

No. 750,018.

PATENTED JAN. 19, 1904.

J. W. BRAY.  
INCANDESCENT GAS BURNER.

APPLICATION FILED JULY 14, 1903.

NO MODEL.

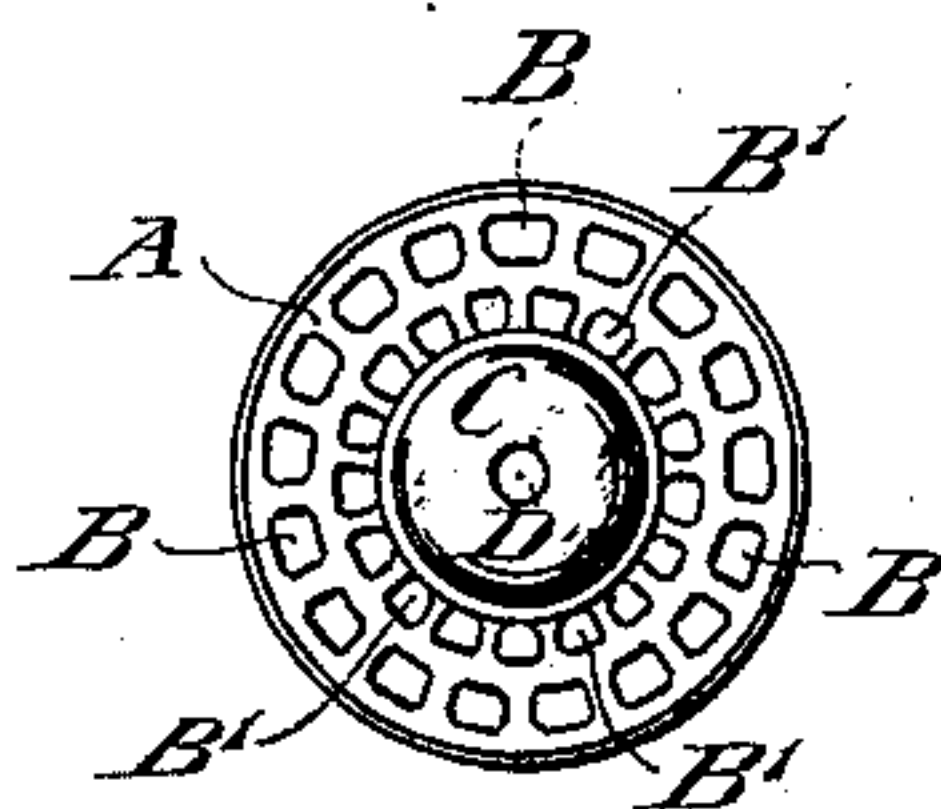


Fig. 1.

