According to the invention, these objects are attained by providing the actuating element of the lighter in the form of a cover of the lighter casing and by pivotally mounting one end thereof on the casing, by designing the lighter casing and its cover so that when the latter is closed, at least the spark gap and the burner will be fully enclosed and protected from the entry of dirt or other foreign matter, by designing the burner so that, when the cover is opened, its outlet opening will be exposed at the side of the casing opposite to the hinged side of the cover so that the flame will project to the outside between the casing and the cover at the widest open part between them, and by providing the actuating element, i.e., the pivotable cover, with a control member which is movable within the cover so that when the cover is closed, it will be in its inoperative position and when the cover is fully opened, it will be moved to a position in which, during a following partial closing movement of the cover, it will open a fuel control valve and operate the ignition means of the lighter. Therefore, when the lighter is not in operation, all parts thereof which are required for lighting it are completely closed toward the outside by the lighter casing and its cover so that no foreign matter can enter the lighter which might interfere with its proper operation. This feature is especially of importance in a pocket lighter. By mounting the burner on the lighter casing adjacent to the free end of the cover and so as to be located within the cover when closed, the advantage is attained that for operating the lighter, the cover has to be opened only for a short distance since sufficient air can then enter for the combustion and that even in this open position the lighter opening therefore take up very little space. Another feature of the invention which permits the lighter to be made of very small outer dimensions consists in designing and mounting the actuating and control elements of the lighter so as to be located very closely adjacent to each other. They may be rendered operative by the actuation of the control member which itself requires very little space. Thus, there is no additional space required for the necessary movements of the actuating and control elements. After the cover of the lighter casing has been opened and pivoted for a short distance away from the casing, the burner outlet will be exposed to the outside and remain in this condition until the control member is again returned to its inoperative position.

Another feature in the invention consists in mounting the mentioned control member on a flat slide member which is movable along the bottom of the cover which in its closed position closely surrounds the electrodes and the spark gap between them and parts of the high-voltage ignition means as well as parts of the fuel tank. Near the free end of the cover, this slide member also carries a locking member which projects toward the casing and is adapted to engage with a suitable catch or recess therein and to be opened manually by means of a control knob or the like which is secured to the slide member and projects through an aperture in the cover bottom to the outside. The other end of the slide member is provided with a projection stop portion which, after the cover has been opened and the slide member has been shifted, is adapted to engage upon a fixed part of the casing, for example, upon a part of the fuel tank, so as to limit the pivoting movement of the cover and prevent it from being entirely closed during the operation of the lighter. The slide member may be made very flat and thin so as to take up practically no space within the cover, and the actuating and stop projections thereof also require no additional space since they are movable within an area which is unoccupied by any other means.
Although especially in its closed position, the cover encloses essential parts of the lighter, for example, the burner and the electrodes, the particular construction of the slide member permits this cover to be very low.

The lighter according to the invention is preferably designed so as to be operated by one hand and may be used for this purpose be provided with a tension spring which connects the slide member with a fixed part of the casing and tends to move the slide member in the direction toward the pivoted end of the cover and away from the spark gap to an operative position in which it is then held by the stop member.

The casing of the lighter including its cover and the fuel tank may be very easily made of a light metal. It is then, however, advisable to make the part of the casing which may also form a part of the fuel tank of a greater thickness so as to hold a pivot pin to which the cover is to be connected and to make this pivot pin portion of the cover of a wear- or heat-resistant material.

Another important feature of the invention consists in providing a prefabricated insulating jacket which tightly encloses an induction coil and has a bottom wall through which the fixed part of a permanent magnet projects toward a pivotal armature which is adapted to be pulled abruptly off the magnet. This bottom wall facing the armature also carries a switch contact, while the side of the jacket opposite to this bottom wall carries the burner nozzle as well as at least one of the two electrodes between which the ignition spark is produced. This insulating jacket insulates the induction coil in radial directions and adjacent to the pivotal lever carrying the armature it insulates the coil from the outside also in the axial direction. The insulating jacket is designed so as to require considerably less space than other insulating means as were previously required in lighters of this type, for example, an insulating bandage, which, in turn, means that the lighter casing may be made of a much smaller size. Since the insulating jacket is held in a fixed position in radial directions, it does not need any additional securing means at the side through which the permanent magnet extends. One side wall of this jacket is preferably made of a greater thickness so as to support the mentioned switch contact, parts of the fuel supply means including the burner nozzle, and at least one of the electrodes. The insulating jacket may be further provided with a channel for receiving one or more electric conductors. Since the distance between the electrodes and the high-voltage induction coil is very short, losses in capacity will be avoided as much as possible and will therefore hardly diminish the efficiency of the lighter.

