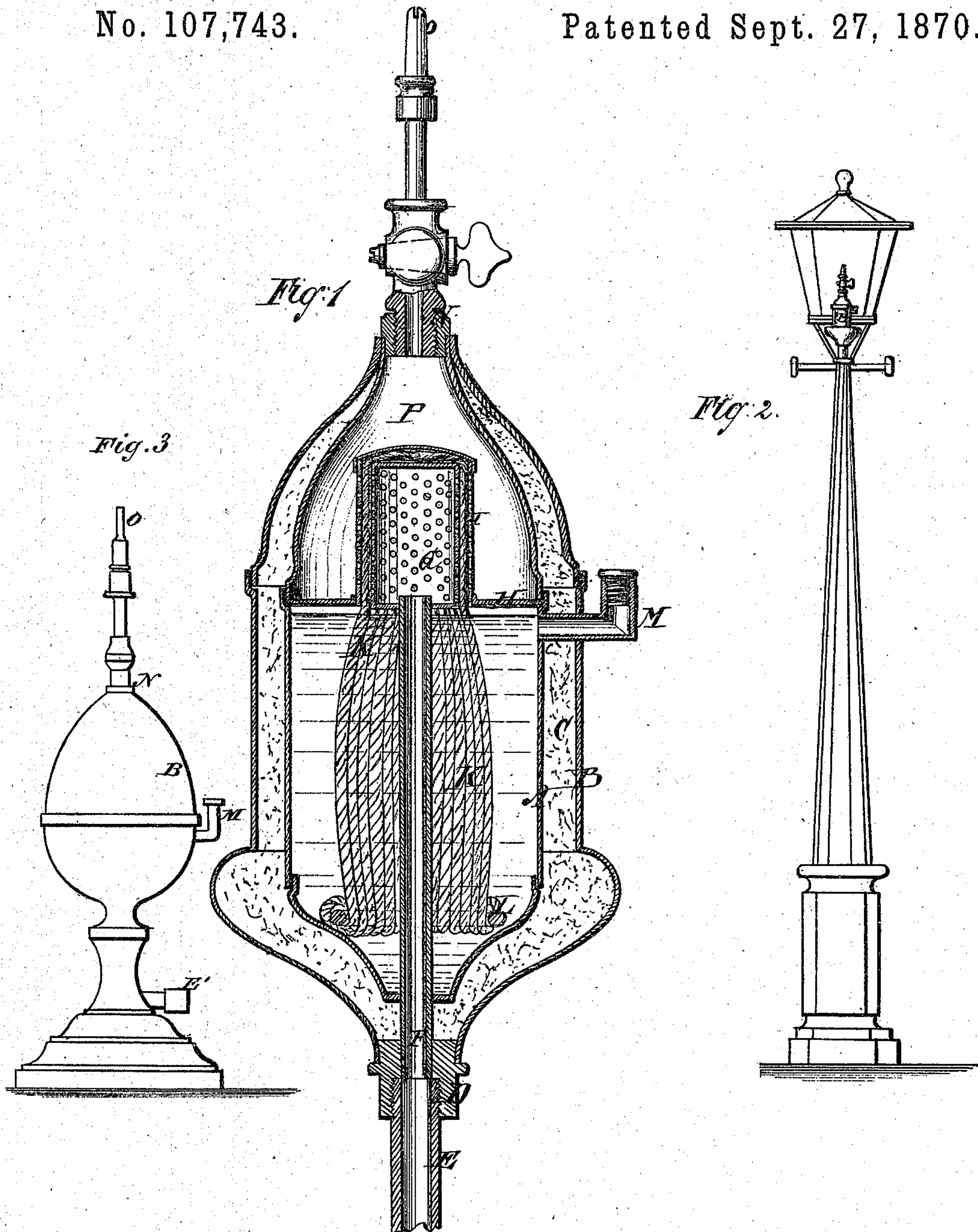


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No. 107,743.

Patented Sept. 27, 1870.



Witnesses:

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# United States Patent Office.

SAMUEL WHITNEY, OF NEWARK, NEW JERSEY.

Letters Patent No. 107,743, dated September 27, 1870.

## IMPROVEMENT IN GAS-CARBONIZING ATTACHMENTS FOR STREET AND OTHER LIGHTS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, SAMUEL WHITNEY, of Newark, in the county of Essex and State of New Jersey, have invented a new and improved Gas-Carbonizing Attachment for Street and other Lamps; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification.

