

No. 620,105.

Patented Feb. 28, 1899.

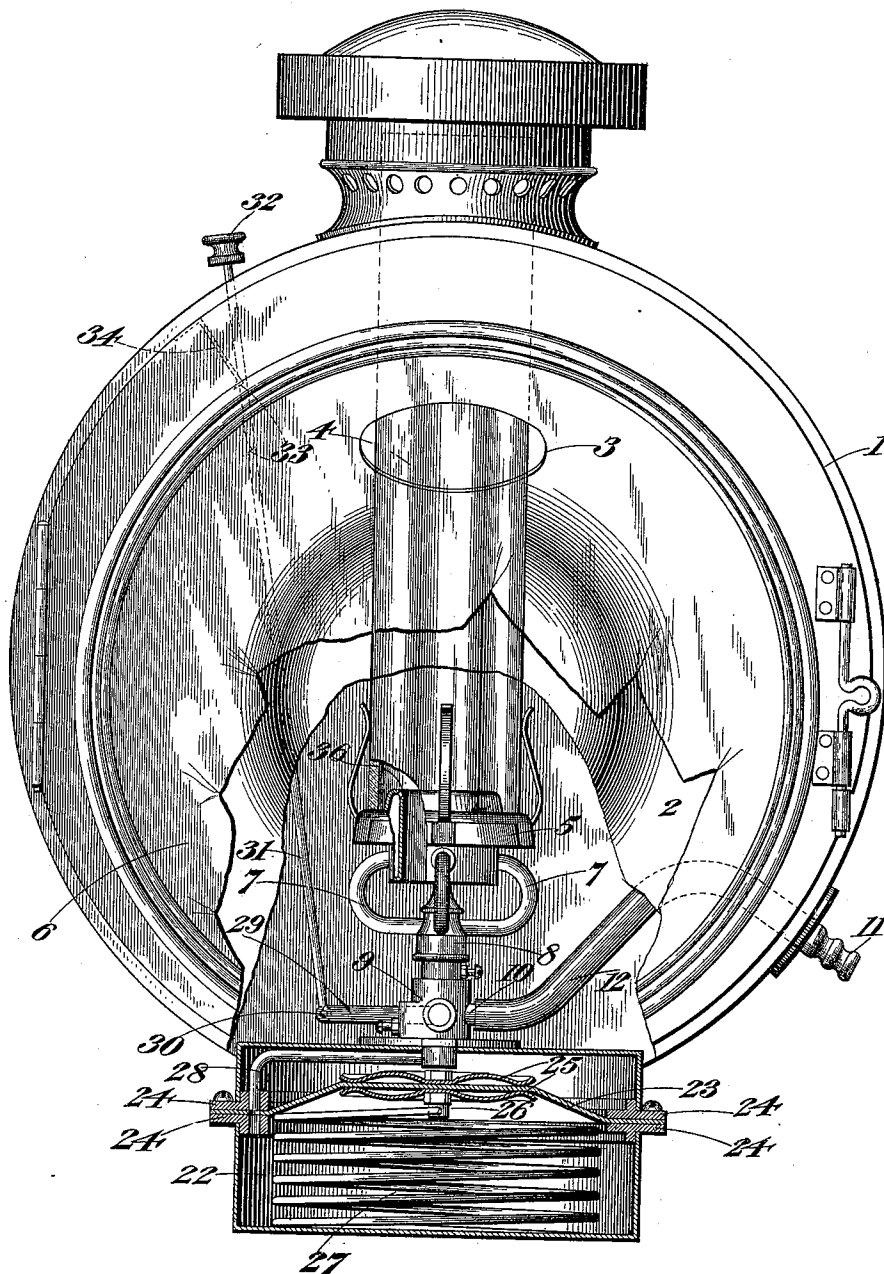
J. L. CREVELING.  
HEADLIGHT.

(Application filed Aug. 24, 1898.)

(No Model.)

2 Sheets—Sheet 1.

FIG. 1.



Witnesses  
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FIG. II.

