

No. 677,314.

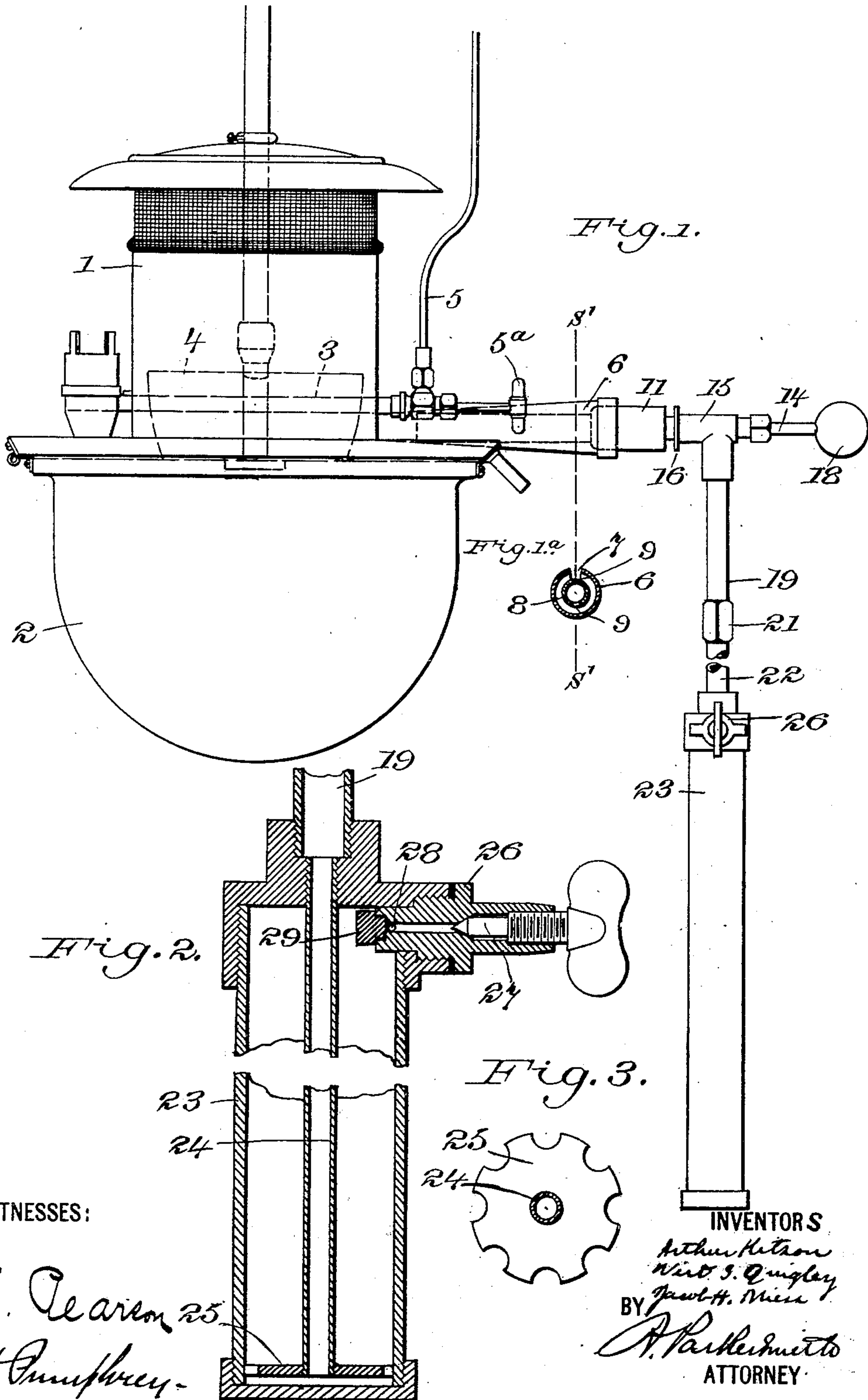
Patented June 25, 1901.

