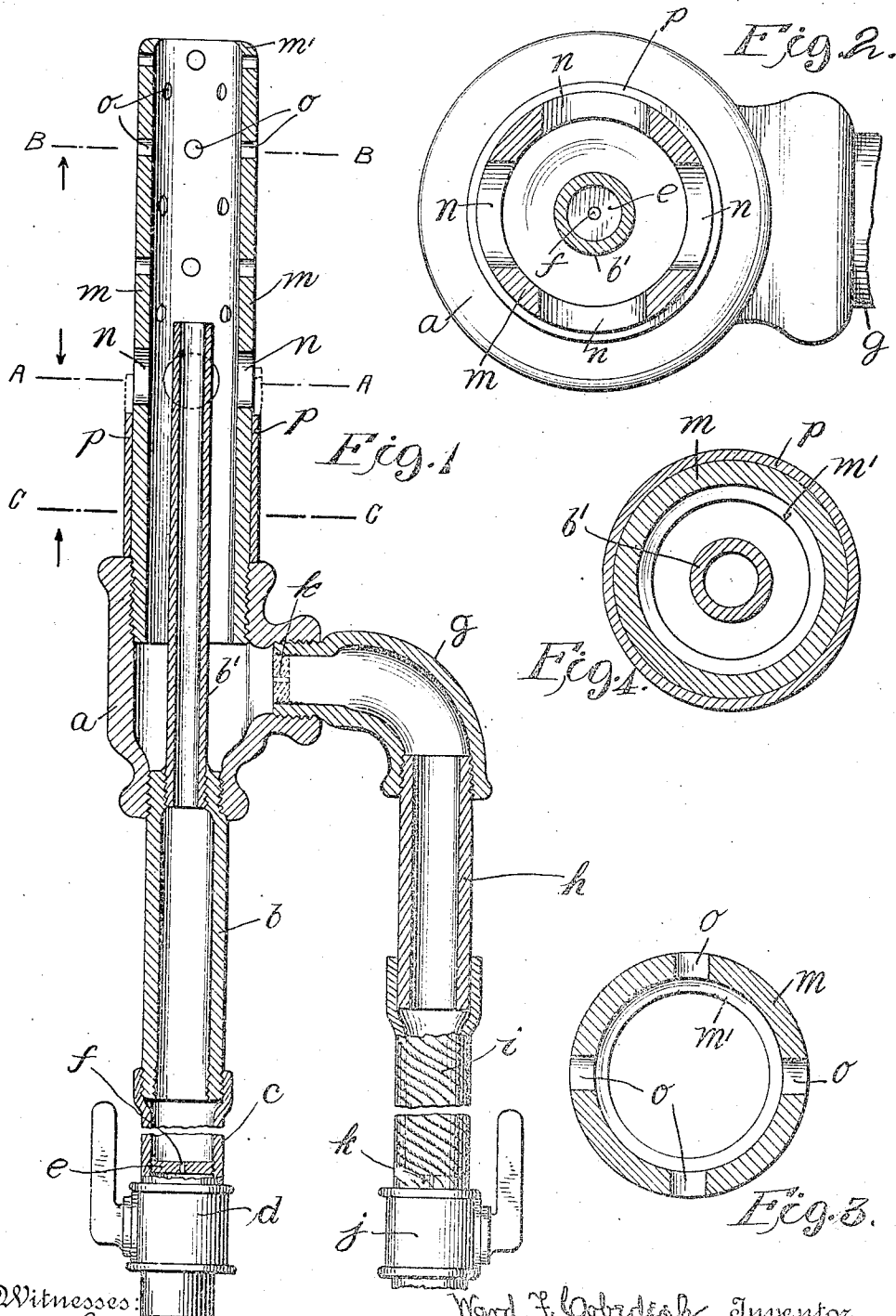


W. F. COBEDESH.
GAS BURNER.
APPLICATION FILED OCT. 31, 1908.

938,745.

Patented Nov. 2, 1909.



Witnesses:
M. E. Campion
M. Hamilton.

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UNITED STATES PATENT OFFICE.

WARD F. COBEDESH, OF SALEM, OHIO.

GAS-BURNER.

938,745.

Specification of Letters Patent.

Patented Nov. 2, 1909.

Application filed October 31, 1908. Serial No. 460,447.

To all whom it may concern:

Be it known that I, WARD F. COBEDESH, a citizen of the United States, residing at Salem, in the county of Columbiana and State of Ohio, have invented certain new and useful Improvements in Gas-Burners, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to improvements in gas burners and particularly to improvements in gas burners for burning natural gas.

