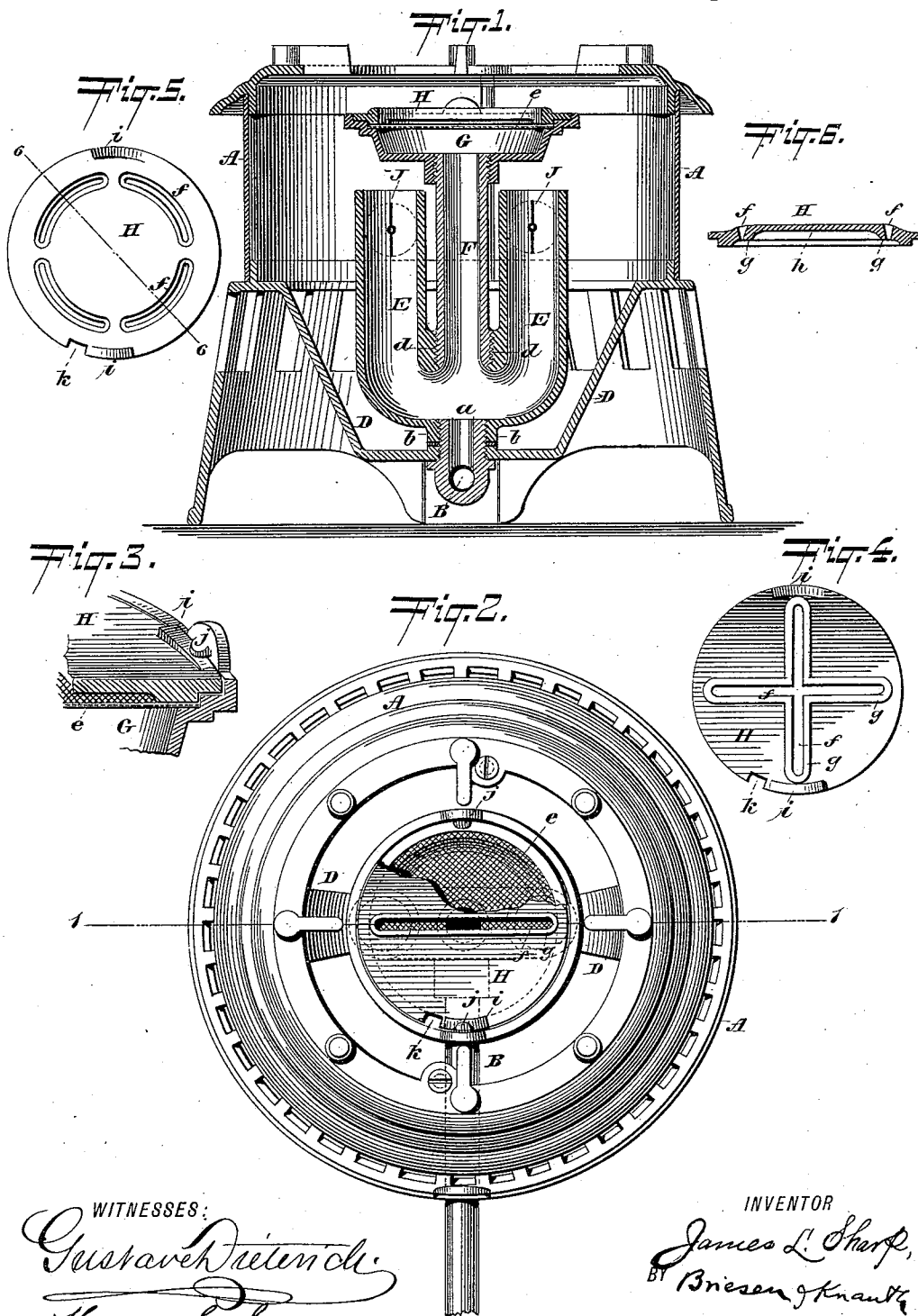


(No Model.)

J. L. SHARP.
GAS STOVE.

No. 472,144.

Patented Apr. 5, 1892.



WITNESSES:
Gustave Dietrich
Henry E. Loring

INVENTOR
James L. Sharp
BY *Briesen & Knaut*
his ATTORNEYS

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
5 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
10 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.

15 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 20 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 25 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, 30 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:

HARRY M. TURK,

L. M. WACHSCHLAGER.