(No Model.)

J. L. REID.

HEATING DRUM OR RADIATOR.

No. 522,534. Patented July 3, 1894.

Fig. 1.

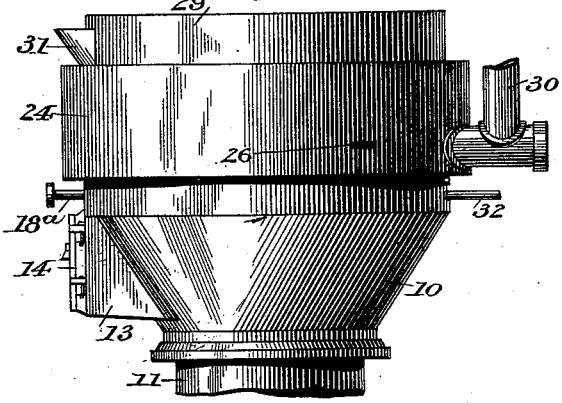


Fig. 2.

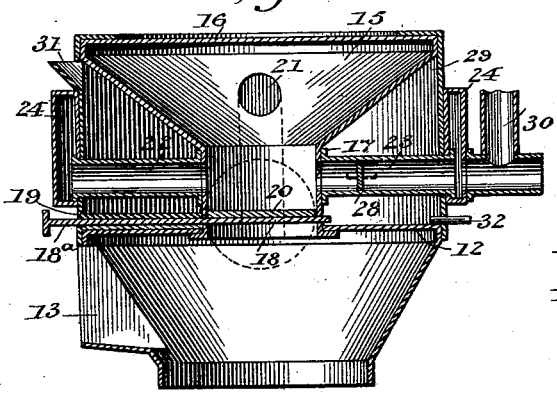
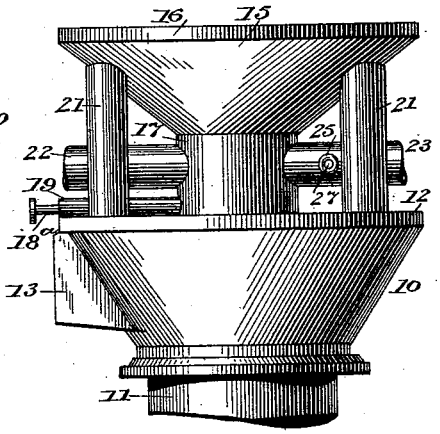


Fig. 3.



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UNITED STATES PATENT OFFICE.

JOHN L. REID, OF DAVENPORT, IOWA.

HEATING DRUM OR RADIATOR.

SPECIFICATION forming part of Letters Patent No. 522,534, dated July 3, 1894.

Application filed December 4, 1891. Renewed June 9, 1894. Serial No. 514,104. (No model.)

To all whom it may concern:

Be it known that I, JOHN L. REID, a citizen of the United States, residing at Davenport, in the county of Scott and State of Iowa, have invented new and useful Improvements in Heating Drums or Radiators, of which the following is a specification.

My invention relates to improvements in heating drums or radiators, and consists in a certain novel construction and combination of devices, fully described hereinafter in connection with the drawings and specifically pointed out in the appended claim.

In the drawings Figure 1 is a side view of the improved heating drum or radiator, affixed in operative position to the upper end of a stove fire-pot, a small portion of which is shown. Fig. 2 is a central vertical sectional view of the same; and Fig. 3 is a side view of the drum or radiator, with the water casing and exterior collar radiator removed.

Similar numerals of reference refer to similar parts throughout the several views.

In the drawings 10 designates an extension combustion chamber fire pot, designed to be secured to the upper end of a stove fire pot, a part of which stove fire pot is shown and designated as 11. The extension fire pot is flaring so that its diameter at its top is greater than at its base, and at its top it is provided with a cover or top plate 12 and in its side is provided a fuel chute 13 and feed door 14.

15 represents a radiator chamber, which is also constructed flaring so that the diameter at its top is greater than its base, the diameter at its top being substantially the same as the diameter at the top of the combustion chamber 10. The radiator chamber at its top is provided with a cover or top plate 16. A vertical pipe 17 connects the bottom of the radiator chamber 15, with the combustion chamber 10 by means of a central aperture in its cover or top plate 12. A transverse spindle 18 is mounted in suitable bearings in the opposite sides of the lower end of the vertical pipe 17 one end of which is extended so as to form a handle 18ª, and which extended part of the handle passes through a water tight tube 19.

20 represents a damper or valve secured upon said spindle fitting closely in said pipe 17, such damper or valve when opened is shown by the broken circular lines in Fig. 2. Three vertical flues 21 extend from the top or cover of the combustion chamber to the radiator chamber, and thereby connect the combustion chamber with said radiator chamber. Two transverse flues 22 and 23 extend from the vertical pipe 17, above the damper or valve, to the exterior collar radiator 24. A transverse spindle 25 is mounted in suitable bearings in the opposite sides of the transverse flue 23 one end of which is extended to form a handle 26, and which handle passes through a water tight tube 27 which extends from said transverse flue 23 outward through the exterior collar radiator 24. A damper or valve 28 is secured upon said spindle, fitting closely in said flue 23, such damper or valve when opened is illustrated by the broken lines in Fig. 2. Adjoining the inner surface of the exterior collar radiator, and connected to the top of the combustion chamber and top of the radiator chamber is secured the water casing 29 which forms a chamber for water between the lower portion of the radiator chamber and the top of the combustion chamber the parts being constructed so that all joints are water tight. An outlet pipe 30 is secured to the exterior collar radiator and forms the outlet for smoke and gas. A suitable opening 31 is made near the top of the water casing to afford means for filling the chamber with water, and near the bottom of such casing is a small pipe 32 which may be provided with a suitable stop cock, or other means, for drawing the water out of the chamber when desired.

The operation of my heating drum or radiator is as follows: When the dampers or valves 20 and 28 are opened as shown by the broken lines in Fig. 2, the smoke, gases and other products of combustion from the fire pot pass directly upward in the vertical pipe 17 and out through the flue 23 into the outlet pipe 30, and escape, and when these dampers or valves are closed, the products of combustion pass upward from the fire pot through the vertical flues 21 into the radiator chamber, and being deflected by the dampers or valves 20 and 28 pass through the transverse flue 22 into the exterior radiator collar 24 and thence

to the outlet pipe 30 where the same escape, causing the water in the chamber to become heated.

The advantage of my device is the vast heating or radiating surface furnished by constructing the drum or radiator as I have illustrated and described.

What I claim as new, and desire to secure by Letters Patent, is—

In a heating drum or radiator, the combination of the combustion chamber, the radiator chamber, the pipe 17 connecting the same, the damper or valve in such pipe and the handle for operating the same, the vertical flues 21 connecting said combustion chamber and radiator chamber, the exterior radiator collar, the outlet pipe connected therewith, the transverse flues 22 and 23, connecting said pipe 17 above its damper or valve with said exterior radiator collar, the water casing 29, the damper or valve 28 in said pipe 23, the handle for operating the same, and the tubes inclosing the handles of said dampers or valves substantially as described.

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