(No Model.)

J. L. SHARP.

GAS STOVE.

No. 472,144. Patented Apr. 5, 1892.

Fig. 1.

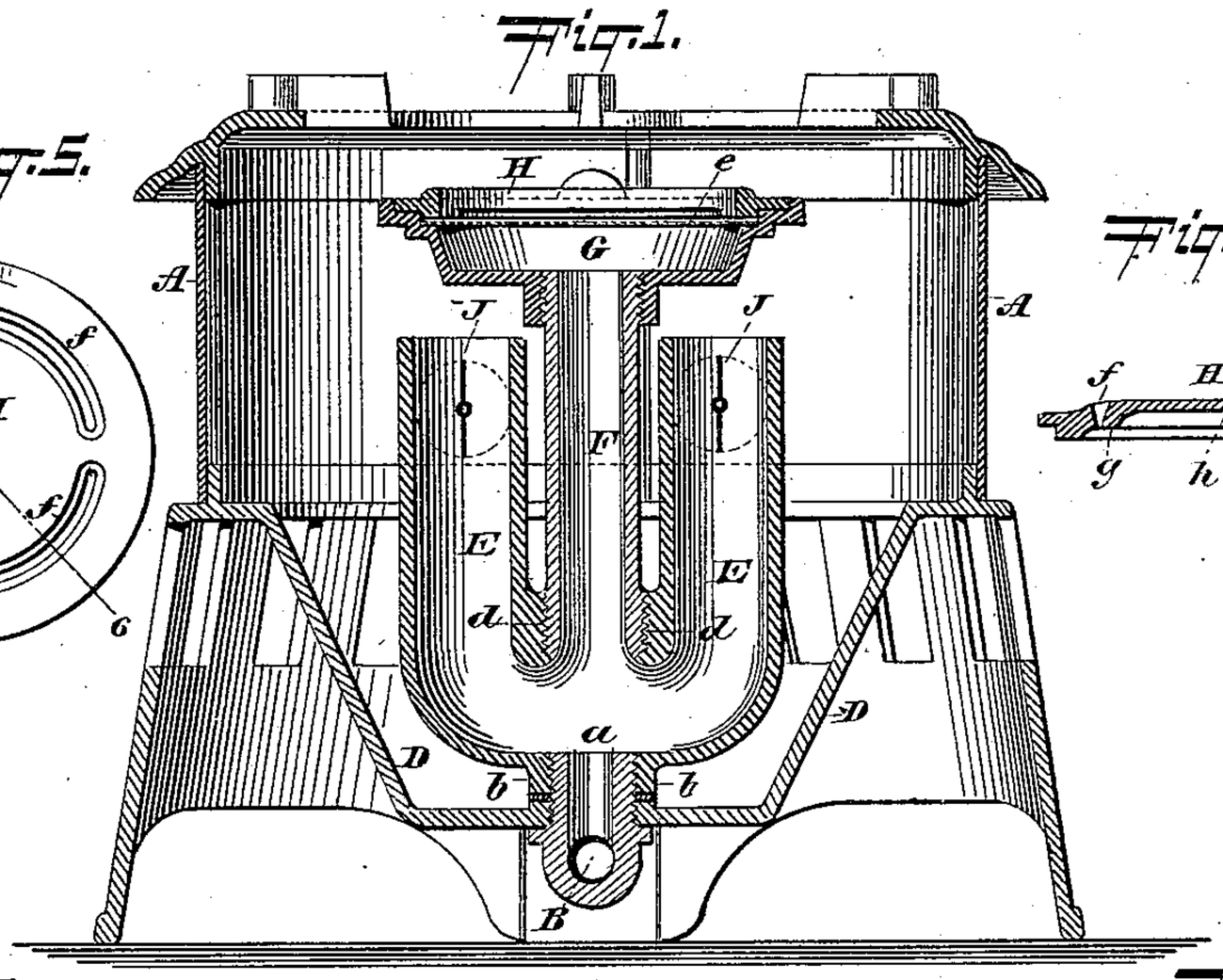

Fig. 5.

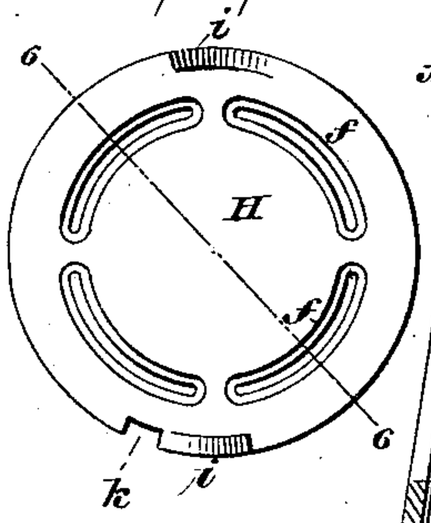

Fig. 6.

Fig. 3.

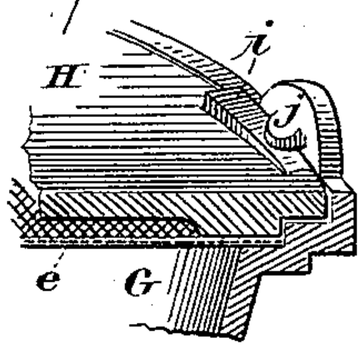

Fig. 2.

Fig. 4.

WITNESSES:

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UNITED STATES PATENT OFFICE.

