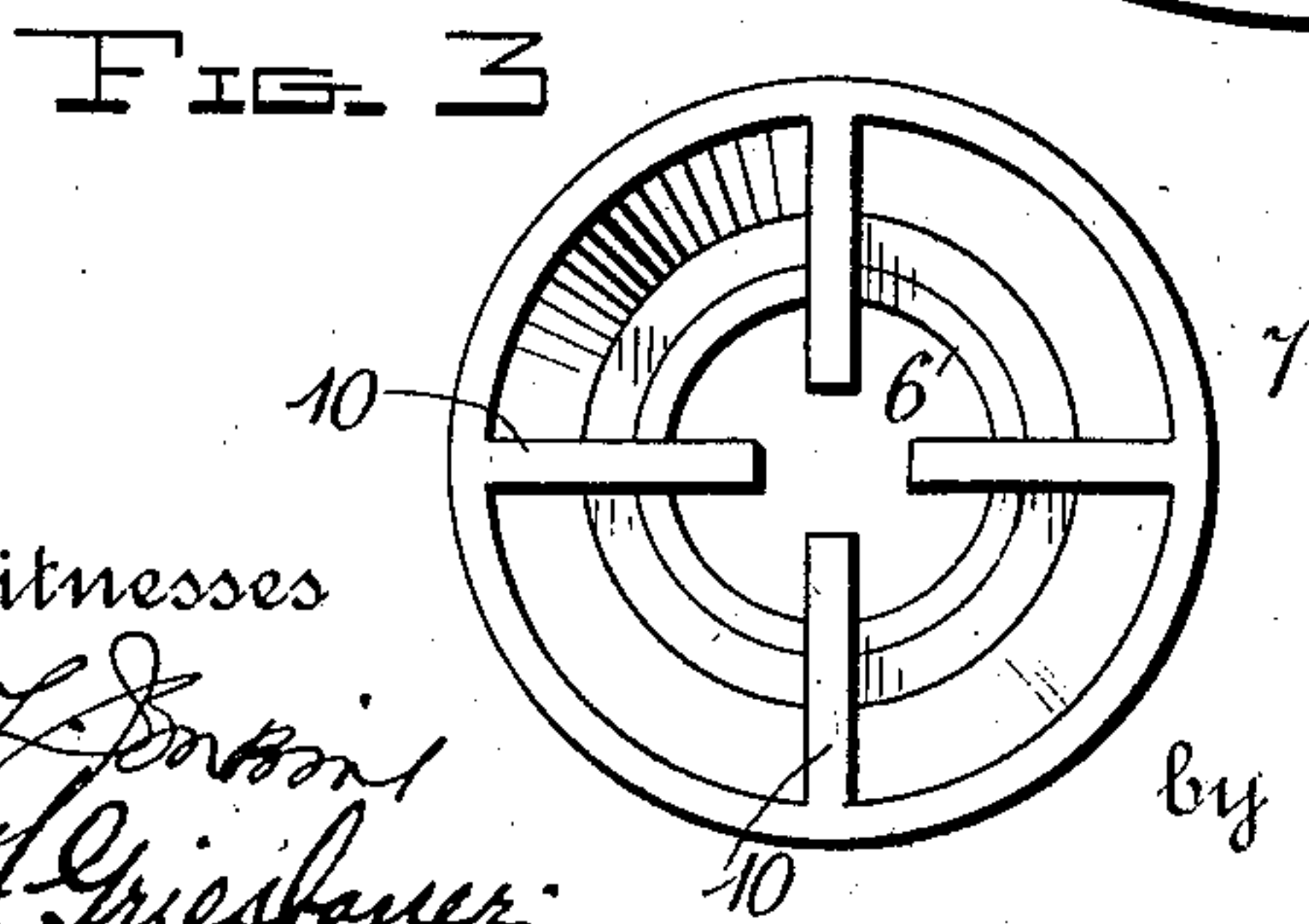
