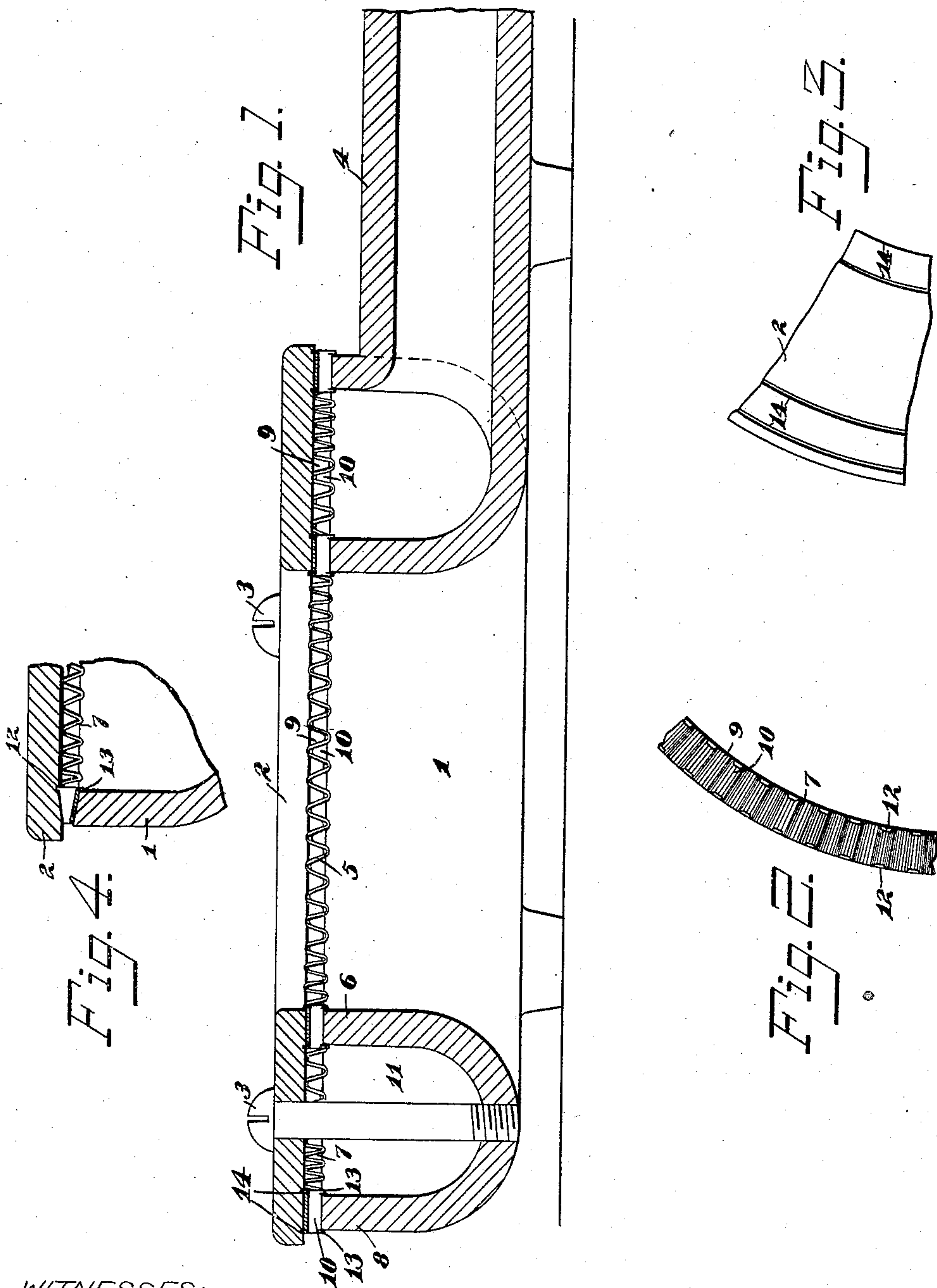


No. 842,792.

PATENTED JAN. 29, 1907.

G. MACHLET, JR.  
GAS BURNER.

APPLICATION FILED JULY 18, 1905.



WITNESSES:  
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# UNITED STATES PATENT OFFICE.

GEORGE MACHLET, JR., OF ELIZABETH, NEW JERSEY.

## GAS-BURNER.

No. 842,792.

Specification of Letters Patent.

Patented Jan. 29, 1907.

Original application filed December 1, 1903, Serial No. 183,333. Divided in part and this application filed July 18, 1905.  
Serial No. 270,256.

*To all whom it may concern:*

Be it known that I, GEORGE MACHLET, JR., a citizen of the United States, residing in Elizabeth, in the county of Union and State of New Jersey, have invented certain new and useful Improvements in Gas-Burners, of which the following is a specification.

This invention relates to gas-burners designed for heating relatively large areas; and its object is to provide at low cost a durable and efficient burner of this class in which danger of interior explosion shall be eliminated and in which the parts may be readily assembled, repaired, and replaced.

The burner is intended principally to be used with a mixture of gas and air, either under the ordinary pressure of gas-works or under higher pressure produced by the usual means.

In carrying out my invention I form a burner in the form of a hollow ring, which consists of two separable portions, between which are placed suitable means for screening the gas, thereby to prevent the flame from entering the ring and producing an explosion therein.

