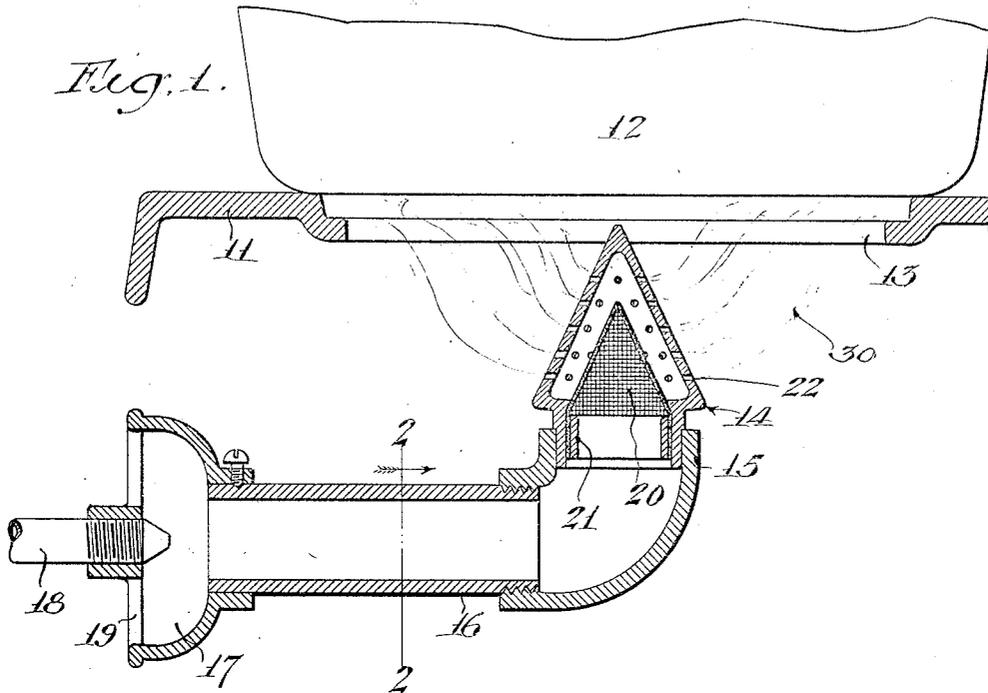


E. COLE.  
GAS BURNER.

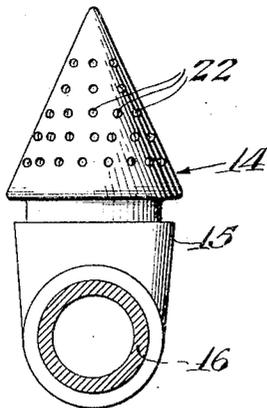
APPLICATION FILED SEPT. 26, 1918.

1,368,120.

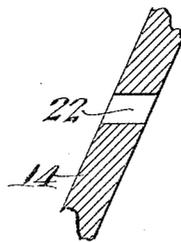
Patented Feb. 8, 1921.



*Fig. 2.*



*Fig. 3.*



*Inventor*  
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*by: Graham + Kamin*  
*Attorneys*

# UNITED STATES PATENT OFFICE.

ELNATHAN COLE, OF LOS ANGELES, CALIFORNIA.

## GAS-BURNER.

1,368,120.

Specification of Letters Patent.

Patented Feb. 8, 1921.

Application filed September 26, 1918. Serial No. 255,852.

*To all whom it may concern:*

Be it known that I, ELNATHAN COLE, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented a new and useful Gas-Burner, of which the following is a specification.

My invention relates to the construction of gas ranges and the like, and more particularly to the burners used therein.

The principal object of the invention is to provide a gas burner which will be free from flashbacks and which will distribute the heat of combustion evenly over a large surface.

A further object of the invention is to provide a gas burner by means of which a very perfect combustion may be maintained.

Referring to the drawings, which are for illustrative purposes only,

Figure 1 is a cross-section through one embodiment of my invention.

Fig. 2 is a section on a plane represented by the line 2—2, Fig. 1, this plane being viewed in the direction of the arrows.

Fig. 3 is an enlarged section of the wall of the burner, showing the method of drilling the holes therein.

In the embodiment of the invention illustrated my invention is shown applied to a kitchen range or the like, the top of the range 11 supporting a utensil 12 placed over the opening 13 therein. Located directly below and centrally placed with relation to the opening 13 is a gas burner embodying my invention which comprises a cone shaped cap 14 which is shown fitted into an elbow 15. The elbow 15 is threaded on a mixture pipe 16 which communicates with the interior of a mixer 17. A gas supply pipe 18 is centrally secured in the mixer 17, which has a series of air inlets 19 in accordance with standard practice in the art.

A conical wire gauze diaphragm 20 is secured by means of a ring 21 inside the cap 14, being concentrically placed therein. The cap 14 is provided with a plurality of holes 22, each of these holes being drilled at right angles to the axis of the cone.

The method of operation of the invention is as follows:

Gas being admitted through the pipe 18 is mixed with air in the mixer 17 and the mixture is carried through the pipe 16 and

the elbow 15 into the interior of the cone 20 which serves to further break up and homogenize the mixture which passes there-through into the space between the cone 20 and the cap 14. This mixture passes out through the holes 22, being uniformly distributed to these different holes due to the peculiar form of the cap 14 and the cone 20. The direction of the gas as it leaves the holes 22 is practically horizontal. The gases are ignited just outside the burner and their natural tendency to rise causes them to take the general direction indicated by the lines 30.

It will be noted that the opening 13 and the cap 14 and the cone 20 are all symmetrical around a single axis and it will be further noted that the path of the gases to the openings 22 is very uniform. That is to say, the gas supplying the lower openings 22 travels farther radially and not so far axially as the gas supplying the upper holes 22. It will be further noted that the gas passing to the upper holes 22, although traveling in a somewhat longer path, is assisted in its passage over this path by the natural buoyancy thereof, also the opening in the bottom of the cap is nearly as large as the inside diameter of the cap thereby permitting a full, free flow of combustible mixture to the cap. As a result the flame produced by the burner is very uniform.

As a result of the mixing cone 20 a very even mixture is produced and this mixing cone very effectually prevents the flame from flashing back through the elbow 15 and thus through the pipe 16 into the mixer 17. In other words, the flame cannot blow back into the mixer.

I claim as my invention:—

In combination, a combustible mixture supply pipe, a conical cap on the upper end of said supply pipe of approximately the same diameter of said pipe, said conical cap having a series of horizontally extending outlet perforations therein, and a conical screen in said cap equally spaced apart from the walls of said cap arranged to receive an unobstructed flow of combustible mixture from said supply pipe.

In testimony whereof, I have hereunto set my hand at Los Angeles, California, this 17th day of September, 1918.

ELNATHAN COLE.