardly against the action of the spring 26 and thus the sector 20 is unlocked, i. e. released. Under the action of the tension springs 21 and 21a, the sector 20 and the ignition lever 5 with the extinguishing cap are rocked into the vertical position shown in Figures 5 and 6.

The ignition wheel 15 is simultaneously rotated in a known manner by means of a ratchet, not shown, which is turned by the snuffer cap 5 during its movement to the vertical position shown in Figs. 5 and 6.

As best seen in Fig. 5, the pin 14a is now located on the cam track 18. The weight of the upper section rests through the pin 18 on the support 19 whose cam track 18 is engaged by the pin 14a. The weight of the upper section is insufficient to overcome the action of the spring 21, which has to be tensioned for moving the upper section of the lighter in downward direction toward the lower section of the lighter. Consequently, the lighter can be placed on a table, and the upper section remains in rest position, while the ignited wick continues to produce a flame. The lighter may be completely released in this position and left on the table in lighted condition. When it is desired to extinguish the flame, pressure is applied in downward direction on the upper section. The pin 14a on the cam track is forced by such pressure to move along the cam track against the action of springs 21, 21a. While the pin 14a moves along the cam track, the snuffer cap turns about the friction wheel shaft back to horizontal closing position, while the springs 21 and 21a are tensioned. Consequently, the member 19 with its cam track 18 constitutes a control means on the base part engaging the means 5, 15 in the raised position of the upper part of the lighter and during downward movement of the upper part for moving the igniting means to normal position against the action of the spring means 21, 21a. The sector 20 turns together with the snuffer cap 20, and forces the locking means 23 downward until finally the locking means 23, under action of spring 26, see Fig. 3 snaps upwards to lock the sector 20 in the closed position shown in Fig. 3.

Figures 8 to 11 illustrate a table lighter with electric ignition, so that in this case the friction wheel 15, the spring 21 and the flint are dispensed with. In this electric table lighter, a battery 42 is mounted between the frame plates 39 and 40 together with the fuel tank 41. In this case, the frame plate 40 is rolled over inwardly at one edge at 50 to form a guide sleeve, so that the plate 40 is flat on the outside and only the other frame plate 39 is flanged over outwardly at 43 and 44 for the purpose of forming a U-shaped frame in which the actuating means is arranged. The latter consists in this case merely of a link 45 which is pivoted at one end to a lug 46 of the bottom section and is pivotally connected at the other end to the end 14a of the pin of the ignition lever 5. For ignition purposes a heating wire 47 is pro-

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vided which is connected by the insulated lead 48 to one of the battery terminals. A contact spring 49 is also arranged in such manner that, with the opening movement of the ignition lever 5 as illustrated in Figure 9, the said lever closes the circuit of the heating wire 47, the said circuit being opened again when the lighter is closed (Figure 8).

The invention may, for example, be used with a gas lighter.

I claim:

1. A table lighter comprising, in combination, a weighted base part adapted to rest on a supporting surface; an upper part mounted on said base part for movement toward and away from the same so that when said upper part is raised, said base part is restrained by the weight thereof from following said upper part so that said upper part moves upwardly away from said base part; flame producing means and ignition means mounted on said parts, said ignition means being operatively connected with said base part and said upper part so as to be operated during movement of said upper part away from said base part whereby said flame producing means is ignited when the lighter is grasped at said upper part and is raised from the supporting surface.

2. A table lighter comprising, in combination, a weighted base part and an upper part mounted for movement relative to each other, said base part being adapted to rest on a supporting surface so that when said upper part is raised, said base part is restrained by the weight thereof from following said upper part so that said upper part moves upwardly away from said base part; spring-loaded means on one of said parts engaging the other of said parts in said raised position for holding said upper part in said raised position against the action of the weight thereof so that pressure is required for moving said upper part toward said lower part; flame producing means mounted on one of said parts; ignition means mounted on one of said parts and adapted to ignite said flame producing means; and actuating means for said ignition means connected to said parts and being actuated by movement of said parts away from each other.

3. A table lighter comprising, in combination, a weighted base part adapted to rest on a supporting surface; an upper part mounted on said base part for movement toward and away from the same between a normal lower position and an actuated raised position so that when said upper part is raised, said base part is restrained by the weight thereof from following said upper part so that said upper part moves upwardly away from said base part to said actuated raised position; flame producing means mounted on said upper part; ignition means for igniting said flame producing means mounted on said upper part; and actuating means operatively connected to said base part and said upper part and being connected to said ignition means for operating the same when said upper part moves to said actuated raised position.

