(No Model.)

J. MUSGRAVE.

GAS STOVE.

No. 302,015. Patented July 15, 1884.

Fig. 1.

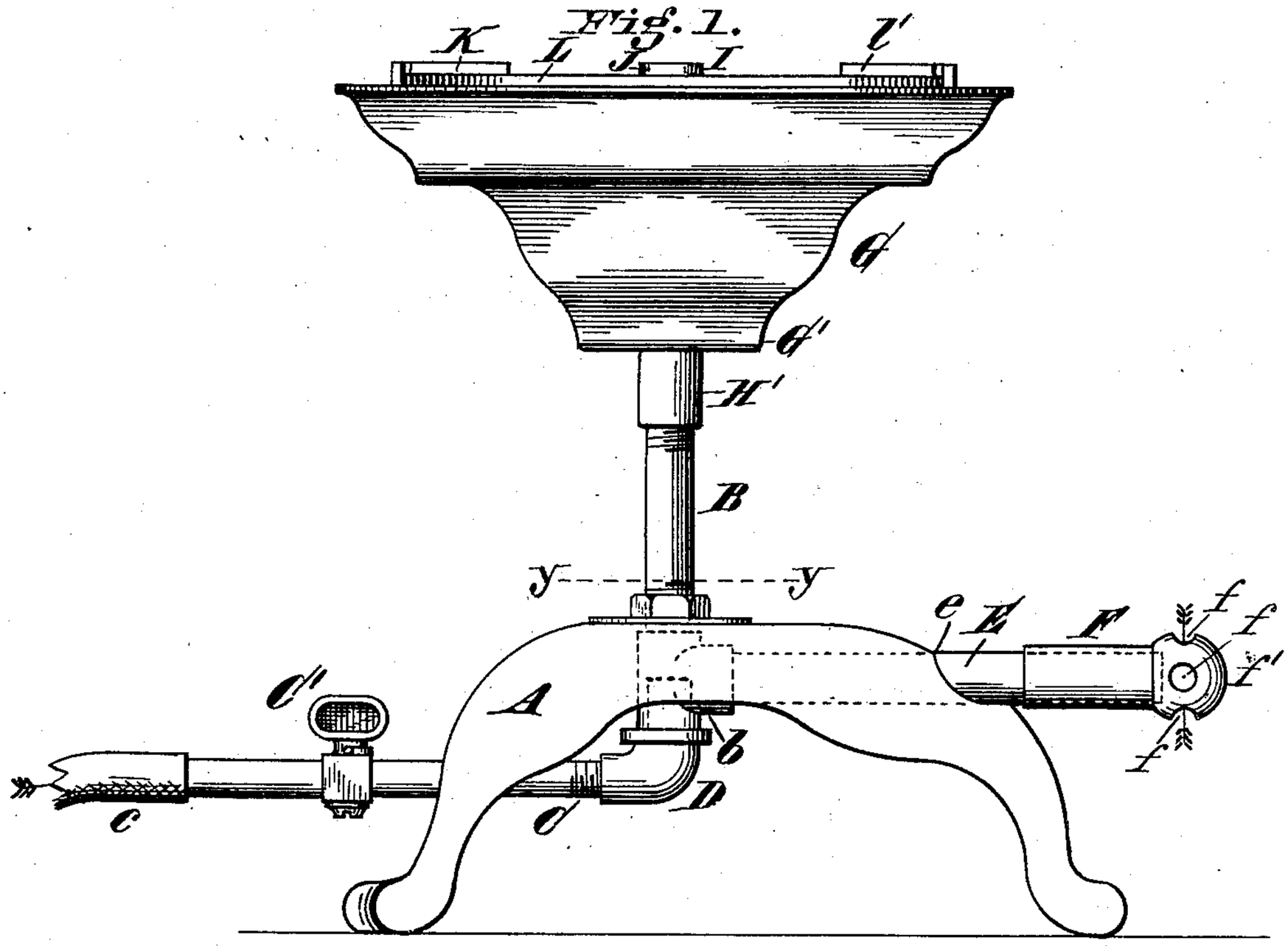


Fig. 2.

