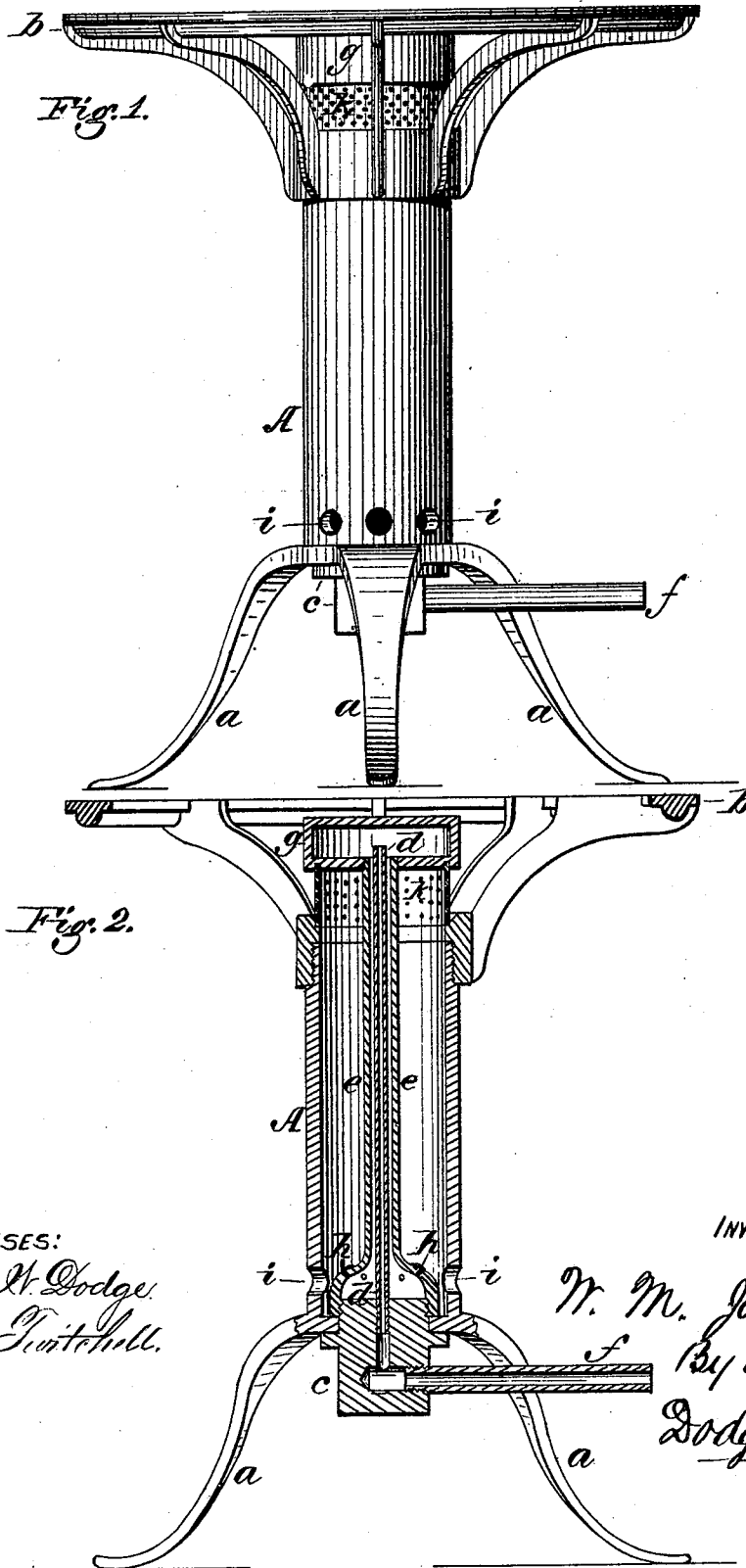


W. M. JACKSON.
GAS-STOVE.

No. 171,814.

Patented Jan. 4, 1876.



WITNESSES:
Will. H. Dodge.
Glover Twitchell.

INVENTOR:

W. M. Jackson,
By his atty.
Dodge & Son

UNITED STATES PATENT OFFICE.

WALTER M. JACKSON, OF PROVIDENCE, RHODE ISLAND.

IMPROVEMENT IN GAS-STOVES.

Specification forming part of Letters Patent No. **171,814**, dated January 4, 1876; application filed November 13, 1875.

To all whom it may concern:

Be it known that I, WALTER M. JACKSON, of Providence, in the county of Providence and State of Rhode Island, have invented certain Improvements in Stoves for Burning Heating Gases, of which the following is a specification:

My invention consists in a stove of novel construction for heating and burning gases and vapors for heating purposes, either with or without the admixture of atmospheric air, as hereinafter described.

The object of my invention is to bring the gas or vapor to a very high temperature prior to its reaching the point of ignition, whereby its combustion is rendered safer, more nearly perfect, and consequently more economical and effective; and this object I attain by simply passing the vapor, before its exit at the burner, through the flame of the burning gas, the devices for carrying out this operation being constructed in the manner represented in the drawings.

Figure 1 represents a side elevation of my burner or stove; Fig. 2, a vertical central cross-section of the same.

A represents an upright tubular body, supported at its lower end on legs *a*, and provided at its upper end with a skeleton-plate, *b*, to sustain the vessel or other object to be heated. The lower end of the body A I close by a plug, *c*, and to said plug, within the body, I screw two concentric vertical tubes, *d* and *e*. The inner tube *d* communicates with the gas-inlet *f* at its lower end, and at its upper end opens into a closed retort or chamber, *g*, screwed fast upon the upper end of the tube *e*, a short distance above the upper end of the tube A, as shown. The lower end of the tube *e* is enlarged, as shown, and provided with a series of outlet-openings, *h*, to direct the gas into the foot of the body A, which latter is provided with a series of openings, *i*, to admit atmospheric air.

Between the upper end of the body A and the under side of the retort *g* I secure a perforated metal or gauze cylinder, K, as shown in both figures. The gas entering at *f* ascends

within the central tube *d*, into the retort *g*, and passes thence down within the tube *e*, around the tube *d*, and escapes through the openings *h* into the foot of the body, meeting and mingling with the air entering through the openings *i*, and ascending therewith to the upper end of the body, where, escaping through the gauze K, it burns on the outside of the same. The flame on the outside of the gauze, surrounding and acting upon the retort, keeps the same heated to a very high temperature, so that the gas, in passing through the same in its course to the point of ignition, is heated correspondingly, and reaches the point of ignition and combustion at a high temperature, and in a rarefied and attenuated condition. The temperature of the heated gas will of course be reduced by the admixture of the cool air from without, but it will be again heated before issuing by coming in contact with the under side of the heated retort. By arranging the parts so that the jets of gas and air meet each other in the foot of the body, and employing the gauze at the upper end of the same, a thorough and even admixture of the air and gas is obtained.

Having thus described my invention, what I claim is—

1. The gas-stove, consisting of the body A, the concentric tubes *d* and *e*, the latter provided with the openings *h*, the retort *g*, and the gauze K, combined and arranged as shown.

2. In combination with the tube *e*, arranged as shown, and provided with the outlets *h* for the heated gas, the body A, provided with the air-inlets *i*, located as shown, whereby a thorough and uniform mingling of the gas and air is insured.

3. In combination with the retort *g*, supported on the gauze K, seated on the body A, the tube *e*, arranged as shown, serving both to conduct the gas from the retort and to secure the retort in place, as shown.

WALTER M. JACKSON.

Witnesses:

JOHN C. PURKIS,
CHARLES SELDEN.