The thicker side wall of the insulating jacket may also carry a burner outlet in the form of a heat-resistant head which also carries the electrode which is connected to the induction coil, and it may further contain a channel which may either form a fuel conduit leading to the burner outlet or support such a conduit in the form of a separate element. If this channel itself serves as a fuel conduit it may be made of such an inner size that it may serve as an additional fuel chamber to increase the capacity of the fuel tank.

The above mentioned as well as additional features and advantages of the present invention will become more clearly apparent from the following detailed description thereof with reference to the accompanying diagrammatic drawings, in which:

FIGURE 1 shows an enlarged longitudinal section of a pocket lighter according to the invention, which is taken along the line I—I of FIGURE 4;

FIGURES 2 and 3 show transverse sections which are taken along the lines II—II and III—III, respectively, of FIGURE 4;

FIGURE 4 shows an elevation of the lighter according to FIGURES 1 to 3 as seen in the direction of arrow A in FIGURE 3;

FIGURE 5 shows a circuit diagram of the lighter according to FIGURES 1 to 4; while

FIGURES 6 to 8 show views similar to FIGURE 1 to 3 of a pocket lighter according to a modification of the invention, but omitting some of the parts which are shown in FIGURES 1 to 5.

As illustrated in FIGURES 1 to 5, the electric pocket lighter according to one embodiment of the invention comprises a magnetic circuit which is shown in FIGURE 1 in the closed position and which is composed of a rod-shaped, preferably rectangular, permanent magnet 1, two L-shaped yokes 3 and 4, and an armature 5 which is pivotable relative to these yokes. Yoke 4 is composed of two separate straight parts which are secured to each other, for example, by hard-soldering. Yokes 3 and 4 and armature 5 consist of laminations which are insulated from each other but are secured to each other, for example, by hard-soldered or welded seams. Yoke 3 carries a lever 8 which is pivotally connected thereto at one end by a pivot pin 9. This lever 8 consists of a pair of substantially parallel arms between which the laminated armature 5 is secured, while its end which is mounted on pivot pin 9 is of a U-shaped cross section.

Yoke 4 carries an induction coil consisting of a primary winding 11 and a secondary winding 12 which are wound on yoke 4 and are connected to each other at a point where they are connected to the casing 21 of the lighter through a contact breaker 13 and a conductor 14 which are in parallel connection. The free end of the primary coil winding 11 is connected to the lighter casing 21 and the free end of the secondary winding 12 is likewise connected to the casing but via a spark gap which is formed by a pair of electrodes 15 and 16 which are spaced at a suitable distance from each other. One contact 17 of contact breaker 13 is secured to the end of an insulating jacket 19 through which yoke 4 extends, while the other contact of the contact breaker 13 is provided on the free end of a contact spring 18 the other end of which is secured to the yoke 3. Condenser 14 is mounted between coil 11, 12 and the permanent magnet 1. Contact breaker 13 is opened when the induction voltage reaches its highest value, that is, when the greatest possible change occurs in the flow of the magnetic flux through the magnetic system.

