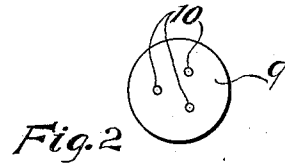
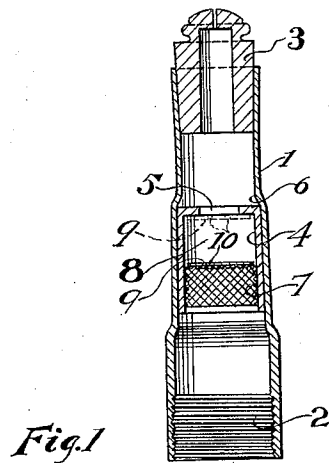


W. W. CLINDININ.
GAS BURNER.
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1,047,385.

Patented Dec. 17, 1912.



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UNITED STATES PATENT OFFICE.

WILLIAM W. CLINDININ, OF CHICAGO, ILLINOIS.

GAS-BURNER.

1,047,385.

Specification of Letters Patent.

Patented Dec. 17, 1912.

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To all whom it may concern:

Be it known that I, WILLIAM W. CLINDININ, a subject of the King of Great Britain, and a resident of the city of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Gas-Burners, of which the following is a specification.

My invention relates to improvements in gas burners, and more specifically in burners of that class designed for illuminating purposes.

The object of my invention is the production of a burner of the character mentioned which will be of improved construction, one which will be so constructed as to be adapted to regulate the flow of gas therethrough so as to secure a uniform pressure or supply of gas at the burner tip and hence a non-flickering flame, and further, a burner which will be of high efficiency in operation.

Other objects will appear hereinafter.

With these objects in view, my invention consists in the combinations and arrangements of parts hereinafter described and claimed.

My invention will be best understood by reference to the accompanying drawing forming a part of this specification, and in which—

Figure 1 is a central section of a burner embodying my invention, and Fig. 2 is an enlarged plan view of a movable disk included in the construction.

The preferred form of construction, as illustrated in the drawing, comprises a tubular body 1 which is of usual form and construction, the same being open at both ends and formed at its lower end with internal screw threads 2 for attachment to the threaded nipple of the gas supply pipe, a burner tip 3 of the usual form being held by friction in the tapering upper end of said body. Arranged within the body 1 intermediate the extremities thereof, is an inverted cup-shaped member 4, the head of which is provided with a central opening 5. The member 4 is formed preferably of a single piece of material and is preferably a stamping, the same being held in position in the body 1 through friction, the lateral walls of said member fitting snugly the interior surface of the body 1, an annular shoulder 6 provided in said body serving to hold said cup-shaped member in position in the body 1 against upward movement.

The provision of the shoulder 6 is of special advantage in that it serves to facilitate the proper positioning of the member 4 in the body 1 and without any special pains being taken during the insertion. With said shoulder, upon arranging the member 4 in the body 1, said member 4 is simply forced into the lower end of the body as far as is possible, the position to which said member may be forced being governed by said shoulder 6 which will engage the adjacent end of said member 4 and prevent further insertion.

Fitted in the lower end of the member 4 is an inverted cup-shaped strainer 7 which is formed preferably of fine wire mesh or gauze, said strainer being held in position in the member 4 by friction. The member 7 is so positioned in the member 4 that a cylindrical space 8 will intervene between the heads of said members 4 and 7, as is clearly shown. Arranged in the space 8 is a freely movable disk 9, which is adapted normally to rest upon the upper side or head of the strainer 7, as is clearly shown in Fig. 1. The disk 9 is of a diameter slightly less than that of the interior of the member 4 or of the space 8, so that, in operation, gas will be permitted to escape around the periphery of said disk, that is through the annular space which will intervene between the periphery of said disk and the inner surface of the member 4. Provided centrally in the disk 9 is a plurality of perforations of very minute diameter, the combined diameters or size of said perforations being less than that of the opening 5 in the member 4.

In the operation of the burner, the gas passes upwardly in the body 1 and first through the strainer 7, where dust, or other foreign particles are removed from the gas. Upon passing through the strainer 7, the gas impinges upon the under side of disk 9 which is elevated thereby from its position upon the strainer 7 by reason of the pressure of the gas upon the under side thereof. The amount of the pressure upon the under side of disk 9 determines the position of the latter in the space 8, it being clear that with a low pressure said disk will be elevated only a slight degree or to such an extent as to permit of the escape of gas through the perforations 10 thereof and around the periphery of said disk; said disk, in the case of excessive or high pressure, being forced

to the upper extremity of the space 8 against the under side of the head of member 4, as shown in dotted lines in Fig. 1. When the disk 9 is at its upper terminal of movement, such as when an excessive or high pressure of gas is acting thereon, as last mentioned, the supply of gas to the tip 3, in order to support the flame at the tip, is governed by the size of the perforations 10, it being clear that, when said disk is positioned against the under side of the head of member 4, the only avenue of egress of the gas to the tip will be through the perforations 10. This obviously will serve to reduce the pressure of the gas before the same reaches the tip 3 and, so that the pressure at the tip, under these conditions, will be practically the same as the pressure thereon when gas under a lower or normal pressure is passing through the burner and which effects only a slight elevation of the disk 9. Thus the disk 9 will serve to govern the gas pressure or the flow of gas to the burner tip, so as to secure a uniform pressure at the burner tip and consequently the production of a steady non-flickering flame. The disk 9 will be made of a material which may be readily perforated so that in case of excessively high pressure a greater number of perforations may be formed in said disk or the perforations already provided therein may be enlarged in order to correspond with the pressure of the gas in conjunction with which the burner is used. The pressure controlling device, that is the member 4 and the parts connected therewith, is in the form of an attachment, as will be

observed, so that in practice, said member together with the strainer and disk arranged therein may be sold independently for arrangement in burners already in use, the attachment being adapted to be readily inserted in the burner tube by the purchaser thereof.

A burner of the construction set forth is durable and economical in construction, the same may be manufactured at a low cost, and is of high efficiency in operation.

Having described my invention, what I claim as new and desire to secure by Letters Patent, is:

The combination with a tubular body having a contracted upper terminal; an inverted cup member mounted in said tubular member adjacent to the upper contracted extremity, having a central orifice therein; a screen arranged in the base of said inverted cup member and spaced from the upper extremity thereof; and a disk valve of less diameter than the cup member mounted above said screen adapted to reciprocate in the space between the same and the upper extremity of said cup, said valve being perforated by a plurality of openings, the combined diameters thereof being less than the diameter of the aperture of the base of the cup member aforesaid.

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

WILLIAM W. CLINDININ.

Witnesses:

JOSHUA R. H. POTTS,
HELEN F. LILLIS.