A. KITSON, W. S. QUIGLEY & J. H. MIESS.  
GASOLENE TORCH ATTACHMENT FOR VAPOR BURNING LAMPS.

(No Model.)

(Application filed Sept. 22, 1899.)

2 Sheets—Sheet 1.



WITNESSES:

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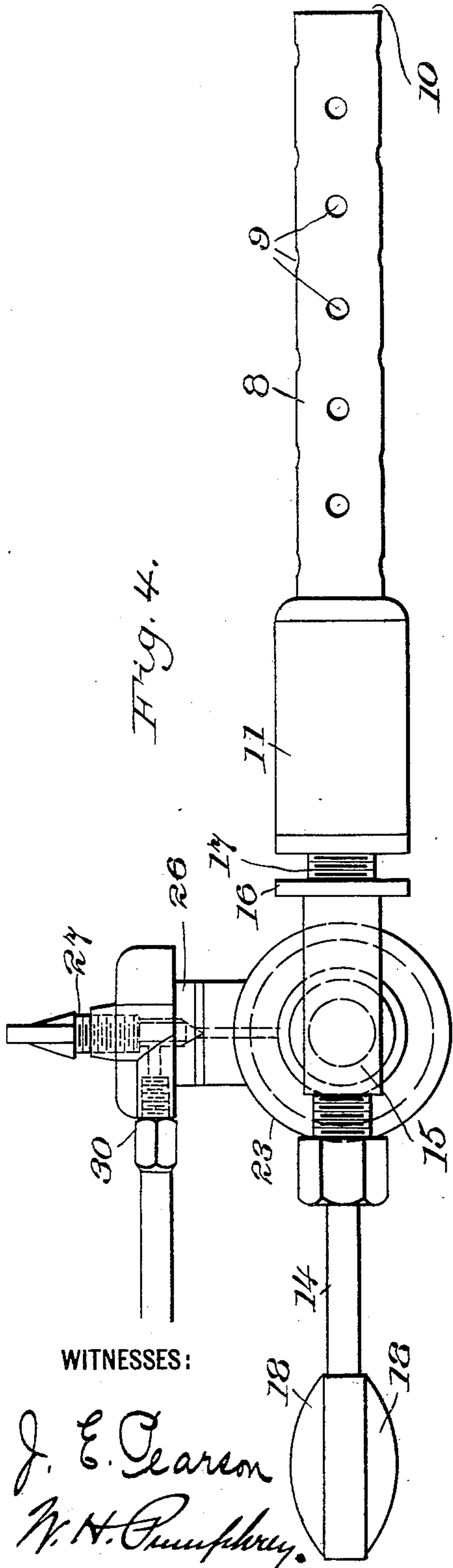
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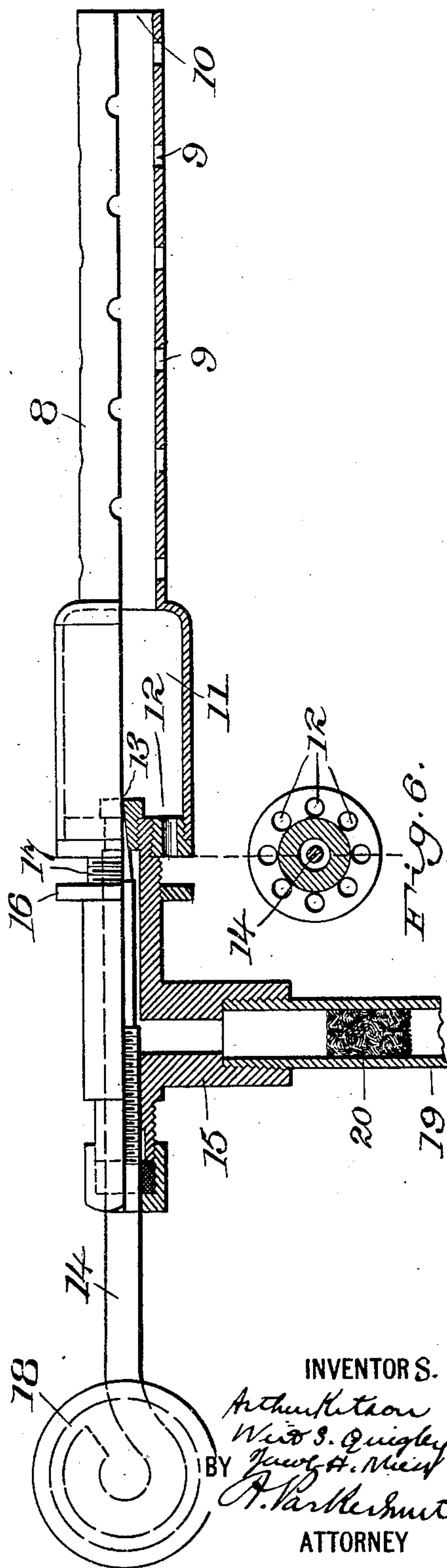
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# UNITED STATES PATENT OFFICE.

