

(No Model.)

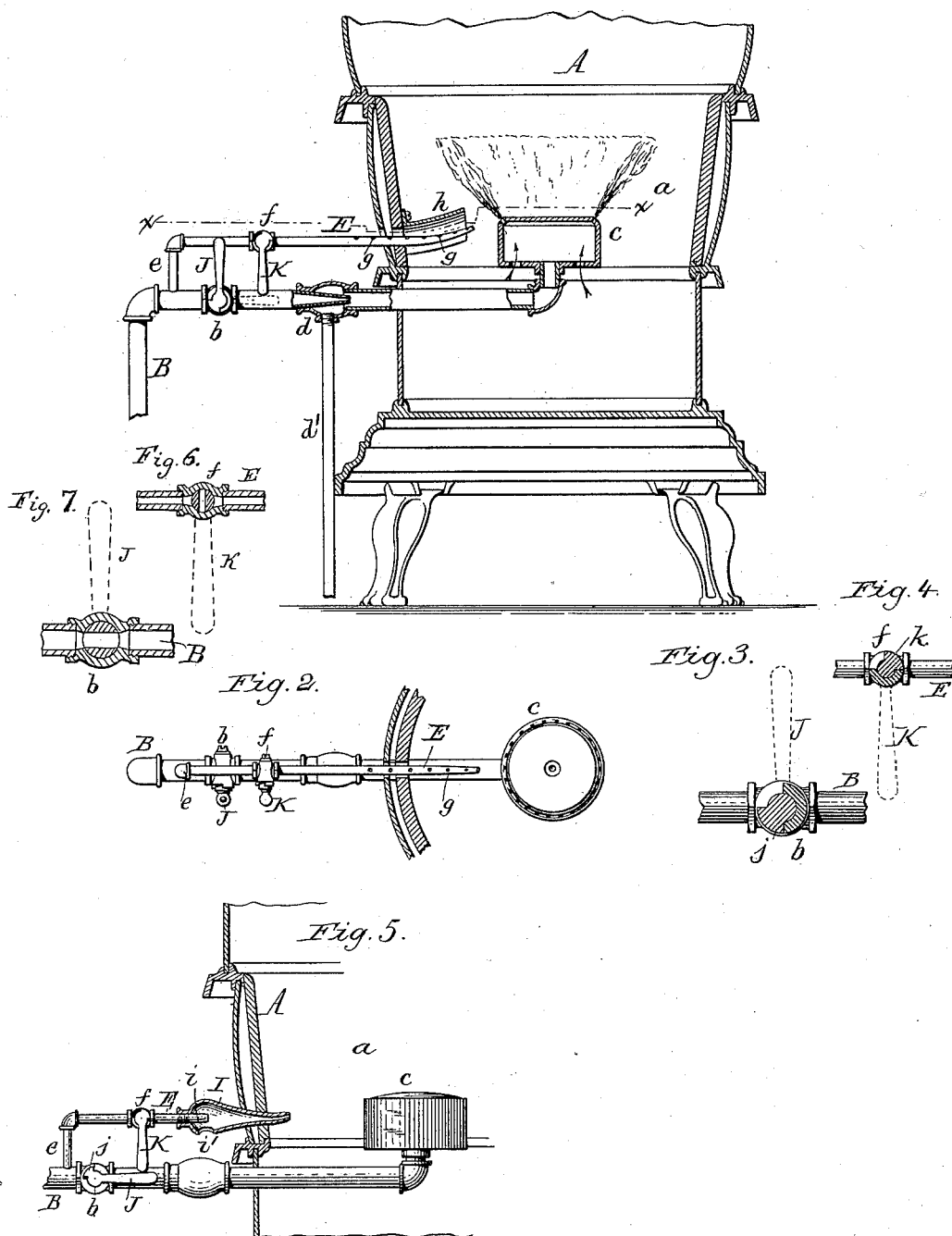
M. J. O'RIELLY.

GAS STOVE.

No. 383,316.

Patented May 22, 1888.

Fig. 1.



Chas. Buchheit  
Theodore L. Popp. } Witnesses.

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# UNITED STATES PATENT OFFICE.

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## GAS-STOVE.

SPECIFICATION forming part of Letters Patent No. 383,316, dated May 22, 1888.

Application filed September 25, 1886. Serial No. 214,500. (No model.)

*To all whom it may concern:*

Be it known that I, MICHAEL J. O'RIELLY, of the city of Buffalo, in the county of Erie and State of New York, have invented a new and useful Improvement in Gas-Stoves, of which the following is a specification.

This invention relates to an improved device for lighting the gas in gas stoves and furnaces, and has for its object to provide simple and inexpensive means whereby the gas can be ignited from the exterior of the stove.

The invention consists of the improvements which will be hereinafter fully set forth, and pointed out in the claims.

In the accompanying drawings, Figure 1 represents a sectional elevation of a stove provided with my improved lighting device. Fig. 2 is a fragmentary horizontal section in line *x*, Fig. 1. Fig. 3 is an enlarged sectional view of the cock whereby the supply of gas to the burner is regulated. Fig. 4 is a similar view of the cock by which the supply of gas to the lighter is regulated. Fig. 5 is a sectional elevation showing a modified construction of the lighting device. Figs. 6 and 7 are vertical sections of the gas-cocks represented by Figs. 3 and 4.

