(No Model.)

H. E. SCOTCHMER & J. YOUNG.

REGENERATIVE GAS LAMP.

No. 343,142. Patented June 1, 1886.

Fig. 1.

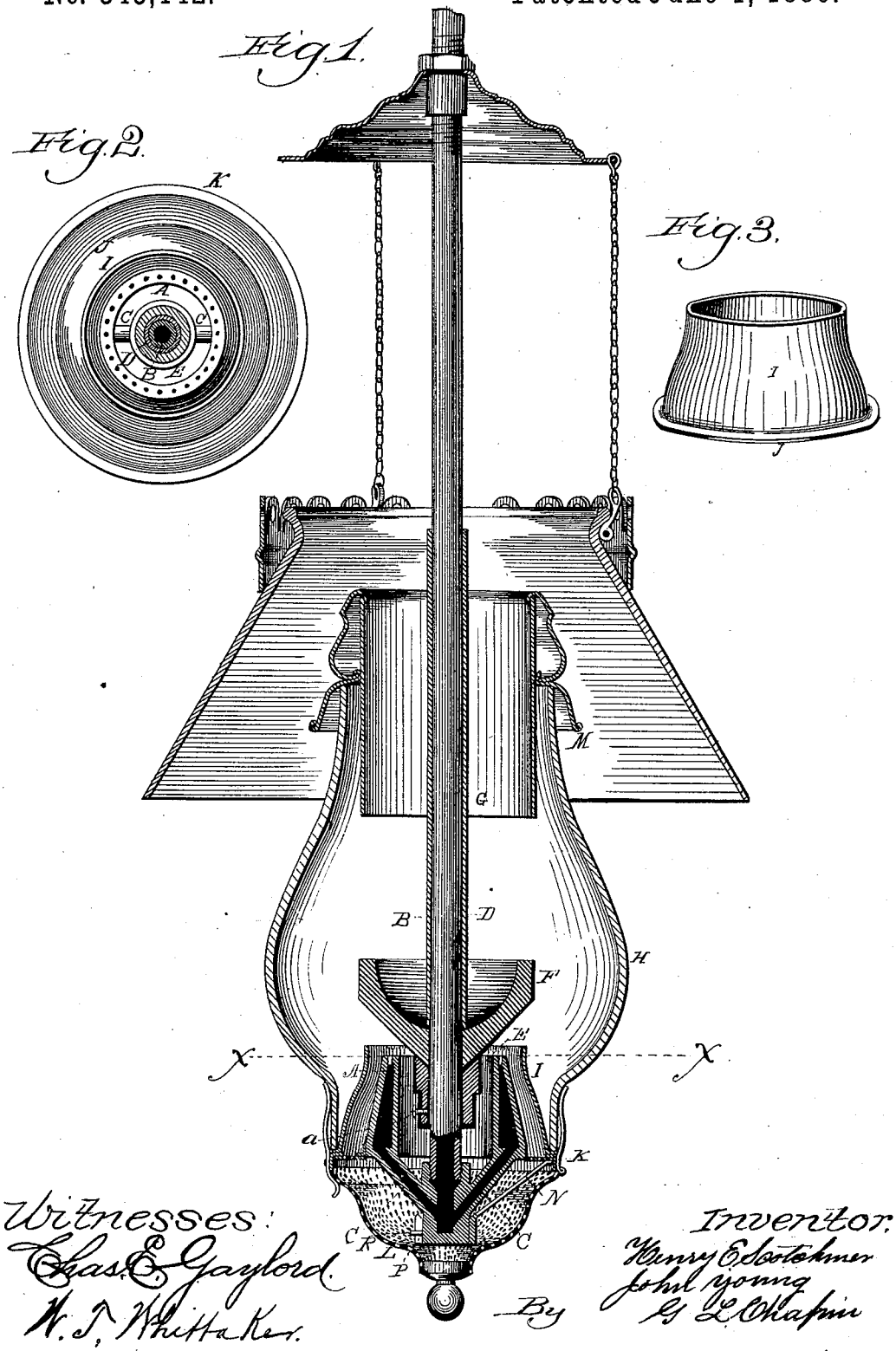

Fig. 2.

Fig. 3.

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HENRY E. SCOTCHMER AND JOHN YOUNG, OF CHICAGO, ILLINOIS.

REGENERATIVE GAS-LAMP.

SPECIFICATION forming part of Letters Patent No. 343,142, dated June 1, 1886.

Application filed May 14, 1885. Serial No. 165,515. (No model.)

To all whom it may concern:

Be it known that we, HENRY E. SCOTCHMER and JOHN YOUNG, citizens of the United States, and residents of Chicago, county of Cook, and State of Illinois, have invented new and useful Improvements in Regenerative Gas-Lamps, of which the following is a specification, reference being had to the accompanying drawings, illustrating the invention, in which—

Figure 1 is a vertical sectional elevation of a regenerative gas-lamp embodying our invention; Fig. 2, a horizontal plan and section on line *x*, Fig. 1, showing particularly the reflector-seat and burner-ring and their position relative to the Argand burner; Fig. 3, a perspective of the burner-ring removed from the other parts better to show its construction.