ARTHUR KITSON, WIRT S. QUIGLEY, AND JACOB H. MIESS, OF PHILADELPHIA, PENNSYLVANIA.

## GASOLENE-TORCH ATTACHMENT FOR VAPOR-BURNING LAMPS.

SPECIFICATION forming part of Letters Patent No. 677,314, dated June 25, 1901.

Application filed September 22, 1899. Serial No. 731,374. (No model.)

*To all whom it may concern:*

Be it known that we, ARTHUR KITSON, a subject of the Queen of Great Britain, and WIRT S. QUIGLEY and JACOB H. MIESS, citizens of the United States, all residents of the city and county of Philadelphia, in the State of Pennsylvania, have invented certain new and useful Improvements in Gasolene-Torch Attachments for Vapor-Burning Lamps, of which the following is a specification.

Our invention relates generally to means for preheating vapor generating and burning apparatus, and more specifically consists of an improved gasolene-torch for use in starting vapor-burning lamps into operation.

In all forms of vapor-burning lamps and stoves where the heat of the burner generates vapor to supply the burner it is necessary to produce a preheating of the vaporizing tube or chamber in order to generate the vapor for starting the lamp into operation. We have invented an improved form of gasolene-torch for such purpose and combined it with the form of lamp illustrated in the drawings in a manner to produce the most efficient results.

The preferred form of apparatus is disclosed in the accompanying two sheets of drawings, in which—

Figure 1 is an outline elevation of a form of lamp with our invention applied thereto, parts being broken away. Fig. 1<sup>a</sup> is a cross-section on line S' S' of Fig. 1. Fig. 2 is an enlarged central section of the torch-handle. Fig. 3 is a detail of the centering-spider. Fig. 4 is a plan view of the torch when in the position shown in Fig. 1 on an enlarged scale. Fig. 5 is a side elevation and partial section, on the same scale, of the Bunsen burner and upper portion of the torch; and Fig. 6 is a detail of the air-inlets of the Bunsen burner.

Throughout the drawings like reference-figures refer to like parts.

The lamp shown, of the ordinary type known as "cluster-lamps," has an inclosing casing composed of the upper metallic portion 1 and the lower hemispherical globe 2. The vaporizing-chamber consists of a horizontal vaporizing-tube 3, which is surmounted by a sad-

dle or heat-shield 4. Oil is supplied to the vaporizing-tube 3 through a supply-pipe 5. An opening is formed in the casing 1 below one end of the vaporizing-tube 3, and the conical guide 6 is adjusted so as to lead up to said opening and arranged in such position as to be practically parallel to the vaporizing-tube 3. This guide 6 has one or more slots or openings 7 to permit a portion of the heat to escape, so that the said shield of the Bunsen-burner tube introduced therein shall not be melted or burned off.