4. A table lighter comprising, in combination, a base part including a weighted base plate having a bottom face adapted to rest on a supporting surface and upright guiding means fixedly secured to said base plate; an upper part mounted on said guide means for movement toward and away from said base plate between a normal lower position and an actuated raised position so that when said upper part is raised, said base part is restrained by the weight thereof from following said upper part to said actuated raised position; flame producing means mounted on said upper part; snuffer means mounted on said upper part movable between a normal extinguishing position and an open position; igniting means mounted on said upper part for movement between a normal position and an actuated position; and actuating means operatively connected to said base part and said upper part, and being connected to said igniting means and to said snuffer means for moving said igniting means

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to said actuated position, and for moving said snuffer means to said open position when said upper part moves to said actuated raised position.

5. A table lighter comprising, in combination, a base part including a weighted base plate having a bottom face adapted to rest on a supporting surface and upright guiding means fixedly secured to said base plate; an upper part mounted on said guide means for movement toward and away from said base plate between a normal lower position and an actuated raised position so that when said upper part is raised, said base part is restrained by the weight thereof from following said upper part to said actuated raised position; flame producing means mounted on said upper part; combined snuffer and igniting means mounted on said upper part for movement between a normal position and an actuated position; and actuating means operatively connected to said base part and said upper part and being connected to said combined snuffer and igniting means for moving the same to said actuated position when said upper part moves to said actuated raised position, and for moving the same to said normal position when said upper part is moved to said normal lower position.

6. A table lighter comprising, in combination, a base part including a weighted base plate having a bottom face adapted to rest on a supporting surface and upright guiding means fixedly secured to said base plate; an upper part mounted on said guide means for movement toward and away from said base plate between a normal lower position and an actuated raised position so that when said upper part is raised, said base part is restrained by the weight thereof from following said upper part to said actuated raised position; flame producing means mounted on said upper part and including a fuel tank; combined snuffer and igniting means mounted on said upper part for movement between a normal position and an actuated position and including a sparking mechanism; and actuating means operatively connected to said base part and said upper part and being connected to said combined snuffer and igniting means for moving the same to said actuated position when said upper part moves to said actuated raised position, and for moving the same to said normal position when said upper part is moved to said normal lower position.

7. A table lighter comprising, in combination, a base part including a weighted base plate having a bottom face adapted to rest on a supporting surface and upright guiding means fixedly secured to said base plate; an upper part mounted on said guide means for movement toward and away from said base plate between a normal lower position and an actuated raised position so that when said upper part is raised, said base part is restrained by the weight thereof from following said upper part to said actuated raised position; flame producing means mounted on said upper part; combined snuffer and igniting means mounted on said upper part for movement between a normal position and an actuated position, said igniting means including an electric heating wire means; and actuating means operatively connected to said base part and said upper part and being connected to said combined snuffer and igniting means for moving the same to said actuated position when said upper part moves to said actuated raised position, and for moving the same to said normal position when said upper part is moved to said normal lower position.

8. A table lighter comprising, in combination, a base part including a weighted base plate having a bottom face adapted to rest on a supporting face and upright guiding means fixedly secured to said base plate; an upper part mounted on said guide means for movement toward and away from said base plate between a normal lower position and an actuated raised position so that when said upper part is raised, said base part is restrained by the weight thereof from following said upper part to said actuated raised position; flame producing means mounted

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on said upper part; igniting means mounted on said upper part for movement between a normal position, and an actuated position for igniting said flame producing means; spring means urging said igniting means into said actuated position; locking means connected to said base part and upper part and locking said igniting means in said normal position when said upper part is in said normal lower position, and releasing said igniting means for movement into said actuated position under the action of said spring means when said upper part is moved to said actuated raised position; and control means on said base part engaging said igniting means in said raised position and during movement of said upper part to said normal lower position for moving said igniting means against the action of said spring means to said normal lower position, said spring means holding said upper part in said raised position against the action of the weight of said upper part so that pressure is required for moving said upper part to said lower position.

9. A table lighter comprising, in combination, a base part including a weighted base plate having a bottom face adapted to rest on a supporting surface and upright guiding means fixedly secured to said base plate; an upper part mounted on said guide means for movement toward and away from said base plate between a normal lower position and an actuated raised position so that when said upper part is raised, said base part is restrained by the weight thereof from following said upper part to said actuated raised position; flame producing means mounted on said upper part; combined snuffer and igniting means mounted on said upper part for movement between a normal position, and an actuated position for respectively uncovering and igniting said flame producing means; spring means urging said combined snuffer and igniting means into said actuated position; locking means connected to said base part and upper part and locking said combined snuffer and igniting means in said normal position when said upper part is in said normal lower position, and releasing said combined snuffer and igniting means for movement into said actuated position under the action of said spring means when said upper part is moved to said actuated raised position; and control means on said base part engaging said combined snuffer and igniting means during movement of said upper part to said normal lower position for moving said combined snuffer and igniting means to said normal position when said upper part is moved to said normal lower position.

