

(No Model.)

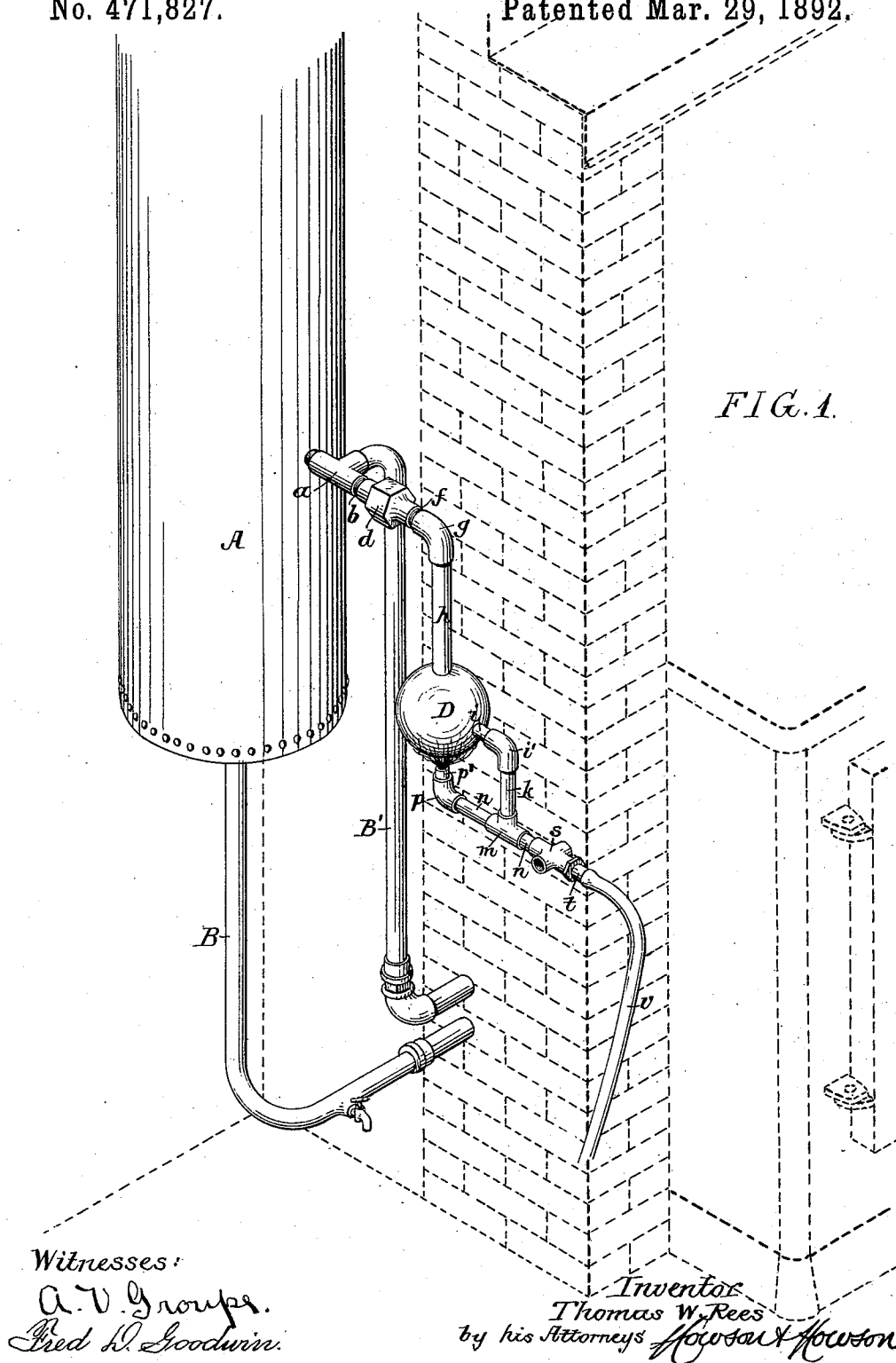
2 Sheets—Sheet 1.

T. W. REES.

SUPPLEMENTARY HEATER FOR RANGE BOILERS.

No. 471,827.

Patented Mar. 29, 1892.



