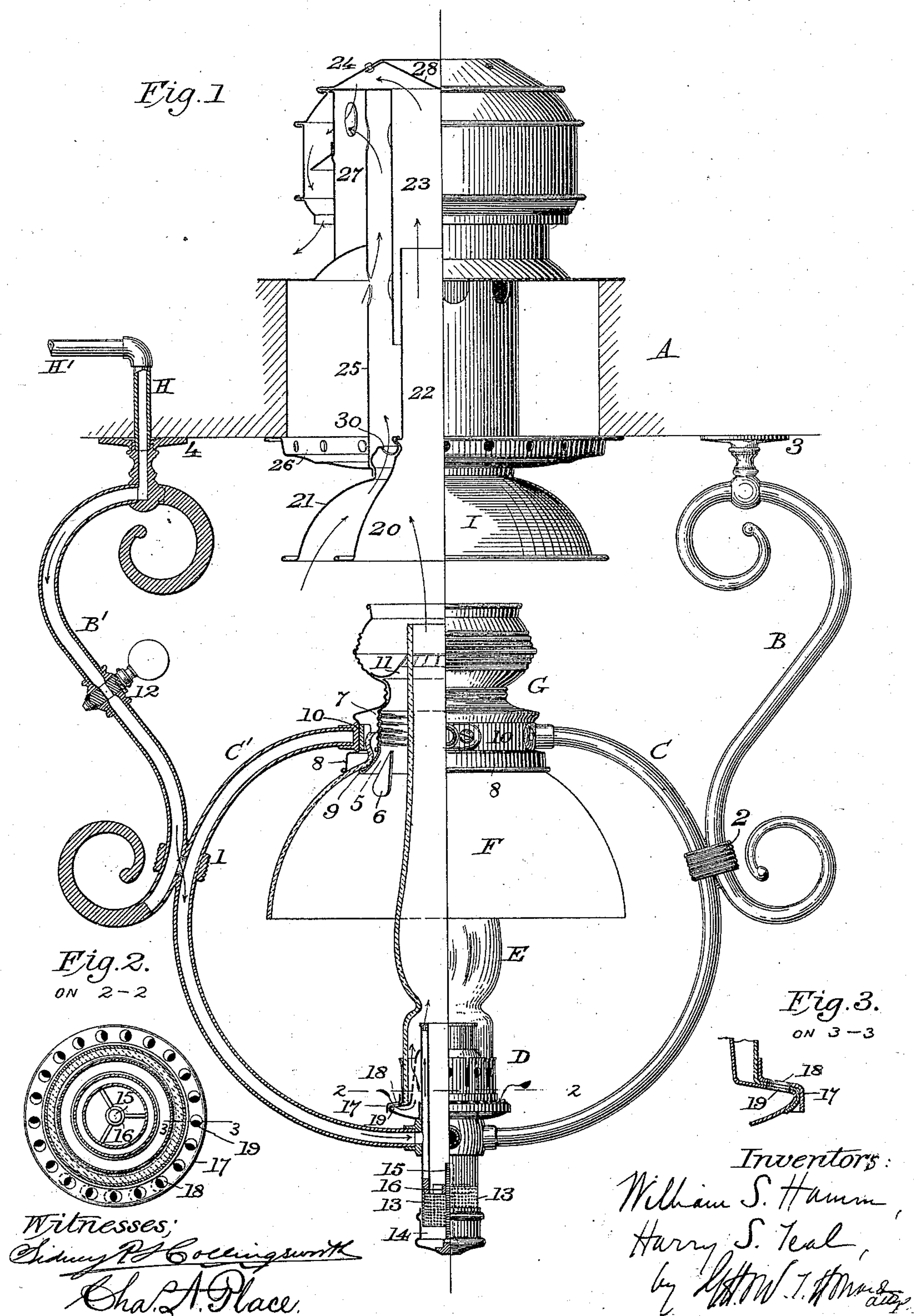


(No Model.)

W. S. HAMM & H. S. TEAL.
GAS CHANDELIER LAMP.

No. 547,395.

Patented Oct. 1, 1895.



UNITED STATES PATENT OFFICE.

WILLIAM S. HAMM AND HARRY S. TEAL, OF CHICAGO, ILLINOIS.

GAS-CHANDELIER LAMP.

SPECIFICATION forming part of Letters Patent No. 547,395, dated October 1, 1895.

Application filed November 1, 1894. Serial No. 527,627. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM S. HAMM and HARRY S. TEAL, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Gas-Chandelier Lamps for Railway-Car Use, of which the following is a specification.

This invention relates to that class of lamps which are supplied by gas generated or stored upon the train; and it consists more particularly in improvements whereby the lamp is given greater efficiency by a proper admission of fresh air to the burner, thus insuring a more perfect combustion and consequent freedom from smoke and smell; said improvements having also in view greater simplicity of construction and better appearance than has been heretofore found in devices of this description.

In the accompanying drawings, Figure 1 is a view of our invention, one half being shown in exterior elevation and the other half in vertical section. Fig. 2 is an enlarged fragmentary sectional elevation on the line 2 2 of Fig. 1. Fig. 3 is an enlarged vertical section on the line 3 3 of Fig. 2.

