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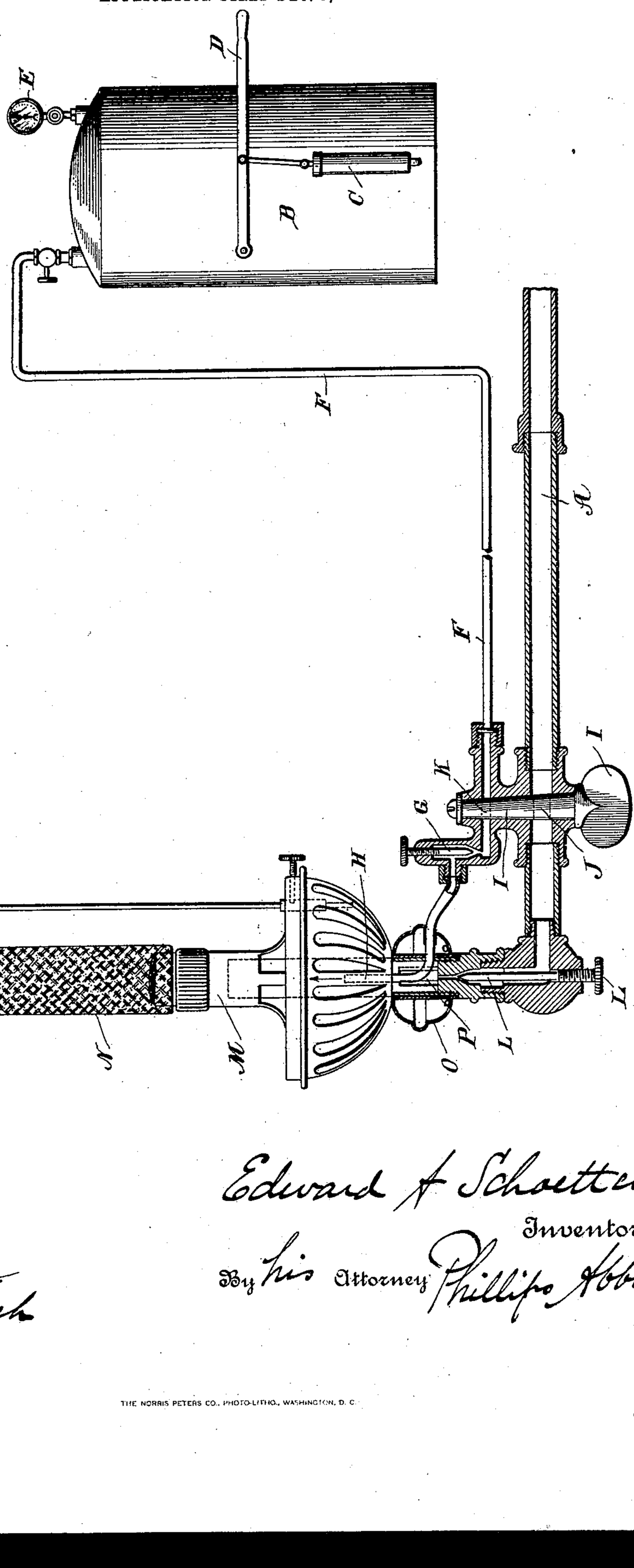
E. A. SCHOETTEL.

INCANDESCENT MANTLE LAMP.

APPLICATION FILED DEC. 5, 1902.

NO MODEL.



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UNITED STATES PATENT OFFICE.

EDWARD A. SCHOETTEL, OF NEW YORK, N. Y.

INCANDESCENT-MANTLE LAMP.

SPECIFICATION forming part of Letters Patent No. 722,915, dated March 17, 1903.

Application filed December 5, 1902. Serial No. 133,962. (No model.)

To all whom it may concern:

Be it known that I, EDWARD A. SCHOETTEL, a citizen of the United States, and a resident of the borough of Brooklyn, county of Kings, city and State of New York, have invented a new and useful Improvement in Incandescent-Mantle Lamps, of which the following is a full, clear, and exact specification, reference being had to the accompanying drawing, which illustrates the invention partly in vertical section and partly in elevation.

My invention relates to improvements in such structures whereby I secure more perfect combustion of the gas and increased heat at the mantle, so that its incandescence is made more perfect and the light consequently intensified.

The invention also includes certain details of construction of the parts hereinafter explained.

In the drawing, A is the gas-supply pipe.

B is an air-compression cylinder provided with a compression-pump C, operated by a lever D or otherwise, as preferred, and having a gage E.

F is a small pipe leading from the compression-cylinder B through a needle-valve G and pipe H to the combustion-chamber of the lamp.

I is a cock provided with double ports. One of them, J, controls the supply of gas and the other, K, the admission of the air-blast from the compression-cylinder B, so that when this cock I is turned both the fluids are turned on simultaneously.

L is another needle-valve which controls the admission of gas.

M is the combustion-chamber; N, the mantle, and O the draft-regulator, which controls the admission of external air by turning it upon its own axis, whereby the air-inlets P at the base of the combustion-chamber are opened or closed as usual.

Before describing the operation of the apparatus I call attention to the following facts in order that the advantages secured by my improvements may be more fully appreciated. Several principles, which must be understood, covering the burning of gas for illuminating purposes are involved in my invention which are not at once apparent and yet must be appreciated and utilized before a completely successful lamp of this character can be secured. Among them are the following: It will occasionally happen, although not often, that the quality of the gas is such that the amount of atmospheric air which enters the mixing-chamber of the lamp through the draft-openings P will secure the proper admixture between gas and air, and on such rare occasions the lamp will burn well; but ordinarily the quality of the gas-supply in towns, cities, and villages throughout the country varies so greatly that skill must be exercised in properly proportioning the gas to the air. Again, it is a well-known principle in physics that a forced draft—in other words, the action of a blowpipe, whereby an excess of oxygen under pressure is furnished at the point of combustion—very greatly intensifies the heat of the resulting flame or combustion and likewise secures the most complete combustion of the gas.

Having in mind the above-stated incidents in the use of these lamps, it will be noted that my apparatus is exceedingly convenient, complete, and effective. The turning of the single cock I permits the flow of the gas through the supply-pipe A and of the compressed air through the smaller air-pipe F, and the relative proportion of gas and air may be regulated with exactitude by the proper manipulation of the needle-valves G and L, respectively. The supply of air may be secured from the air-compression tank entirely. I prefer, however, to emply in conjunction with it the ordinary and normal supply entering through the draft-ports P at the base of the mixing-cylinder, so that the intake of air there will afford a large part of the oxygen required. That which is furnished from the compression-cylinder under pressure will supplement said normal supply and will also add the feature of a blow-pipe blast to the lamp, and if occasion shall require the blast and compression-chamber may be entirely cut off or the draft-ports P may be cut off.

My lamp secures the most perfect combustion of the illuminating-gas of any lamp known to me, and it generates great heat, and consequently a very high degree of incandescence or illumination results at the mantle.

It will be obvious to those who are familiar with this art that modifications may be made

in the details of construction of this apparatus without departing from the essentials of my invention. I therefore do not limit myself to such details.

Having described my invention, I claim—

The combination in an incandescent-mantle lamp of a burner-tube, a gas-supply pipe, a compressed-air receiver a pipe connecting the receiver with the interior of the mixing-chamber of the said tube, a single cock which controls the supply of both gas and compressed air, a supplemental regulating device to determine the relative proportions of gas to air and a gate in the tube to admit exterior atmosphere not under pressure.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

EDWARD A. SCHOETTEL.

Witnesses:

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