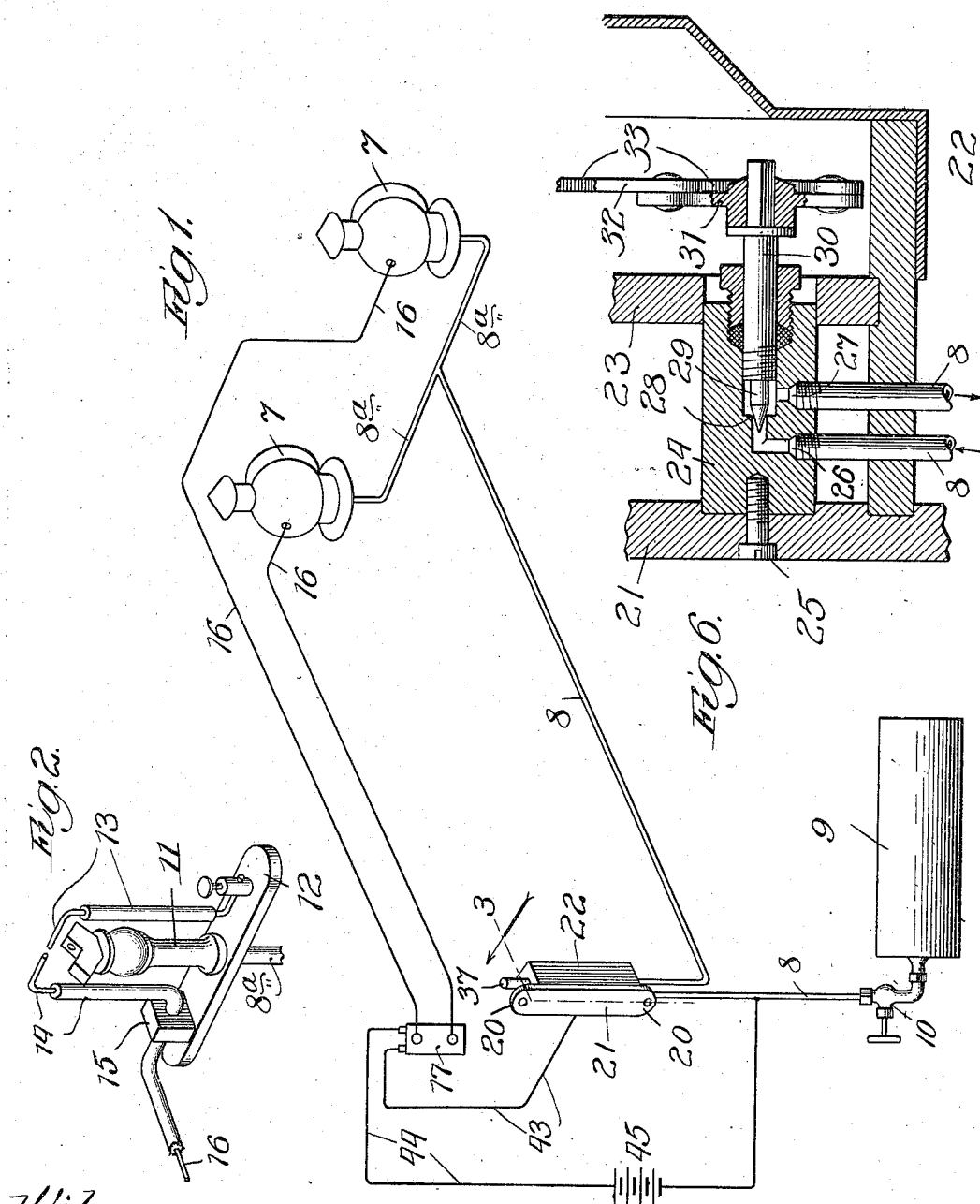


H. H. KANAGY.
ELECTRIC LAMPLIGHTING DEVICE FOR AUTOMOBILES.
APPLICATION FILED MAR. 16, 1910.

995,681.

Patented June 20, 1911.

