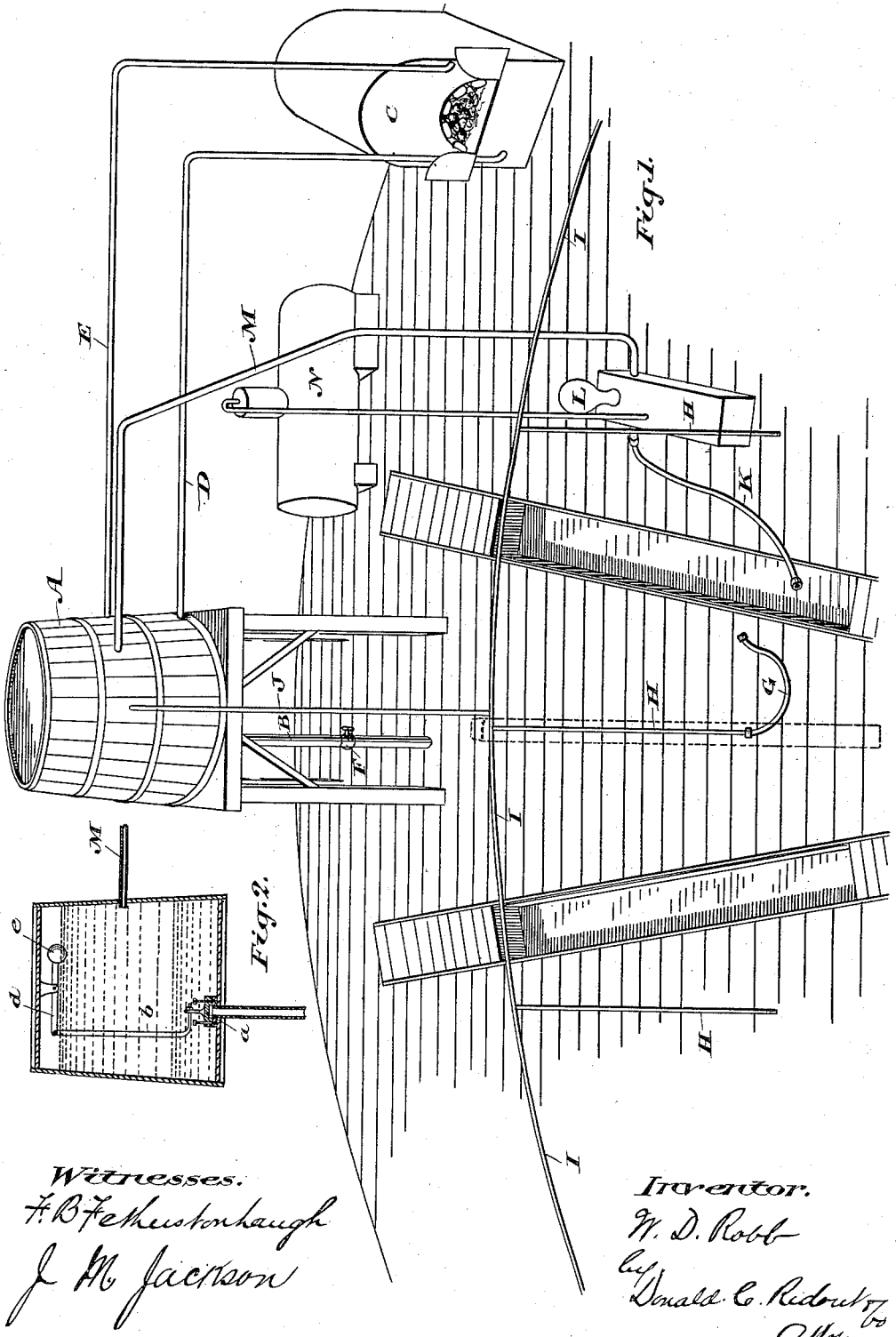
(No Model.)

W. D. ROBB.

DEVICE FOR WASHING OUT LOCOMOTIVE BOILERS.

No. 343,921. Patented June 15, 1886.



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UNITED STATES PATENT OFFICE.

WILLIAM D. ROBB, OF BELLEVILLE, ONTARIO, CANADA.

DEVICE FOR WASHING OUT LOCOMOTIVE-BOILERS.

SPECIFICATION forming part of Letters Patent No. 343,921, dated June 15, 1886.

Application filed April 22, 1886. Serial No. 199,801. (No model.) Patented in Canada April 26, 1886, No. 23,920.

To all whom it may concern:

Be it known that I, WILLIAM DOIG ROBB, of the city of Belleville, in the county of Hastings, in the Province of Ontario, Canada, locomotive-engineer, have invented an Improved Device for Washing Out Locomotive-Boilers, of which the following is a specification.

