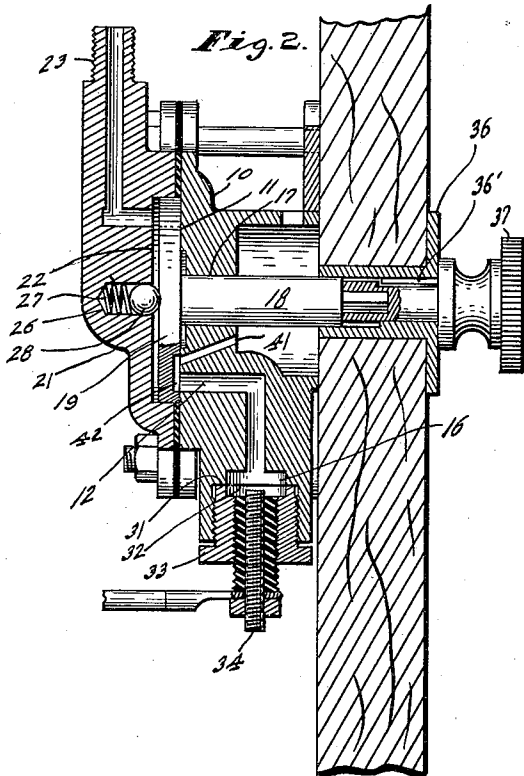
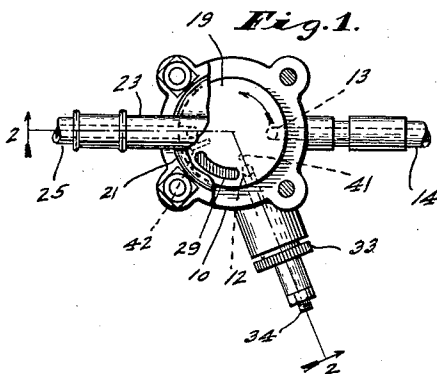
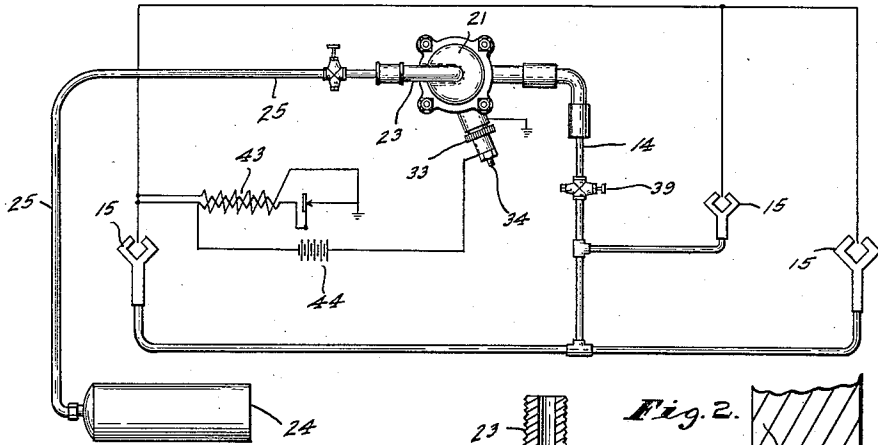


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 AUTOMATIC LAMP LIGHTER AND CONTROLLER.
 APPLICATION FILED MAR. 23, 1912.

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Fig. 3.



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UNITED STATES PATENT OFFICE.

WILLIAM C. HAMILTON AND WILLIAM LEE BIRD, OF INDIANAPOLIS, INDIANA.

AUTOMATIC LAMP LIGHTER AND CONTROLLER.

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Specification of Letters Patent.

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Application filed March 23, 1912. Serial No. 685,892.

To all whom it may concern:

Be it known that we, WILLIAM C. HAMILTON and WILLIAM LEE BIRD, citizens of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented a new and useful Automatic Lamp Lighter and Controller, of which the following is a specification.

The object of our invention is to provide a convenient device by means of which the gas lamps of a system, as for instance on an automobile, may be automatically lighted by the act of turning the gas into the lamp supply pipes.

The accompanying drawings illustrate our invention.

Figure 1 is an elevation of our device with portions of some of the parts broken away; Fig. 2 an enlarged section on line 2—2 of Fig. 1, and Fig. 3 a diagram of a system embodying our device.

In the drawings, 10 indicates a main body on one face of which is formed a valve seat 11 through the face of which lead two passages 12 and 13. Passage 13 leads to a system of piping 14 which leads to the several lamps 15 while passage 12 leads into a diaphragm chamber 16. Body 10 is bored, at 17, to receive the stem 18 of a valve 19 which is seated on seat 11. Mating with main body 10 is cover 21 provided with a valve chamber 22, within which valve 19 plays, and leading into chamber 22 is a supply passage 23 to which the gas supply tank 24 is connected by pipe 25. Formed in cover 21, coaxial with stem 18, is a pocket 26 in which is mounted a spring 27 and ball 28, the outer end of the pocket being peened over to retain the ball, but permitting the ball to press valve 19 to seat 11. Formed through valve 19 is a port 29, preferably of some angular extent, which may be brought successively into registry with the seat ends of passages 12 and 13 so as to thus afford communication from chamber 22 to said passages. Diaphragm chamber 16 is provided with a ledge 31 to support the edge of the metal diaphragm 32 which is firmly held in place by a plug 33 threaded into the outer end of chamber 16. Carried by, but insulated from, plug 33, is a metal terminal 34 which is projected into close proximity to, but normally not in contact with, the diaphragm 32.