In the accompanying drawings, Figure 1 is a vertical central section of a burner made in accordance with my invention. Fig. 2 is a fragment of a fluted screen. Fig. 3 is a fragment of an annular cap, showing the grooves in the under side thereof which receive small locking projections formed upon the screen. Fig. 4 illustrates the preferred form of diaphragm.

The burner shown in the drawings is in the shape of a hollow ring and comprises two annular portions 1 and 2, the former of trough-like or U-shape section and the latter in the form of a cap, secured by screws 3, which extend down through the cap and within the body of the tubular portion 1 and are threaded into the bottom of the latter. The gas is supplied through an inlet 4, formed integral with said portion 1.

Between the cap portion and the lower portion 1 of the ring are inserted, preferably, two screens, one (designated as 5) of small diameter and fitting upon the inner rim 6 of the annular portion 1, and the other screen 7 of larger diameter and fitting upon the outer rim 8 of said annular portion 1. Each of said rims is formed with radiating flutes or jets 9 10, the former made in the upper surface and the latter made in the lower surface

of the diaphragm. These flutes may be formed by corrugating an annular strip of metal, and they constitute outwardly directed or radiating jets, through which the gas is discharged, said jets being sufficiently fine to prevent the flame from entering the chamber 11 of the burner. Each flute may be of approximately the same capacity from its inlet to its outlet end, although in some cases the outlet end may be a trifle smaller than the inlet end, as illustrated in Figs. 3 and 4 of my application filed Dec. 1, 1903, Serial No. 183,333, (Patent No. 766,636,) of which this application is in part a division.

Each diaphragm-ring is shown as formed upon each of its outer and inner edges with both upwardly and downwardly extending projections 12 and 13, the former engaging grooves 14, formed in the under surface of the cap, and the latter embracing the rims of the trough-like member 1, thereby to prevent displacement of the screens and cap. It will be seen that the parts may be readily assembled and secured by the screws 3 and that when either screen is burned out the cap may be readily removed and a fresh screen substituted, the projections 12 and 13 serving to position the screens and cap.

Fig. 4 shows the ring-burner provided with a screen, such as seen at Figs. 3 and 4 in said application and patent, in which the strip of metal or diaphragm is so corrugated that the flutes are more capacious at their inlet ends than at their outlet ends, this form of flute or jet being proof against liability of entrance of fire into the tube and making a highly efficient burner.

Having thus described my invention, I claim—

1. A gas-burner in the form of a tubular ring comprising a body portion, a cap portion and a separate intervening screen provided upon each edge with locking projections, and consisting of an annulus formed with corrugations in its top and bottom surfaces.

2. A gas-burner in the form of a tubular ring comprising an annular body portion of U-section and a cap, and a screen intervening between the cap and the outer rim of the body portion, said screen having flutes in its top and bottom surfaces, each flute larger at its inlet end than at its outlet end.

3. A gas-burner in the form of a tubular ring comprising an annular portion of U-section



tion and a cap, and a separate screen provided with locking projections and intervening between the cap and the inner rim of the body portion, said screen having flutes in its  
5 top and bottom surfaces, each flute larger at its inlet end than at its outlet end.

4. A gas-burner in the form of a tubular ring comprising a body portion and a cap portion, and rings corrugated to form screens  
10 intervening between the cap and the inner and outer rims of the body portion, said screens provided with means for locking the cap in position upon the body.

5. A gas-burner in the form of a tubular  
15 ring comprising a body portion and a cap portion, and an intervening ring corrugated to form a screen and having means for locking the cap in position upon the body.

6. A gas-burner in the form of a tubular  
20 ring made in annular portions, with an intervening annular diaphragm formed of a strip of sheet metal corrugated to form radiating flutes in its top and bottom surfaces, each flute larger at its inlet end than at its outlet  
25 end.

7. A gas-burner in the form of a tubular ring made of annular portions with an intervening ring corrugated to form a screen, said  
30 screen-ring formed with numerous locking projections to engage both of said annular portions.

8. A gas-burner in the form of a tubular ring made of annular portions with an intervening ring corrugated to form a screen, said  
35 screen-ring formed with numerous locking

projections to engage both of said annular portions, and one of said annular portions having a circular groove to receive the projections.

9. A gas-burner in the form of a tubular  
40 ring comprising a trough-like portion and a cap, and an intervening screen in the form of an annular diaphragm formed with radiating flutes, said screen formed upon its under side with projections which engage a rim of the  
45 trough-like portion; and upon its top side with projections which engage an annular groove formed in the cap.

10. A gas-burner in the form of a tubular  
50 ring comprising a trough-like portion and a cap, and an intervening screen in the form of an annular diaphragm formed with radiating flutes, one of said annular portions having a groove, and said screen having projections which engage said groove.  
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11. A gas-burner in the form of a tubular ring comprising annular body and cap portions, a screen intervening between said portions and formed with radiating flutes, and a series of fastening devices extending from  
60 said cap to said body portion within the latter and detachably connecting said portions together; said screen having sets of projections upon its top and bottom sides, and said body and cap portions having means to en-  
65 gage said projections.

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Witnesses:

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