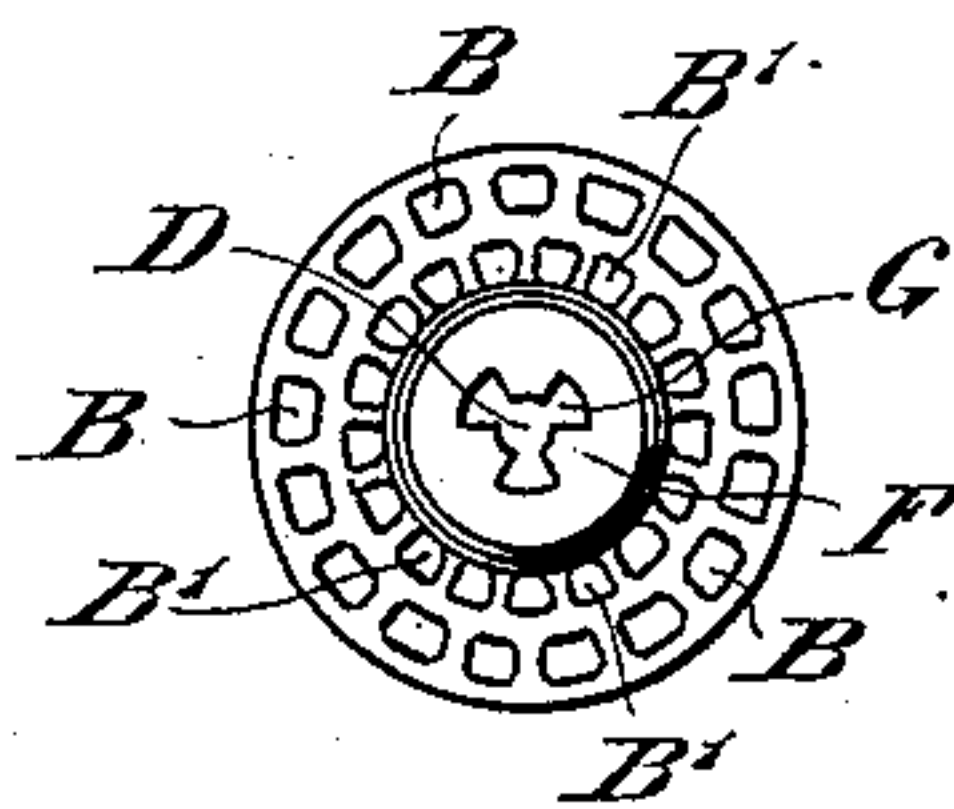


Fig. 2.

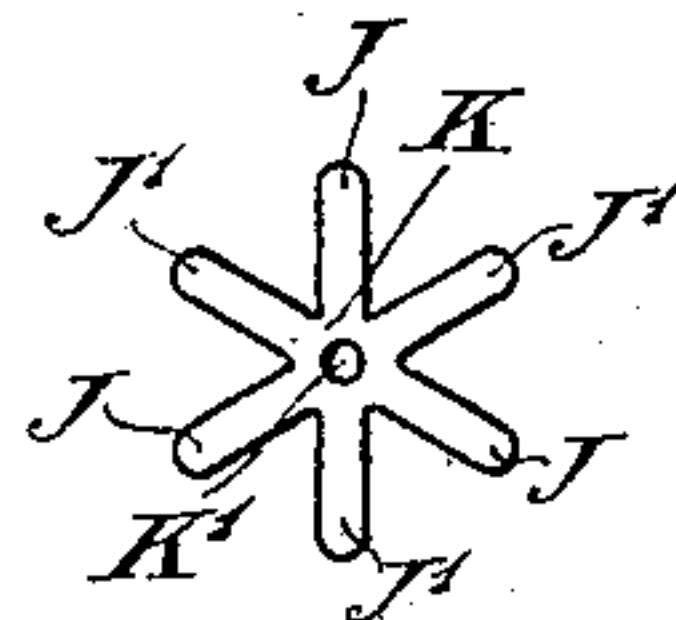


Fig. 3.