The high-voltage ignition means as above described are enclosed within the lighter casing 21 which also forms the outer walls of a fuel tank 20 which may contain a liquid or gas preferably a liquefied gas, and is separated by a partition from the area containing the ignition means. The fuel tank 20 is closed toward the outside by a cover 41 which is secured to the tank, for example, by being soldered or glued thereto, and carries a fuel control valve 23. A reinforced part 43 of the tank cover 41 carries a pivot pin 44 on which one end of the cover 42 of the lighter casing 21 is pivotable when its other end is lifted off the casing 21. Casing 21 and its cover 42 consist of a non-magnetic material, for example, aluminum or a precious metal, and are preferably made by a cupping process. Adjacent to its pivot pin 44, cover 22 which has a U-shaped cross section is reinforced by a hinge portion 60 which is secured to the cover and consists of a wear-resistant material. The fuel control valve 23 which is secured to the tank cover 41 may be operated by a valve control lever 24 in the form of a leaf spring, and it may be opened when this lever 24 is pivoted in the direction of the arrow B, as shown in FIGURE 1. Valve 23 engages through a slot in the end of lever 24. As shown especially in FIGURE 3, the end of valve 23 is connected by a flexible tube 25a to a burner tube 25b which extends through the bottom of the insulating jacket 19 and parallel to one of the two parts of yoke 4 along the side of coil 11, 12 and is held within a reinforced side wall of insulating jacket 19. The free end of burner tube 25b forms a burner nozzle and extends through an insulating head 26 which consists of a ceramic or other heat resistant material and is fitted into a recess in jacket 19. The spark electrode 15 which is connected to the coil winding
3,442,598

5

12 is mounted on a part of the insulating head 26 in a laterally offset position relative to the burner tube 25b. The insulating jacket 19 which consists of a single piece of material insulates the coil windings 11 and 12 in radial directions and also in the axial direction toward the lever 8. While all parts of this jacket 19 which merely serve as insulation may be very thin, its reinforced side as mentioned above, that is, the side opposite to that facing the permanent magnet 1 is made of a greater thickness since it also supports the switch contact 17, the burner tube 25b, and the insulating head 26 together with the electrode 15. The side of the insulating jacket 19 which is adjacent to armature 5 is further provided with a channel which may either be open at one side or be in the form of a bore and holds the electric conductor which leads from the condenser 14 to the switch contact 17 and is preferably insulated.

The other electrode 16 is connected by means of a bracket 45 to an extension of a supporting member 46' of a substantially U-shaped cross section. The rear side of this supporting member 45' not seen in FIGURE 1 is L-shaped in accordance with the shape of the magnetic circuit and has an extension which carries the bracket 45, while its front side which is visible in FIGURE 1 extends substantially along length of magnet 1 and its ends are welded to the yokes 3 and 4. In order to reduce the weight of this supporting member 46', it may be provided with apertures or recesses.

The cover 22 of casing 21 contains a flat slide member 46 which is slideable longitudinally along the bottom of this cover and is held on cover 22 by means of a leaf spring 48 which is secured to cover 22 by a rivet 47. This rivet 47 and a part of leaf spring 48 extend through a slot 49 in slide member 46. This slide member also has a detent 50 which projects upward from the bottom of cover 22 and is adapted to engage into a recess 51 in this bottom so as to prevent the slide member 46 from being shifted accidentally in its longitudinal direction. Near its front end slide member 46 carries a control knob 31 or the like which projects through a slot in cover 22 so as to be manipulated at the outside of the latter. Near the same end of slide member 46, but projecting in the direction toward the casing 21, slide member 44 carries a locking member 52 which, when the slide member is shifted accordingly, will engage into an aperture or recess, not shown, in the extension of the supporting member 45' carrying the bracket 45 so as to hold the cover 22 in a locked condition on casing 21.

The rear end of slide member 46 is bent so as to form a stop member 53 which is adapted to engage with a part of the tank cover 41. At a certain distance from this rear end, slide member 46 further carries a bracket 55 on which a roller 54 is rotatably mounted which is adapted to engage with the free end of leaf spring 40 which is bent so as to form an inclined plane. Closely adjacent to the side of bracket 55 facing toward the pivoted end of cover 22 a tab 56 is punched out and bent upwardly from slide member 46. This tab 56 is adapted to engage with the end of the valve control lever 24 and carries one end of a tension spring 58, the other end of which is connected to a pin 57 which is secured to the tank cover 41.

Finally, a leaf spring 59 is secured to the reinforced part 43 of tank cover 41 and acts upon the bottom of cover 22 and tends to pivot this cover away from casing 21.