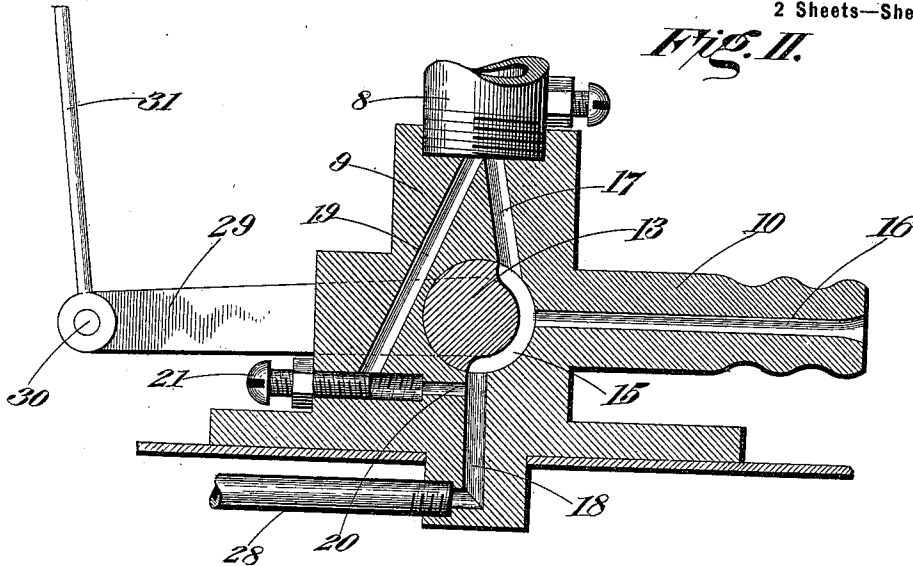
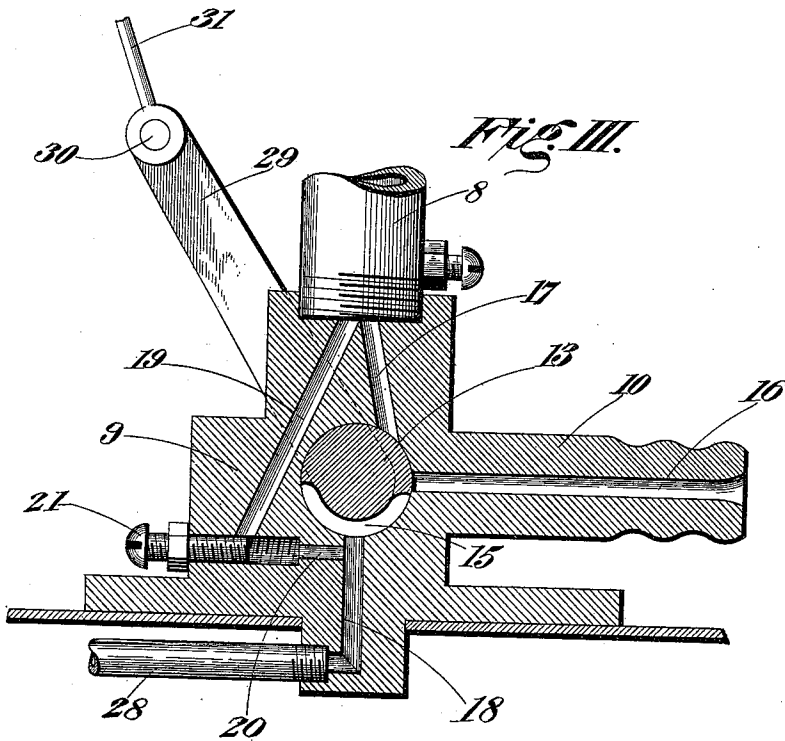


FIG. III.



Witnesses

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# UNITED STATES PATENT OFFICE.

JOHN L. CREVELING, OF NEW YORK, N. Y.

## HEADLIGHT.

SPECIFICATION forming part of Letters Patent No. 620,105, dated February 28, 1899.

Application filed August 24, 1898. Serial No. 689,446. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN L. CREVELING, of New York, in the county of New York, State of New York, have invented certain new and useful Improvements in Headlights, of which the following is a complete specification, reference being had to the accompanying drawings.

The object of my invention is to produce improvements in headlights in which the flame is supplied with gas, whereby when in use upon street-cars, for example, the flame can be kept burning while the lamp is being carried from one end of the car to the other, as is necessary at the end of each run which the car makes.

In the accompanying drawings, Figure I is a front elevation, partly in section, of my headlight complete. Fig. II is a sectional view of the valve mechanism of the lamp and connected parts upon an enlarged scale, showing the valve in position for supplying the gas to the burner as in ordinary use. Fig. III is a similar view showing the valve in position for maintaining the flame of the burner when the lamp is disconnected from the main source of gas-supply.

