

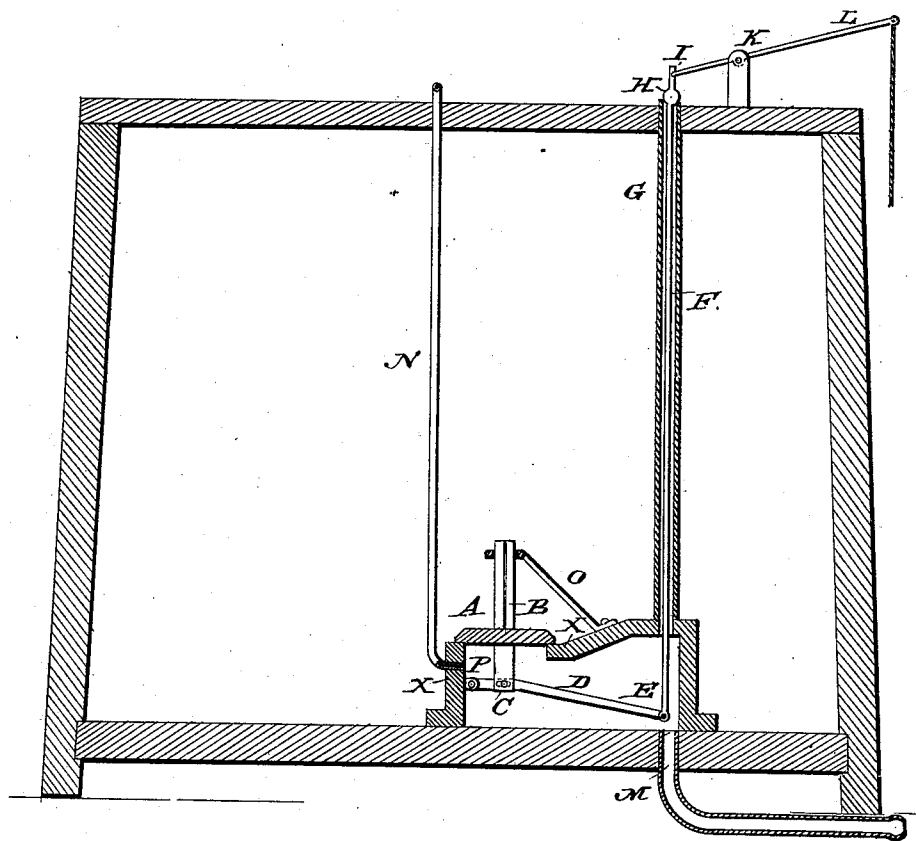
(No Model.)

J. SKINNER & R. W. JACKSON.

RAILROAD WATER TANK.

No. 392,371.

Patented Nov. 6, 1888.



WITNESSES:

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JOHN SKINNER AND ROLLY W. JACKSON, OF NEWMAN, ILLINOIS.

RAILROAD WATER-TANK.

SPECIFICATION forming part of Letters Patent No. 392,371, dated November 6, 1888.

Application filed June 25, 1888. Serial No. 278,186. (No model.)

To all whom it may concern:

Be it known that we, JOHN SKINNER and ROLLY W. JACKSON, of Newman, in the county of Douglas and State of Illinois, have invented
5 a new and useful Improvement in Railroad Water-Tanks, of which the following is a specification.

This invention relates particularly to the arrangement of the valve to the valve-stem, the connecting-rod inclosed in a tube and attached to the lever beneath the valve-seat at one end and to the valve-seat at the other end, also to the steam or hot-air pipe connected with the valve-seat, and to the method of operating the various parts.

The objects of the improvements are to prevent the valve and its connections and the outlet-pipe from becoming inoperative from the freezing of the water in the tank, and to
20 do this effectually and cheaply.

The figure is a vertical section of a water-tank provided with our improvements.

In the accompanying drawing, X X is the valve-seat of our improvement in railway water-tanks, which is formed in the top of a closed chamber or case constructed in the bottom of the water-tank.

A is the valve, through which the valve-stem B passes and to which it is fixed. This stem is supported in a vertical position by the loop-brace O at the upper end, and is bolted to the lever D at C. The lever D is hinged to the valve-seat X at P, and also to the connecting-rod F at E. The connecting-rod F is also
35 hinged to the lever L at I. The upper end of the connecting-rod F has a valve, H, in the tube G, which latter extends down to and opens under valve-seat X.

L is a lever hinged at K to operate both the
40 valves H and A.

N is a pipe for introducing steam or hot air under the valve A to thaw out any ice that may form in the outlet-pipe M.

The connecting-rod F is incased in the tube G to prevent its being frozen in ice, which
45 would make it immovable.

A depression of the upper end of the lever L raises the valve H and the connecting-rod F, also the lever D and valve A, permitting
50 the water in the tank to pass under the valve

A and through the outlet-pipe M. The valves H and A are closed whenever the depression of the upper end of the lever L is discontinued.

When ice covers the water in the tank, it is difficult for the water to pass through the outlet-pipe of the usual form of railway-tanks, because in order to do so a vacuum is formed under the ice. Our improvement obviates this difficulty by admitting air through the tube G under the ice to the bottom of the tank on raising the valve H. The valve H also prevents, when closed, a circulation of air through the tube G and the outlet-pipe M, which circulation of air would have a tendency in cold weather to freeze the water in the outlet-pipe. The valve A being above the bottom of the tank, sediment will remain on the floor thereof and not pass out through the valve into the outlet-pipe, thus serving in a measure as a purifier.

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

1. The combination, with a water-tank, of an inclosed chamber or case in the bottom of the same having a valve opening into the tank and an outlet-pipe leading therefrom for water, an air-tube, G, leading to the outer air from said chamber, a valve, H, fitting the outer end of said tube and having a rod, F, extending through the air-tube to the closed chamber and connected to and operating the valve, substantially as shown and described.

2. The combination, with a water-tank, of an air-tube to admit air under the surface ice, a chamber or case arranged in the bottom of the tank and provided with an outlet pipe and valve, and operating mechanism for the valve extending through the air-tube into the chamber to operate the valve, substantially as and for the purpose described.

3. The combination, with a water-tank having a closed chamber in its bottom with an outlet-pipe therefrom, and a valve opening from said chamber into the tank, of a steam-pipe, N, extending from the outside of the tank to the interior of the chamber in the bottom of the tank, substantially as shown and described.

4. The combination of a water-tank having a chamber in the bottom of the same provided

with an outlet water-pipe, a valve, A, opening
upwardly into the tank from the said chamber,
a lever, D, arranged within the said chamber
and connected to the valve, an air-pipe, G, ex-
5 tending from the top of the tank to the cham-
ber in the bottom, and a rod, F, having a valve,
H, at its upper end and extending through
pipe G, and connected to and operating upon

the lever of the valve within the said cham-
ber, substantially as shown and described.

JOHN SKINNER.
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Witnesses:

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