The Bunsen burner consists of the ordinary burner-tube 8, having, however, a series of perforations 9 9 in its sides and the main discharge-opening 10. The Bunsen burner has the mixing-chamber 11 at the base of the burner-tube, into which air is admitted to a series of air-openings 12 12 and into which vapor is admitted by the centrally-located nozzle having a discharge-orifice 13. Preferably the air-openings are formed in the base of the mixing-chamber, the same being arranged in a ring around the vapor-opening 13 and extending parallel to the axis of the burner-tube. This vapor-opening is controlled by a valve, preferably of a construction shown at 14, said valve and Bunsen burner being mounted in a casting 15, so as to extend at right angles to the body 19 of the torch. An adjustable baffle-ring 16, mounted on the screw-threaded portion 17 of the casting 15, is adjustable toward and from the air-openings 12 of the Bunsen burner. As shown, the valve-rod 14 is coiled up at its outer end and provided with convex plates 18 18 to form a handle for operating the valve.

In the tubular body 19 of the torch we arrange, preferably, a filter 20, of any suitable substance, such as fibrous asbestos or mineral wool. This portion of the torch-body, which contains the filter, is connected to the lower portion 22 of such torch-body by the union 21.

The handle 23 of the torch is made of larger diameter, so as to form a reservoir for gasolene or other light hydrocarbon fluid. The tubular torch-body is connected with the lower portion of this reservoir by a tube 24,



which extends nearly to the bottom of the chamber in the handle and is centered by the spider 25. There is an opening in the upper portion of the handle for charging the same, 5 in which is screwed the valve-body 26, containing the pointed valve 27 or other convenient valve construction. The inner portion of the valve-body is connected with the reservoir formed in the hollow handle by means 10 of the small passage-way 28, the end of said valve-body being preferably closed by a plug 29. A screw connection 30 is provided for supplying gasolene or compressed air to the reservoir through said valve when the pointed 15 plunger 27 thereof is lifted.

The method of operation of our invention is as follows: The valve-plug 27 being lifted and the connection 30 being established, a suitable quantity of gasolene is introduced 20 into the reservoir 23 in the handle of the torch. Compressed air is then forced in and the valve 27 closed. The air-pressure will force the gasolene up through the tube 24 and tubular body 22 19 of the torch to the 25 discharge-orifice 13. The valve 14 then being opened, a spray of gasolene or gasolene-vapor is sent into the mixing-chamber 11, drawing in air through the openings 12. This being lighted burns in a long flame issuing 30 from the main discharge-orifice 10 and in small jets of flame issuing from the openings 9 9, the latter serving to keep the torch hot and prevent its blowing out. The lamp-lighter carries the torch with him from lamp 35 to lamp and inserting the Bunsen burner in the conical guide 6 causes a tongue of flame to flow into the lamp-casing along under the vaporizing-tube 3. In a few seconds this heats the tube to the necessary temperature, 40 and then on opening the valve 5<sup>a</sup> oil flows in through the supply-pipe 5 to the heated vaporizing-tube. The vapor thus formed is supplied to the burner (not shown) in the well-known way and the lamp starts into opera-

tion. The torch is then withdrawn and carried to the next lamp, and so on. 45

Enough gasolene may be carried in the torch to burn several hours—sufficient for one evening's work in lamp-lighting.

The baffle-ring 16 prevents gusts of wind 50 from blowing into the mixing-chamber 11 and interfering with the regular action of the Bunsen burner. By turning the ring forward and back on the threads 17 exactly the right points of adjustment can be secured. 55

The advantages of our invention consist in its handy form and in the convenient arrangement for applying it quickly to the lamp.

Of course various changes could be made 60 in the details of construction illustrated without departing from the spirit and scope of our invention so long as the relative arrangement of parts or the principle and mode of operation disclosed in the drawings are pre- 65 served.

Having therefore described our invention, what we claim as new, and desire to protect by Letters Patent, is—

The combination of a vapor-burning apparatus having an inclosing casing, a vaporizing-tube extending horizontally through said casing, an opening in said casing below one end of the vaporizing-tube and a torch adapted to fit into said opening and project a heating-flame along the vaporizing-tube, together 75 with a cone-shaped guide for the torch to said opening attached to the casing, the axis of the cone being parallel to the vaporizing-tube. 80

Signed by us this 1st day of August, 1899.

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Witnesses:

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