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F. A. ANDREWS.

GAS CONTROLLING DEVICE FOR INCANDESCENCE AND OTHER GAS LAMPS.

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Fig. 1.

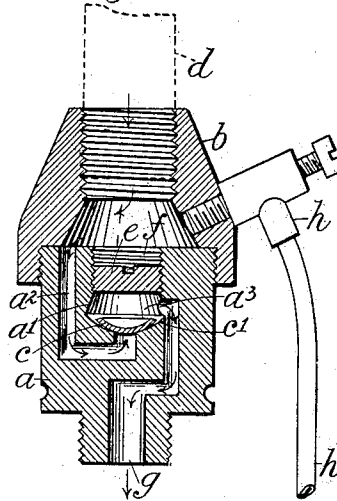
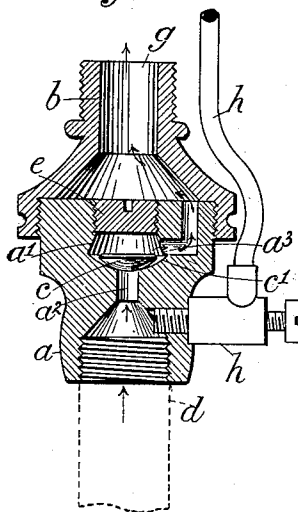


Fig. 2.



Witnesses:

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GAS-CONTROLLING DEVICE FOR INCANDESCENCE AND OTHER GAS-LAMPS.

No. 829,751.

Specification of Letters Patent.

Patented Aug. 28, 1906.

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To all whom it may concern:

Be it known that I, FREDERICK AUGUSTUS ANDREWS, a subject of the King of Great Britain and Ireland, residing at London, in the county of Middlesex, England, have invented a new and useful Gas-Controlling Device for Incandescence and other Gas-Lamps, of which the following is a specification.

This invention relates to an improved device or means for controlling the supply of gas from the supply-pipe to the burner (or burners) of an incandescence or other gas-lamp provided with a by-pass, and it has reference more especially to the type in which a valve lying normally on its seat is caused to rise under the pressure of the entering gas, and thereby to open communication between the gas-supply pipe and the burner, (or burners.)

In devices of this character as heretofore constructed it is found that owing to impurities in the gas and to the heat developed by the flame when such a device is near to or connected with the burner or burners the valve, which is either of the ball or piston type, expands to such a degree as to become jammed or fixed against the parallel or cylindrical wall of the barrel or casing, and so renders the device useless after a short time.

Now the object of this invention is to so construct these devices as to allow the valve free action and thereby prevent it jamming or fixing and also to permit of the ready application of such a device to inverted incandescence and other gas-lamps.

To this end the improved controlling device consists, essentially, of a chamber or compartment having a splayed inner wall and of a cup-shaped or dished disk-shaped valve arranged to operate freely therein at all times in such a manner that jamming or lodging of this valve against the inner wall of the said chamber or compartment is obviated.

In the accompanying drawings, Figure 1 is a central vertical section of one form of the improved device for use with an inverted incandescence gas-lamp, and Fig. 2 is a similar view of the device slightly modified for use with an ordinary or upright incandescence or other gas burner.

Referring to the said drawings, the device is constructed in two main parts or castings *a* and *b*, the former of which constitutes a chamber or compartment and contains the valve *c* and the latter of which forms a cap *b* for said

chamber, and when the device shown in Fig. 1 is used in connection with an inverted incandescence gas-burner the said cap is connected with the gas-supply pipe *d*, while when the device shown in Fig. 2 is used in connection with an ordinary incandescence or other vertical type of gas-burner the said supply-pipe *d* is connected with the chamber or compartment *a*. The inner wall of this chamber or compartment is in both cases splayed or formed with an outward slope, as shown at *a'*, and surrounds the said valve *c*, which instead of being of the usual ball or piston type is for the purpose of this invention formed as a cup or dished disk, as clearly seen in section in Fig. 1 and in elevation in Fig. 2. The rise or lift of this valve is limited by a stop or plug *e*, which is screwed into the chamber or compartment *a*, and when the device is for use with an inverted burner, as in Fig. 1, said stop or plug is screwed down below the level of such chamber or compartment, so as to form a receptacle *f* for the reception of any dust which may fall down the supply-pipe *d*. As shown by the arrows, the gas enters the chamber or compartment *a* at the top in Fig. 1 and at the bottom in Fig. 2 through the orifice *a''* and raising the valve *c* from its seat *c'* passes through an orifice *a'''* in the splayed wall *a'* and finally issues through an outlet-passage *g* to the burner. Thus owing to the splayed form *a'* given to the inner wall of the chamber or compartment *a* there is ample space or clearance for the valve, and any lateral movement imparted to this latter by the pressure of gas will be arrested by the splayed wall, against which it will be impossible for the valve to jam or lodge. When the gas-supply is shut off, the valve will fall freely by gravity onto its seat. In both the above-described constructions of controlling devices the by-pass *h* is fitted thereto in such a manner that the gas passing through it is not controlled by the valve *c*, but, as is usual in devices of this character, by the main cock or tap.

Having now described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A gas-controlling device having a valve-chamber, a cup or dished disk-shaped valve in said chamber, the wall of the latter tapering inwardly in the direction of the opening movement of the valve, and the said device having a by-pass, the flow of gas through which is independent of said valve.

2. In a gas-controlling device provided with a by-pass, and for use with incandescence and other gas-lamps the combination of a chamber or compartment *a* having a
5 splayed inner wall *a'*, a cap *b* therefor, a cup-shaped or dished disk-shaped valve *c* suitably seated in and surrounded by said chamber, a plug, or the like, *e* for limiting the rise or lift of said valve, and inlet and outlet gas-passages or orifices in said chamber.
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3. A gas-controlling device for use with incandescence and other gas-lamps, comprising two main parts or castings adapted to be secured together, one of which forms the
15 valve-chamber, and the other a cap therefor, an outwardly-splayed inner wall in said chamber, a cup or dished disk-shaped valve lying normally loose in its seat formed in said chamber, a stop or plug to limit the rise of
20 said valve, a gas-inlet passage leading to be-

low the valve, and a gas-outlet passage leading from above said valve, and a by-pass in connection with the entering gas-supply.

4. A gas-controlling device having a valve-chamber, the top of which is formed by a
25 plug, the wall of the chamber tapering inwardly in the direction of the opening movement of the valve, and said device having a by-pass, the flow of gas through which is independent of said valve, and said plug being
30 adapted to be fitted in place to form a chamber above it for catching dust.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

FREDERICK AUGUSTUS ANDREWS.

Witnesses:

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