2 SHEETS—SHEET 1.



Witnesses:
John Enders
Chas. H. Buell.

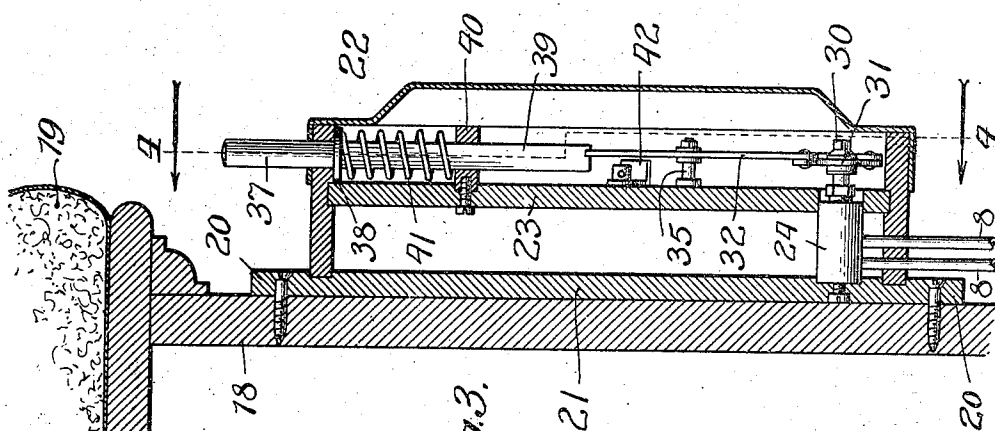
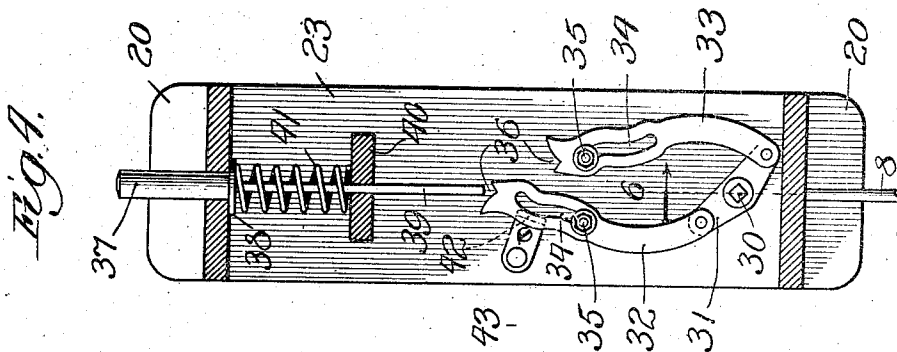
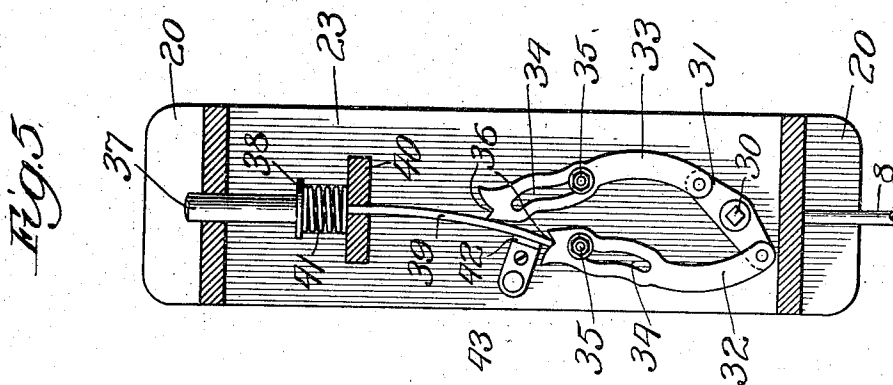
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UNITED STATES PATENT OFFICE.

HOWARD H. KANAGY, OF JOLIET, ILLINOIS.

ELECTRIC LAMPLIGHTING DEVICE FOR AUTOMOBILES.

995,681.

Specification of Letters Patent. Patented June 20, 1911.