My invention relates to means for conveniently carbonizing the gas in street lamps, and consists in the improvements hereinafter explained in the description and specified in the claim.

Figure 1 represents a sectional elevation of a gas-carbonizing attachment to street lamps, or portable burners, such as I prefer to use.

Figure 2 is an elevation of a street lamp, showing a carbonizing attachment applied to it.

Figure 3 is an elevation of a portable burner-stand with a carbonizer attached.

Similar letters of reference indicate corresponding parts.

A is a vessel for holding the hydrocarbon substance, such as benzole and other like substances.

B is an outer case or shell, inclosing the vessel A, but made enough larger to provide a space between the two vessels for packing with plaster of Paris, asbestos, or other non-heat-conducting substances C to maintain the contents of the carbonizer at as uniform a temperature as possible.

The outer vessel, B, is provided with a plug, D, or other device at the bottom, fitted to be connected with the gas-pipe E thereat by screwing together, or otherwise. This block or plug may also be arranged for connection with the top of the gas lamp-post or the stand of a portable burner in any suitable way for supporting the carbonizer firmly.

E, fig. 3, represents the gas-pipe for portable burners.

F is a pipe connected to the plug D for receiving the gas from the pipe E, and conveying it up through the vessel A to the cylinder G, placed on the said pipe F, above a diaphragm H near the top of A, and having closed ends and perforated sides.

I is another cylinder, open at the bottom, closed at the top, and also perforated at the sides; this is larger than cylinder G and is placed over it, and attached firmly by soldering, or otherwise, at the lower end to the diaphragm, which has a large central hole for the purpose, and is employed to sustain the said cylinder I.

K represents wicking, or it may be other substance, which will feed the benzole upward to the space between the cylinder G I. This wicking is arranged as

shown in the drawing, suspended from the top of the cylinder G, and extends at the lower ends to the bottom of the space in the vessel A, where it may be confined by a weight, L; this space is to hold the benzole or other liquid which is to be supplied through the pipe M, from time to time.

N is a pipe-connection at the top of the carbonizer, leading to the burner O.

It will be seen that the gas rising up through the pipes E and F will be discharged into the space in the cylinder G; thence it will be forced by the pressure behind it through the small perforations in all directions in a manner to greatly distribute and mix it with the benzole held in the space between the two cylinders by the wicking; after passing through this wicking and the outer cylinder the impregnated gas is held in the chamber P until it passes off to the burner.

The cylindrical parts of the vessels A B are formed by bending or rolling sheet metal into cylindrical form in any suitable way, and the conical ends may be spun up in the ordinary manner of spinning metal, and the ends of the parts may be fitted one within the other and soldered, bronzed, or otherwise secured.

I propose to coat the surface of the upper part of the vessel A with silver, or other reflecting substance, and thereby utilize it for a reflector to receive the rays of light thrown downward, and give them a lateral direction, so as to increase the illumination.

The silver-plated part of the vessel B may be protected by an inverted cup-shaped glass-protector with a hole in the bottom, and adapted in form to fit the top of the vessel B, and be placed on the silvered part.

By this simple and cheap carbonizing attachment I am enabled to provide all street gas-lamps and portable gas-burners with carbonized gas, so that corporations may have the benefit of it in street lamps, which they cannot now have unless all the gas manufactured by the gas companies be carbonized previous to delivery into the street mains; and which would not be as efficient, owing to the condensation of the hydrocarbon vapor in the gas mains, and individuals using drop-lights in houses not provided with carbonizers may also have the improved light with but little trouble or expense.

I do not limit myself to any particular form or construction of these carbonizer attachments, as it is manifest that other forms and constructions would serve well in carrying out my invention without departing from the spirit of it.

Having thus described my invention,

I claim as new and desire to secure by Letters Patent—

1. The combination, with a street gas-lamp and



carbonizing attachment, of the surrounding chamber C, filled with plaster, or other non-conducting substance, as and for the purpose described.

2. A spun metal jacket, B, for gas-carbonizers, silvered around its upper surface to arrest the downward rays of light, reflect them outwardly, and utilize the same.

3. The combination of non-conducting material in chamber C, and the reflecting surface around the up-

per part of jacket B, to prevent the temperature of the carbonized gas in chamber P from being affected by the light.

The above specification of my invention signed by me this 15th day of April, 1870.

SAMUEL WHITNEY.

Witnesses:

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