N. M. SIMONDS.

Hot-Water-Tank Coupling for Ranges and Stoves.

No. 198,697. Patented Dec. 25, 1877.

FIG. 1.

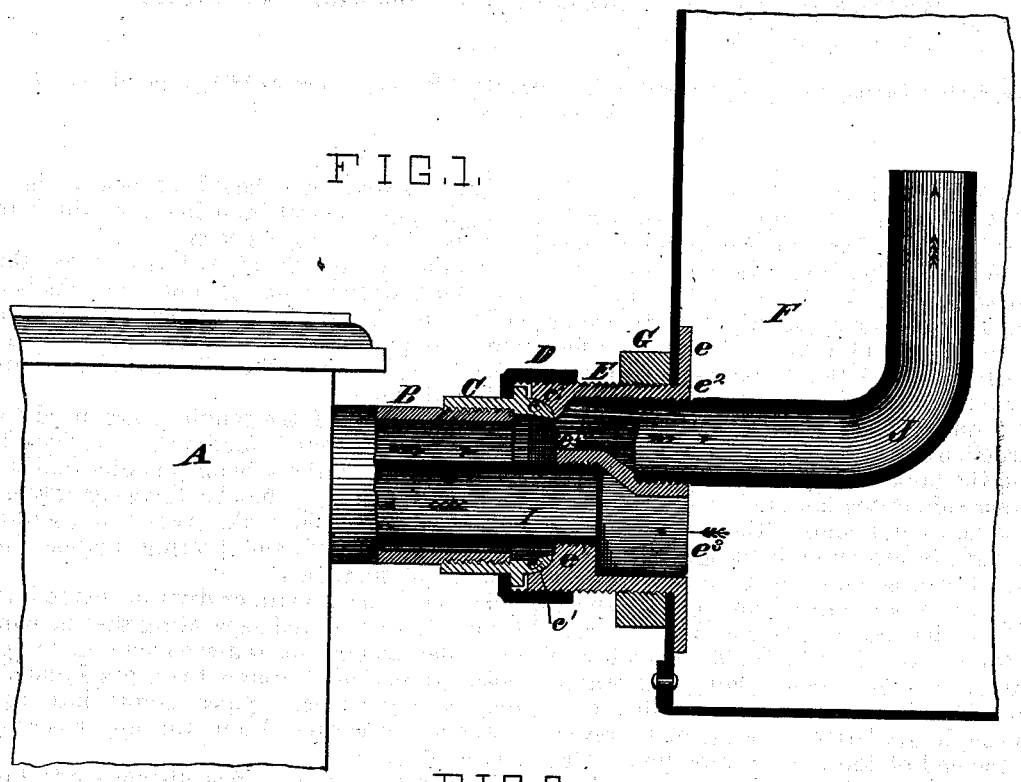


FIG. 2.

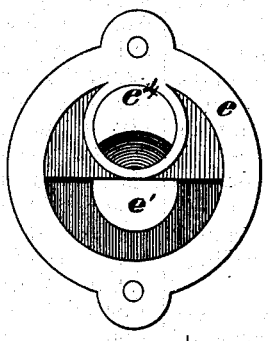
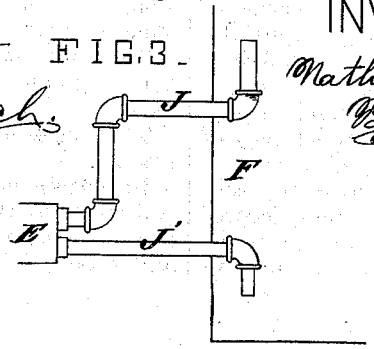


FIG. 3.



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NATHANIEL M. SIMONDS, OF ST. LOUIS, MISSOURI.

IMPROVEMENT IN HOT-WATER-TANK COUPLINGS FOR RANGES AND STOVES.

Specification forming part of Letters Patent No. **198,697**, dated December 25, 1877; application filed October 24, 1877.

To all whom it may concern:

Be it known that I, NATHANIEL M. SIMONDS, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Hot-Water-Tank Couplings for Ranges and Stoves, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification.

My improvement consists, mainly, in the construction of a neck, which is secured in the side of the tank by a flange fitting against the inner side of the tank and a nut screwing against the outer side. The joint is made water-tight by any suitable gasket, or by lead. The neck has screw-sockets to receive the ends of the water-pipes, extending, respectively, into the water-tank, and into a larger pipe, which extends into the fire-chamber of the range or stove, and forming the water-heater. The neck forms one member of a union-coupling, whose other member is screwed upon the end of the water-heater pipe. The members of the union-coupling are fitted together with a ground joint, and secured by the usual nut.

It will be understood that one member of the coupling is attached to the water-tank, and the other member to the heating-pipe which enters the range or stove, and that, in setting up the apparatus, it is only necessary to bring the members together in the proper position and screw up the nut, and in disconnecting the parts for removal or repairs it is only necessary to unscrew the coupling-nut.

In the drawings, Figure 1 is an axial vertical section. Fig. 2 is an end elevation of the tank member of the coupling, showing the inside of the tank end thereof. Fig. 3 is a side elevation of a modification.

A is a part of the stove or range. B is a water-pipe, extending into the upper part of the fire-chamber within the range.

This pipe may extend all across the said fire-chamber, or only part way across, according to the amount of water required to be heated; or, where the hot water is used in larger quantity than could be heated in a straight pipe, lateral branches are added to increase the heating capacity.

On the end of the pipe B is screwed the member C of the coupling, and upon this is a collar-nut, D, of the usual construction in union-couplings. This nut screws upon the neck E, which forms the other member of the union-coupling.

The members of the coupling are fitted together with a ground joint, *c c'*. The neck E extends through the side of the water-tank F, and has a flange, *e*, that has bearing against the inner side of the tank. G is a nut, screwing on the neck E, and bearing against the outside of the tank F.

The neck has a plate or division extending from side to side, and separating the currents of colder and hotter water which run in opposite directions through the pipes I and J, respectively. These pipes screw into the lower screw-socket e^1 and the upper screw-socket e^2.

The pipe I extends some distance into the heating-pipe B, and supplies it with water from the lower part of the tank. The water enters pipe I through orifice e^3. The heated water from the range flows back to the tank through the pipe B, on the outer side of the pipe I, and through the orifice e^4 and pipe J.

The pipe J is preferably bent upward, as shown, so that no water will flow directly from its mouth to the orifice e^3; but this form of pipe is not a matter of necessity, as it may extend horizontally into the tank without any upward bend, and would effectually answer the purpose, as the water discharging from its mouth would tend to flow upward from its greater heat.

The joint between the neck E and the tank may be made tight by red lead, or by other means.

The course of the water is indicated by arrows.

In certain cases I do not connect the neck E directly to the water-tank, but make connection with the neck by means of pipes J and J′ outside the tank, the pipe J′ commu-

nicating with lower passage e^3, and pipe J with upper passage e^4. This is illustrated in diagram marked Fig. 3.

I claim as my invention—

1. The neck E, constructed with heater-pipe passage e^3 and tank-pipe passage e^4, in combination with the heater-pipe I and tank-pipe J, substantially as set forth.

2. In combination with the neck E, constructed as set forth, and the pipes I and J, the pipe B, inclosing the pipe I, substantially as and for the purpose set forth.

NATHANIEL M. SIMONDS.

Witnesses:
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