Application filed March 16, 1910. Serial No. 549,783.

To all whom it may concern:

Be it known that I, HOWARD H. KANAGY, a citizen of the United States, residing at Joliet, in the county of Will and State of Illinois, have invented a new and useful Improvement in Electric Lamplighting Devices for Automobiles, of which the following is a specification.

My invention relates to an improvement in the class of electrically operated devices used on automobiles for lighting and extinguishing the lamps thereon while the car is in motion. In a device for this purpose it is very desirable to ignite the gas immediately upon its reaching the burner in order to avoid the danger of wrecking the lamp by the explosion of accumulated gas therein, due to a tardy ignition, and to break the sparking-circuit upon the ignition taking place, in order to save wear and prolong the life of the sparking-coil and battery.

My invention involves a push-button device of novel construction by the use of which the desirable results referred to are accomplished, and by which each alternate depression of the push-button shall turn on the gas and light the lamps and each intermediate depression thereof shall extinguish the lamps.

In the accompanying drawings—Figure 1 is a perspective view diagrammatically illustrating the lighting system of an automobile, including my improved device; Fig. 2 is a broken perspective view of the type of burner and igniter with which the lamps are equipped; Fig. 3 is an enlarged broken view in vertical section through my improved push-button device taken at line 3, Fig. 1, and showing it in position against the seat of an automobile; Fig. 4 is a view in sectional elevation taken at line 4, Fig. 3, showing the parts in the position they occupy when the gas is turned off; Fig. 5 is a similar view showing the parts in the position they occupy for lighting the lamps, and Fig. 6 is a further enlarged sectional view of a gas-controlling valve taken at line 6, Fig. 4.

Two head-lights or lamps 7, with which an automobile is usually equipped, are shown in Fig. 1, and gas is conducted thereto in the customary manner through the branches 8^a of a pipe 8 leading from a tank 9, for containing the supply of gas (preferably acetylene) under high pressure. A

valve 10 is employed in the pipe 8 adjacent to the tank, to permit of regulating the flow of gas through the pipe and for completely shutting off all flow thereto when desired. Each lamp is provided with a burner 11, Fig. 2, preferably secured to a metal support 12 to which is grounded one sparking-terminal 13 while the companion terminal 14 is secured at a block 15 of insulating material on the support. Wires 16 connect the terminals 14 of the lamps with a sparking-coil 17 for the purpose of lighting the burners as will be hereinafter described.

My push-button device, for convenience of manipulation, is preferably located upon the front wall 18 of the seat just below the cushion 19 as shown in Fig. 3, and is secured thereto by screws which pass through ear-extensions 20 projecting from the back of the casing 22.

Within the casing is a partition 23, and a valve 24 is confined between it and the back 21 in the lower part of the casing, as by a screw 25. The gas-supply pipe 8 which leads from the tank 9 communicates with the valve at a port 26 and leads from the valve at a port 27, as shown in Fig. 6. The ports 26 and 27 are connected by a passage within which is formed a valve-seat 28 adapted to be closed by a needle-valve 29 on a stem 30.

Upon the outer end of the valve-stem is mounted a cross-head or lever 31 (Figs. 4 and 5) to the opposite ends of which are pivotally connected the ends of two similar arms 32 and 33. These arms contain slots 34 at which they are supported on studs 35 on the partition to guide the arms in their movements. A notch 36 is formed in the free end of each arm and the slots 34 are so shaped as to bring the notch of either one arm or the other to a position in alignment with the vertical center of the casing as the valve is turned from one position to another.

A push-button 37 provided with a collar 38 is arranged in the vertical center of the casing and has a leaf-spring extension 39 in alinement with one of the notches 36 of the arms 32 and 33. This extension has a bearing in a block 40 and the push-button is normally maintained in a raised position by a spiral-spring 41 confined about the extension between the collar 38 and block 40.

Adjacent to the arm 32 is provided on the partition an electric contact-piece 42 from

which leads a wire 43 to the sparking-coil 17. A wire 44 leads from the coil to a battery 45 and thence to the frame to ground the current thereon as by contact of the wire 5 with the pipe 8, as shown in Fig. 1.