For opening the casing 21 from the closed position as shown in FIGURE 1, the control knob 31 on cover 22 is shifted in the direction of the arrow C, whereby the locking member 53 is unlocked from the casing 21. Due to the action of leaf spring 59, cover 22 is then pivoted to its widest open position as shown in FIGURE 2 and slide member 46 is shifted by tension spring 58 to the position in which the arresting means 50, 51 engage with each other and thus become effective. Stop member 53 is thereby also moved to a position close to the tank cover 41 and thereby prevents the cover 22 of the casing 22 from being closed beyond the position as shown in FIGURE 3. When cover 22 is then pivoted in the direction of the arrow D, as shown in FIGURE 2, toward the position as shown in FIGURE 3, tab 56 on slide member 46 will engage upon the free end of lever 24 and pivot the same so as to open the fuel control valve 23. Immediately thereafter, roller 54 will roll upwardly along the inclined end of leaf spring 10 and thereby tighten the same so that under this tension the armature 5 will be abruptly pulled off the yokes 3 and 4 and be pivoted to the position as shown in FIGURE 3. This results in the formation of a spark between the electrodes 15 and 16 which ignites the gas which emerges from tube 255, is valve 23a with air and passed into the gap between the electrodes 15 and 16. When the armature 5 is being pulled off the yokes 3 and 4, the cover 22 of casing 21 will not be closed but it will only be pivoted to a position substantially as shown in FIGURE 3, because of engagement of stop member 53 against the tank cover 41.

After a cigarette, cigar or pipe has then been lit, the manual pressure upon cover 22 is released and the cover will be pivoted back by spring 59 to the position as shown in FIGURE 2. Under the magnetic force of yokes 3 and 4, armature 5 will then be pivoted back to its original position as shown in FIGURE 2 and the fuel control valve 23 will be closed so that the flame will be extinguished. If cover 22 is then once more pivoted in the direction of the arrow D, valve 23 will again be opened in the manner as already described and the gas emerging from the burner tube 255 will again be ignited by the spark pumping from one of the electrodes 15 or 16 to the other. The flame will then continue to burn as long as the cover 22 is held in the position as shown in FIGURE 3.

If the cover 22 is then closed, control knob 31 is pressed so far toward the cover 22 that the arresting means 50 and 51 will be disengaged from each other. Cover 22 is then upon pivot in the direction of the arrow D and slide member 46 is shifted against the action of spring 58 in the direction toward the free end of cover 22 whereby roller 54 disengages from leaf spring 10, stop member 53 disengages from the tank cover 41, and locking member 52 finally engages into the corresponding recess in the supporting member 45' and thus holds the cover in the fully closed position in which no dirt or other foreign matter can enter the casing 22.

FIGURES 6 to 8 illustrate a pocket lighter according to a modification of the invention. It differs from the embodiment according to FIGURES 1-4 primarily by a different arrangement of the fuel control valve 23 in this case is mounted on and within the insulating jacket 19a, closely adjacent to the electrodes 15 and 16 and so that the space which is taken up by the fuel control valve 23 in the embodiment according to FIGURES 1 to 4 may be used for increasing the size of the fuel tank 20a. The embodiment of the invention according to FIGURES 6 to 8 differs further from that according to FIGURES 1 to 4 by a different construction of the control member 31a which in this case is provided in the form of a wheel segment which is rotatably mounted within the cover 22a of the lighter casing 21a and is knurled or serrated at least on its peripheral surface projecting to the outside of cover 22a.

The fuel control valve 23a is screwed into a longitudinal bore in the front end of the reinforced part of jacket 19a and the size of its valve passage may be varied by turning a smaller control wheel 61 which is inserted from the side of this reinforced part. For opening and closing this valve, a control rod 62 is provided which extends through another longitudinal bore in the reinforced part of jacket 19a. The end of this rod adjacent to valve 23a is bent over to one side and provided with a bifurcated part 63 which embraces a movable
actuating member of the valve and thereby prevents the rod from rotating about its axis. When this control rod 62 is shifted longitudinally by the pivoting movement of the valve control lever 24, valve 23a will be opened against the action of its valve spring which will close the valve as soon as no further pressure is exerted thereon by the control rod 62. The part of the reinforced wall of jacket 19a locally adjacent to the bore containing the control rod 62 is hollow and forms a fuel chamber 64 which is connected at one end by a short inserted tube 26c to a flexible tube 25b which in turn is connected to the fuel tank 20a, while the other end of this chamber 64 is connected by a bore with valve 23a. Fuel chamber 64 increases the fuel capacity of the lighter and is adapted together with the fuel tank 20a to contain a fuel preferably in the form of a liquefied gas. Because of its larger fuel tank 20a and this additional fuel chamber 64, this lighter therefore has the advantage over the lighter according to FIGURES 1 to 4 that it can hold a considerably larger quantity of fuel.

