(No Model.)

H. COX, Jr.

GAS BURNER.

No. 442,863. Patented Dec. 16, 1890.

FIG. 1.

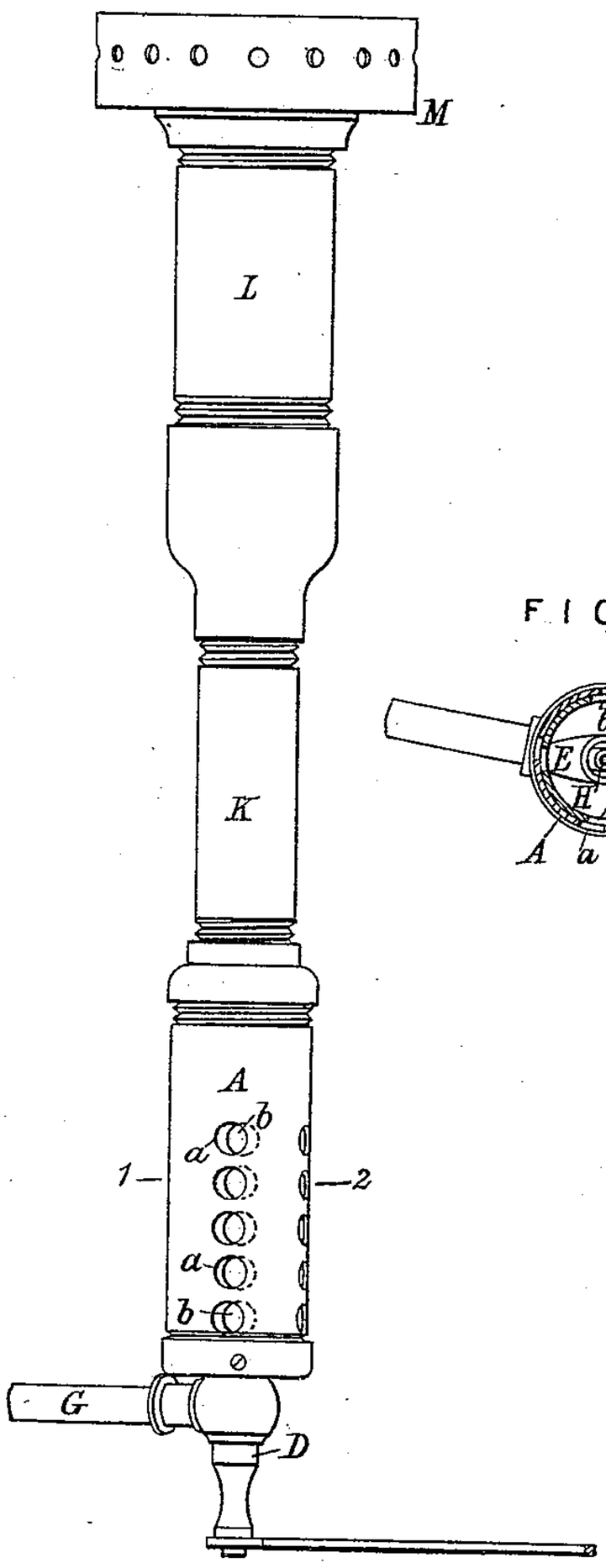


FIG. 2.

