

S. C. HIX.

BURNER.

APPLICATION FILED MAR. 23, 1909.

Patented Apr. 26, 1910.

956,094.

2 SHEETS—SHEET 1.

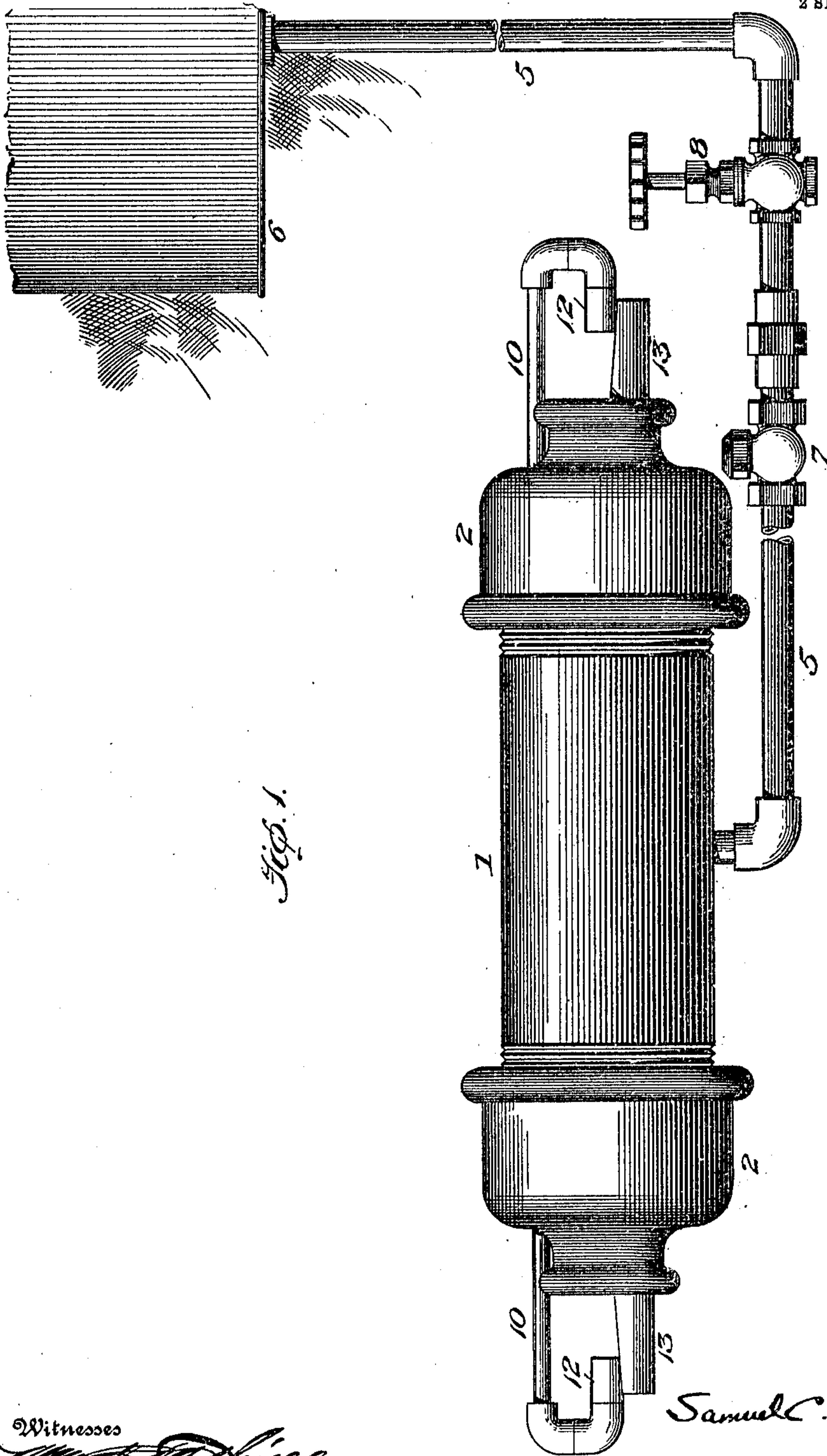


Fig. 1.