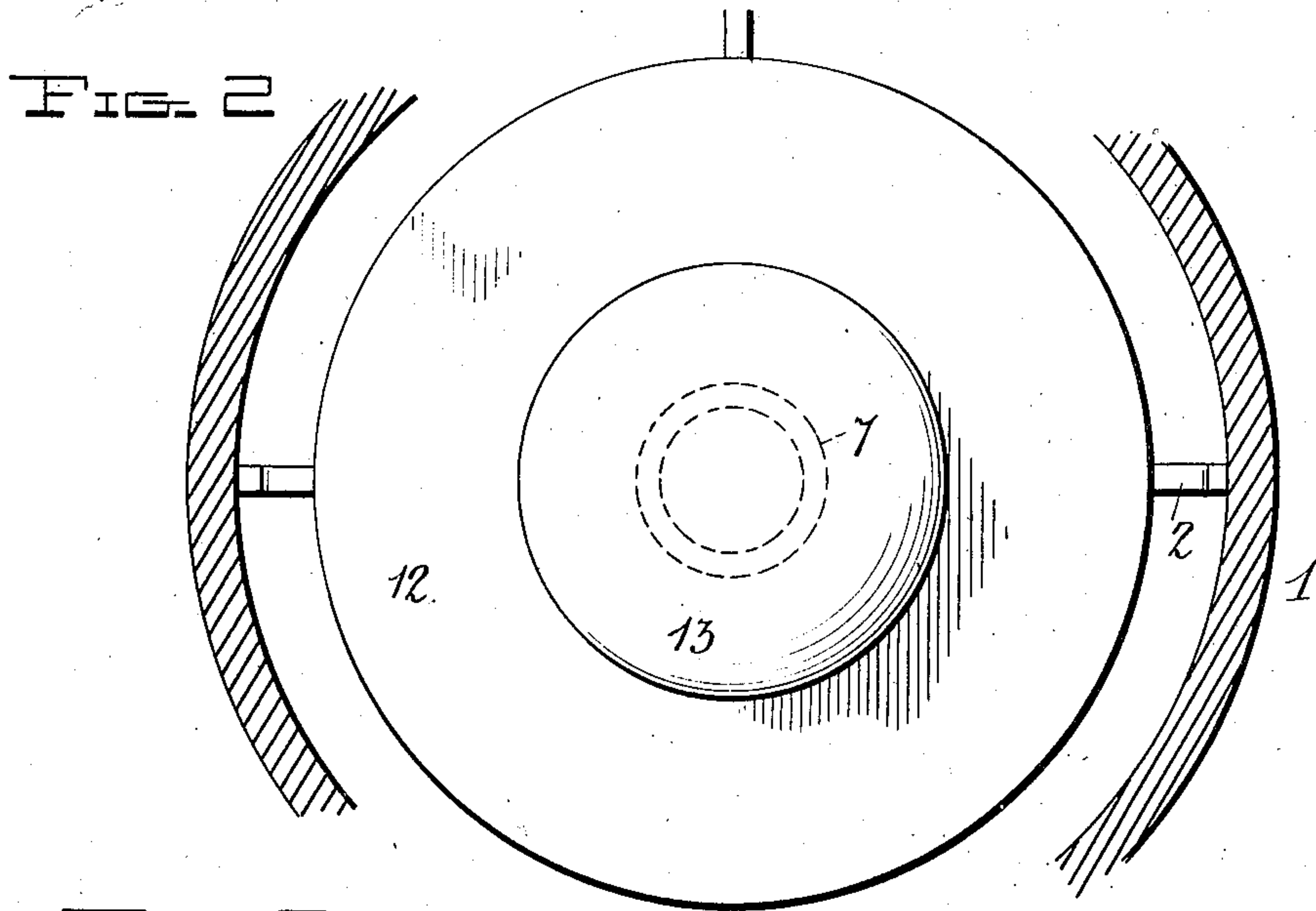
