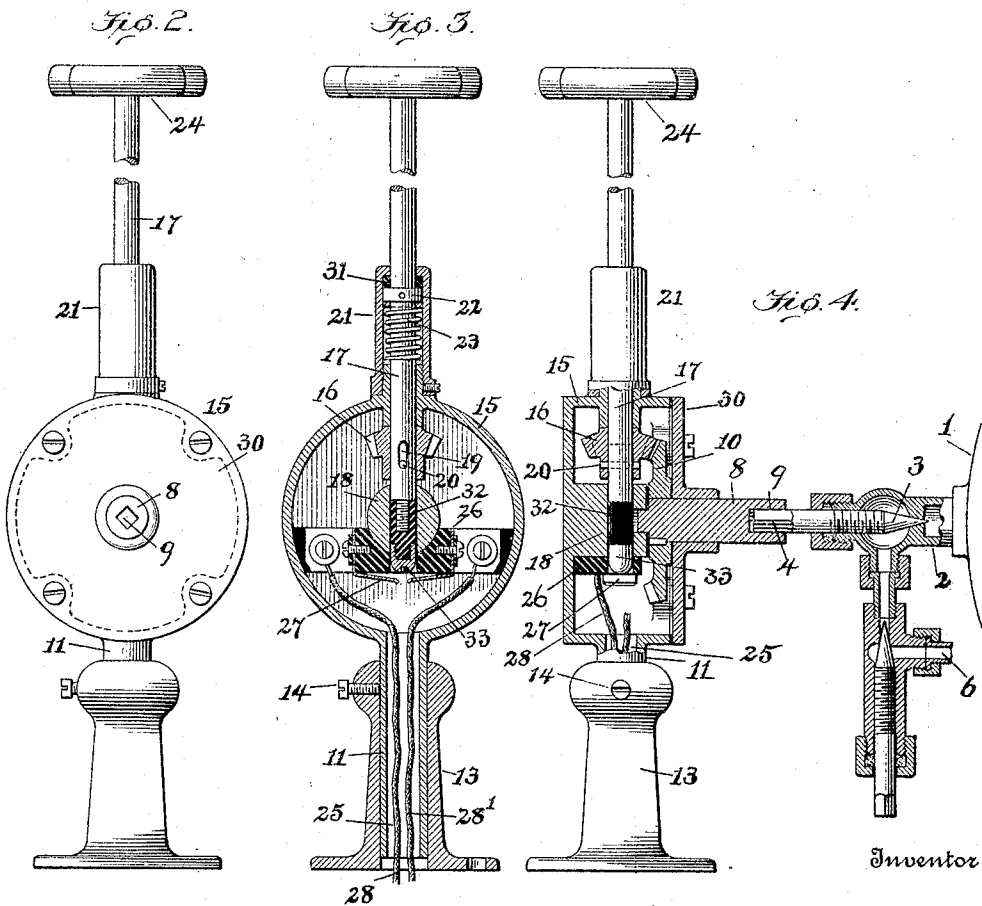
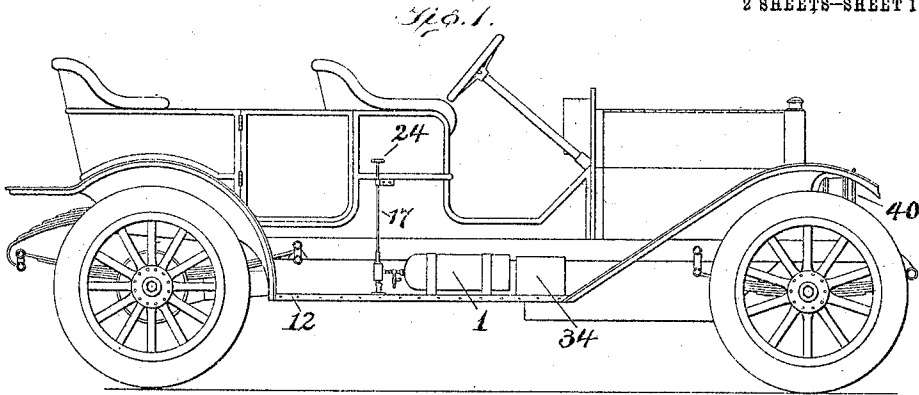


C. ELLIOTT.
GAS LIGHTER FOR AUTOMOBILES.
APPLICATION FILED NOV. 1, 1910.

1,003,242.