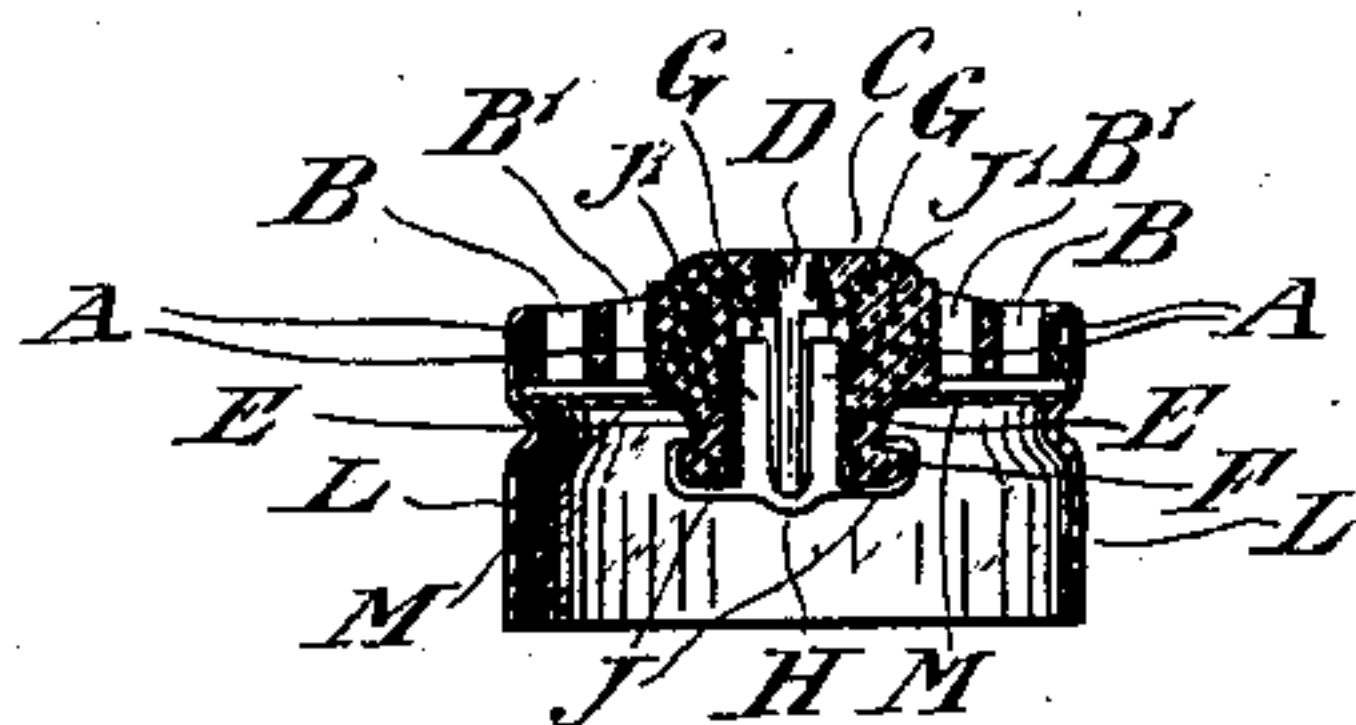


Fig. 4.

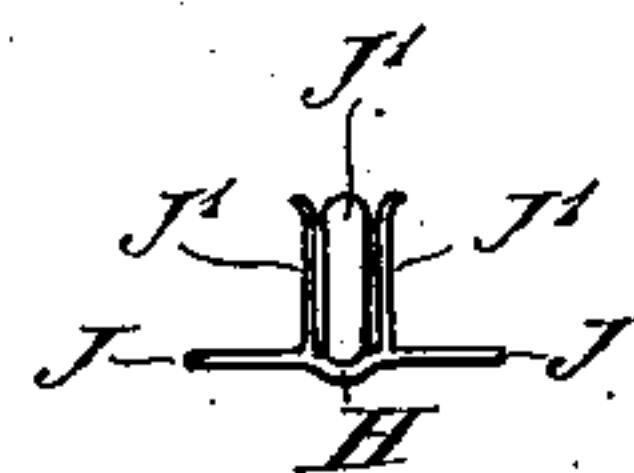


Fig. 5.

WITNESSES

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INVENTOR

*John W. Bray*  
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# UNITED STATES PATENT OFFICE.

JOHN W. BRAY, OF LEEDS, ENGLAND.

## INCANDESCENT GAS-BURNER.

SPECIFICATION forming part of Letters Patent No. 750,018, dated January 19, 1904.

Application filed July 14, 1903. Serial No. 165,506. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN WILLIAM BRAY, a subject of the King of Great Britain and Ireland, whose postal address is Bagby Works, Leicester Place, Leeds, in the county of York, England, have invented certain new and useful Improvements in and Relating to Incandescent Gas-Burners, of which the following is a specification.