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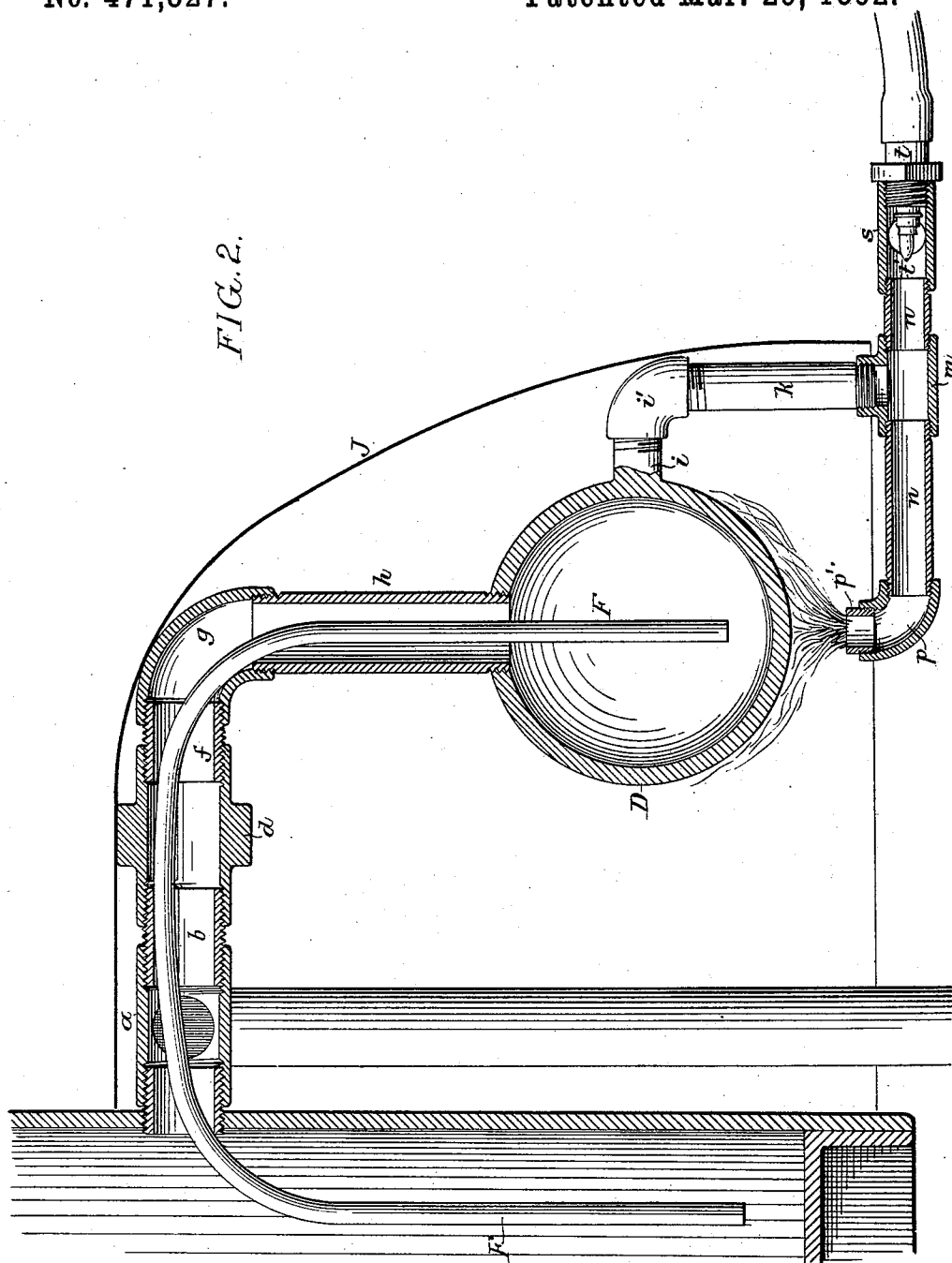
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Witnesses:
A. V. Groupe.
Fred D. Goodwin.

Inventor:
Thomas W. Rees
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UNITED STATES PATENT OFFICE.

THOMAS W. REES, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO THE
UNIVERSAL WATER HEATER COMPANY, OF CAMDEN, NEW JERSEY.

SUPPLEMENTARY HEATER FOR RANGE-BOILERS.

SPECIFICATION forming part of Letters Patent No. 471,827, dated March 29, 1892.

Application filed April 25, 1891. Serial No. 390,388. (No model.)

To all whom it may concern:

Be it known that I, THOMAS W. REES, a citizen of the United States, and a resident of Philadelphia, Pennsylvania, have invented certain Improvements in Supplementary Heaters for Range-Boilers, of which the following is a specification.