JAMES L. SHARP, OF NEW ROCHELLE, NEW YORK.

GAS-STOVE.

SPECIFICATION forming part of Letters Patent No. 472,144, dated April 5, 1892.

Application filed May 29, 1891. Serial No. 394,470. (No model.)

To all whom it may concern:

Be it known that I, JAMES L. SHARP, a resident of New Rochelle, county of Westchester, and State of New York, have invented a new and useful Improvement in Gas-Stoves, of which the following is a specification.

My invention relates to an improvement in gas-stoves, and has for its object to improve the construction of the burner for said stoves and to supply the same with a proper quantity of air.

The invention consists of the new combinations and construction of parts, hereinafter more fully specified and claimed.

In the drawings, Figure 1 represents a sectional view taken on the line 1 1, Fig. 2, of my improved gas-stove. Fig. 2 is a plan view of said stove, the burner-plate being shown partially broken away. Fig. 3 is an enlarged view, partially sectional, of a portion of the upper part of my improved gas-burner. Figs. 4 and 5 are plan views of two forms of my improved burner-plate, and Fig. 6 is a cross-section on the line 6 6 of Fig. 5.

A is the outside casing of the gas-stove.

B is the gas-pipe, provided with a suitable screw-nozzle *a*.

D is a strap-shaped or similar band of metal serving to support the burner within the casing A of the stove. In fact, the nozzle *a* is by preference screwed into this strap or plate D, as shown.

E are air-pipes, each open at the upper end for the admission of air and each joined at the lower end to a hub *b*, which is screwed upon or otherwise connected with the nozzle *a*.

F is the mixing-tube screwed or similarly attached to the screw-socket *d*, formed at the junction of the air-pipes E directly above the nozzle *a*. It will be seen that each air-pipe E is entirely on one side of the mixing-tube F, joining it at the lower end. By this arrangement many advantages over an air-pipe surrounding the mixing-tube are obtained.

G is the burner screwed or otherwise secured to the upper end of tube F. This burner carries the wire-gauze *e* and the burner-plate H. This burner-plate I prefer to form, as shown in Figs. 5 and 6, with curved slots *f*, the metal near each slot being reinforced by projecting ribs *g*. The said burner-plate H may, however, have the slots *f* straight, as in Fig. 2, or cross-shaped, as in Fig. 4, the ribs *g* being either on the under side, as in Fig. 6, or on the upper side, as in Figs. 2 and 4. When the ribs *g* are on the under side, as in the preferred form shown in Fig. 6, a hollow or cavity *h* is formed between them, which cavity serves to direct the fuel downward and outward before it enters the slots *f*. The top of the plate H is provided with two or more wedge-shaped projections *i*, which are adapted to slide under or to be caught by lips or lugs *j* on the rim of the burner, and with a notch K of a size and shape sufficient to admit of the plate H being withdrawn when the wedge-shaped projections *i* are no longer under the lips *j* and when the notch K and one lip *j* coincide.

One or each of the air-pipes E may be provided with dampers J or similar contrivances to regulate the amount of air to be admitted to said pipes and mixed with the gas.

The operation is as follows: Gas enters the pipe B and passes upward into the mixing-tube F, together with air from the air-tubes E. From the mixing-tube F the gas and air thoroughly mixed in suitable proportions pass into the burner G and thence through the slotted burner-plate H. The burner-plate H, by reason of the shape of the slots and the concavity of its under surface in the preferred form shown in Figs. 5 and 6, throws the fuel upward in curving form. The reinforcement of the slots *f* by the ribs or ridges *g* protects said burner-plate from warping or cracking under the heat imparted to it by the flame. The wedge-shaped projections *i* of this burner-plate, together with the lipped projections *j* of the burner and the notch K, furnish a simple and durable means for the easy removal from and retention of the burner-plate within the rim of the burner. This facilitates the cleansing of the burner and permits of the use of diversely-slotted burner-plates for special purposes and for the renewal of the burner-plate should the same wear out. As to the air-pipes one or more may be used. These air-pipes being joined to the socket *d* and hub *b* admit of the casting of a number or series of such pipes with little cost, and the whole arrangement may be fitted up or taken apart with little trouble or skill. The separate pipes E E admit of the use of dampers, which

could not be used in the ordinary annular air-supply pipe. The object of these dampers J is to regulate the amount of air to be mixed with the gas according to the pressure of the gas. One or more of said air-pipes may be provided with such a damper, and thus one or more of said air-pipes may be wholly or partially shut off. In my present improvement the flow and mixture of the air with the gas is greatly facilitated. The action of the burner G creates a suction which draws the air downward through the pipe or pipes E into direct contact with the gas at a point directly beneath the pipe F.

Having thus described my invention, what I claim is—

1. The combination of one air-pipe E or more, having hub *b* and socket *d*, with the gas-pipe B and mixing-tube F, said air-pipe being open at the upper end and arranged wholly on one side of said mixing-tube F and communicating with the lower end thereof, and with the burner G and burner-plate H, substantially as and for the purposes set forth.

2. The combination of one air-pipe E or more, having hub *b* and socket *d*, with the gas-pipe B and mixing-tube F, said air-pipe being open at the upper end and arranged wholly on one side of said mixing-tube F and communicating with the lower end thereof, and with the burner G and burner-plate H, and with one or more dampers J in said pipe or pipes, substantially as and for the purposes set forth.

JAMES L. SHARP.

Witnesses:
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