Referring to the figures on the drawings, 1 indicates a headlight frame or body provided, as usual, with the ordinary parabolic reflector 2, for example, through an aperture 3 in which a chimney 4 is supported in the usual manner, as upon a burner 5.

6 indicates a glazed door or hinged face. All of the parts above enumerated may be of any usual or preferred construction.

As illustrated, the burner 5 is of the well-known Argand type supported as by bent pipes 7, through which it derives its supply of gas, as from an upright tube 8. The tube 8 communicates through a valve-case 9 with a tube 10, that terminates in or is connected with a nipple 11, projecting through one side of the frame 1. The tube 10 and the nipple 11, as illustrated, are united as by a piece of flexible tubing 12. The nipple 11 is designed to be detachably connected with a valve-controlled gas-supply system or reservoir of a car. (Not illustrated.)

Within the valve-case 9 I provide a valve 13, (see Figs. II and III,) which is provided with a recess 15. The valve 13 works within

a seat or recess in the case 9, with which recess normally communicates the bore 16 of the tube 10, a gasway 17 establishing communication with the interior of the tube 8, a gasway 18 communicating with an auxiliary source of gas-supply, and a gasway 19, as through a deflected portion 20, affording communication between the gasway 18 and the interior of the tube 8. The deflected portion 20 of the gasway preferably extends outwardly through the wall of the case 9 and is internally screw-threaded to accommodate a regulating-screw 21, by aid whereof the flow of the gas through the way 19 may be controlled.

22 indicates an auxiliary source of gas-supply, which consists, essentially, of a gas-tight receptacle. The receptacle 22 is designed to receive and maintain a supply of gas under pressure. A variety of means may be employed for exerting pressure upon a volume of gas contained therein. By way of example of such means I show a flexible diaphragm 23, held between flanges 24, which, screwed together, unite the two parts of the receptacle. The diaphragm 23 is preferably provided with reinforcing-plates 25 and a stud 26, to which at one end is secured a tension-spring 27, that is secured at the other end to the bottom of the receptacle. A pipe 28 leads from the gasway 18 in the case 9 to the interior of the receptacle 22, underneath the diaphragm 23. The valve 13 is connected with a crank-arm 29, to the free end of which is pivoted, as indicated at 30, a rod 31, which, projecting upwardly through the body 1 of the headlight, terminates in a button 32, by manipulation of which the crank-arm 29 may be raised or lowered, as will hereinafter appear. The office of the crank-arm requires that it shall be set in one of two positions. For that reason I provide suitable mechanism for securing it in these positions consisting, for example, simply of notches 33 in the rod 31 and an engaging spring-detent 34, secured to the inside of the body 1 and working against the rod in the path of the notches.

As above suggested, the purpose of my invention may be broadly stated to be the provision of means for supporting a flame within the lamp after it is separated from the main source of gas-supply. To accomplish this ob-

ject, I provide the auxiliary source of gas-supply, represented by the receptacle 22, and in connection therewith means of supplying gas therefrom to the burner when the headlight is disconnected from the main source of gas-supply. Inasmuch as the capacity of the receptacle 22 is necessarily limited, provision must be made for supplying gas therefrom to the burner in such quantity as will not too speedily exhaust the supply. This may be accomplished through the aid of the valve 13 and proper adjustment of the screw 21.