The control wheel 31a which is rotatably mounted in the cover 22a of the lighter casing 21a is provided with a hook-shaped locking member 52a and, secured thereto or integrally therewith, with a stop member 50a. A torsion coil spring 66 on the axle of the control wheel 31a tends to pivot the stop member 50a in the direction toward the bottom of the cover 46a so as to prevent the slide member 46a from moving in the direction toward the control wheel 31a when the cover is in the open position as shown in FIGURES 7 and 8. When the cover 32a is closed and the hook-shaped locking member 52a is pivoted by spring 66 to the position as shown in FIGURES 7 and 8, it will engage with a recess in the extension of the supporting member 46a which carries the bracket 45. Cover 22a will thus be securely closed and locked until control wheel 31a is turned against the action of spring 66.

All other parts of the light according to FIGURES 6 to 8 are equal to those of the lighter according to FIGURES 1 to 4 and are therefore designated by the same reference numerals.

The operation of the lighter according to FIGURES 6 to 8 is practically the same as that of the lighter according to FIGURES 1 to 4. In order to open the cover 22a from its closed position as shown in FIGURE 6, the operator of the lighter turns the control wheel 31a against the action of torsion spring 66 in the clockwise direction, whereby the locking member 52a disengages from the recess in the end of the supporting member 46a and the cover is opened by the action of leaf spring 59 to the position as shown in FIGURE 7. After the slide member 46a has been moved by spring 58 sufficiently away from the control member 31a and the operator has released the latter, stop member 50a is pivoted by spring 66 to its stopping position and thereby prevents slide member 46a from moving in the direction toward the control member 31a. When cover 22a is then pivoted from the position according to FIGURE 7 to that according to FIGURE 8, the flame will be ignited in the same manner as described with reference to FIGURES 2 and 3.

For closing the cover 22a and extinguishing the flame, control wheel 31a is again turned in the same direction as it is turned for opening the cover. Stop member 50a is thereby moved out of its stopping position so that slide member 46a can shift toward the free end of cover 22a and permit the cover to be closed. When the operator then releases the control wheel 31a, spring 66 will turn the locking member 52a in the counterclockwise direction so that it will engage into its locking recess and hold the cover in the closed position.

A pocket lighter according to the invention may be made of very small dimensions and a low weight. Thus, for example, one model which has been made and has been very successful in actual practice has a length of approx. 70 mm., a height of 40 mm., and a width of 15 mm.

The small dimensions and the low weight of the new pocket lighter are attained primarily by the use of the insulating jacket 19 or 19a, by the particular design of the valve actuating member 46a and especially of the parts which are operatively associated with the slide member 46a, by making the lighter casing 21 or 21a and the fuel tank 20 or 20a integral with each other, by the particular design of the supporting member 46a and by the particular manner of pivotally mounting the cover element 22a. The insulating jacket 19 or 19a which is preferably made of plastic serves not only for insulating purposes but also for mounting essential parts so as to take up the smallest possible space. The cover 22 or 22a of the lighter casing 21 or 21a is designed so as also to serve as an element for operating the lighter and to contain essential actuating elements which thus require no additional space.

Although the lighter according to the invention may be made of such small dimensions as to be used as a pocket lighter, it may, of course, also be made of a larger size in the form of a desk lighter. The magnetic and igniting means may then be made of the same small size as in a pocket lighter and the additional space within the larger lighter casing may be employed for providing therein a very large fuel tank.

Although the elements as previously described are most suitable for operating an electromagnetic lighter, some of these elements if modified accordingly may also be employed for a piezoelectric lighter or a battery lighter.

My invention has been illustrated and described with reference to the preferred embodiments thereof, I wish to have it understood that it is in no way limited to the details of such embodiments but is capable of numerous modifications within the scope of the appended claims.

