

*John Marshall,
Water-Heater.*

No 75,942.

Patented Mar. 24, 1868.

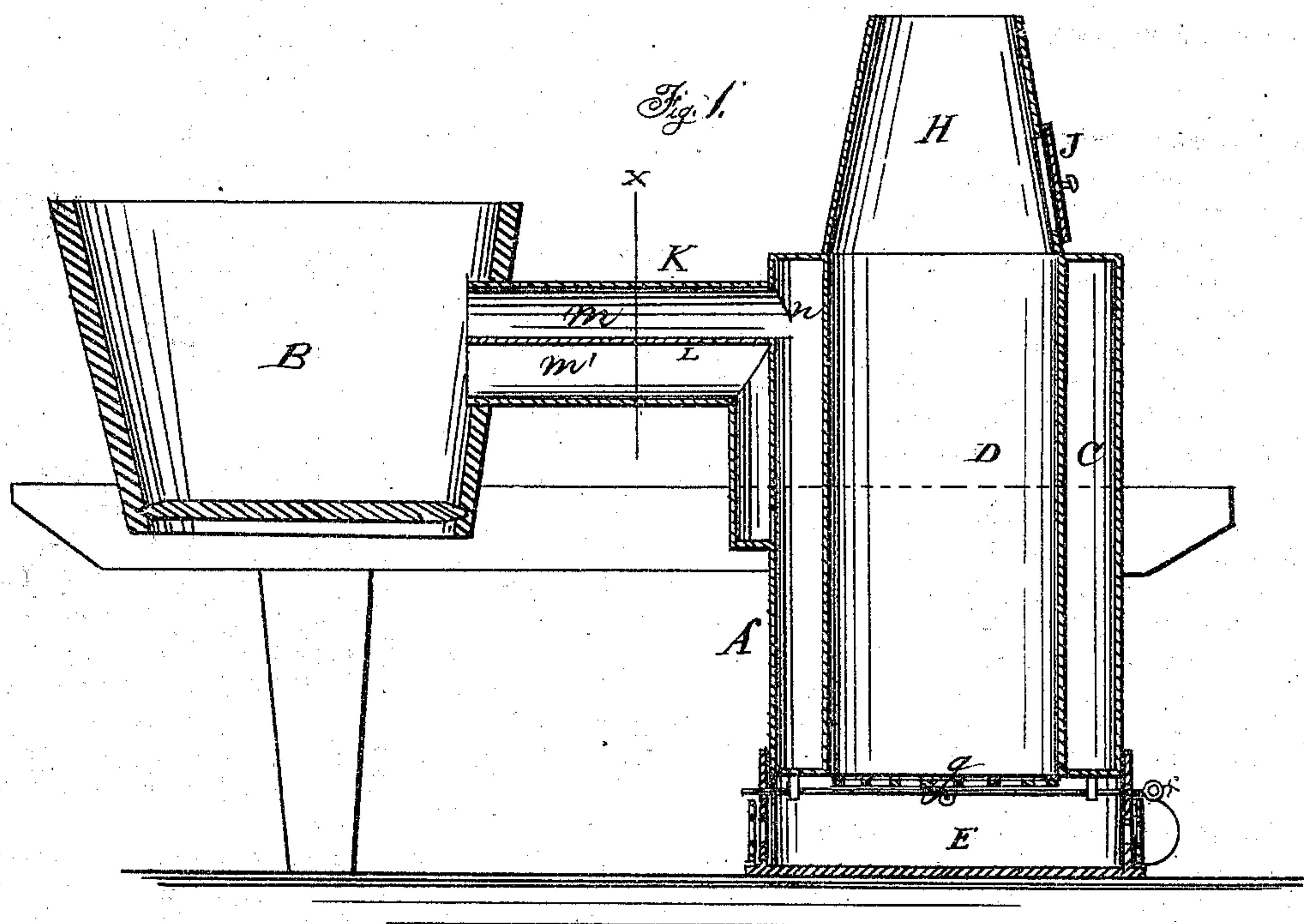
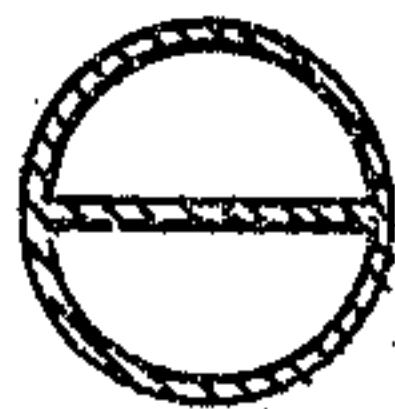


Fig. 2.



Witnesses:

*Ol. C. Asketon
J. Fraser*

*Inventor
John Marshall
per J. M. Marshall
attorneys*

UNITED STATES PATENT OFFICE.

JOHN MARSHALL, OF HARTLAND, MICHIGAN.

IMPROVEMENT IN BOILERS.

Specification forming part of Letters Patent No. 75,942, dated March 24, 1868.

To all whom it may concern:

Be it known that I, JOHN MARSHALL, of Hartland, in the county of Livingston and State of Michigan, have invented a new and useful Improvement in Water-Heater; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

The object of this invention is to provide simple and efficient means for heating water or other liquids in wooden vessels, for washing clothes, or other purposes; and it consists in producing a circulation of water between the tub, barrel, or other vessel and an annular heater by a divided tube, as will be hereinafter more fully described.

The drawing, Figure 1, represents an elevation of the apparatus, showing the heater connected with the wooden tub by the divided tube. Fig. 2 is a cross-section of the divided or circulation tube through the line *x x* of Fig. 1.

Similar letters of reference indicate corresponding parts.

A is the heater, and B is the tub or vessel in which it is desired to heat or boil water or other liquid. The heater A consists of an annular water-space, marked C, and an interior vertical fire-cylinder or furnace, marked D. E is the ash-pit beneath the fire-box grate, which ash pit or box is attached to the heater by rods *f*, so that it may readily be removed therefrom. The grate of the fire-box is seen at *g*. H is the cap or chimney connection, and J is a door therein through which the fuel is

introduced. K is the divided tube. The upper portion *m* of this tube is connected with the annular water-space C at *n*. The lower portion *m'* is in communication with the annular water-space C at *o*. It will be noticed that this lower portion of the divided tube K turns down at right angles so as to connect with the annular water-space C at a lower point. L is the dividing-plate or partition in the tube K. By making the connection as shown at *n* and *o*, or one lower than the other, a circulation of water is produced. The annular space C is filled and the desired quantity of water is placed in the vessel B. The water at the upper portion of C will become heated first and pass through the tube *m* into B, and water will return to the space C through the tube *m'* and orifice *o*.

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

1. The divided circulation-tube K, whether the parts *m* and *m'* are of equal length or not, as a connection between a water or liquid heater and a water or liquid containing vessel, B, substantially as described, for the purposes set forth.

2. In combination with the divided tube K, the heater A, constructed and arranged substantially as described, for the purposes specified.

The above specification of my invention signed by me this 21st day of January, 1868.

JOHN MARSHALL.

Witnesses:

E. THROOP,

R. F. AINSLEY.