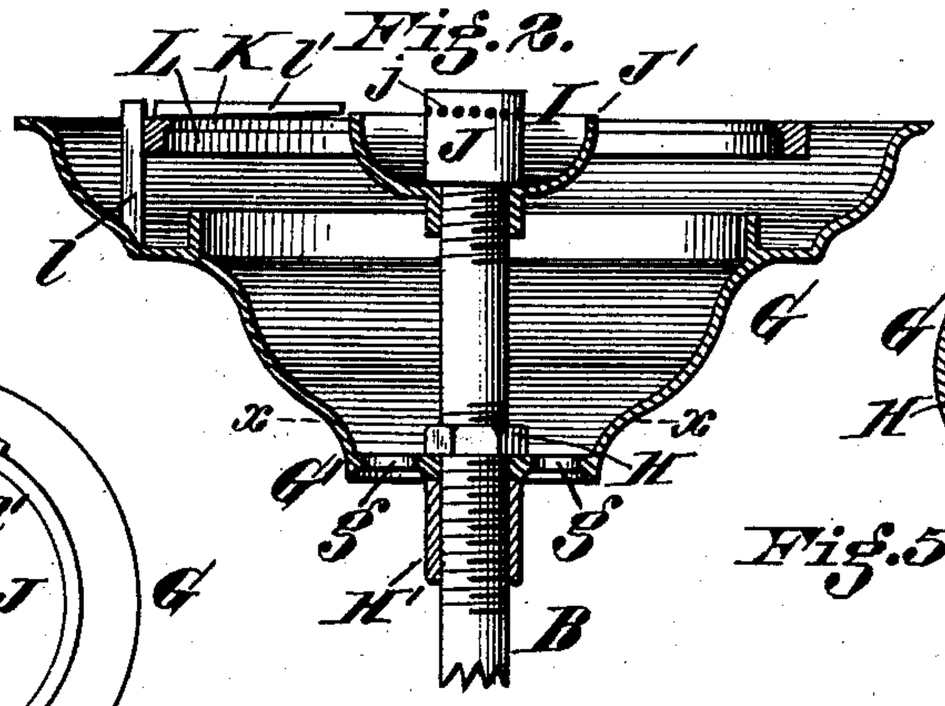


Fig. 3.

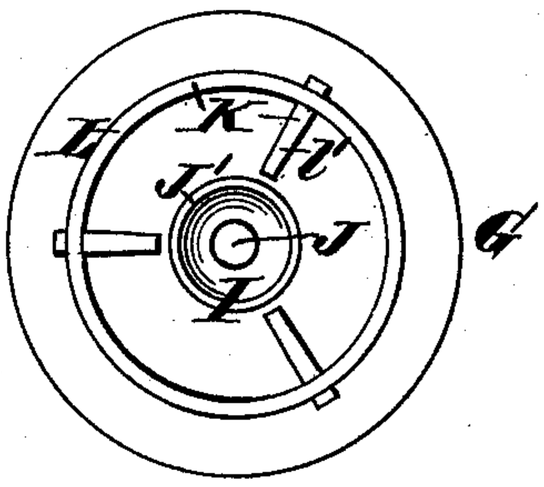


Fig. 4.

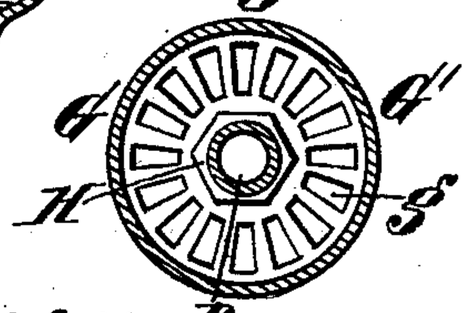


Fig. 5.

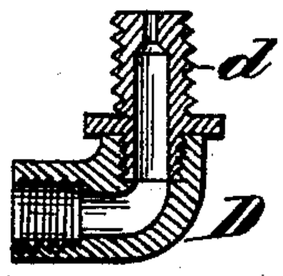
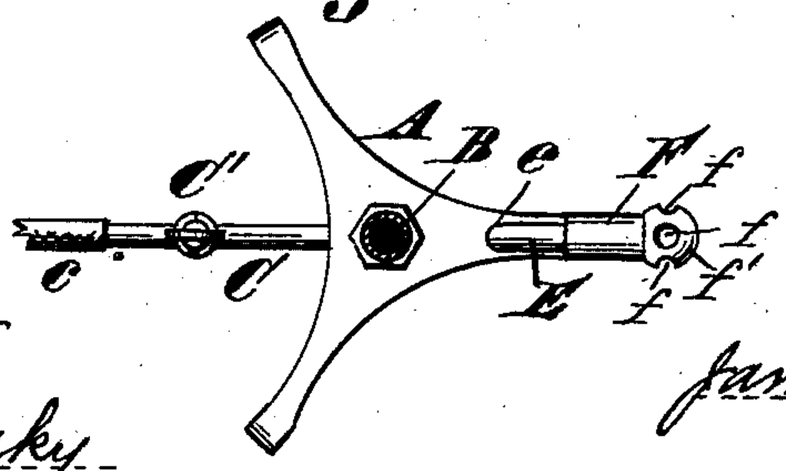


Fig. 6.