Having thus fully disclosed my invention, what I claim is:

1. An electric high-voltage lighter adapted to be made of such small outer dimensions that it may also form a pocket lighter and comprising a casing, means within said casing for producing, by means of a high voltage, a pair of electrodes spaced from each other on said casing and electrically connected to said high-voltage producing means, means for operating said producing means so as to form a spark between said electrodes, said operating means comprising a cover having a substantially U-shaped cross section for closing and opening said casing, means for pivotally connecting one end of said cover to said casing, releasable means for locking said cover in its closed position, spring means for pivoting said cover from said closed position to a first inactive wider open position when said locking means are released, said cover then being adapted to be manually pivoted from said first open position to a second smaller open position intermediate said first position and said closed position, a fuel tank within said casing, a burner connected to said casing and having an outlet at one end thereof adjacent to said electrodes, a fuel control valve intermediate said fuel tank and said burner and connected thereto, valve actuating means for opening and closing said valve, at least said outlet and said electrodes being disposed within said cover when closed and being disposed between said casing and said cover adjacent to the free other end of said cover when said cover is in said open position so that a flame, ignited by said spark between said electrodes when said cover is in said second open position will project from said outlet to the outside of said lighter, a control element in said cover and movable relative thereto from an inactive position to an operative position for operating said valve-actuating means so as to open said valve and for also operating said voltage-producing means so as to produce said spark between said electrodes and thereby to ignite the fuel issuing from said outlet when said cover is pivoted from said first open position to said second open position, and means for moving said control element from said inactive position to said operative position and for maintaining said control
element in said inoperative position when said cover is closed and for maintaining said control element in said operative position when said cover is pivoted from said first wider open position to said second smaller open position.

2. A lighter as defined in claim 1, wherein said control element comprises a flat slide bar slidable longitudinally within said cover along the bottom surface thereof and having at least two projections thereon extending in the direction toward said casing, a control knob secured to said slide bar near the front end thereof facing said free end of said cover and projecting through a slot in said bottom to the outside of said cover, said locking means comprising a first locking member within said cover and secured to said free end of said slide bar and an associated second locking member on said casing adapted to interlock with said first locking member when said cover is closed, said slide bar being adapted, when said locking members are released from each other and while said cover is pivoted by said spring means to said first wider open position, to be shifted from said inoperative position to said operative position in which, during the subsequent pivoting movement of said cover from said first open position to said second open position, a first of said two projections engages upon and actuates said valve-actuating means to open said valve and the second projection engages upon and actuates said voltage-producing means to produce said spark, and a stop member on said slide bar adapted, when said slide bar is shifted from its inoperative position to its operative position and when said cover is thereby pivoted from its first to its second open position, to abut against a fixed part of said casing so as to stop said cover in said second position and to prevent it from being closed, said stop member being disengaged from said fixed part to permit said cover to be closed and thereafter locked when said slide bar is returned from its operative position to its inoperative position.

3. A lighter as defined in claim 2, further comprising a shifting spring acting upon said slide member for shifting the same from said inoperative position to said operative position when said cover has been unlocked from said casing and is pivoted by said spring means to said first open position, and releasable arresting means connected to and adapted to be operated by said control knob for arresting said slide bar in said first open position.

4. A lighter as defined in claim 3, in which said voltage-producing means comprise a magnet and an armature pivoting relative to said magnet and adapted to be attracted by said magnet, said second projection on said slide bar engaging upon said armature and pulling the same abrantly off said magnet and thereby producing said spark when said cover is pivoted from said first open position to said second open position.

5. A lighter as defined in claim 4, in which said shifting spring acting upon said slide member exerts thereon a force smaller than the force exerted by said magnet upon said armature when in engagement therewith.

6. A lighter as defined in claim 3, further comprising a leaf spring secured at one end to said armature and having a free other end extending at an inclined angle relative to said cover bottom, and a roller rotatably mounted on the free end of said second projection and engaging with and rolling along said inclined end of said leaf spring when said cover is being pivoted from said first open position to said second open position so as to tighten said leaf spring until its force exceeds the force exerted by said magnet upon said armature when in engagement with said armature so that said armature will then be abrantly pulled off said magnet before said stop member abuts against said fixed part and thereby prevents said cover from being closed and from thereby covering up said outlet opening of said burner, said leaf spring being adapted to return said slide bar to its inoperative position when said arresting means are released and said cover is then pivoted to its closed position.