Similar letters and figures of reference indicate similar parts in the respective figures.

A represents the roof or ceiling of the car. B B' show pendants by means of which the lamp is supported from the roof.

C C' represents frames or ribs attached to the pendants at 1 2, the latter being secured to the car roof at 3 4. While two pendants B B' and two frames or ribs C C' are indicated, we prefer that four of each shall be employed, although the number is immaterial, provided the requisite support to the lamp is afforded.

D may represent the lamp as a whole, which by choice is of the Argand gas-burner type, and which is supported by the lower portions of the frames or ribs C C'.

E is the glass chimney, F the shade, perfectly translucent, and G the shade-holder. The latter comprises two component parts, one being shown by 5, which is threaded and provided with thumb and finger pieces 6, and the other by 7, which is secured rigidly to the ribs or frames C C' and is also threaded to receive the rotatable threaded part 5. The part 7 is furnished with a flange 8, the shade

F being held between the skirt 9 of the rotatable part 5, the ring 10 of the fixed threaded part 7, and the flange 8, as clearly shown in Fig. 1. The upper portion of the glass chimney E is supported or steadied by the slitted flange 11, forming a part of the stationary portion 7 of the shade-holder. One of the pendants, as that B', is made tubular, as also is its connecting frame or rib, as that C', the two forming a channel through which gas received at the pipe H passes to the burner, a tube H' leading from the source of gas-supply to the pipe H. The gas furnished to the burner is regulated by means of the cock 12. Air is admitted to the center of the flame through the perforations 13 at the lower end of the exterior tube of the burner, the supply being regulated by means of the cap 14, which is provided with a screw 15, working in a nut 16, secured to the burner. Air is admitted to the exterior of the flame, as shown by the arrows below the section-line 2 2, and its inflow regulated through the medium of the rotary cap 17, having a series of holes 18, which register with the holes 19, formed in a part of the burner, as indicated in Fig. 1, and also in enlarged scale in Figs. 2 and 3.

The smoke-bell is shown by I, and, as will be seen, it will allow of the escape from the lamp of the products of combustion and of heated air and impure gases from the upper region of the car. The smoke-bell I comprises an inner shell 20 and an outer shell 21, the metallic chimney consisting of a central lower section 22 and an upper section 23, through which two sections the products of combustion, following the course of certain of the arrows, as will be understood, escape to the outer air under the hood 24. The smoke-bell is substantially a part of the construction described in Patent No. 364,154, granted May 31, 1887, to W. W. Willits and A. M. Duburn. By causing the smoke-bell to consist of inner and outer separated shells and providing passages for the escape of the products of combustion, heated air, &c., as described, the entire smoke-bell is kept cool and all danger of setting fire to the woodwork of the car by undue heat obviated. An outer cylinder 25 surrounds the sections 22 and 23 of the chimney and receives the heated air and ascending gases from the car through the

outer shell of the smoke-bell and also the perforated ring 26, which air and gases, in common with the direct products of combustion, pass through the perforated cylinder 27 and escape under the hood 24. The upper section 23 of the chimney is provided with a deflector 28, which guides and diverts the direct products of combustion through the perforations of the cylinder 27 into the hood 24.

10 In operation, the gas to supply the burner passes, on opening the cock 12, from the source of supply through the tube H' into the tube H and through it into the tubular pendant B' and tubular rib or frame C' to the burner, 15 the necessary oxygen being supplied to the flame by means of the perforations 13 and screw-cap 14 and the annular regulator 17, whose perforations 18 register with those 19 of a fixed portion of the burner. The products of combustion follow the course of 20 certain of the arrows, as will be readily understood, through the glass chimney into the inner shell 20 of the smoke-bell, passing through the perforations of the cylinder 27 25 into and under the hood 24 into the exterior atmosphere, while the heated air and vitiated gases from the car pass into the outer shell 21 and perforated ring 30 into the outer cylinder 25, and also into said outer cylinder 30 through the perforated ring or rim 26) through the perforated cylinder 27, as is made clear by the arrows indicating their course, to mix and escape with the products of combustion from and under the hood 24.

By this construction a burner producing 35 a powerful flame of intense heat may be safely used without danger of igniting the woodwork of the car, the flame being properly supplied with the regulated quantities of oxygen to feed the flame.

We claim as our invention—

In a chandelier gas lamp for railway cars, an Argand burner the lower end of whose exterior tube is extended below the inner tube and provided with perforations 13 for admitting 45 air to the center of the flame, the upper end of said exterior tube being provided with an exterior part having holes 19 for admitting air into the space between said outer tube and the chimney, a screw cap surrounding 50 the lower end of said exterior tube, and a rotary cap having a series of holes 18 which register with the holes 19, combined with a tube forming one of the supports of the burner, said tube being adapted to supply gas 55 to a space in the burner between the interior and exterior tubes thereof and between the lower and upper air regulating devices, substantially as set forth.

In testimony whereof we, the said WILLIAM 60 S. HAMM and HARRY S. TEAL, have hereto set our hands and seals.

WILLIAM S. HAMM. [L. S.]
HARRY S. TEAL. [L. S.]

Witnesses:

G. D. WALTERS,
J. J. FERRIE.