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UNITED STATES PATENT OFFICE.

JAMES MUSGRAVE, OF CINCINNATI, OHIO.

GAS-STOVE.

SPECIFICATION forming part of Letters Patent No. 302,015, dated July 15, 1884.

Application filed December 10, 1883. (No model.)

To all whom it may concern:

Be it known that I, JAMES MUSGRAVE, a citizen of the United States, and a resident of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Gas-Stoves, of which the following is a specification.

My invention relates to an improvement in gas-stoves; and its object is to provide, in combination with an upright burner pipe or tube and a horizontal air-induction tube, a perforated cap fitting over the outer end or mouth of said air-tube, to regulate or cut off the supply of air to the burner.

In the accompanying drawings, Figure 1 is an elevation of my improvement. Fig. 2 is a central sectional elevation of the stove, omitting the lower end of the burner-tube, the air and gas induction pipes, and the supporting-legs. Fig. 3 is a plan of Fig. 2 on a reduced scale. Fig. 4 is a sectional plan on line *x x*, Fig. 2. Fig. 5 is a sectional elevation showing the gas-discharge jet and the elbow connecting the gas-supply pipe with the burner and air-tube coupling. Fig. 6 is a sectional plan on line *y y*, Fig. 1, on a reduced scale.

A represents the supporting-legs or base of the stove.

B is an upright burner-tube passed through an opening in the top of base A, with its lower end fitting into a T-coupling, *b*.

C represents the gas-induction pipe, fitted with a regulating-key, C′, and a connection-hose, *c*.

D represents an elbow provided with a vertical screw-threaded gas-jet, *d*, which taps T-coupling *b*, and thereby connects the gas-pipe with the burner-tube.

E represents an air-induction tube tapping at one end T-coupling *b*, and projecting laterally therefrom through opening *e* in the base, with its outer end at a suitable distance from the stove to supply fresh cool oxygen to the burner-tube. The inner discharge-opening of the air-tube is arranged above the discharge opening or jet of the gas-supply tube, so that the gas has time to expand or spread itself within the T-coupling before it reaches the air, and thereby more readily and thoroughly intermingle. The gas head or pressure creates a current through the burner-tube, and acts as an injector-siphon to draw the air through the induction-tube E into the burner-tube.

In order to regulate the supply of air to the burner-tube I have provided the mouth of the air-tube with an adjustable telescopic cap, F.

f f are air inlets or openings in the head *f′* of the cap. When the cap is drawn outwardly, the supply of air is increased. When pushed upon the tube inwardly, the supply is correspondingly decreased or cut off entirely, if desired, by means of the outer end of the tube closing the air-inlets *f*. This adjustment of the cap F adapts the stove to various gas-pressures, and is an important feature of my invention.

G is a bell-shape shell or frame, having a perforated bottom, G′ *g*, for the escape of the carbonic-acid gas which would otherwise accumulate within the shell, to surround the burner and greatly retard combustion.

H H′ are nuts on the burner-tube, on either side the perforated bottom of the shell, for securing the shell in place.

I represents the burner secured upon the top of tube B. Burner I is composed of a perforated cap, J, and a concave disk, J′, both being detachably secured upon the tube B, so as to be readily removed and replaced, if desired.

The concave disk J′ causes the ignited gas issuing from the perforations *j* in cap J to spread into a wide circular flame, which covers the bottom of the vessel placed upon the supporting rack-frame K. The rack-frame is of the usual construction, having a circular rim, L, supplied with legs *l* and radial arms *l′*, as shown in Figs. 2 and 3.

In the operation of my stove the commingling of the gas and cool fresh oxygen brought from a point outside the effective limits or range of the heated carbonic-acid gas insures complete combustion, and an intensely hot violet flame is produced.

I claim—

In a gas-stove, the combination, with a burner pipe or tube and an air-induction tube, of a perforated cap, F *f f′*, fitting the outer end or mouth of the air-tube, and adapted to regulate or cut off the supply of air through said air-tube to the burner, substantially as herein set forth.

In testimony whereof I have hereunto set my hand.

JAMES MUSGRAVE.

Witnesses:

CYRUS WEST,

JNO. E. JONES.