7. A lighter as defined in claim 2, further comprising a leaf spring secured to said cover and acting upon said slide bar to hold the same in slidable engagement with said cover bottom.

8. A lighter as defined in claim 4, in which said valve actuating means comprise a resilient lever adapted to engage near its free end with said valve, said first projection on said slide bar acting upon said free end of said lever so as to pivot said lever to open said cover when said cover is pivoted from said first open position to said second open position, said first projection thus opening said valve during said pivoting movement of said cover shortly before said second projection pulls said armature off said magnet and thereby produces said spark.

9. A lighter as defined in claim 3, further comprising a leaf spring secured to said cover and engaging upon said slide bar and tending to maintain the same in slidable engagement with said cover bottom, said control knob adapted to be depressed from the outside to lift the end of said slide bar carrying said first locking member against the action of said leaf spring off said cover bottom, said arresting means comprising a recess in the bottom surface of said cover near said control knob and a small projection on said slide member adapted when said control knob is depressed and said said slide bar, to unlock said first locking member from said second locking member and, while said cover is opening and said slide bar is moved by said shifting spring from its inoperative to its operative position, to engage into said recess so as to maintain said slide member in said operative position.

10. A lighter as defined in claim 1, in which said casing has a reinforced wall portion, said means for pivotably connecting said cover to said casing comprising a hinge member of a wear-resistant material secured to said cover, and a pivot pin mounted in said reinforced wall portion and engaging into said hinge member.

11. A lighter as defined in claim 3, in which said control knob comprises a knurled wheel rotatably mounted in said cover and projecting through a slot in said cover to the outside, said first locking member within said cover being hook-shaped and secured to said wheel to be pivoted by a rotation of said wheel, said arresting means comprising a further stop member also secured to said wheel within said cover, and a spring tending to turn said wheel together with said first locking member and said further stop member in one direction in which, when said cover is closed, said first locking member interlocks with said second locking member and, when said wheel is manually turned against the action of said last spring and said first locking member is thereby disengaged from said second locking member and said cover is opened by said opening spring and said wheel is then released, said further stop member will be pivoted so as to engage with said slide bar to arrest the same in said operative position after it has been shifted thereto by said shifting spring.

12. A lighter as defined in claim 4, in which said magnet is a permanent magnet, said voltage-producing means further comprising an induction coil wound on said magnet, and a prefabricated insulating jacket mounted to said induction coil and having one end wall with an aperture therein, a part of said magnet extending through at least a first of said electrodes and said burner outlet secured to and projecting from said end wall, a fixed switch contact mounted on the opposite side of said wall of said jacket, and a pivotable switch arm having a contact adapted to engage with and disengage from said fixed switch contact.

13. A lighter as defined in claim 12, in which said insulating jacket has one wall facing said cover of a greater thickness than its other walls and engaging into said cover when closed, a fuel conduit within said wall, and an insulating head of a heat-resistant material mounted in said wall and having one end connected to said fuel conduit and another end forming said burner outlet.
jecting from said wall, and the second of said electrodes connected to said induction coil and mounted on said insulating head adjacent to said outlet.

14. A lighter as defined in claim 12, in which said voltage-producing means further comprise a condenser, said second end wall of said jacket containing a channel, and an electric conductor extending through said channel and connected at one end to said induction coil and at the other end to said fixed switch contact.

15. A lighter as defined in claim 13, in which said fuel control valve is mounted in said thicker wall of said insulating jacket near one end thereof intermediate said fuel conduit and said insulating head, means projecting to the outside of said wall for adjusting said valve, said valve-actuating means comprising a rod slidably mounted in said thicker wall and having one end engaging with said valve and another end projecting from the other end of said wall and adapted to be moved by said slide bar to open said valve when said cover is pivoted from said first open position to said second open position.

16. A lighter as defined in claim 15, in which a large part of said thicker wall is hollow and forms a fuel chamber connected to said valve and to said fuel tank and increasing the fuel capacity of said tank.

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