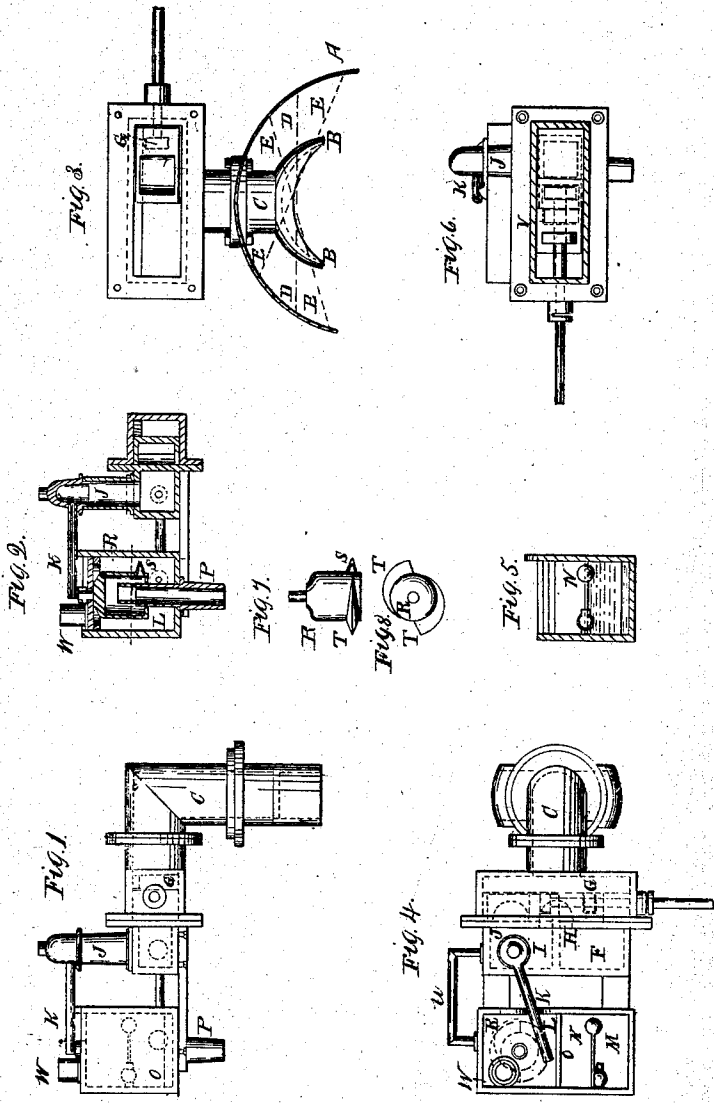


No. 66,223.

PATENTED JULY 2, 1867.

J. DARLING.  
BOILER FEEDER.



Witnesses:  
*Franklin Rigart*  
*Henry Bayley*

Inventor  
*Jeremiah Darling*

# United States Patent Office.

JEREMIAH DARLING, OF CINCINNATI, OHIO.

Letters Patent No. 66,223, dated July 2, 1867.

## IMPROVEMENT IN BOILER-FEEDERS.

The Schedule referred to in these Letters Patent and making part of the same.

### TO ALL WHOM IT MAY CONCERN:

Be it known that I, JEREMIAH DARLING, of the city of Cincinnati, in the county of Hamilton, and State of Ohio, have invented an "Improved Steam Boiler-Feeder, Exhauster, and Whistle combined;" and I do hereby declare the following to be an exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification, in which—

Figure 1 represents a side elevation of the feeder, exhauster, and whistle combined.

Figure 2 is a cross-section.

Figure 3 represents the top of a boiler with its steam and water pipe and valve-box above.

Figure 4 represents a top view of the feeder, exhauster, and whistle combined.

Figure 5 represents the water-tank with its self-acting float or buoy.

Figure 6 represents a view of the valve and valve-box with its steam apertures.

Figure 7 represents a perspective view of the exhauster and heater.

Figure 8, a top view of the exhauster.

The nature of my invention consists in the construction of the semicircular steam and water pipe, as constructed with the boiler for the purpose of keeping the water of the boiler at one level, when placed at the geographical centre according to the rocking motion of the boiler. Likewise the arrangement of the steam whistle at the top of the water and steam cells in combination. Likewise the construction of the exhauster with its steam ducts and apertures that discharge the steam under the water in the water-tank for the purpose of heating the water before entering the boiler.

A represents a steam boiler; B represents the mouth of the pipe C, that is of a semicircular shape, and concave on the inside. It is located in the boiler A at the top of the water, (the blue line D indicating the water line, and the red lines E exhibiting the angular lines of the surface of the water during the rocking motion of the boiler.) The steam passes up the pipe C from the boiler and enters the cell F, and by the movement of the valve G it passes out at H and into the adjacent cell I, and from thence into the reservoir J, and out through the whistle K, discharging over and above the tank L. M is the supply-tank through which the cold water is first introduced, and the height of the water is regulated by the float N. The water passes from this tank M under the partition at O, and into the adjacent tank L, where it is heated by the steam from the engine passing up through the pipe P into the exhauster R, and by the rotary motion of the exhauster is discharged under the water through the apertures S of the ducts T. The water is thus heated by the steam, and passes from the tank L through the side pipe W, forward into the cell I, where (by the opposite movement of the valve G) the water now takes the place before occupied by the steam in cell F, and passes around at H into cell F, and back through the aperture at H, and through the pipe C into the boiler A, thus keeping the boiler supplied with hot water. The exhauster is constructed of a cylindrical shape, with two ducts T on its outside near the bottom, with sharp edges, so as to operate easily through the water. The exhauster is suspended to the top plate of tank L, and rotates around the body of the steam pipe P by the force of the steam from the pipe P passing up into the exhauster, and from thence down through the apertures S of the duct T, where reaction is produced, driving the exhauster in the opposite direction from the discharge of the steam. All the overplus steam rises up through the water and passes off through the pipe W, without any noise, from the exhaust. When there is no longer water in tank L the exhauster R ceases to rotate, and the steam passes direct through the escape pipe W, which makes the sound of an ordinary exhaust and becomes a warning. The whistle also gives warning when there is no more water in cell I. When the cell is supplied the whistle blows choked, but when the cell is dry the whistle blows clear and sharp.

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

1. The construction of the mouth B of the pipe C, when connected with and operating in a steam boiler as herein described and for the purpose set forth.
2. I also claim the arrangement of the rotating exhauster R, with its ducts S and T, when operated around the pipe P in the tank L, as herein described and for the purposes set forth.
3. I also claim the arrangement and combination of the steam whistle K, with its reservoir J, and steam and water cells I and F, as herein described and for the purposes set forth.
4. I also claim the arrangement of the pipe C with the boiler A, and cells I and F, with the whistle K as connected by pipe U and cell L with exhauster R; all when combined and operating as herein described and for the purposes set forth.

JEREMIAH DARLING.

Witnesses:

J. FRANKLIN REIGART,  
HENRY BAYLEY.