Inventor

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By

Henry N. Kopp
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Witnesses

Wm. B. Miller
Geo. A. Hamilton

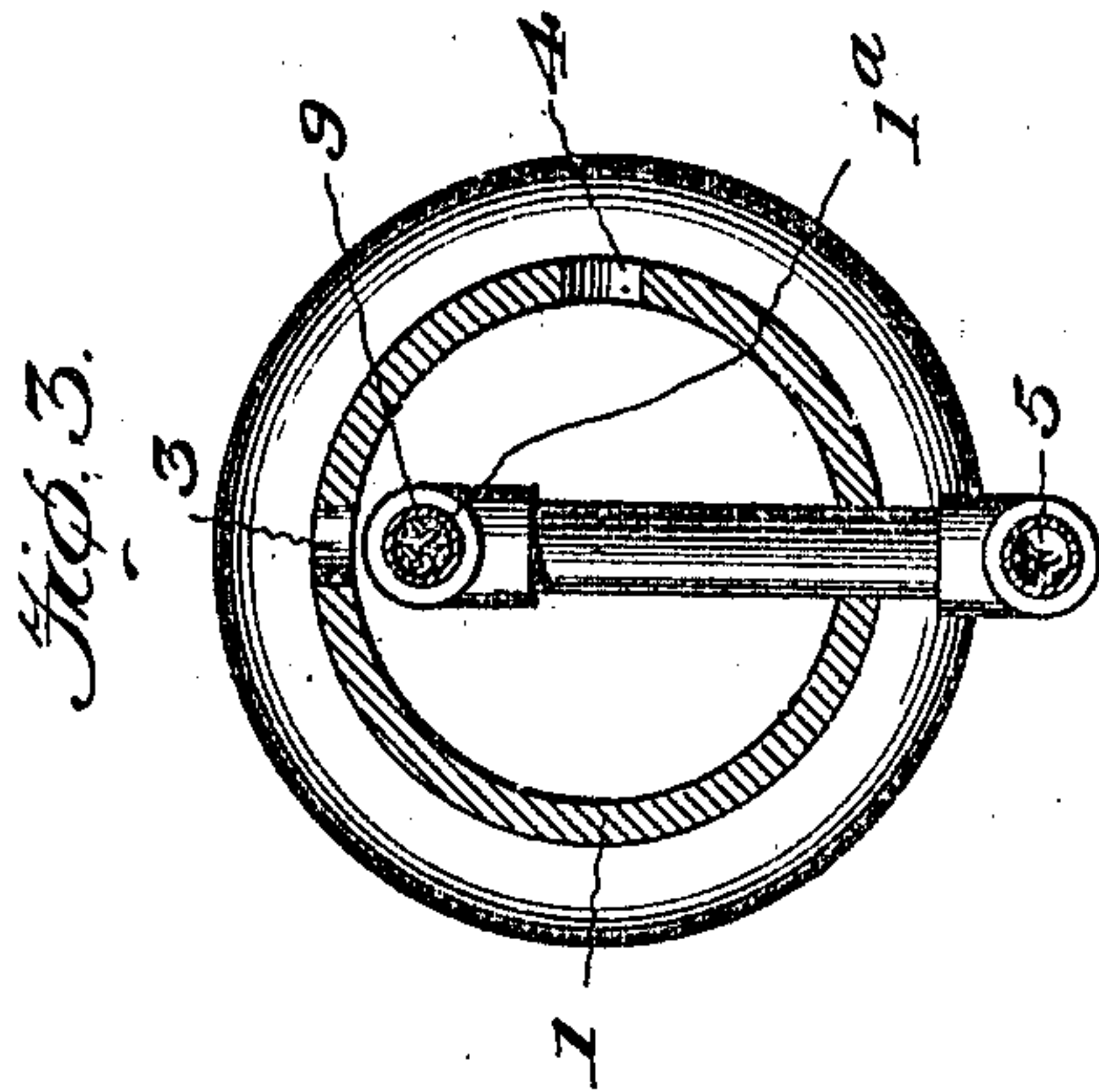
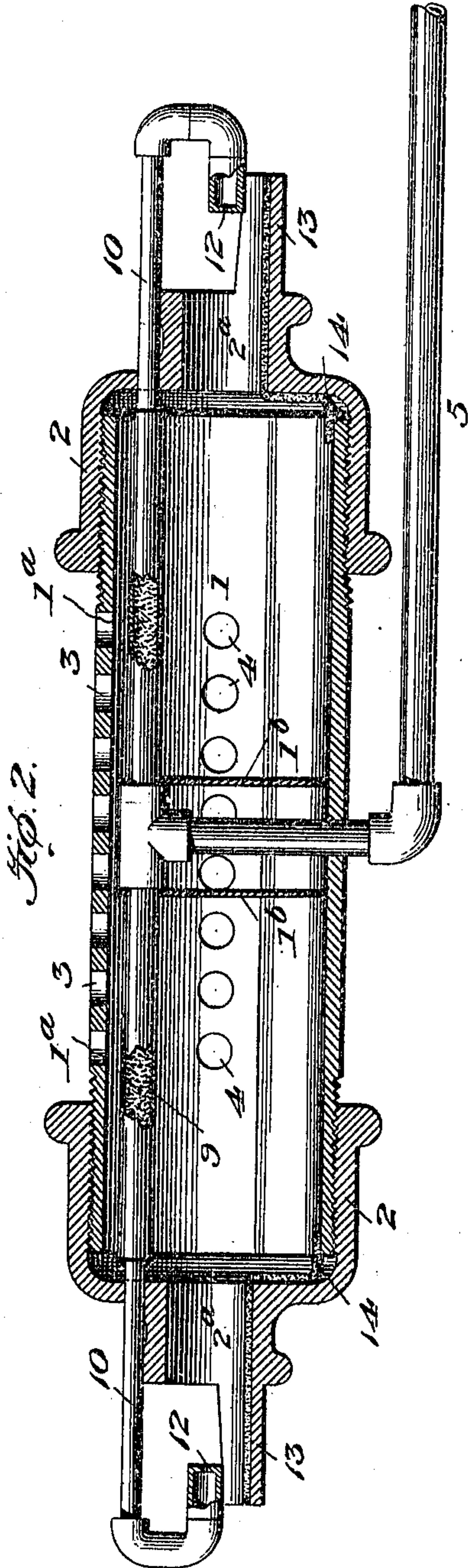
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Witnesses