To light the lamps the push-button is depressed to cause the spring 39 to initially enter the notch in the arm 32 whereupon continued movement of the push-button turns the valve-stem through the medium of the arm 32 and cross-head 31, sufficiently to open the valve and allow the gas to flow to the burner. The slot 34 is curved inwardly or deflected at its end adjacent to the notch, so that just prior to the completion of the movement which carries the arm 32 from the position shown in Fig. 4 to that shown in Fig. 5, the leaf-spring 39 which has been flexed is brought against the contact piece 42 to close the circuit through the coil, thereby causing sparking at the burners to light the gas upon its reaching the same. By referring to Fig. 3 it will be noted that the contact-piece projects sufficiently far from the partition to enter the path of the leaf-spring, but that a clearance is afforded between it and the arm. After the lamps have been lighted the operator at once frees the push-button which is instantly returned to its normal position by the spiral-spring 41. The act of lighting the lamps raises the arm 33 to the position shown in Fig. 5 to bring it into operative position with its notch 36 in alinement with the leaf-spring 39 when the latter has been raised to its normal position. When it is desired to extinguish the lights, the button is again depressed to turn off the gas through the medium of the arm 33 and its connections therewith, by the engagement of the leaf-spring 39 with the notch 36 in that arm. It will thus be seen that the valve is opened and the sparking-circuit closed upon each alternate depression of the push-button, to light the lamps, and that upon each intermediate depression thereof the valve is closed and the lights extinguished. Furthermore, the mechanism is so arranged that the spring-extension 39 of the push-button only engages the contact-piece 42 to close the circuit momentarily upon each alternate depression of the button, thus avoiding unnecessary wear on the sparking-coil.

What I claim as new and desire to secure by Letters Patent, is—

1. In a lamp-lighting device, the combination with a valve, of an electric contact-piece, a cross-head on the valve-stem, arms connected with the cross-head, and a spring-retracted push-button provided with a spring-extension engageable with said arms to open the valve and contact with said

piece upon each alternate depression of the push-button, and close the valve upon each intermediate depression thereof.

2. In a lamp-lighting device, the combination with a valve, of an electric contact-piece, a cross-head on the valve-stem, arms connected with the cross-head and provided with notches at their free ends, and a spring-retracted push-button provided with a spring-extension engageable alternately with said arms at their notches, to open the valve and contact with said piece upon each alternate depression of the push-button, and close the valve upon each intermediate depression thereof.

3. In a lamp-lighting device, the combination with a valve, of an electric contact-piece, a cross-head on the valve-stem, arms connected with the cross-head provided with slots, studs engaging the slots for supporting the arms and guiding them in their movements, and a spring-retracted push-button provided with a spring-extension engageable with said arms to open the valve and contact with said piece upon each alternate depression of the push-button, and close the valve upon each intermediate depression thereof.

4. In a lamp-lighting device, the combination with a valve, of an electric contact-piece, a cross-head on the valve-stem, arms connected with the cross-head and provided with slots, studs engaging the slots for supporting the arms and guiding them in their movements, and a spring-retracted push-button provided with a spring-extension engageable with said arms to open the valve and contact with said piece upon each alternate depression of the push-button, and close the valve upon each intermediate depression thereof, one of said slots being deflected at one end to cause said spring-extension to contact with said piece when the push-button reaches its limit of movement as it is alternately depressed.

5. In a lamp-lighting device, the combination with a casing, of a partition in the casing, a valve supported in the casing between the back thereof and the partition, an electric contact-piece on the partition, a cross-head on the valve-stem, arms connected with the cross-head, a spring-retracted push-button provided with a spring-extension engageable with said arms to open the valve and contact with said piece upon each alternate depression of the push-button, and close the valve upon each intermediate depression thereof, and a bearing-guide for said spring-extension.

HOWARD H. KANAGY.

In presence of—

CHAS. E. GAYLORD,
GEO. H. SNYDER.