The purpose of this invention is to provide simpler and more efficient means for causing a given quantity of illuminating-gas, consumed by what is known as the "Argand burner," to give an increased light. This is done by an increased or more intense heat, and the object sought is so to utilize air for this purpose by such mechanism as will cause the nearest perfect combustion, and at the same time protect the mechanism from destruction by the increased heat.

The principle of admitting air by various means termed "lamps" to flames of gas is known to be old; but the difficulty of destruction to the mechanism and the choking up of the parts by carbon has not so far in the art been sufficiently overcome to insure the public of the practical utility of such lamps. We claim to have overcome these objections by the following means:

A represents the ordinary Argand burner with its perforated top part for the ordinary escape of gas. Centrally through this burner is placed the gas-supply pipe B, which is made to communicate with the interior of the burner A by means of one or more ordinary branch pipes, C, as shown at Fig. 1.

Placed around the pipe B where it is subjected to the greatest heat, is a cylindrical sleeve, D, of metal, asbestus, or other heat-resisting material, and placed on the supply-pipe B, to come about even with the top of the burner A, is a cylindrical seat, E, which serves the double function of reducing the air-space inside of the burner A and furnishing a seat for the cone F, which is made of some light-colored heat-resisting material, and somewhat larger than the burner to increase the light and bring the flame into a larger circle before it is drawn into the chimney G above.

We do not claim in this application to be the first to use the deflecting-cone above the burner, as the Scotchmer and Bent gas-lamp of Chicago and other lamps have a similar deflector, but differently arranged and combined—as, for instance, our deflector is combined with an adjustable seat, E, which can be held at different altitudes by means of a set-screw, *a*, and which forms the inner wall of the air-passage on the inside of the burner A, and by raising or lowering it the flame can be more or less abruptly expanded toward the globe H. A deflector, I, is provided with a flange, J, at its bottom to rest on the globe-stand K, and its top part is a truncated cone to form a suitable-sized air-passage between it and the burner A. It is important that the air-passages which admit air exteriorly and interiorly to the burner should be about the size shown to supply oxygen to both sides of the flame in such quantities as will be consumed thereby, otherwise the flame will blow or become deadened, according to the amount and force of surplus air admitted. To attain this desirable air-supply, care is taken, by means of the flange J on the deflector I, to prevent any air from passing up between the deflector I and globe H, and instead thereof to admit a current of air, as stated, to the inside of the burner, thereby supplying both sides of the flame with air and preventing an imperfect combustion by the admission of air outside of the deflector I, as is the case in the patent to Lipsey, May 29, 1883.

L shows an under flame-protector, which is perforated, and is to admit air in proper quantities to the burner by means of the two passages shown and described. If desirable always to have it in place, it may be hinged to the globe-stand, or it may be held by spring-clips of ordinary construction to be readily removable. This is an important construction in that both air-passages to the burner receive their supply of air from a common source, whereby the supply of air through the passages is equalized, inasmuch as the upward-moving air in a single column is divided in

quantity, according to the amount required in each passage to support combustion.

The metal chimney-top is shown at G, and exteriorly to it is affixed a housing-support, M, which serves the purpose by extending down into the chimney of forming a tight draft-connection. The chimney-top, by extending down into the globe H, causes the flame from the burner to take an inward direction over the deflector F, thereby increasing the heat of the deflector, whereby a nearer perfect combustion is attained and the chimney is made to support the top; but nothing new is claimed for this construction of chimney, but it is employed as best adapted for this lamp.

The globe-stand K is supported by an arm, N, projecting up from a collar, P, which is secured to the lower end of the supply-pipe B by means of a bayonet attachment, R, of ordinary construction.

To remove the globe H, detach the globe-stand K by disengaging the bayonet attachment R. This will allow the globe H and burner-ring I to be removed downward.

We claim as our invention and desire to secure by Letters Patent—

1. In regenerative gas-lamps, the burner A, deflector F, globe H, gas-pipe, chimney G, globe-stand K, in combination with the protecting perforated plate L, covering the bottom of the lamp, the air-passage between the surrounding plate I and the burner A, and the passages inside the burner which receive air from a common source, for the purpose specified.

2. The burner A, globe H, gas-pipe, chimney G, globe-stand K, perforated protecting-plate L, covering the bottom of the lamp, the air-passage between plate I and burner A, and the passage inside of the burner, which passages receive air from a common source through protector L, in combination with the deflector F, and the seat E and pipe B for supporting the deflector and adjusting it to a desired height, as and for the purpose specified.

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