Patented Sept. 12, 1911.

2 SHEETS—SHEET 1.



Witnesses

Edwin L. Bradford
L. Ferdinand Vogt

By

Charles Elliott
Mann & Co.

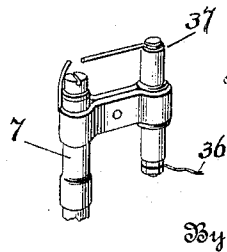
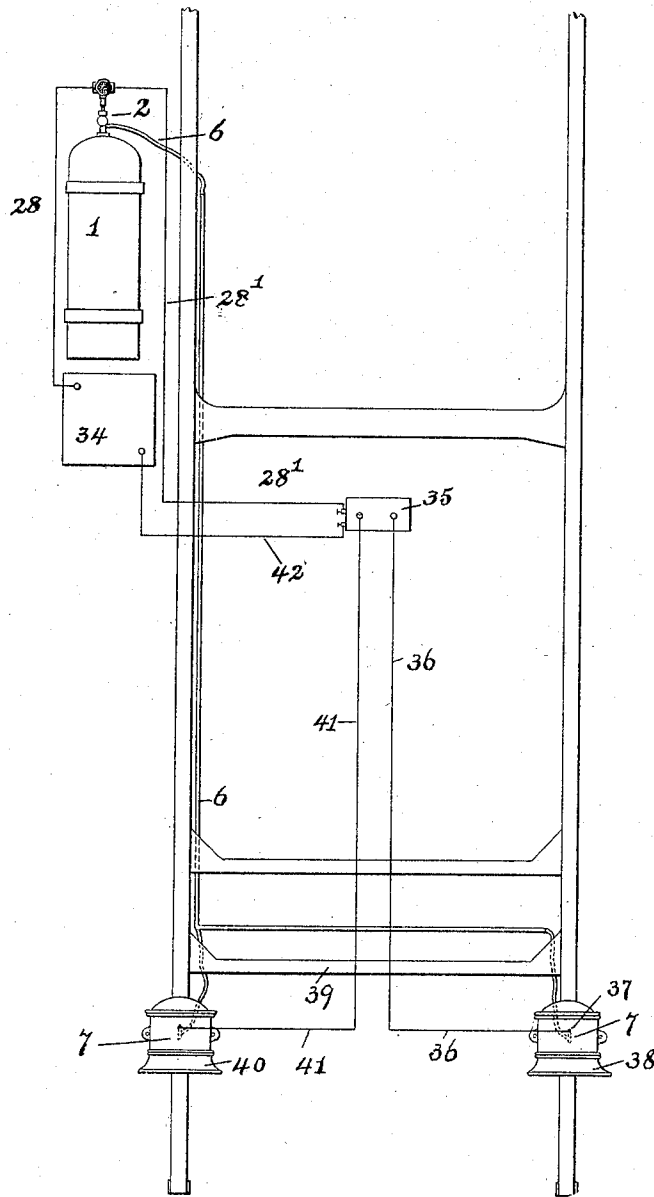
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UNITED STATES PATENT OFFICE.

CHARLES ELLIOTT, OF BALTIMORE, MARYLAND.

GAS-LIGHTER FOR AUTOMOBILES.

1,003,242.

Specification of Letters Patent.

Patented Sept. 12, 1911.

Application filed November 1, 1910. Serial No. 590,133.

To all whom it may concern:

Be it known that I, CHARLES ELLIOTT, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Gas-Lighters for Automobiles, of which the following is a specification.

This invention relates to what is known as an "auto-lighter."

Automobiles commonly employ for lighting, gas lamps of the type which burn acetylene gas. This gas may be generated in apparatus on the automobile from calcium carbide, or the gas may be contained in a storage tank under high compression, said tank being carried on the automobile and have pipe leading from the tank to the burners. A needle-valve is usually employed on the storage tank to turn-on and cut-off this high-pressure gas.