10. A table lighter as set forth in claim 9, wherein said upper part includes a casing having a top wall and being open at the lower end thereof, said top wall having an opening opposite said combined snuffer and igniting means, said combined snuffer and igniting means projecting at least partly through said opening in said top wall in said actuated position thereof.

11. A table lighter as set forth in claim 10 wherein said casing has lateral walls having portions located in the region of said flame producing means, said portions being formed with perforations.

12. A table lighter as set forth in claim 11 wherein said upper part includes a means slidably guided on said upright guiding means and including a resilient catch means, said catch means engaging at least one of said perforations in said lateral walls.

13. A table lighter as set forth in claim 9 wherein said locking means include a locking member slidably mounted on said upper part for movement between a locking position for locking said combined snuffer and igniting means, and a releasing position, said locking member including a transverse projection; a spring urging said locking member into said locking position; and a releasing member fixedly connected to said base portion and being spaced from said projection in said normal lower position of said upper part and engaging said projection during movement of said upper part to said

actuated raised position for moving said locking member to said releasing position.

14. A table lighter as set forth in claim 9 wherein said control means includes a cam member fixedly connected to said base part; and wherein said combined snuffer and igniting means includes a cam follower member and is pivotally mounted on said upper part, said cam follower member engaging said cam member during movement of said upper part from said raised actuated position to said lower normal position for pivoting said combined snuffer and igniting means to said normal position thereof against the action of said spring means.

15. A table lighter as set forth in claim 9 wherein said locking means include a locking member slidably mounted on said upper part for movement between a locking position for locking said combined snuffer and igniting means, and a releasing position, said locking member including a transverse projection; a spring urging said locking member into said locking position; a releasing member fixedly connected to said base portion and being spaced from said projection in said normal lower position of said upper part and engaging said projection during movement of said upper part to said actuated raised position for moving said locking member to said releasing position; wherein said control means includes a cam member fixedly connected to said base part, said cam member and said releasing member being integrally connected; and wherein said combined snuffer and igniting means includes a cam follower member and is pivotally mounted on upper part, said cam follower member engaging said cam member during movement of said upper part from said raised actuated position to said lower normal position for pivoting said combined snuffer and igniting means to said normal position thereof against the action of said spring means.

16. A table lighter as set forth in claim 15, wherein said spring means which urges said igniting means to said actuated position is secured to said cam-follower member, said cam-follower member being a transverse pin.

17. A table lighter as set forth in claim 9, wherein said upper part includes two parallel plate members having guide means guided on said guiding means of said base part said plate members being formed with opposite-arcuate slots, respectively; wherein said combined snuffer and igniting means is pivotally mounted on said plate members; a pin secured to said combined snuffer and igniting means and projecting into said arcuate slots; an arresting member fixedly connected to said combined snuffer and igniting means for pivotal movement therewith; and wherein said locking means include a locking member slidably mounted on one of said plate members for movement between a locking position engaging said arresting member for holding said combined snuffer and igniting means in said normal position, and a releasing position releasing said arresting member and thereby said com-

combined snuffer and igniting means for movement to said actuated position.

18. A table lighter as set forth in claim 17 and including a fuel tank located between said plate members and secured to the same.

19. A table lighter as set forth in claim 9 wherein said upper part includes a pair of parallel plate members, each of said plate members including one tubular edge portion guided on said guiding means and an outwardly projecting flange, said tubular edge portion and said flange of each of said plate members defining a space, said spring means, locking means, and control means being located in said spaces; wherein said upper part further includes a casing having an open lower end and enveloping said plate members; and wherein said upper part includes means for holding said casing on said plate members.

20. A table lighter comprising, in combination, a base part including a weighted base plate having a bottom face adapted to rest on a supporting surface and upright guiding means fixedly secured to said base plate; an upper part mounted on said guide means for movement toward and away from said base plate between a normal lower position and an actuated raised position so that when said upper part is raised, said base part is restrained by the weight thereof from following said upper part to said actuated raised position; flame producing means mounted on said upper part; combined snuffer and igniting means pivotally mounted on said upper part for movement between a normal position and an actuated position, said combined snuffer and igniting means including a transverse pin; and actuating means including a link pivotally mounted on said base part and pivotally connected to said transverse pin for pivoting said combined snuffer and igniting means to said actuated position when said upper part moves to said actuated raised position, and for moving the same to said normal position when said upper part is moved to said normal lower position.

21. A table lighter as set forth in claim 20 wherein said upper part includes two parallel plate members; a battery mounted between said parallel plate members wherein said igniting means include an electric heating wire; and contact means closed during movement of said upper part to said raised actuated position and for connecting said battery with said electric heating wire.

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