One object of my invention is to provide the water-reservoir of an ordinary stove or range with an attachment whereby the heating of water can be effected by means of a gas or oil burner, a further object being to insure the proper circulation of the water through said heating attachment, and a still further object being to economically combine such attachment with the ordinary circulating-pipes of the reservoir and water-back. These objects I attain in the manner hereinafter set forth, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of a water-reservoir with heating attachment constructed in accordance with my invention, a portion of the range and range-setting being shown by dotted lines and the ordinary circulating-pipes of the reservoir and water-back being also illustrated; and Fig. 2 is an enlarged vertical section of my improved water-heating attachment with part of the shell or casing of the reservoir also shown.

In Fig. 1, A represents part of a vertical water-reservoir, such as is ordinarily mounted adjacent to the setting of a kitchen stove or range, this reservoir communicating with the water-back in said stove or range through a cold-water pipe B and a hot-water pipe B', the cold-water pipe entering the bottom of the reservoir and the hot-water pipe communicating with the same some distance above said bottom. Instead of connecting the upper end of the hot-water pipe B' directly with the reservoir, however, said pipe communicates with the reservoir through a T-coupling *a*, which also has a short pipe-section *b*, coupled by means of a duplex or right-and-left nut *d* to a pipe-section *f*, which is coupled by means of an elbow *g* to a vertical pipe *h*, the lower end of which carries a heating-vessel D, which, in the present instance, is of substantially spherical form, although it may be of any de-

sired shape without departing from the essential feature of the invention.

Extending from a point some distance above the bottom of the reservoir A into the heating-vessel D is a bent pipe F, considerably less in diameter than the pipes and fittings forming the before-described communication between said heating-vessel and the reservoir, this pipe serving to convey the cool water from the reservoir into the heating-vessel and discharging it close to the lower portion of said vessel, the water when heated rising through the pipe connections above described and entering the reservoir A some distance above the bottom of the same. The heating-vessel D has at one side a projecting stud *i*, which is connected by an elbow-coupling *i'* to a depending pipe *k*, and to the lower end of the latter is screwed a T-coupling *m*, carrying pipe-sections *n n*, one of these sections having at a point immediately below the heating-vessel D a burner of any desired character, that shown in the drawings consisting simply of an elbow-coupling *p* and short pipe-section *p'*. The other pipe *n* carries an H-coupling *s*, into one end of which is screwed a plug *t*, with nozzle *t'* projecting into the coupling *s*. The outer end of this nozzle is provided with a flexible tube *v*, communicating with any adjacent gas-pipe, so that the gas escaping from the jet *t'* causes an inflow of air through the open branches of the coupling *s* and the mixture of air and gas is ignited at the burner *p'* and envelops or partially envelops the heating-vessel D, the heat being by preference retained by means of an outer hood J, as shown in Fig. 2. When the reservoir A is emptied, the water will also be withdrawn from the heating-vessel D down to the level of the bottom of the pipe F, owing to syphon action, so that the heating-chamber will not be injured by the freezing of water therein in cold weather when the heater is not in use—as, for instance, in an unoccupied house.

It will be evident that in carrying out my invention an oil-lamp, gasoline-burner, or equivalent device may take the place of the gas-and-air burner which I have described, the latter, however, being preferred.

Having thus described my invention, I claim and desire to secure by Letters Patent—

1. The combination of the water-reservoir of a stove or range, with a heating-vessel, a pipe connection between the upper portion of said vessel and the reservoir, and a second pipe connection passing through the first and forming an inverted **U**, whereby it presents a depending portion both within the reservoir and within the heating-vessel, substantially as specified.

2. The combination of the stove or range, the external water-reservoir, the circulating-pipes connecting said reservoir with the water-back of the stove or range, a supplementary heating-vessel, an oil or gas burner for said supplementary heating-vessel, a pipe for conveying the heated water from the vessel to the reservoir, an internal inverted-**U** pipe serving as a circulating-pipe and having one

depending portion within the vessel and another within the reservoir, and a **T**-coupling whereby both the hot-water pipe of the vessel and the upper circulating-pipe of the reservoir are coupled to the latter, substantially as specified.

3. The combination of the reservoir, the heating-vessel and pipe connection between the two, with a gas or oil burner hung to a projecting stud on said heating-vessel, the tube of said burner having a **T**-section with open ends for supplying air for admixture with the gas, substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

THOMAS W. REES.

Witnesses:

EUGENE ELTERICH,
HARRY SMITH.