A desideratum in the high-pressure gas system, which is supplied by my present improvement, is provision by which the driver in his seat can operate the said needle-valve with a positive gear device in order to cause this valve to close tightly and thereby avoid a constant high-pressure of gas in the pipes on the outside of the needle-valve.

An object of my invention is to provide a combined device having a hand-grasp located within reach of the driver or other person while on his seat, whereby when the hand-grasp is moved in one direction the gas in the tank may be turned on or cut off, and when moved in a different direction a circuit will be closed for producing the ignition of the gas at the burner.

Another object of the invention is to provide means for supporting said combined device and enabling it to be vertically adjusted in order that it may make accurate connection with the needle-valve on the gas-tank when a freshly-charged or different sized gas-tank has been placed in position.

The invention is illustrated in the accompanying drawing in which,—

Figure 1 is a side view of a gas-tank and the improved combined device which controls the valve of the gas-tank and also opens and closes the circuit that produces ignition of the gas at the burners—all being mounted on an automobile. Fig. 2 is an elevation of the combined device. Fig. 3 is a vertical section of the combined de-

vice. Fig. 4 shows the combined device attached to the valve of the gas-tank,—the view being a vertical section taken in a direction transverse to that seen in Fig. 3. Fig. 5 is a plan view of the outlines of an automobile showing the parts of this invention in their relative positions. Fig. 6 is a perspective view of one burner.

The usual acetylene gas-tank is designated by the numeral, 1, this tank has a neck, 2, which is fitted with a needle-valve, 3, whose outer projecting end, 4, is square. This valve controls the gas in the tank—either to turn it on or cut it off—from the regulating valve in the side nozzle, 5. The case of the needle-valve has the side outlet nozzle, 5, to which is connected a suitable tube, 6, that leads to the gas-burners, 7.

The improved device of this invention comprises, as an element, a revoluble wrench-head, 8, having a square socket, 9, adapted to fit on the square-end, 4, of the needle-valve. This wrench-head is turned by a bevel-gear wheel, 10, which is mounted in suitable bearings supported on a post, 11, the gear wheel revolves in a vertical plane.

It is to be understood that where compressed gas is employed the tank, 1, contains the storage of gas, and that when the gas has become exhausted this tank must be removed from its position on the running board, 12, of the car, in order that another tank fully-charged with gas may take its place. The variations in the sizes of these tanks cause variations in the height which the needle-valve will have above the running board, and therefore I provide means whereby the wrench-head, 8, which turns the needle-valve may be vertically adjusted so as to make an accurate connection with the square end, 4, of the needle-valve. In the present instance the means for vertical adjustment comprises a foot, base or socket, 13, into which the lower end of the post, 11, enters and enables it to be adjustable up or down therein, and a set-screw, 14, at the side of said socket will hold the post wherever it may be adjusted. It will be seen that by this means the square socket, 9, of the wrench-head may be positioned higher or lower to suit the height of the square end, 4, of the needle-valve of the gas tank. The supporting post, 11, also has a case, 15, in which a beveled pinion, 16, has position, said pinion being mounted on a stem, 17, which