In order to exhaust chamber 16 we provide an exhaust passage 41 which leads through body 10 from valve seat 11 in such

position that, after part 29 has passed registry with passage 12, a pocket 42, in the seat face of valve 19, will connect passages 12 and 41. It will be readily understood that exhaust from chamber 16 might be provided by a slow leak from said chamber from the pressure side of the diaphragm, but we prefer the more dependable exhausting means described above.

In use in an automobile, our device is conveniently attached to the forward face of the dash board and the free end of valve stem 18 projected through, or into, the dash board and formed with a squared end. A thimble 36 is mounted on the rear face of the dash board, so as to surround the squared end of stem 18 and this thimble is formed to receive an operating key 37 adapted to engage the squared end of stem 18. Thimble 36 may be provided with a guard 36¹, of common form, by means of which the key 37 can only be entered and withdrawn when the valve is in a certain position. Passage 23 is connected to the gas supply tank and passage 13 is connected, through a controlling valve 39 if desired, with the lamps 15. Each lamp 15 is provided with a pair of sparking terminals one of which is grounded on the pipe line and the other connected with the high tension side of a common spark coil 43. One end of the low tension side of coil 43 is grounded and the other connected to one side of a battery 44 or other electrical source, the other side of the battery being connected to the insulated terminal 34. The normal position of valve 19 will be that shown in Fig. 1. When it is desired to light the lamps 15 the operator will turn valve 19 in the direction indicated by the arrow in Fig. 1, first bringing part 29 into registry with passage 12, whereupon the gas, acting on diaphragm 32 will swell it into contact with terminal 34 and thus complete the sparking circuit so as to produce sparks at the lamps, if a vibrator is in circuit with the coil. Continued advancement of the valve will bring part 29 into registry with the passage 13 so that the lamps will be supplied with gas, and pocket 42 will be brought into registry with passages 12 and 41 so that the diaphragm will drop away from terminal 34. If a vibrator spark circuit is used, this movement of the diaphragm will cause a discontinuance of sparks at the lamps, and if no vibrator is used the breaking of the primary circuit

will cause a production of sparks at the lamps at the beginning of flow of gas to the lamps.

We claim as our invention:

- 5 1. A lamp controlling valve comprising a body having supply and delivery passages, a valve mounted in said body and controlling communication between the supply and delivery passages, a diaphragm chamber
- 10 having a supply passage controlled by said valve, a diaphragm in said chamber, an exhaust passage cooperating with the valve to intermittently exhaust the diaphragm chamber, and an electric circuit terminal controlled by said diaphragm.
- 15 2. A lamp controlling valve comprising a body having supply and delivery passages, a valve mounted in said body and controlling communication between the supply and delivery passages, a diaphragm chamber
- 20 having a separate supply passage controlled by said valve, a diaphragm in said chamber, and an electric circuit terminal controlled by said diaphragm.
- 25 3. A lamp controlling valve comprising a body having supply and delivery passages, a valve mounted in said body and controlling communication between the supply and delivery passages, a diaphragm chamber
- 30 having a supply passage controlled by said valve, a metallic diaphragm mounted in said chamber, an exhaust passage cooperating with the valve to intermittently exhaust the diaphragm chamber, and an electric terminal insulated from and projected into
- 35 close proximity to, but normally not into contact with, the diaphragm.
- 40 4. A lamp controlling valve comprising a body having supply and delivery passages, a valve mounted in said body and controlling communication between the supply and delivery passages, a diaphragm chamber
- 45 having a supply passage controlled by said valve, a metallic diaphragm in said chamber, and an electric terminal insulated from and projected into close proximity to, but normally not into contact with, the diaphragm.
- 50 5. In combination, a valve casing having a supply passage for connection to a source of fuel supply, a delivery passage for connection to a lamp, and an auxiliary passage, a fluid pressure switch connected to said auxiliary passage, and a valve movably

mounted in said casing and controlling communication between said supply passage and said delivery and auxiliary passages. 55

6. In combination, a valve casing having a supply passage for connection to a source of fuel supply, a delivery passage for connection to a lamp, and an auxiliary passage, a fluid pressure switch connected to said auxiliary passage, and a valve movably mounted in said casing and controlling communication between said supply passage and said delivery and auxiliary passages, said valve having extreme positions in which it connects the supply and delivery passages and closes the supply passage respectively and an intermediate position in which it connects the supply and auxiliary passages. 60 65 70

7. In combination, a valve casing having a supply passage for connection to a source of fuel supply, a delivery passage for connection to a lamp, an exhaust passage, and an auxiliary passage, a fluid pressure switch connected to said auxiliary passage, and a valve movably mounted in said casing and controlling communication between said supply passage and said delivery and auxiliary passages and between said auxiliary and exhaust passages. 75 80

8. In combination, a valve casing having a supply passage for connection to a source of fuel supply, a delivery passage for connection to a lamp, an exhaust passage, and an auxiliary passage, a fluid pressure switch connected to said auxiliary passage, and a valve movably mounted in said casing and controlling communication between said supply passage and said delivery and auxiliary passages and between said auxiliary and exhaust passages, said valve having extreme positions in which it connects the supply and delivery passages and the exhaust and auxiliary passages respectively and an intermediate position in which it connects the supply and auxiliary passages. 85 90 95

In witness whereof, we have hereunto set our hands and seals at Indianapolis, Indiana, this nineteenth day of March, A. D. one thousand nine hundred and twelve. 100

WILLIAM C. HAMILTON. [L. S.]

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Witnesses:

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