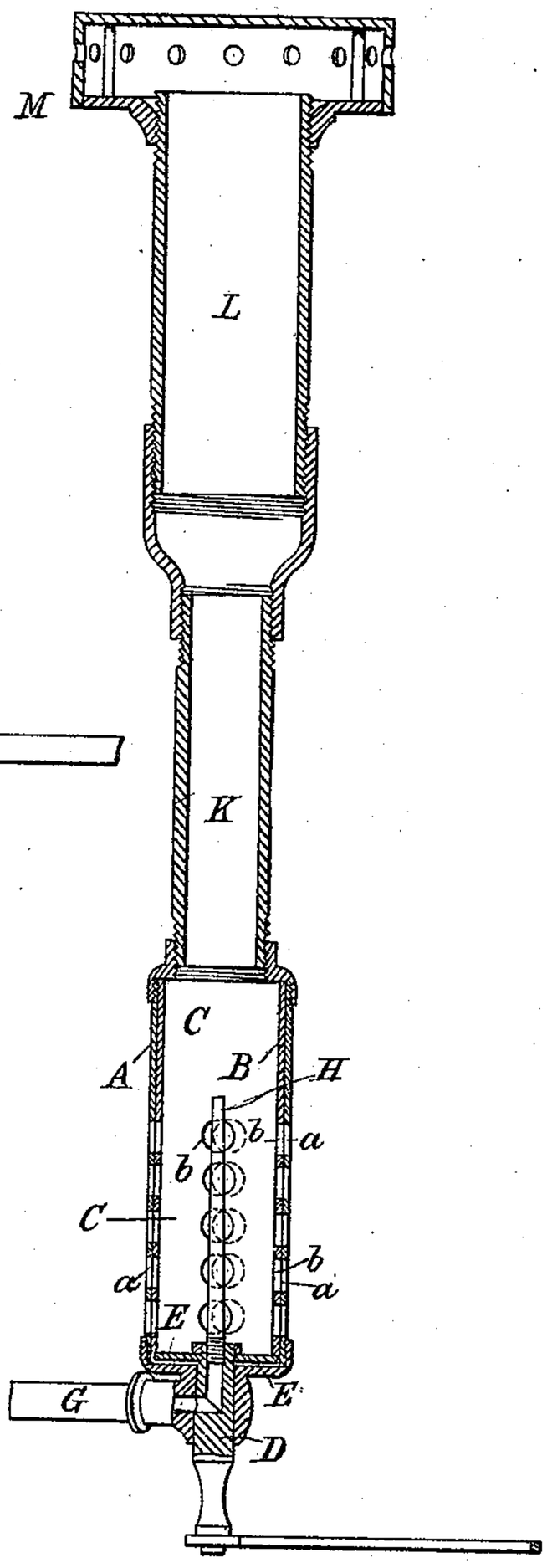
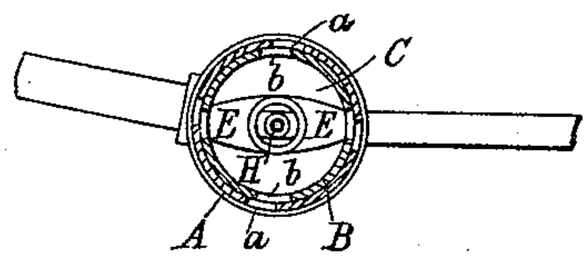


FIG. 3.



Witnesses

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Inventor.

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UNITED STATES PATENT OFFICE.

HENRY COX, JR., OF LONDON, ENGLAND.

GAS-BURNER.

SPECIFICATION forming part of Letters Patent No. 442,863, dated December 16, 1890.

Application filed February 11, 1890. Serial No. 340,033. (No model.) Patented in England February 3, 1888, No. 1,634.

To all whom it may concern:

Be it known that I, HENRY COX, Jr., gas-engineer, a subject of the Queen of Great Britain and Ireland, residing at 123 Pall Mall, London, in the county of Middlesex, England, have invented certain Improvements in or connected with Atmospheric Gas-Burners, (for which I have obtained a patent in Great Britain, No. 1,634, dated February 3, 1888,) of which the following is a specification.

This invention has for its object the construction and arrangement of improved apparatus for the proper mixing or blending of gas with common air for the purpose of effecting a more perfect combustion than with burners as at present constructed, in which the burning is very imperfect and wasteful of gas as well as dangerous.

I will explain my invention with reference to the accompanying drawings.

Figure 1 is an elevation. Fig. 2 is a longitudinal section, and Fig. 3 is a transverse section through the line 1 2 of Fig. 1.

A is a casing or tube, which has therein a hole or holes *a* of suitable size to give the maximum supply of air required.

B is an inner casing or tube fitting and capable of revolving in the casing or tube A. The casing or tube B has in it a hole or holes *b* corresponding to the hole or holes *a*. The interior of the inner casing B constitutes the air-chamber *c*, wherein the gas issuing from the nozzle or orifice of the pipe H and the air introduced through the holes *a* and *b* in the casings A and B are mixed or blended. The inner casing B is secured to and revolves with the gas-inlet screw or plug D, being connected therewith by the arms E, the outer ends of which enter notches in the lower end of the casing B, and thereby the air-holes *b* are simultaneously adjusted in relation to the holes *a* in proper proportion to the adjustment of the passage through the screw or plug for the introduction of the gas, and in consequence this tap simultaneously controls the inlet of air in just proportion to the amount of gas admitted. This tap is fixed to the gas-supply pipe at any convenient situation with respect to the point of combustion, and the pipe G is preferably at right angles to the pipes or casings A and B. By the setting of the adjusting screw or plug D the air is also simultaneously admitted in proper proportions through the holes *a* and *b* to the air-chamber C, and the proper blending of gas and air is effected and a more perfect combustion is thereby attained. The gas and air after blending are carried through the narrower passage or pipe K to the burner or burners M to give a steady flow; but before the mixture reaches the burner or burners it passes into an enlargement or expansion-chamber L of greater capacity, in which it expands and becomes comparatively quiescent and heated, (before it passes to the burner,) which greatly aids the combustion.

I claim—

In a gas-burner, the combination of a stationary perforated cylinder and a gas-supply pipe and cock with a revolving perforated cylinder within the stationary cylinder and secured to the gas-supply cock substantially as and for the purposes set forth.

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

HENRY COX, JR.

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