has a turning movement freely in a bearing, 18, central in the case and rigid therewith; the stem, 17, projects upward through the said case, and has a slight sliding movement through both the pinion, 16, and the central bearing, 18. The capability of the stem to slide is effected by a short slot, 19, see Fig. 3, and the bevel-pinion, 16, has a pin, 20, that extends crosswise of the center bore in the pinion and also extends through the said slot, 19. The upper end of the stem has a suitable hand-grasp device, 24, such as a knob or hand wheel. The bevel-pinion, 16, on the stem is in gear with the bevel gear, 10, 15 that turns the wrench-head, 8. A sleeve, 21, is attached to the top side of the case, 15, and the two-movement stem, 17, extends through said sleeve; a collar, 22, is around the stem and is held from movement by a pin. A spiral spring, 23, is in the sleeve and surrounds the stem and normally presses upward against the collar, 22, and thereby keeps the slidable stem in its upward position, but allows the stem, when down-pressure is applied to slide downward. The lower end of the stem, 17, has a portion that is insulated at 32 and has on its bottom a brass cap 33; a cross-bar made of insulating fiber, 26, is in the case, 15, and serves to support two spring contacts or electrical terminals, 27, and a wire, 28, electrically connects one of said terminals, 27, with one pole of a battery, 34, while a wire, 28', extends from the other terminal and electrically connects the same with one binding post of a spark coil, 35,—the wires to and from said terminals both extending through a passage, 25, in the supporting post, 11. From the spark coil, 35, a wire, 36, leads to and electrically connects with a post, 37, carried by the burner, 7, of one of the lamps, 38, and from said burner the circuit includes the frame, 39, of the machine to the burner of the lamp, 40, and a wire, 41, leads from this latter burner back to the spark coil, 35, which in turn is connected with the battery, 34, by wire, 42, thus when stem, 17, is depressed the cap, 33, on the end of the stem will close the gap between the free ends of the two terminals, 27, and complete the circuit. The case, 15, is closed by a face-plate, 30, made tight-fitting by a rubber gasket, and a suitable packing or bearing, 31, may also be employed in the top of the sleeve, 21, to make a close fit around the stem, 17. It will be understood the positive gear devices are inclosed in the water and dust-proof case, 15. The stem, 17, and its hand-grasp having the two different movements—the turning and the sliding movement—serves two functions or two purposes, namely, to impart motion to the gear device that opens or closes the needle-valve on the gas-tank, and to close the electric circuit to produce the ignition of the gas at the burners.

The operation of this device would be as follows—the chauffeur would grasp the hand-wheel, 24, and turn it and the stem, 17, which movement will open the port of the needle-valve, 3; the gas would then flow from the tank, 1, to the burners wherever they may be located. The chauffeur without changing the position of his hand, would then slide the stem, 17, downward causing cap, 33, to bridge the gap between the terminals, 27, and thus close the ignition circuit and produce a spark at each burner and the gas issuing from the burners would then be ignited.

When removing an empty tank, 1, and placing in position a fully-charged tank, if the valve-shank, 4, of the newly-placed tank should be a little higher or lower than the valve-shank of the tank that was just removed, it is only necessary to vertically adjust the post, 11, to cause the height of the revoluble wrench head, 8, to suit the height of the valve-shank, 4, on the newly-placed tank.

It will be seen the hand-grasp, 24, is in convenient reach of the driver or chauffeur while in his seat, and also that by gripping this device with one hand two results may be produced, namely, the gas that supplies the burners may be turned on, and said gas may be lighted and this may be done while the car is running.

Having thus described my invention what I claim and desire to secure by Letters Patent is,—

1. In an automobile gas-lighting apparatus, the combination of a gas-tank having a valve provided with a shank; a case having a revoluble wrench-head adapted to engage the said valve-shank; a stem capable of revolving and having one end entered in said case; gearing wholly inclosed within the case and connecting said wrench-head and revoluble stem, and means whereby the said case and wrench-head may be vertically adjusted.

2. In an automatic gas-lighting apparatus, the combination of the valve of a gas-tank; a positive-gear device to operate said valve; a revoluble stem for operating said positive-gear device—one end of said stem having a hand-grasp; a stationary foot or socket, and an upright post whose lower end enters in said foot or socket and is vertically adjustable therein and supporting the said positive-gear device and stem.

3. The combination of a case having an internal central boss provided with a bearing, and said case at its top having an opening serving as another bearing; a stem supported in said two bearings and having at its outermost end a hand-grasp; gearing inclosed within the said case and operated by said stem; and a wrench-head projecting from the case and revolved by said gearing.

4. In an automatic gas-lighting apparatus, the combination of a gas-controlling valve; means to operate the valve; a gas-igniter; a gas-burner having a pipe connection from said valve and in electric circuit with said gas igniter; a stem capable of a turning movement and also a sliding movement and within reach of the driver while on his seat; and connections between the

said two-movement stem, the valve-operating means and said circuit. 10

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES ELLIOTT.

Witnesses:

G. FERDINAND VOGT,
CHAS. B. MANN.