W. J. BARBER.

GAS BURNER.

APPLICATION FILED MAR. 8, 1920.

1,412,768. Patented Apr. 11, 1922.

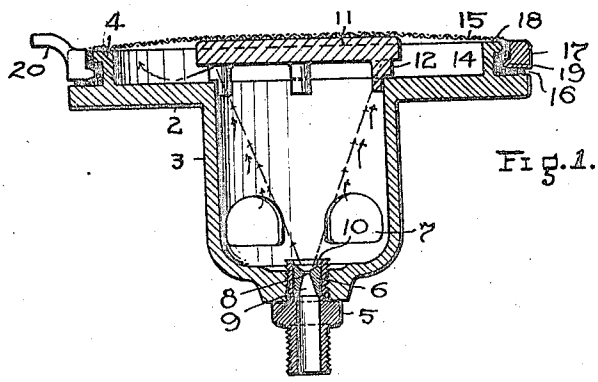


Fig. 1.

Fig. 2.

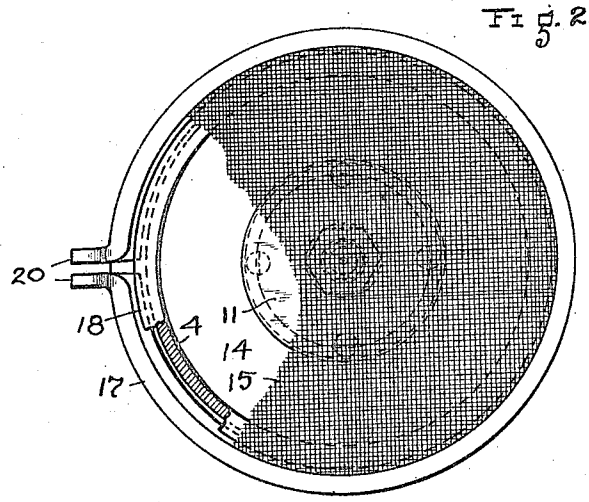


Fig. 3.

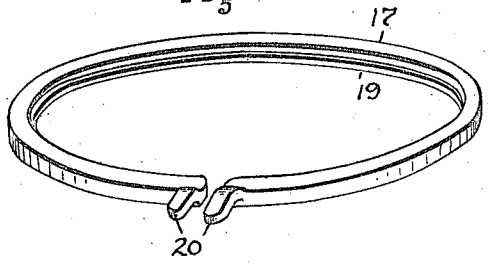
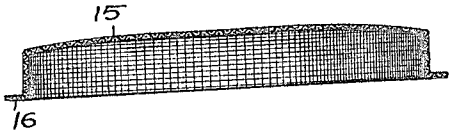


Fig. 4.



Inventor
W. J. BARBER.

By Fisher & Moser
Attorneys

UNITED STATES PATENT OFFICE.

WILLIAM J. BARBER, OF CLEVELAND, OHIO, ASSIGNOR OF ONE-HALF TO EDWARD M. KLINE, OF CLEVELAND, OHIO.

GAS BURNER.

1,412,768. Specification of Letters Patent. Patented Apr. 11, 1922.

Application filed March 8, 1920. Serial No. 363,985.

To all whom it may concern:

Be it known that I, WILLIAM J. BARBER, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Gas Burners, of which the following is a specification.

The present improvement comprises a gas burner which is especially adapted for use in domestic cooking stoves and ranges, or other heating apparatus where a steady intense flame with a minimum consumption of gas is desired. The burner is also particularly constructed to promote admixture of air and gas and a spreading distribution of the combustible mixture beneath a finely-woven wire screen through the open meshes of which the combustible mixture is discharged and caused to burn over an extensive area in a vari-colored, green, violet and blue flame, and this screen is removable and replaceable and a spring clamping ring is employed to facilitate its removal and replacement and to hold it in place.

In the drawing accompanying this application, Fig. 1 is a vertical sectional view centrally through my improved burner, and Fig. 2 is a plan or top view of the burner showing a portion of the screen and a part of the flanged body broken away. Fig. 3 is a perspective view of the screen clamping ring, and Fig. 4 is a sectional view of the dished screen as it appears before it is applied to the burner.

Structurally the device comprises a round flat body 2 having a hollow cylindrical extension 3 at its bottom side and a circular rib or flange 4 upon its upper side. Hollow extension 3 is closed at its lower end except for a central screw-threaded opening which is adapted to receive a screw-threaded nipple 5 in which a separate tip member 6 is seated and through which gas under pressure is supplied to the burner and mixed with air which is entrained through openings 7 in the sides of extension 3. Tip member 6 has a relatively small gas orifice 8, and the gas entrance 9 in this member is elongated and converges toward the orifice, and the upper discharge end of the tip member has a shallow flaring concavity 10. The jet of gas issuing from member 6 is in the form of an inverted cone which strikes at its largest diameter the flat bottom side of a deflector or spreader plate 11 having short legs 12 seated upon the top or upper side of body 2 opposite the otherwise open end of hollow extension 3, and the gas and the entrained air is deflected laterally in a circular sheet into the shallow round distributing chamber 14 which is bordered and formed by flange 4. A finely-woven wire mesh or screen 15 covers and encloses the chamber 14, and this screen is dished and provided with a horizontal flange 16 and its diameter is approximately the same as the annular rib 4 to permit it to be sleeved over said flange and to set in place like a cover, and when pressed down in place at its outer circumference by a split clamping ring 17 this screen is held tightly and securely upon the rib 4. Rib 4 and the clamping ring may also be provided with opposite enlargements 18 and 19 to partially crimp the side walls of the screen and to more securely lock the screen in place when the spring clamping ring is snapped thereover. In any event, the ring is easily expanded when engaged and pressed apart at its fingers 20 and the screen readily removed from rib 4 when the ring is removed, and this ring may be shaped as shown or may be merely a spring wire.

The deflector plate 11 is also shown as spaced apart at its edge and bottom from body 2 and the upper face of this plate is in a higher plane than the upper edge of the rib 4, and when the screen is fastened upon rib 4 it is stretched or placed under tension between the rib and the deflector plate. In this way any contraction and expansion of the screen will be taken care of and the woven wire will not buckle or the open meshes become distorted but on the contrary the screen will retain its shape for a long period of time. When the screen becomes clogged with dirt or foreign matter, which is always likely to happen when a burner of this type is used in a gas cooking stove or range, the screen can be removed very readily and cleansed and replaced, the only operation required being to expand the spring ring to release the screen and to snap the ring back in place when the screen is replaced.

In this connection reference is made to my copending application Ser. No. 363,984, filed March 1, 1920, in which a jet nozzle is shown, substantially similar to the nozzle herein.

What I claim is:

1. A gas burner, comprising a chambered

body having a gas inlet, a separate deflector plate seated upon said body opposite said inlet, a dished wire screen in detachable connection with said body and in holding relation to said deflector, and a split wire clamping ring adapted to hold said wire screen and deflector upon said body.

2. A gas burner comprising a chambered body having a gas supply inlet, a deflector removably seated upon said body opposite said inlet, a cover of woven wire detachably mounted upon said body in tension engagement with said deflector, and a spring ring securing said cover detachably on said body.

Signed at Cleveland, in the county of Cuyahoga and State of Ohio, this 1st day of March, 1920.

WILLIAM J. BARBER.