The operation of my headlight is as follows: Assuming the nipple 11 to be connected to the main source of gas-supply and the valve 13 to be in the position shown in Fig. II, gas under pressure is admitted through the recess 15 of the valve, and through the bore 16 at the same time enters the ways 17 and 18. Through the way 18 a portion of gas is supplied to the interior of the receptacle 22 underneath the diaphragm 23, raising the latter against the tension of the spring 27 and supporting a constant supply of gas within the receptacle ready, whenever required, to constitute a source of gas-supply. While the valve 13 is in the position shown in Fig. II, the rod 31 is in the position shown in Fig. I. If now it be desired to temporarily separate the lamp from the main source of gas-supply, as in transporting the headlight from one part of the car to another, the operator lifts the rod 31 by the aid of the button 32 until the detent 34 engages the lower notch 33 of the rod. By this operation the valve 13 assumes the position shown in Fig. III, in which the recess 15 of the valve is shifted, so as to establish operative communication independent of the main source between the ways 18 and 19, through the deflected portion of the way 20. The extent of the recess 15 is such that communication between the ways 18 and 19 is established before the communication between the bore 16 and the way 17 is broken off. Upon the operation of the valve in the manner last described gas from the receptacle 22 is supplied through the pipe 28, the way 18, the deflected way 20, and the way 19 to the tube 8, issuing whence it continues to support a flame at the apertures 36 of the burner. Owing to the extent of the recess 15, immediately above referred to, the flame continues to be supplied by gas passing through the way 17 until communication with the auxiliary source independent of the main source of gas-supply is effected. The nipple 11 may now be disconnected from the main source of gas-supply and the lamp transported from one place to another, a flame being in the meantime maintained at its apertures 36 during an interval proportionate to the capacity of the auxiliary source of gas-supply and the relative size of its discharge-outlet—to wit, the way 19, the flow of gas through which, as above specified, is controllable by the screw 21. When the position of the lamp is changed, and it is reestablished in position for use by

connection of the main source of gas-supply with the nipple 11, all that is required is to depress the button 32, and thereby restore the valve 13 to the position illustrated in Fig. II of the drawings. The flame supported by the auxiliary source of gas-supply is not necessarily carried upon the main burner of the lamp, but may be carried by an auxiliary or pilot burner. This feature, constituting a modified form of embodiment of my invention, forms the subject-matter of a separate pending application, Serial No. 650,975, filed September 8, 1897, and is for that reason not incorporated in this application.

What I claim, broadly, is—

1. The combination with a lamp and its burner, of means for establishing communication between the burner and a main source of gas-supply under ordinary conditions, and between it and an auxiliary source of gas-supply independent of the main source under extraordinary conditions, substantially as set forth.
2. The combination with a lamp provided with an auxiliary source of gas-supply, of a burner adapted to be operatively connected with said auxiliary source of gas-supply, and with a main source of gas-supply, and means for establishing operative communication between the auxiliary source of gas-supply and the burner independent of the main source of gas-supply, substantially as set forth.
3. The combination with a lamp provided with an auxiliary source of gas-supply, and a burner communicating therewith, of means for detachably connecting the burner with a main source of gas-supply, and means for establishing communication between the burner and the auxiliary source of gas-supply independent of the main source of gas-supply, substantially as set forth.
4. The combination with a lamp provided with a receptacle, and means for maintaining a volume of gas therein under pressure, of a burner communicating with the interior of said receptacle, means of communication between said burner and a main source of gas-supply, and means for establishing communication between said burner and the receptacle independent of the main source of gas-supply, substantially as set forth.
5. The combination with a lamp, burner, and receptacle constituting an auxiliary source of gas-supply, of a main source of gas-supply communicating with the burner and the receptacle, respectively, and valve mechanism adapted to make and break such communication, and to establish operative communication between the burner and the auxiliary source of gas-supply independent of the main source of gas-supply, substantially as set forth.
6. The combination with a lamp, burner, and receptacle constituting an auxiliary source of gas-supply, of a main source of gas-supply communicating with the burner and with the receptacle, respectively, means of communi-

cation between the receptacle and the burner, and valve mechanism adapted to make and break communication between the main source of gas-supply and the burner, and to substitute therefor, solely, operative communication between the auxiliary source of gas-supply and the burner, substantially as set forth.

7. The combination with a lamp, burner, auxiliary source of gas-supply, and main source of gas-supply, of a valve controlling the main source of gas-supply, and adapted to make and break communication between the same and the lamp, substantially as set forth.

8. The combination within a lamp of intercommunicating burner, auxiliary source of gas-supply, and main source of gas-supply, with a valve, controlling the main source of

gas-supply and adapted to afford means of supporting combustion at the burner, with gas from the auxiliary source of gas-supply when the lamp is separated from the main source of gas-supply, substantially as set forth.

9. The combination with a lamp, burner, auxiliary source of gas-supply, and main source of gas-supply, of a valve controlling the main source of gas-supply, and means for operating the valve, provided with means for setting the valve in required positions, substantially as set forth.

In testimony of all which I have hereunto subscribed my name.

JOHN L. CREVELING.

Witnesses:

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ELMER E. ALLBEE.