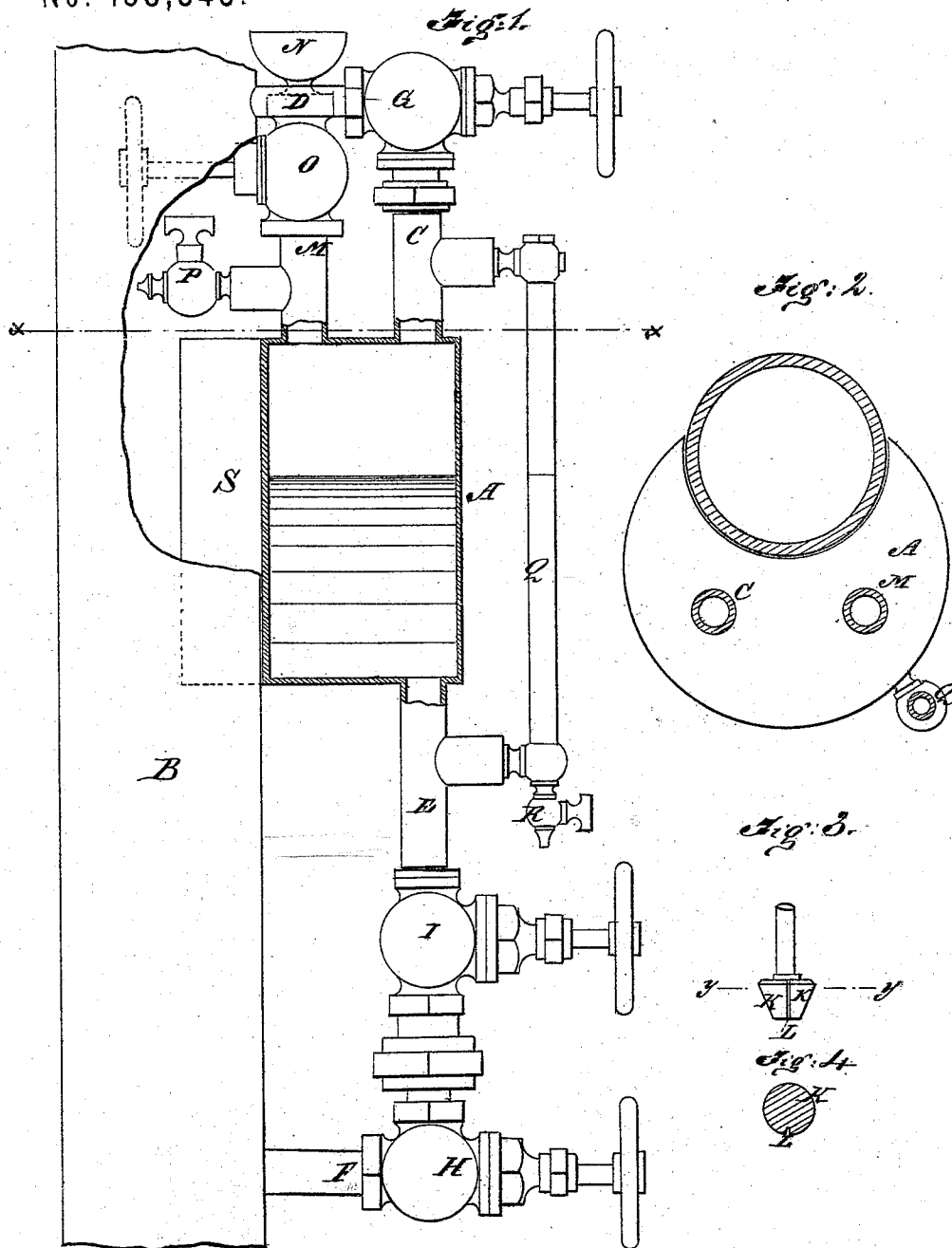


W. R. PATTERSON.
Lubricators for Steam-Engines.

No. 138,343.

