

(No Model)

H. L. ELTON & N. J. SMITH.
BICYCLE LAMP.

No. 584,679.

Patented June 15, 1897.

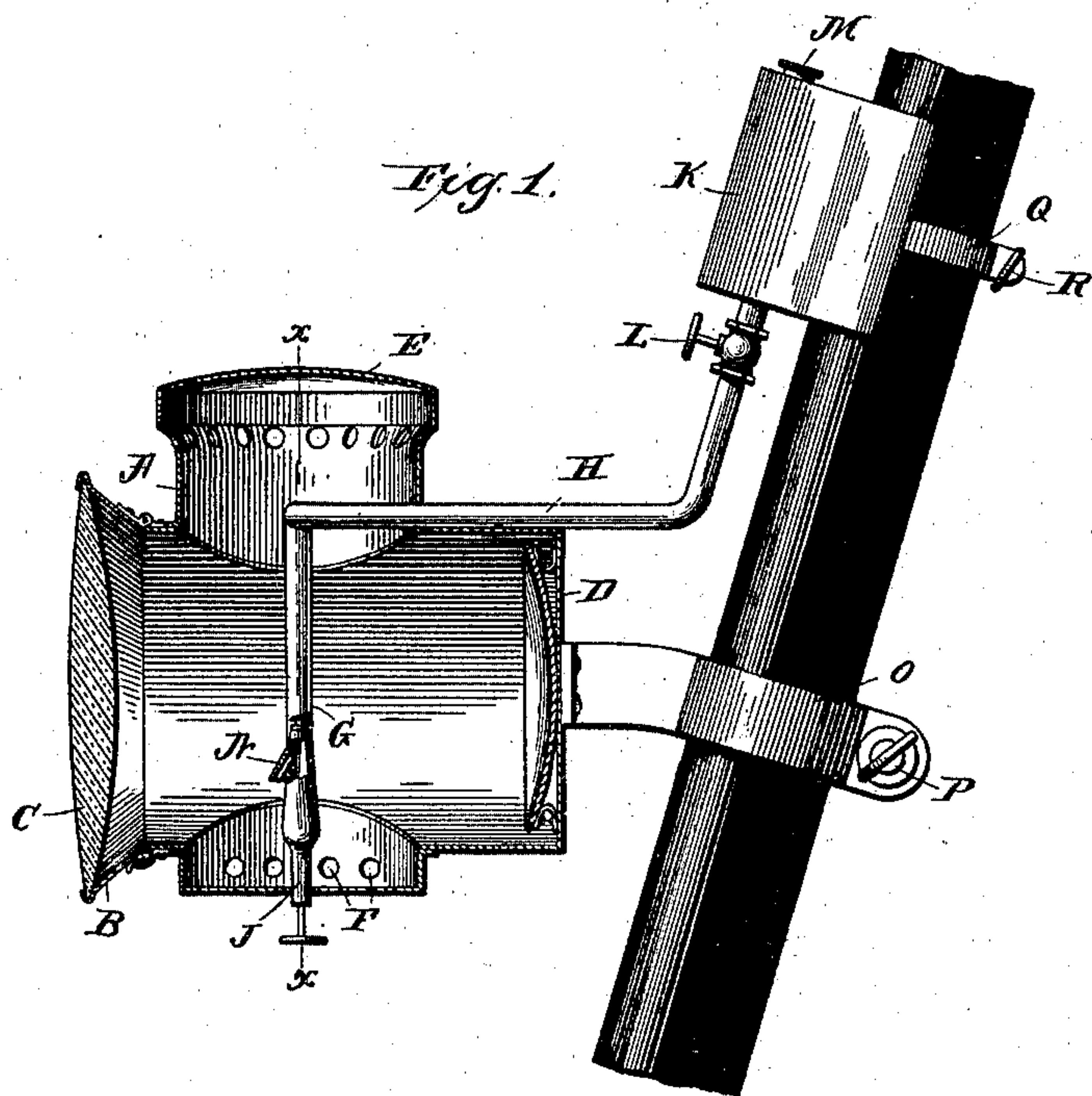
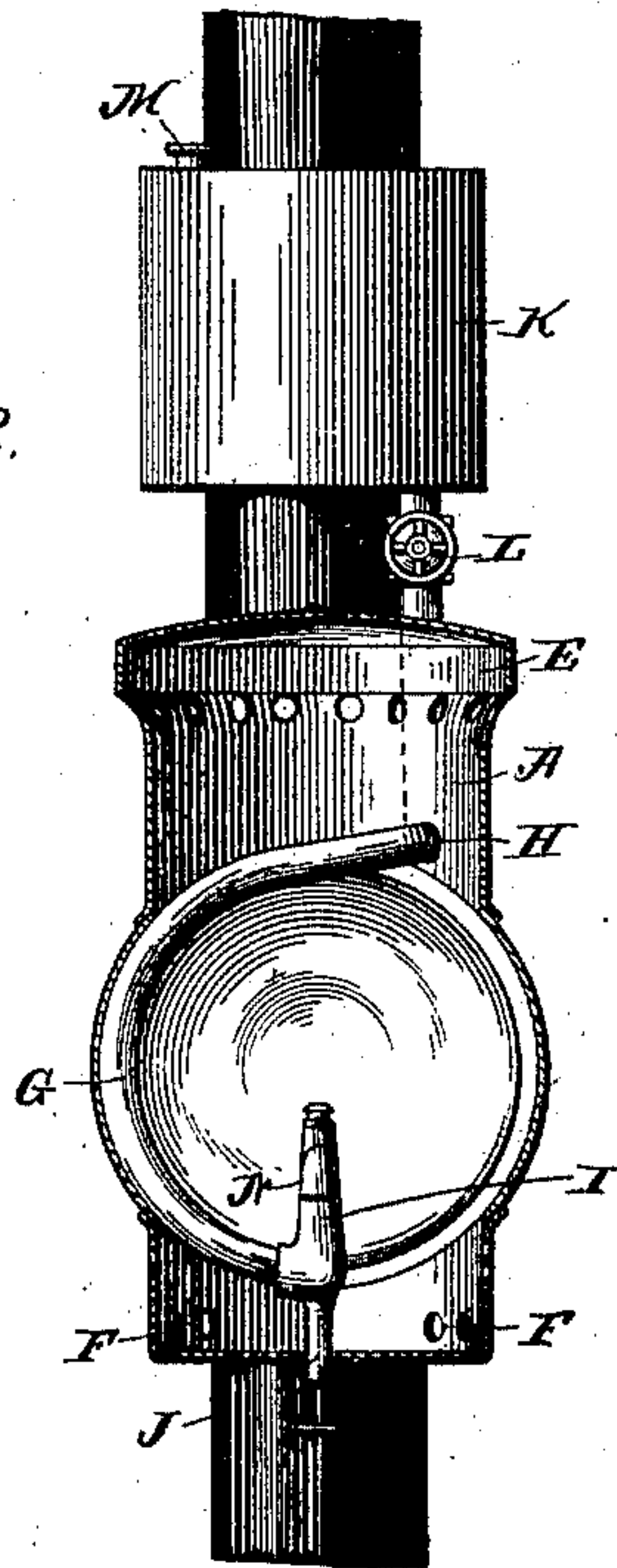


Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

HOWARD L. ELTON AND NORMAN J. SMITH, OF PHILADELPHIA,
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BICYCLE-LAMP.

SPECIFICATION forming part of Letters Patent No. 584,679, dated June 15, 1897.

Application filed August 20, 1896. Serial No. 603,301. (No model.)

To all whom it may concern:

Be it known that we, HOWARD L. ELTON and NORMAN J. SMITH, citizens of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Bicycle-Lamps, of which the following is a full, clear, and exact specification.

10 This invention relates to a new and useful improvement in bicycle-lamps and the like, and has for its object to so construct such a lantern as to adapt it for the use of the liquid hydrocarbon, such as commercial kerosene, and to convert said liquid into a gas for starting the flame, and, further, to so arrange the valves and generator-pipe as to permit of the storing of a certain amount of gas after the light has been extinguished in order that the lantern may be again lighted without the consumption of time necessary to generate gas from the liquid.

20 With these ends in view this invention consists in the details of construction and combination of elements hereinafter set forth, and then specifically designated by the claim.

25 In order that those skilled in the art to which this invention appertains may understand how to make and use the same, the construction and operation will now be described in detail, referring to the accompanying drawings, forming a part of this specification, in which—

30 Figure 1 is a section of a lantern built in accordance with our improvement, illustrating the method of attaching the same and the reservoir thereof to the frame of a bicycle; and Fig. 2, a section at the line $x x$ of Fig. 1.

35 In carrying out our invention we provide a lantern-casing A, which may be of any suitable design, having a lens-hood B, in which is placed the lens C, and also a reflector D, located at the rear of the casing for concentrating the light emanating from the flame. 40 A suitable draft-hood E is mounted upon the upper portion of the casing, and draft-passages F are located at the lower portion of the casing, so that combustion within said casing may be properly supported.

G represents a semicircular generator 50 which is formed by the bending of one end of the pipe H, and I is the burner, attached to said generator and provided with a valve J for controlling the flow of the liquid or gas to the burner. The pipe H leads from the reservoir K and is provided with a valve L, 55 in order that the downward flow of the liquid from said reservoir may be regulated, and an opening closed by a cap M is arranged for the filling of said reservoir. From this it 60 will be seen that after the reservoir has been filled by the proper liquid hydrocarbon it is only necessary to adjust the valves L and J and apply a light to the burner, when the oil issuing therefrom will be ignited and in a 65 short time so raise the temperature of the semicircular generator as to convert the oil passing therethrough into gas, and this gas thereafter will feed the flame, which in turn will maintain the generator at a proper temperature to continue the generation of gas, 70 as is well understood in hydrocarbon-burners. Air is commingled with the gas as it passes through the burner by means of the inlet N, thus adding to said gas the element 75 of oxygen in such proportion as to increase the intensity of the illuminating power of the flame.

When it is desired to extinguish the flame, the valve J is first closed, so as to prevent 80 the outflow of the gas, and immediately thereafter the valve L is closed, which will store the gas within the pipe H and generator G for future use in lighting the lantern, so that after the lantern has once been used it will 85 not thereafter be necessary to permit the outflow of oil for its initial starting, since the gas stored within the pipe and generator may be used for that purpose. The lantern may be secured to the frame of the bicycle in any 90 convenient manner, and we have here shown a clamp O, having a set-screw P for that purpose, and the reservoir K may be also secured to the framework of the machine by a clamp Q and set-screw R. 95

The advantage of this improvement is that no wick is used, and therefore capillary attraction is not depended upon for the eleva-

tion of the oil used, as said capillary attraction is detrimentally affected by the vibration incident to the travel of a bicycle.

Having thus fully described this invention,
5 what is claimed as new and useful is—

In a device of the character described, a lamp-casing adapted to be clamped to a bicycle-frame, a draft-hood arranged on said casing, a reservoir of a shape adapted to fit
10 partially around and be clamped to the frame of a bicycle, a pipe leading from the reservoir to the lamp-casing, said pipe being bent in semicircular form, a burner projecting up-

ward from the lower end of the pipe underneath the semicircular portion, a second pipe 15 projecting upward into the burner for admitting air and valves for regulating the flow of liquid and gas, substantially as described.

In testimony whereof we have hereunto affixed our signatures in the presence of two 20 subscribing witnesses.

HOWARD L. ELTON.
NORMAN J. SMITH.

Witnesses:

S. S. WILLIAMSON,
DAVID V. CHADWICK.