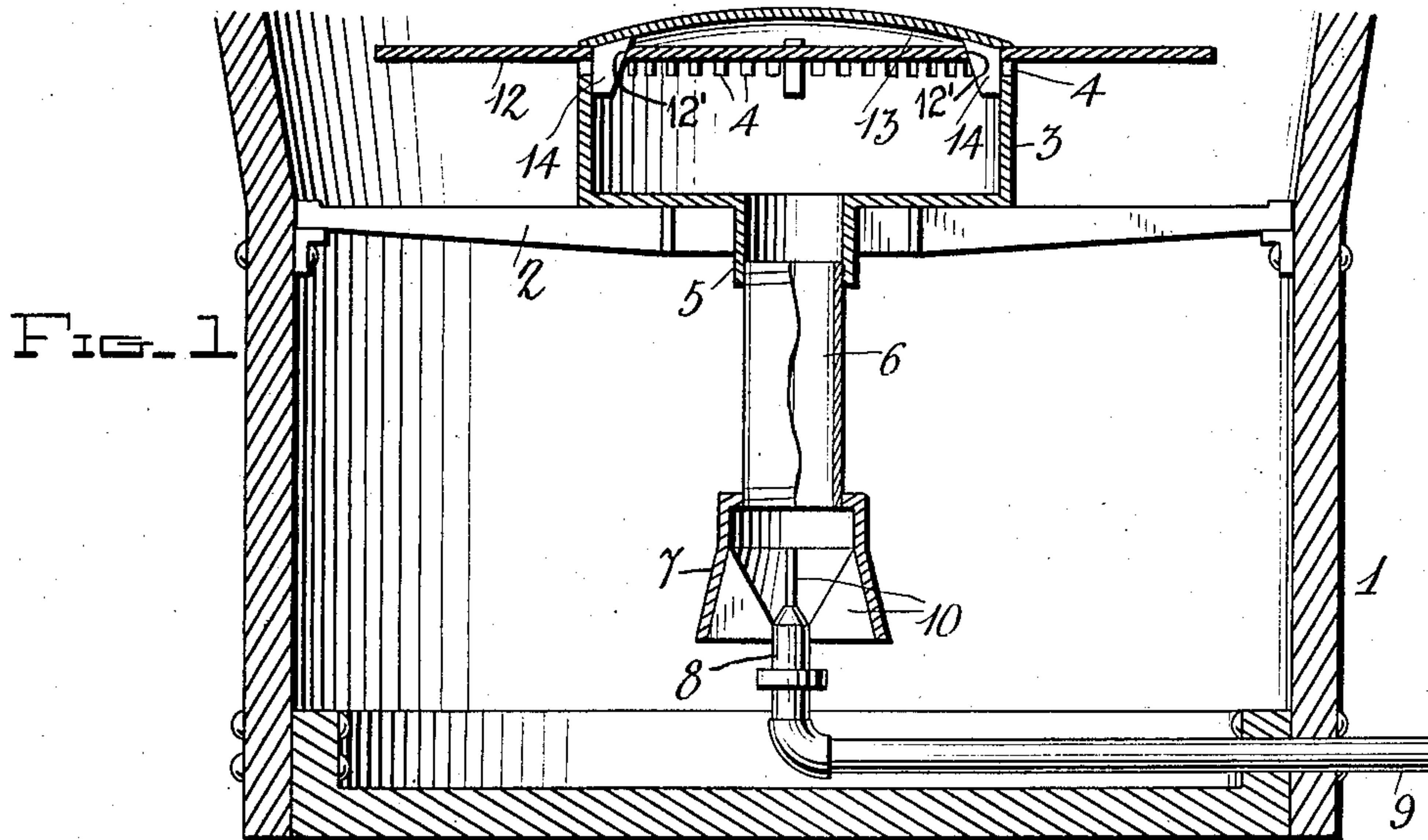


