No. 734,505. PATENTED JULY 28, 1903.

G. A. BRACHHAUSEN.

GAS COCK.

APPLICATION FILED DEC. 22, 1902.

NO MODEL.

Fig. 1.

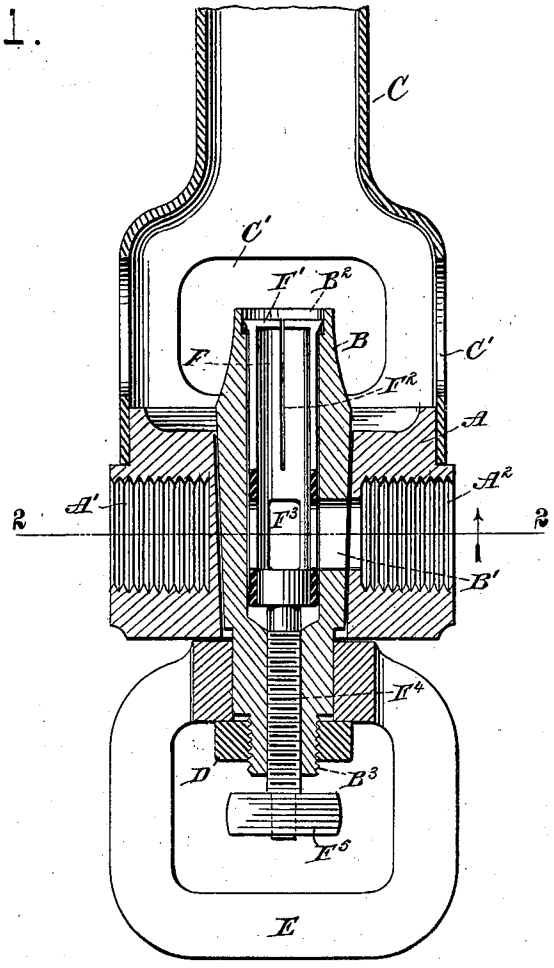
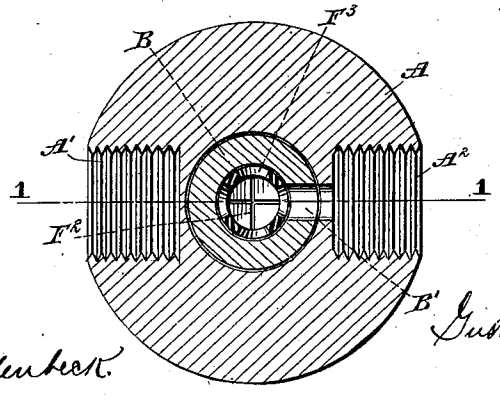


Fig. 2.



WITNESSES:

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No. 734,505. Patented July 28, 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-COCK.

SPECIFICATION forming part of Letters Patent No. 734,505, dated July 28, 1903.

Application filed December 22, 1902. Serial No. 136,093. (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, State of New Jersey, have invented certain new and useful Improvements in Gas-Cocks, of which the following is a specification.

My invention relates to gas-cocks, and has for its object to provide a simple construction which will combine the features of a regulator or gas-check and a cock or valve.

My invention will now be described in its application to a burner of the Bunsen type, it being understood, however, that various modifications may be made without departing from the nature of my invention.

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

Figure 1 is a sectional elevation of the improved cock on line 1 1 of Fig. 2, and Fig. 2 is a sectional plan on line 2 2 of Fig. 1.

A indicates the casing, which is provided with apertures A′ A^2, adapted to receive the usual supporting-arms, one or both of which may be formed as gas-supply pipes. The casing is also provided with a central bore extending from top to bottom and adapted to receive the plug B. Furthermore, the casing may support the mixing-tube C, provided with apertures C′ to allow air to mix with the gas, which is discharged at the upper end of the plug B.

The plug B is tubular and has a lateral opening B′, adapted to communicate with the gas-inlet—for instance, the channel A^2, as shown. At its upper end the bore of the plug is enlarged and is provided with a vertically-disposed cylindrical surface B^2. The lower end of the plug projects beyond the casing A and is screw-threaded, as indicated at B^3, to receive a nut D, which serves partly to press the plug into tight engagement with its seat (the plug and seat being tapered downwardly or made conical for this purpose) and partly to hold in position the handle E, which is fitted upon the lower portion of the plug in such a manner as to turn therewith. It will be understood that by turning the plug by means of the handle E the supply of gas may be regulated or even interrupted entirely. As a rule, however, it is intended to use the handle E only for the purpose of turning the gas on or off. The regulation of the flame is effected by the following device: Within the plug is located a gas-tube F, having at its upper end a flat plate F′, which is preferably provided with cross-slits F^2. These cross-slits are also extended through the upper portion of the cylindrical wall of the gas-tube F. The plate F′ is arranged within the enlargement at the upper end of the plug B and is beveled or inclined upon its outer surface, so that an up or down movement of the tube F relatively to the plug B will tend to expand or contract the upper end of said tube. It will be understood that the elasticity of the metal out of which the gas-tube F is made will tend to spread the slits at the upper end of said tube wide open. At its lower portion the gas-tube has openings F^3, which communicate with the opening B′ in the plug B. The tube F is further provided with a stem F^4, extending through the bottom of the plug and provided with suitable means for adjusting it up or down. For instance, as shown, the stem F^4 may be screw-threaded into the plug, and the projecting lower end of the stem may be provided with an adjusting device, such as the handle F^5. It will be understood that gas is admitted or turned off by means of the handle E. When the device is in the position, the gas will pass from the inlet A^2 through the ports B′ F^3 into the gas-tube F and will rise in the latter to the slits F^2. The gas escaping from these slits will strike the vertical surface B^2, which is perpendicular to the upper surface F′ of the gas-tube, and will thus be directed upward in a stream which is of a practically constant cross-section. This stream will thus enter the mixing-tube C without striking the walls thereof at an angle, and all detrimental deflections of the gas will be avoided. By turning the handle F^5 the gas-tube F may be moved up or down relatively to the plug B, so as to vary the width of the slits F^2, through which the gas issues. Thus a very nice adjustment of the gas-flow may be obtained. It will also be observed that this adjustment is not disturbed in the least when the plug is turned to turn

on or shut off the gas, since the gas-tube turns with the plug. In a broad sense the gas-tube constitutes a check for regulating the outflow of the gas from the plug. By tapering the plug and its seat downward I secure a tight fit of the plug by its gravity-line, or at least the weight of the plug will have a tendency to keep it tightly upon its seat.

I claim as my invention—

1. The combination with the casing, of a hollow plug mounted to turn in said casing and having a longitudinal opening with an outlet at one end of the plug, and an elastic check arranged adjacent to said outlet and movable lengthwise in said opening of the plug.

2. The combination with the casing, the mixing-tube, and the plug having its discharge end arranged adjacent to the mixing-tube and provided with a cylindrical surface, the axis of which coincides with that of the mixing-tube.

3. The combination with the casing, the mixing-tube, the plug having its discharge end arranged adjacent to the mixing-tube, and provided with a cylindrical inner surface the axis of which coincides with that of the mixing-tube, and an adjustable check located within the plug adjacent to the said cylindrical inner surface thereof.

4. The combination with the casing, the tubular plug mounted to turn therein, and the elastic check controlling the flow of gas through the plug, said check being mounted to turn with the plug, but being adjustable lengthwise thereof.

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

GUSTAV A. BRACHHAUSEN.

Witnesses:
JOHN LOTKA,
OTTO SCHENK.