10 This invention is for improvements in and relating to incandescent gas-burners, and has for its object the construction of a steatite or other non-corrosive burner-tip in such a manner that the gas may be consumed more economically and a better light obtained than has hitherto been the case. The tip being non-corrosive, the life of the burner is materially prolonged.

My invention further consists in providing a clip which has for its object to prevent the mantle-rod from shaking when placed in the burner-tip.

The non-corrosive burner-tips hitherto used have been constructed with round holes, thereby giving relatively small space for the mixture of gas and air to pass through as compared with the area of the walls between the holes, which obstruct the upward flow of the mixture of gas and air, and thereby lessen the efficiency of the burner.

In describing my invention in detail reference is made to the accompanying sheet of drawings, similar letters indicating similar parts, in which—

35 Figure 1 represents a plan of the burner-tip. Fig. 2 represents a plan of the burner-tip looking from below. Fig. 3 represents a sectional elevation of the burner-tip fixed to a socket for attaching to a burner-tube and a wire-gauze diaphragm fixed immediately below the said tip. Figs. 4 and 5 are details of the clip hereinafter referred to.

In carrying out my invention I construct a non-corrosive tip A, of porcelain, steatite, or similar material. The said tip A is of circular form, having close to its outer edge a circle of approximately rectilinear holes B—that is to say, perforations bounded by substantially straight lines. Immediately inside this circle is another circle of similar rectilinear

holes B', as shown in Figs. 1 and 2. By this means I obtain almost the maximum of open area in the holes and the minimum of walls between the holes. Within the area occupied by the holes B B' and on the top side of the tip A is formed a slight boss C, with a hole D through the center for the reception of the mantle-rod. The under side of the tip A has also a boss E formed thereon through which the before-mentioned hole D for the reception of the mantle-rod is continued, the said boss E having a projecting ring or flange F around same, as shown in Fig. 3. In the wall of the lower portion of this central hole is made one or more grooves G—three by preference, as shown in Fig. 2—into which is fitted a clip H, made of any suitable shape or material, but by preference of sheet-brass made in the form of a star, having, by preference, six arms J J J' J' J', with a central part K left blank, which blank part has a hole 'K' through its center made for the purpose of facilitating the removal of a broken mantle-rod. When the clip H is fixed in position, the remaining blank part prevents the mantle-rod from slipping through the hole D, as shown in Fig. 4.

Before the clip H is placed in position in the tip A each alternate arm J' of the star is turned up to a vertical position, as shown in Fig. 5, thereby forming a split tube. This split tube is placed in the grooved hole D of the tip A, so that the arms J' work in the grooves G and have sufficient spring to tighten around the mantle-rod, which prevents the mantle-rod from shaking when the same is placed in position through the central hole D in the top of tip A. The three arms J of the star are wrapped over the flange F on the boss E, thereby securing the clip H to the tip A, as shown in Fig. 3.

The burner-tip A is placed in a suitable metal tube or socket L. The said socket may fit into or around the top of the burner-tube. Immediately under and in contact with the said burner-tip A is placed a diaphragm M, of wire or like gauze, for the purpose of preventing lighting back.

What I claim as my invention is—

1. In combination, a burner-tip having a substantially flat face, a circle of approxi-

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mately rectilinear holes in said face, a socket D in said face, and means for holding a mantle-rod in said socket.

2. In combination with a burner-tip having  
5 a socket D, a spring-clip located in the socket and adapted to hold a mantle-rod, substantially as described.

3. In combination a burner-tip having its  
10 central portion provided with a socket and an inwardly-extending portion having a grooved

outer face, and a rod-holding clip extending into the socket and having spring-arms engaging said grooved edge, substantially as described.

In witness whereof I have hereunto set my  
hand in the presence of two witnesses.

JOHN W. BRAY.

Witnesses:

CLIVE WAUGH,  
HY MUDD.