No. 733,618. PATENTED JULY 14, 1903.

G. A. BRACHHAUSEN.

GAS CHECK.

APPLICATION FILED OCT. 18, 1902.

NO MODEL.

Fig. 1.

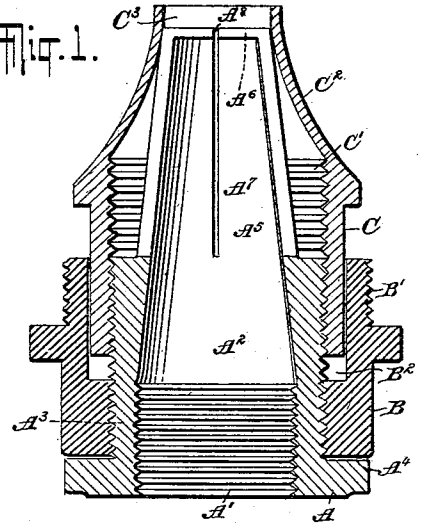


Fig. 2.

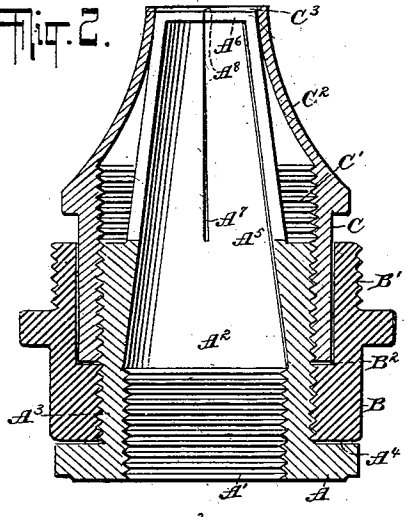


Fig. 3.

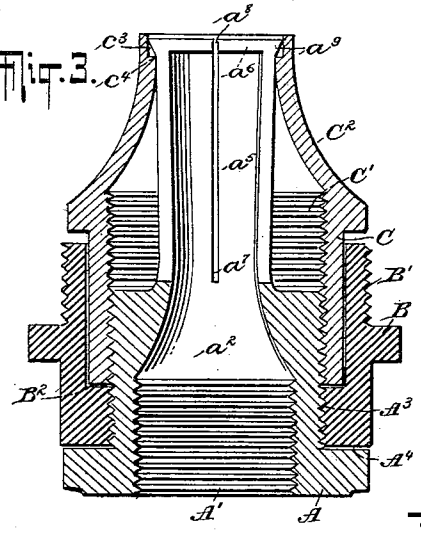


Fig. 4.

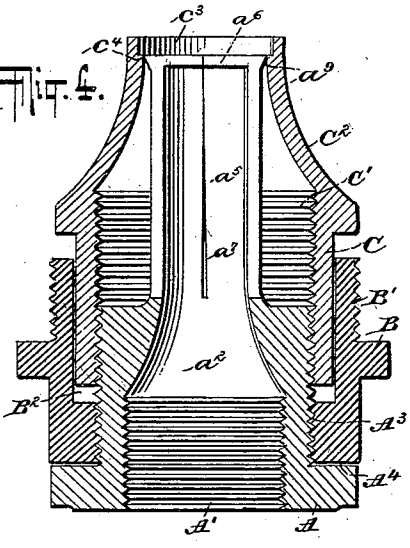
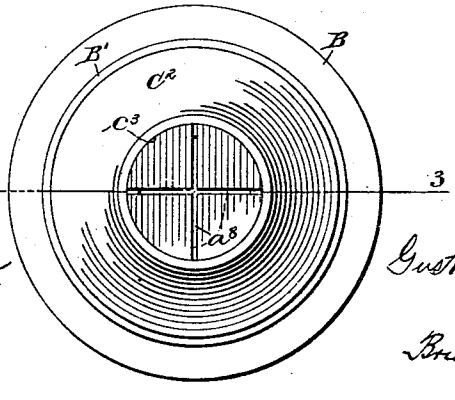


Fig. 5.



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No. 733,618. Patented July 14, 1903.

UNITED STATES PATENT OFFICE.

GUSTAV A. BRACHHAUSEN, OF RAHWAY, NEW JERSEY, ASSIGNOR TO REGINA MUSIC BOX COMPANY, OF RAHWAY, NEW JERSEY, A CORPORATION OF NEW JERSEY.

GAS-CHECK.

SPECIFICATION forming part of Letters Patent No. 733,618, dated July 14, 1903.

Application filed October 18, 1902. Serial No. 127,814. (No model.)

To all whom it may concern:

Be it known that I, GUSTAV A. BRACHHAUSEN, a citizen of the United States, residing in Rahway, county of Union, and State of New Jersey, have invented certain new and useful Improvements in Gas-Checks, of which the following is a specification.

My invention relates to gas-checks—that is, to devices for checking or regulating the flow of gas to burners or other appliances at which the gas is used.

The object of my invention is to provide an exceedingly simple device of the indicated class in which the flow of gas is regulated without placing in the path of the gas any obstruction that would tend to deflect the gas from its normal path.

The invention will be fully described hereinafter and the features of novelty pointed out in the appended claims.

Reference is to be had to the accompanying drawings, in which—

Figure 1 is a central sectional elevation of one form of my invention with the check or regulator fully open. Fig. 2 is a similar view showing the check closed. Fig. 3 is a like view of another form of my invention with the check open. Fig. 4 shows the same check closed, and Fig. 5 is a top view of the construction shown in Figs. 3 and 4. The sections Figs. 3 and 4 are taken substantially in the plane indicated by the line 3 3 in Fig. 5.