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Geo. W. Hix

By

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Harry W. Hix Attorney

UNITED STATES PATENT OFFICE.

SAMUEL CROSBY HIX, OF MEMPHIS, TENNESSEE.

BURNER.

956,094.

Specification of Letters Patent.

Patented Apr. 26, 1910.

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To all whom it may concern:

Be it known that I, SAMUEL CROSBY HIX, a citizen of the United States, residing at Memphis, county of Shelby, and State of Tennessee, have invented certain new and useful Improvements in Burners, of which the following is a specification.

My invention relates to an improvement in hydrocarbon burners, the object being to provide a simple and effective means for the generation of vapor or gas for use in stoves and for other purposes where a burner of this character would be useful, and it consists in certain novel features of construction and combinations of parts which will be hereinafter described and pointed out in the claims.

In the accompanying drawings:—Figure 1 is a view in side elevation of my invention; Fig. 2 is a longitudinal section taken through the shell or casing; and Fig. 3 is a transverse section therethrough in front of the pipe union.

The mixing chamber, 1, is preferably cylindrical in form, and provided at its ends with screw heads 2 having openings 2^a for the reception of air, and provided with two rows of orifices, 3 and 4, located at the top and side, respectively, through which the gas or vapor issues.

A feed pipe, 5, leads from a tank, 6, to the burner, it being provided with a check valve, 7, and a cock, 8, for regulating or cutting off the supply of gasolene. This feed pipe preferably enters the lower side of the generator and extends to a point at or near the top, where it is coupled to a pipe, 9, extending longitudinally within the chamber 1, said pipe constituting a retort. The pipe or retort 9 is preferably filled with iron or steel shavings 1^a or equivalent material to increase the superficial area covered by the gasolene. The ends, 10, 10, of this pipe are reduced in size and extend through caps 2 to the outside of the mixing chamber and are turned back to form jets, 12, 12, opposite the end orifices, 2^a, 2^a. The gasolene or vapor issues from the jets 12. Beneath each jet a trough, 13, is provided to receive the drip from the jets and convey it into the bottom of the mixing chamber, and in the bottom of said troughs some kind of absorbent material, such as asbestos sheet, 14, is placed in position to become saturated with

the liquid fuel and extends into the mixing chamber.

Circular plates 1^b fit the interior of the mixing chamber, being each provided with an aperture through which pipe 9 passes, and abut the opposite ends of the union joining pipes 5 and 9. These plates baffle the flames at the center of the burner.

In operation, the cock 8 is first opened to allow the liquid fuel to flow into the retort 9 and thence to the jets 12. On ignition at the jets, and after burning a few moments the retort 9 becomes heated, and the liquid fuel therein is vaporized, and the continued flame henceforth is from the vapor instead of from the liquid direct, the flame issuing through the orifices, 3 and 4, at the top and side. The absorbent material 14 acts as a wick to convey the dripped gasolene to the interior of the mixing chamber.

More or less slight changes might be resorted to in the form and arrangement of the several parts described without departure from the spirit and scope of my invention, and hence I do not wish to be limited to the exact construction herein set forth, but:—

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

1. In a burner, the combination with a mixing chamber having an outlet for the flame and an air inlet located above the bottom of the chamber in one wall thereof, said chamber having a drip trough disposed at the air inlet above the bottom of the mixing chamber and leading into said mixing chamber, a retort extending through the upper part of the mixing chamber and provided with a jet which discharges into the air opening and whose drip is caught by the trough, and a feed pipe communicating with said retort.

2. In a burner, the combination with a mixing chamber reduced in size at its ends and provided with air inlets at the ends, of a retort extending through the upper part of the mixing chamber and discharging into the air openings, a feed pipe extending through the mixing chamber and discharging into the retort, and troughs in position at the ends of the mixing chamber to conduct the drip from the ends of the retort into the bottom of the mixing chamber.

3. In a burner, the combination with a

mixing chamber having a row of outlet orifices in the top, and a row of outlet orifices in its side and provided with air inlets at its outer ends and troughs leading to said air inlets, of a retort pipe extending throughout the length of the mixing chamber and its ends returned and extending toward the air inlets at the ends of the mixing chamber and provided with jets located at points immediately above the troughs, the troughs being provided with absorbent material extending into the mixing chamber, and a liquid fuel supply pipe leading from a suitable supply to the retort into which it discharges.

4. The combination with a mixing chamber having openings for the discharge of the flames, and burner openings at its ends, of a retort pipe located within said chamber, a feed pipe leading to said retort pipe, burners at the ends of the mixing chamber whereby the flame is inspirated into said chamber through the openings in the ends thereof, and a partition extending completely across

and subdividing the mixing chamber into separate compartments, said partition being adapted to baffle the flames at that point.

5. The combination with a mixing chamber having openings for the discharge of the flames, and provided with drip troughs and with air inlet openings at its ends, of a retort pipe located within said chamber and provided with burners disposed adjacent the troughs, the drip from the burners being conveyed by the troughs into the mixing chamber, a feed pipe leading to said retort, and a partition extending across the mixing chamber which is adapted to baffle the opposing flames which are inspirated into the mixing chamber.

In testimony whereof, I hereunto affix my signature in presence of two witnesses.

SAMUEL CROSBY HIX.

Witnesses:

M. H. WALSH,

GEO. H. MONSARRAT.