No. 879,735.

PATENTED FEB. 18, 1908.

J. W. CHAMBERLAIN.
BURNER FOR NATURAL GAS.
APPLICATION FILED NOV. 22, 1906.



Witnesses
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UNITED STATES PATENT OFFICE.

JOHN W. CHAMBERLAIN, OF TOLEDO, OHIO.

BURNER FOR NATURAL GAS.

No. 879,735.

Specification of Letters Patent.

Patented Feb. 18, 1908.

Application filed November 22, 1906. Serial No. 344,573.

To all whom it may concern:

Be it known that I, JOHN W. CHAMBERLAIN, a citizen of the United States, residing at Toledo, in the county of Lucas and State of Ohio, have invented certain new and useful Improvements in Burners for Natural Gas; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in burners for natural gas.

The object of the invention is to provide a burner of this character by means of which a more perfect combustion of the gas and air is provided, thereby producing more heat and reducing the expense of using natural gas in connection with stoves or furnaces.

With the above and other objects in view, the invention consists of certain novel features of construction, combination and arrangement of parts; as will be hereinafter described and claimed.

In the accompanying drawings:—Figure 1 is a vertical sectional view of a burner constructed in accordance with the invention; Fig. 2 is a top plan view of the same; and Fig. 3 is a bottom plan view of the mixing chamber.

Referring more particularly to the drawings, 1 denotes the ash pit or lower portion of a stove or furnace, said pit being closed at its lower end, and on all sides, as shown. Adapted to be supported upon the grate 2 or other suitable support arranged in the ash-pit is the bowl 3 of the burner, said bowl being of any desired shape and preferably of a size equal to one-quarter of the diameter of the ash-pit in which the same is arranged. Around the edge of the upper open end of the bowl 3 is arranged a series of notches or recesses 4 which form passages, through which the mixed air and gas will pass.

The bowl 3 is provided on its under side with a downwardly - projecting inwardly-threaded coupling 5, into which is screwed the upper end of a nipple 6. On the lower end of the nipple 6 is adapted to be screwed a mixing chamber 7. The length of the nipple 6 may be varied to conform to the depth of the ash pit in which the burner is arranged. Projecting upwardly into the lower open end of the mixing chamber is a gas discharge nipple 8, which is attached to the inner end of a gas supply pipe 9 that enters the ash-pit near

the lower end thereof. The nipple 8 is centered, and held in position in the lower end of the mixing chamber by means of inwardly-projecting radial lugs 10.

Adapted to rest upon the upper open end of the bowl 3 is a deflecting plate 12, said plate being perforated as at 12' and preferably formed of asbestos or similar material and is held in place on the upper end of the bowl 3 by means of a convex cap 13 having formed on its inner side downwardly-extending lugs 14 that project through the perforations 12' and into the bowl, and engage with the interior thereof thereby preventing the plate from slipping or moving on the bowl. The plate 12 is of sufficient size to extend to within a short distance of the sides of the ash pit or fire box, so that the flames from the openings 4 in the burner bowl 3 will be deflected outwardly or spread, so that they will extend almost over the entire space within the fire box before being permitted to pass upwardly and out through the pipe hole of the stove or furnace.

By constructing a burner as herein shown and described, the air in the ash-pit will be heated before it enters the mixing chamber 7 and when the mixed gas and air passes upwardly from the chamber 7 through the nipple 6 and burner bowl 3, the same will be heated to a much higher temperature by coming in contact with the heated bowl 3, so that when the same passes out through the recesses or openings 4 in the burner a perfect combustion will take place. The plate 12 while serving to deflect the flames will also prevent the rapid escape of heated air from the pipe hole of the stove.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention, as defined by the appended claims.

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

In a gas burner, a cylindrical burner bowl having its upper edge notched to form passages and its bottom provided with means for connecting it with a supply pipe, an asbestos

spreader on top of the bowl provided with perforations, the outer wall of each perforation registering with the inner wall of the bowl when in position and the edge of the
5 spreader extending beyond the bowl, and a concave cap loosely seated upon the spreader, the underside of which is provided with downwardly extending projections which pass through said perforations, the outer face of
10 each projection engaging with the inner wall

of the bowl to prevent lateral movement of the cap and of the spreader.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JOHN W. CHAMBERLAIN.

Witnesses:

AARON DREISBACH,
NETTIE DREISBACH.