An object of my invention is to provide a gas burner of the class just described in which the flame will not blow out and which will be adapted for use in producing a heating flame, such as the flame used in brazing and soldering.

Another object of my invention is to provide a gas burner in which the arrangement of parts may be so modified as to permit a change from burning natural gas to burning artificial gas.

In the drawings illustrating the principle of my invention and the best mode now known to me of applying that principle, Figure 1 is a central vertical section of my new gas burner; and Figs. 2, 3 and 4 are sections on the lines A-A, B-B and C-C of Fig. 1, respectively.

Into the lower end of the T-connection *a* screws the inlet air-pipe *b*; and into the upper end of the latter screws a pipe *b'* of smaller diameter than the inlet air-pipe *b* but forming a prolongation of that pipe. To the lower end of the inlet air-pipe *b* is connected a pipe *c* provided with a valve *d* near which there is mounted a disk *e* formed with a central hole *f*. Into the side of the T-connection *a* is screwed one end of an elbow *g* the other end of which is screwed to the upper end of the gas-inlet pipe *h*. To the lower end of the pipe *h* is attached one end of a flexible hose-pipe *i* provided with a gas-cock *j* at its other end; and near the gas-cock *j* and in the hose-pipe *i* there is fitted a perforated disk *k* in all respects similar to the disk *e* mounted in the pipe *c*. Into the top of the T-connection *a* is screwed the burner-pipe *m* formed with a series of four large holes *n* and a number of series of smaller holes *o* above the series of large holes *n*. The upper part of the small-bore air-

pipe *b'* extends slightly above the level of the series of large holes *n* and lies just below the lowermost set of the smaller holes *o*.

The upper end *m'* of the burner-pipe *m* is contracted somewhat in diameter in order to concentrate the flame; and upon the outside of the burner-pipe *m* there is mounted a tubular slide *p* by moving which the holes *n* may be covered and uncovered, as may also the holes *o*, if desired. Thus, by adjusting the tubular slide *p* the flow of air through these holes may be regulated. When natural gas under high pressure is being used, the holes *n* will be left uncovered, as is indicated by the full-line position of the slide *p* in Fig. 1; but when artificial gas is used, the slide *p* will be raised until it covers the large holes *n* sufficiently to make the flow of air through these holes correspond to the reduced pressure of the artificial gas, as is indicated by the dotted-line position of the slide *p* in Fig. 1. Further, when artificial gas is used, the annular disk *k* is removed to allow a freer flow of the gas.

In starting the burner, the gas is turned on, then the air, after which both gas and air are reduced slowly while the burner is heating. Then the flow of both gas and air is increased until the right pressure is obtained. When the proper mixture is made, the flame will form at about the level of the large holes *n*. Air entering through the smaller holes *o* will supply sufficient air so that the flame will not blow out. When the gas-inlet pipe *h* is connected directly to the natural-gas main without the intervention of the hose-pipe *i*, the disk *k* is placed near the inner end of the elbow *g*, as is shown by the dotted lines in Fig. 1.

I claim:

1. The combination of a burner-pipe formed with a series of holes near its top; a slide which fits over said burner-pipe and is adapted to be adjusted therealong to cover and uncover said holes; an air inlet-pipe the inlet end of which lies between the uppermost and lowermost of said holes; and a gas inlet-pipe which communicates with said burner-pipe below all of said holes.

2. The combination of a burner-pipe formed with a series of large holes and with a plurality of smaller holes above said large holes; an air inlet-pipe which extends above

said large holes and below said smaller holes; and a gas inlet-pipe which communicates with said burner-pipe below said large holes.

3. The combination of a gas-burner consisting of a burner-pipe formed with a series of large holes and with a plurality of series of smaller holes arranged above said large holes; a slide which is mounted upon said burner-pipe and is adapted to be moved therealong to cover said holes; an air inlet-pipe, the inlet end of which extends into said burner-pipe above said large holes and below said smaller holes; and a gas inlet-

pipe which communicates with said burner-pipe below said large holes; and annular disks mounted one in each of said inlet-pipes.

In testimony whereof I have hereunto set my hand at said Salem, this 12th day of September, A. D., 1908, in the presence of the two undersigned witnesses.

WARD F. COBEDESH.

Witnesses:

L. B. HARRIS,
E. J. PEEK.