The object of the invention is to provide a device by which a locomotive-boiler may be washed out immediately after it enters the roundhouse without waiting until after it is cooled down; and it consists, essentially, of a water-tank placed in the roundhouse, or in proximity thereto, supplied with water from the ordinary source, and connected to the sand-furnace or other heating-furnace located in the roundhouse, and which may be utilized for the purpose of warming the water in the tank aforesaid, and which water is utilized for the purpose of washing out the boiler, substantially in the manner hereinafter more particularly explained.

Figure 1 is a perspective view showing the general arrangement of the parts involved in my invention. Fig. 2 is a sectional elevation of the water-tank.

A represents the water-tank supplied with water through the pipe B from any ordinary source.

C is a sand-furnace of ordinary construction, within which I place a coil of pipe connected to the pipes D and E, which lead to the tank A, as indicated. As I do not claim anything peculiar in the coil within the furnace C, it is not necessary to show it in the drawings. It will be sufficient to say that it is placed in such a position as to be heated by the fire within the furnace without interfering with the ordinary duties of the sand-furnace. Owing to this connection between the furnace C and tank A, the water circulates between the two, the cold water passing from the tank A through the pipe D to the coils in the furnace C, thence, when heated, back through the pipe E into the tank A. In this way the water in the tank A is kept fairly hot.

I use a shut-off cock, F, in the pipe B, so as to cut the supply of water off entirely; but in order to insure a constant supply of fresh water in the tank while being used in the manner hereinafter described I provide a cut-off valve, *a*. (Shown in Fig. 2.) This valve is connected by the rod *b* to the pivoted lever *d*, on which a ball or float, *e*, is attached. When the tank is full, as shown in Fig. 1, the ball *e* is sufficiently buoyant to be supported by the water, and when thus supported the valve *a* is closed, as indicated. As soon as the level of the water is lowered the weight of the ball *e* raises the valve *a*, permitting a fresh supply of water to enter until an equilibrium is secured.

When an engine comes into the roundhouse to be washed out, the feed-pipe is disconnected from the tender and the flexible pipe G is connected to it. This pipe is connected to the end of the pipe H, which leads to and connects with the pipe I, extending around all the washout-pits in the house, a pipe, H, being placed between each pair of pits, so that an engine may be washed out from any pit over which it may be placed.

J is a pipe leading from the pipe I to the tank A. While I prefer to use the pipes described, it will of course be understood that the pipe H might be conveyed direct to the tank A, the other pipes described being merely introduced for the purpose of connecting a number of pits to the one washout-tank.

When the pipe G is connected to the feed-pipe of the locomotive, the injector is turned on, and through it the steam in the boiler passes through the pipes G, H, I, and J into the tank A, thereby raising proportionately the temperature of the water within the said tank. After all the steam has been blown off from the boiler into the tank A the flexible pipe K is connected to one of the plug-holes through which the washout-water is usually forced. This pipe K leads from the steam-pump L, which is connected by the pipe M to the tank A. A hand-pump might be substituted for the steam-pump L; but it is of course preferable to use a steam-pump which I supply with steam from a boiler, N.

From this description it will be understood that the locomotive-boiler may by my apparatus be washed out immediately it comes into the roundhouse.

Instead of blowing the steam off into the roundhouse, it is, as described, blown into the tank A, and the water therein, which has been previously warmed by the sand-furnace C, may

be immediately forced by the pump L into the boiler for the purpose of cleaning it out.

As the hottest water will naturally be at the top of the tank A, the pipe M should enter the tank A at a point where a supply of hot water is insured, or, if desired, a pipe connected to the pipe M by a ball-and-socket joint within the tank A might be carried to the surface of the water and supported by a float, so that its end will always be held near to or below the surface of the water in the tank A.

What I claim as my invention is—

1. An improved apparatus for washing out locomotive-boilers, consisting of a tank supplied with water from the ordinary source, and connected to the sand or other heating furnace, in combination with pipes leading from the said tank, and provided with connections by which the steam from the locomotive can be blown into the water-tank and the water drawn therefrom for the purpose of washing out the locomotive-boiler, substantially as specified.

2. The tank A, supplied with water through the pipe B, and connected to a coil within the sand-furnace C by the pipes D and E, in combination with the pipe J, provided with a flexible pipe, G, to connect it to the locomotive-boiler, a pipe, N, to connect the tank A to the steam-pump L, and a flexible pipe, K, to connect the said steam-pump with the locomotive boiler, substantially as and for the purpose specified.

3. A tank, A, supplied with water through the pipe B, and connected to a coil within the sand-furnace C by the pipes D and E, in combination with the pipe J, connecting the tank A with the pipe I, a series of pipes, H, and flexible pipe or pipes G, the pipe M, for connecting the tank A to the pump L, and the flexible pipe K, connected to the said steam-pump, substantially as and for the purpose specified.

Belleville, April 6, 1886.

W. D. ROBB.

In presence of—

FRED. E. REDICK,

ROLLO D. D. MASSY.