Like letters of reference refer to like parts in the several figures.

A represents a gas-stove of any ordinary or suitable construction, and *a* the fire-place or flame-chamber thereof.

B represents the main gas-supply pipe which enters the side of the stove and is connected in the flame-chamber *a* with a suitable burner, *c*.

*b* represents a stop-cock or valve arranged in the main supply-pipe B, and whereby the supply of gas to the burner is controlled.

The supply-pipe B is preferably provided with an air-injector, *d*, whereby the gas flowing through the pipe B is mixed with air before it reaches the burner. The air-inlet of the injector *d* may be provided with an air-supply pipe, *d'*, terminating outside of the room in which the stove is placed, whereby the whistling noise is prevented which is usually caused by the air entering the injector.

E represents the gas-lighter, which projects into the flame-chamber *a* of the stove and terminates in such close proximity to the gas-burner *c* that the gas issuing from the latter

will become ignited by contact with the flame of the lighter. The latter extends through the side wall of the flame-chamber, and is provided on the outside of the stove with one or more apertures, by which the gas issuing from the lighter can be ignited.

*e* represents a branch pipe, by which the lighter E is supplied with gas from the main pipe B beyond the cock *b* of the main pipe, and *f* is a stop-cock, by which the flow of gas through the branch pipe can be regulated.

In the construction of the lighter represented in Figs. 1 and 2 the lighter is provided on its upperside with a series of perforations, *g*, which extend from the inner end of the lighter to the outer side of the fire-chamber *a* of the stove, so that upon turning the cock *f* to admit gas to the lighter the gas issuing from the perforations *g* outside of the fire-chamber can be ignited, and will cause the ignition of the gas issuing from the perforations *g* of the lighter within the fire-chamber.

*h* represents a shield secured to the inner side of the fire-chamber above the lighter, so as to direct the flames of the small lighter-jets inwardly or toward the burner *c*, and to prevent the perforations from becoming clogged by the fire-proof material which is usually placed in the fire-chamber.

In the construction represented in Fig. 5 the lighter is provided with a single gas-jet, *i*, located outside of the fire-chamber *a* of the stove, and the flame is carried into the fire-chamber and toward the burner *c* by a deflector, *l*, which envelops the jet *i*, and is provided on its under side with an opening, *i'*, for the admission of air.

The cocks *b* and *f*, whereby the gas-supply to the main burner and the lighter is controlled, are provided with suitable stops, *j* and *k*, whereby the movement of each cock is limited to a quarter-turn. The cocks *b* and *f* are provided, respectively, with handles J and K, which are arranged in the same plane in such manner that the handle J of the cock *b* will be prevented by the handle K from being moved in the direction in which the cock *b* is opened, as represented in Fig. 5, thereby compelling the attendant to open the lighter-cock *f* before the main cock *b* can be opened.

In Fig. 5 both cocks *b* and *f* are represented

closed, in which position of the cocks the handle J is locked in one direction by the handle K and in the other direction by the stop j.

When it is desired to ignite the gas in the stove, the cock *f* of the lighter is opened, thereby allowing the gas to escape from the lighter E, and the gas so issuing from the lighter is then ignited outside of the stove. The valve *b* of the main supply-pipe B is now opened, whereby the gas is allowed to pass to and through the burner *c*. The gas issuing from the latter is immediately ignited by the flame of the lighter, thereby avoiding the danger resulting from the accumulation of a large volume of gas in the stove before ignition takes place. When the gas issuing from the burner has been ignited, the valve *f* of the lighter is closed.

My improved lighter enables the attendant to light the main burner from the outside of the stove with convenience and safety.

I claim as my invention—

1. The combination, with the fire-chamber of a stove, of a main gas burner located within the fire-chamber, and a stationary lighter connected with the gas-supply pipe and extending into the fire-chamber, said lighter being provided with an ignition aperture outside of the fire-chamber and with a communicating flame-aperture within the fire-chamber near the main burner, substantially as set forth.

2. The combination, with the fire-chamber of a stove and a gas-supply pipe, of a gas-burner located within the fire-chamber, and a lighter connected with the gas-supply pipe, and consisting of a gas-pipe provided with perforations extending from the outside to the inside of the fire-chamber, whereby the gas-jets within the fire-chamber are ignited upon lighting one of the gas-jets outside of the fire-chamber, substantially as set forth.

3. The combination, with the fire-chamber of a stove, of a main gas-burner, a lighter provided with perforations, and a shield arranged in the fire-chamber above the perforations of the lighter, whereby the lighter is protected, substantially as set forth.

4. The combination, with the fire chamber, the main burner, and lighter, of the supply-cocks *b* and *f*, provided, respectively, with stops *j* and *k* and handles J and K, arranged to come in contact with each other and prevent the movement of the handle of the main cock before the lighter-cock has been opened, substantially as set forth.

Witness my hand this 22d day of September, 1886.

M. J. O'RIELLY.

Witnesses:

JNO. J. BONNER,  
CARL F. GEYER.