The improved regulator in the construction illustrated by Figs. 1 and 2 comprises a body or support A, which is tubular and has an interior screw-thread A′ for attaching it to the end of a gas-supply pipe. At the upper end of the screw-threaded portion the bore of the body is contracted or tapered, as shown at A^2, and this construction forms a shoulder, against which the end of the gas-supply pipe will abut. An outer screw-thread A^3 is also formed on the body A, and adjacent to the lower end of this screw-thread is a shoulder A^4. These two features serve to support upon the body any suitable parts for carrying an incandescent mantle and, if desired, a lamp-chimney and a shade, these being well-known fixtures. In the drawings I have shown a sleeve B, arranged for connection with the screw-thread A^3, and itself provided with a screw-thread B′ to receive the carrier of the incandescent mantle or a like fixture. The upper portion A^5 of the body A, above the upper end of the screw-thread A^3, is of smaller diameter than the screw-threaded portion and is provided at the top with a plane cap or cross-plate A^6. In these portions A^5 A^6, I produce slits A^7 A^8, respectively, which are so arranged as to cross each other on the plate A^6, as indicated in the top view, Fig. 5, the construction shown in Figs. 1 and 2 having the same relative arrangement of slots as that represented in Figs. 3, 4, and 5. The outer surface of the upper portion A^5 and of the plate A^6 is preferably beveled, although this is not absolutely necessary. The screw-thread A^3 is adapted to be engaged by the screw-threaded portion C′ of the regulating-sleeve C, the downward movement of which may be limited by a shoulder B^2 on the member B. This sleeve is provided with a contracted portion C^2 above the screw-thread C′, which contracted portion is adapted for engagement with the upper portion A^5 of the body A, and the upper end of this portion C^2 preferably has its inner wall vertical—that is, at a right angle to the plane of the plate A^6. This vertical wall C^3 projects above the plate A^6.

It will be understood that the upper end A^5 of the tubular body on account of its being slitted has considerable elasticity and automatically tends to assume the form shown in Fig. 1, where the slits A^7 A^8 are wide open. This is the case when the regulator C is in its upper position and exerts no clamping action on the upper end of the tube A^5. When the regulator is screwed down the slits are gradually closed, and at a certain point the slits in the cross-plate A^6 will be closed entirely, as shown in Fig. 2.

I desire to call particular attention to the provision of the surface C^3, extending at right angles to the plane of the cross-plate A^6 and above said plate. By this arrangement as the gas issues from the slits A^8 it is prevented from spreading laterally into a fan-shaped volume, but is shot straight upward in a stream of even width. Thus the gas is not liable to impinge against the parts of the burner car-

ried above the regulator, and a deflection of the gas-current with the disturbing eddying action that would follow therefrom is avoided. The employment of cross-slits in the plate A^6 is of material advantage in that the outflowing stream of gas is brought in contact with a very large body of air, it being understood that this stream in horizontal section has substantially the shape of a cross.

Another feature of my regulator is the provision of the plane plate at the discharge end of the body A, so that all particles of gas leave the slits A^8 at the same level, and, moreover, as the opposing edges of the slits A^8 are straight parallel lines they will come into perfect contact when the upper end of the tube A^5 is compressed. The shape of the gas-jet is substantially the same whether the slits A^8 be open entirely or partly. The direct path of the gas from the supply-pipe to the outlet-slits A^8 is not obstructed by any body that might cause the gas to deviate from its direct path. There is therefore the least possible amount of pressure reduction without however, impairing the efficiency of the regulation.

In the form of construction illustrated by Figs. 3, 4, and 5 the body A has the screw-threads A' A^3 and the shoulder A^4, as described with reference to Figs. 1 and 2. The contracted portion a^3 is concave instead of conical, and the upper portion a^5 is substantially cylindrical, at least in its contracted position, as shown in Fig. 4. The cross-plate a^6 and the slits a^7 a^8 are substantially the same as the features of Figs. 1 and 2, designated by the corresponding reference-letters. The outer edge of the plate a^6 is beveled, so as to flare upwardly, as indicated at a^9, and this beveled surface is adapted to be engaged by the ridge c^4 at the upper portion of the regulator member C^2. The regulator-body C is provided with an internal screw-thread C′ in the same manner as described with reference to Figs. 1 and 2. Above the ridge c^4 the regulator member C^2 is provided with a vertical surface c^3, which, therefore, is perpendicular to the plane of the plate a^6. This vertical surface has the same object and function as described with reference to the surface C^3 of Figs. 1 and 2. The carrying-sleeve B may be the same as in Figs. 1 and 2. In this construction also the width of the outlet-slits a^8 is adjusted by screwing the regulator C up or down; but it will be observed that it is necessary to screw the regulator upward in order to close the slits a^8. In other respects, however, the operation of the device is exactly the same as above described.

In the foregoing description I have referred to the body A as stationary and the regulator C as movable lengthwise of such body. It will be obvious that the reverse arrangement might be adopted, and I desire it to be distinctly understood that such reversal is within the scope of my invention and that the claims are to be interpreted accordingly.

Various other modifications may be made without departing from the nature of my invention.

I claim—

1. A fluid-check comprising a tube having a plane cross-plate at its discharge end, said tube and plate being slitted, in combination with a regulator surrounding said discharge end and adapted to compress the same, said regulator projecting beyond the discharge end of the tube and being provided at the said projecting portion with an inner surface perpendicular to the plane of said cross-plate.

2. A fluid-check comprising a tube provided with cross-slits at its discharge end, and a regulator for compressing the slitted end of the tube.

3. A fluid-check comprising a tube with a plane cross-plate at its discharge end, the tube and plate being provided with slits crossing each other centrally upon said plate, in combination with a regulator for compressing the discharge end of the tube.

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

GUSTAV A. BRACHHAUSEN.

Witnesses:

JOHN LOTKA,

HENRY M. TURK.