Patented April 29, 1873.



Witnesses:

Chas. Nida.
Edgwick

Inventor:

W. R. Patterson

PER

Munn & Co

Attorneys.

UNITED STATES PATENT OFFICE.

WILLIAM R. PATTERSON, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN LUBRICATORS FOR STEAM-ENGINES.

Specification forming part of Letters Patent No. **138,343**, dated April 29, 1873; application filed March 1, 1873.

To all whom it may concern:

Be it known that I, WILLIAM R. PATTERSON, of Chicago, in the county of Cook and State of Illinois, have invented a new and Improved Oiler for Steam-Engines, of which the following is a specification:

My invention consists of a strong copper or other sheet-metal oil-tank, capable of sustaining the pressure of the boiler applied to the steam-pipe, and having a connection with it, above and below, with cocks to allow the steam to pass through it and shut it off at pleasure; also, having a filling-cock at the top, a feed-cock at the bottom, and a glass gage and waste-cocks for letting off the steam pressure and condensed steam, all arranged in such manner that the steam being admitted to the oil in the tank, and the feed-cock opened at the bottom, the oil will flow into the steam-pipe with the current of steam when the engine is running, and be conducted along with the steam into the engine, but will be prevented from escaping through the feed-cock when the engine stops, because the pressure on the oil is then equal below to that above, and the small passage in the feed-cock through which it passes will be sufficiently obstructed thereby to prevent the oil from descending by gravitation.

Figure 1 is partly a side elevation and partly a sectional elevation of my improved oiler. Fig. 2 is a section on the line *x x* of Fig. 1. Fig. 3 is a side elevation of the feed-regulating-valve; and Fig. 4 is a horizontal section of Fig. 3 on the line *y y*.

A represents the oil-tank; B, the steam-pipe through which the steam passes from the boiler to the engine, and to which the tank is connected at the top by a pipe, C D, and at the bottom by a pipe, E F, having a cock, H. The latter, also, has a feed-cock, I, whose valve, K, has a groove, L, through it proportioned in size to the size of the engine to be lubricated, and through which the oil flows when the cock is closed. M is a filling-pipe at the top, with a cup, N, at its upper end to receive the oil from the can; also, a stop-cock, O, to close it, and also a pet-cock, P, for letting off the steam-pressure when the tank is to be filled. Q is a glass gage connected to

the pipes C and E, to show the height of the oil in the tank. R is a pet-cock at the bottom, to let off the water of condensation and blow out the settlings.

The cocks H and G will be closed and the cock O opened when the tank is to be filled. In case the steam-pipe has branches leading to several engines, the oiler will be placed above the branches, so that the steam for all the engines will be charged alike with the oil. The valve K of the feed-cock can be screwed off the seat from time to time to allow any matters collected in it, so as to choke it up, to escape.

The oil-tank has a concave side, S, fitting against the side of the steam-pipes, so as to have a broad seat thereon, and so that it will be heated in cold weather to prevent the oil or tallow from solidifying.

The operation is as follows: The cocks H and G are shut off to break the communication with the steam-pipe B, while the cock O is opened to allow the inlet of oil from cup N. The oil then passes through pipe M, and is allowed to fill the reservoir A to the extent required. The cock O being now closed and the cocks G H opened, the steam rushes through pipes D C, and presses on top of the oil, while it also rushes in through pipe F, and presses against the oil coming through the channels L. The pressure of steam being thus counterbalanced, the gravity of the lubricant alone regulates the flow, which is slow and regular. The oil is thus taken up as it comes through channels L, is mixed with the steam, and performs its functions uniformly and economically.

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

An oil-tank, A, connected to the steam-pipes by the pipes C D and E F, and provided with a feed-cock, I, a filling-tube, M, and the pet-cocks P R, and the connecting-pipes, having stop-cocks G H, all substantially as specified.

WILLIAM R. PATTERSON.

Witnesses:

W. E. STEPHENS,
THOS. I. LODDALL.