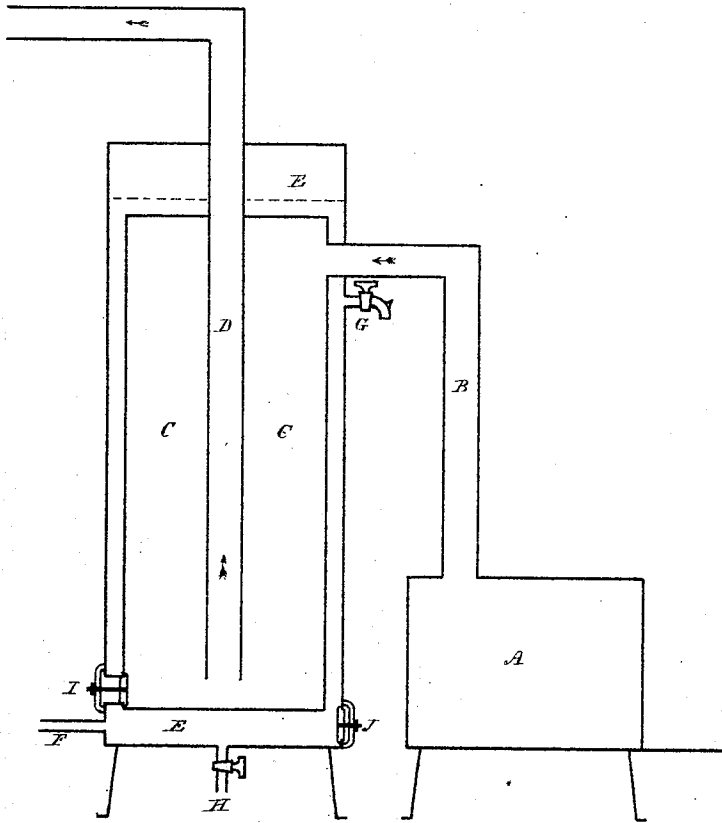


H. N. WATERS & G. W. LASCCELL.

Hot-Water Reservoir for Stoves.

No. 133,958.

Patented Dec. 17, 1872.



Witnesses.

*Bend. work*

*Charles L. Bendett*

Inventors.

*Horatio N. Waters*

*George W. Lascell*

*& Theo. G. Ellis*

*Attorneys*

# UNITED STATES PATENT OFFICE.

HORATIO N. WATERS, OF MERIDEN, CONNECTICUT, AND GEORGE W. LASCELL,  
OF SYRACUSE, NEW YORK.

## IMPROVEMENT IN HOT-WATER RESERVOIRS FOR STOVES.

Specification forming part of Letters Patent No. 133,958, dated December 17, 1872.

### *To all whom it may concern:*

Be it known that we, HORATIO N. WATERS, of Meriden, in the county of New Haven and State of Connecticut, and GEORGE W. LASCELL, of Syracuse, in the county of Onondaga and State of New York, have invented a new and useful Apparatus for Heating and Purifying Water; and we do hereby declare that the following is a full, clear, and exact description thereof, whereby a person skilled in the art can make and use the same, reference being had to the accompanying drawing and to the letters of reference marked thereon.

Our invention consists in certain mechanical arrangements for arresting and confining the heated gases from a stove or other similar fire, and inclosing the same with a water-reservoir, from which hot water can be drawn, as desired. It also consists in the application of devices for cleaning the said apparatus, and removing the accumulation of sediment from the water or soot from the interior smoke-pipes as often as may be requisite.

In the accompanying drawing, A represents a stove. B is a pipe leading into the interior drum or cylinder C near its top. D is a pipe leading from the inside of C, near the bottom, upward, and opens into the air or an ordinary chimney. E is a water cylinder or reservoir surrounding C, and leaving a space on all sides and the top and bottom, so that the water comes directly in contact with all parts of the drum C. F is the inlet for cold water, situated near the bottom of E. It is connected with a suitable reservoir—the ordinary water-mains of a city—or it may be provided with a stand pipe, and be filled by hand. In the latter case the top of the pipe must be above the top of the reservoir. The water in the reservoir is intended to be above the top of the interior chamber C, as shown by the dotted line. G is a cock for drawing hot water from E. H is a waste-pipe for blowing off the sediment or emptying E, when required. It is provided with a stop-cock, which is ordina-

rily kept closed. I is a hand-hole passing through the exterior chamber E for the purpose of cleaning out the accumulation of soot in the chamber C. J is a hand-hole near the bottom of the water-reservoir for the purpose of removing any deposit that may accumulate on the bottom. All sediment can be thus cleaned out easily at any time, and keep the water pure and clean.

The reservoir E may have a safety-valve or a cock in the top to allow of the escape of steam or air.

The water is heated nearly or quite to the boiling-point in the following manner: The heated gases passing through B enter the top of C, and pass downward as they cool by imparting heat to the water. The hottest part of the water being at the top, by the continued rising of the heated particles, and the coolest part being at the bottom, where the cold water enters, the heat is almost entirely abstracted from the gases before they reach the bottom and pass off through the pipe D.

### *Claims.*

What we claim as our invention is—

1. The combination and arrangement of the cylinders C and E with the entrance and exit pipes B and D, substantially as herein described.

2. The combination and arrangement of the cylinders C and E with the hand-holes I and J, substantially as herein described.

3. The arrangement of the devices B C D E F G H I J, substantially in the manner described, to form a heating apparatus.

HORATIO N. WATERS.  
GEORGE W. LASCELL.

Witnesses as to WATERS:

THEO. G. ELLIS,  
BEN. A. COOKE.

Witnesses as to GEO. W. LASCELL:

STANLEY BAGG,  
THOMAS HOGAN.