(No Model.)

J. McNAUGHTON.

WATER SERVICE SYSTEM FOR RAILROAD TRAINS.

No. 525,025. Patented Aug. 28, 1894.

FIG. 2.

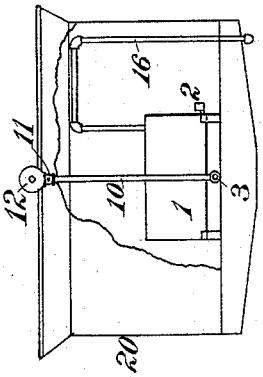
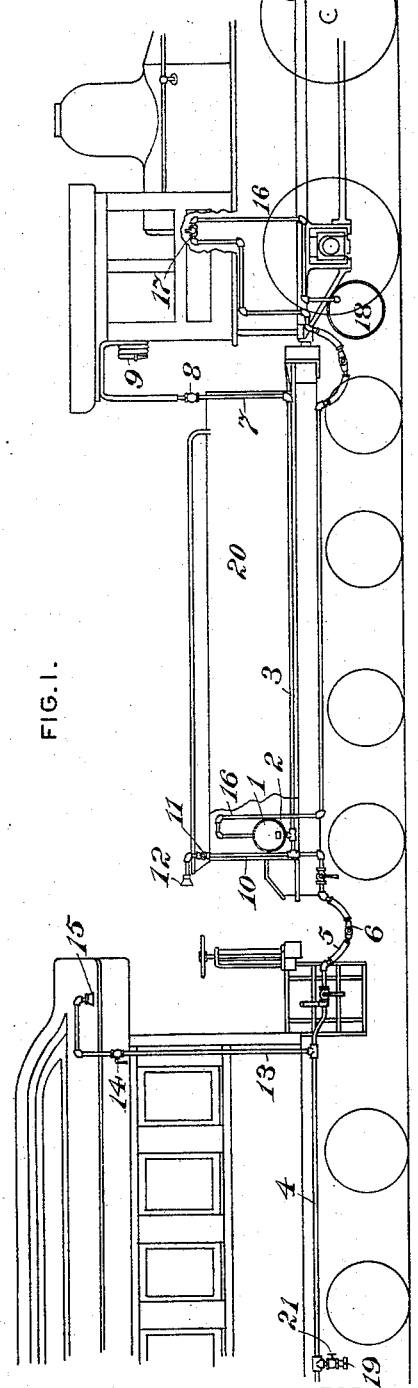


FIG. 1.



WITNESSES:

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WATER-SERVICE SYSTEM FOR RAILROAD-TRAINS.

SPECIFICATION forming part of Letters Patent No. 525,025, dated August 28, 1894.

Application filed May 4, 1894. Serial No. 510,033. (No model.)

To all whom it may concern:

Be it known that I, JAMES MCNAUGHTON, of Waukesha, in the county of Waukesha and State of Wisconsin, have invented a certain new and useful Improvement in Water-Service Systems for Railroad-Trains, of which improvement the following is a specification.

The object of my invention is to provide means whereby a jet or jets of water under pressure may be discharged at one or more different desired points of delivery on a locomotive engine or the train of cars to which it is attached, by an operator on the engine.

To this end, my invention, generally stated, consists in the combination of a water supply reservoir located below the normal water level of the tender or tank of a locomotive, an automatic check valve controlling an inlet from said tender or tank to said reservoir, a service pipe leading from said reservoir to one or more desired points of delivery, and a valve controlled fluid pressure supply pipe leading into said reservoir.

The improvement claimed is hereinafter fully set forth.

In the accompanying drawings, Figure 1 is a diagrammatic side view of a portion of a railroad train, illustrating an application of my invention, and Fig. 2, a rear view of the tender tank.

In the practice of my invention, I provide a water supply reservoir 1, which is located at any convenient point on a locomotive engine or tender, below the normal water level of the tender or tank of the engine, and preferably, as shown, within and near the bottom of the tender tank 20. It may, however, if preferred, be suspended below the tender frame, or, in the case of a so called "tank" engine, having its water tank upon its own frame, may be located in or below said tank. If placed exterior to the tender or engine tank, it is to be connected therewith by a suitable water inlet pipe or hose, controlled by a check valve. In the instance shown, no connecting pipe is required, and the direct inflow of water, from the tender tank 20 to the water supply reservoir 1, is controlled by an automatic check valve 2, of any suitable construction, of which numerous instances are well known, said check valve opening freely, to admit water from the tank to the reservoir, but closing and preventing return of water from the reservoir to the tank, on the exertion of any pressure in the reservoir above that in the tank.

A service pipe 3 leads from the lower portion of the supply reservoir, and is provided with branches leading to different points of delivery on the engine or tender or both, and on the cars of the train, if desired, the cars being, in such case, each provided with a section of car service pipe 4, suitably supported on or under the car frame, which sections are connected one to another, and to the main service pipe 3, on the tender or engine, by flexible hose 5 and detachable couplings 6, in the manner of the train pipes of an automatic air brake system.

In the instance shown, the main service pipe 3 is provided with a branch 7, controlled by a cock 8, to which is connected a detachable line of flexible hose 9, which may be extended to a greater or less distance as required and used for wetting down cinders when ashpans are cleaned at points on the road, cooling hot journal bearings, or other purposes for which water may be needed on or near the engine or tender. Another branch 10, controlled by a cock 11, and provided with a sprinkler 12 at its top, discharging rearwardly from the tender, may be employed for driving off unauthorized persons from the platform of the front or blind end of a baggage, express, or mail car coupled to the tender.

The car service pipe 4, of the first car shown, has an upwardly extending branch pipe 13, controlled by a cock 14 and provided with a sprinkler 15, which is adapted for a similar use, and the cock 14 may either be located adjacent to a window or side door of the car, so as to be conveniently operated by a trainman from the inside of the car, or may be provided with an operating rod extending to or near the opposite platform of the car, or other convenient point of operation.

Branches from the car service pipes 4 may be located at any desired point or points therein, and one or more on each car may be provided with discharge nozzles controlled by valves 21, and having couplings 19, for the connection of a line of hose, as in the case of the branch pipe 7 on the tender, for

cooling hot journal bearings or other purposes. In the case of stock cars, used on fast stock trains, the branch pipes may be utilized for watering the stock at desired intervals, for washing out the cars, &c.

A fluid pressure pipe 16, leads from any suitable source of supply of fluid under pressure, as air or steam, and opens into the upper portion of the water supply reservoir 1, said pipe being controlled by a cock or valve 17, located in position to be readily and conveniently accessible to the engineer of the locomotive. In the instance shown, the fluid pressure pipe supplies compressed air from the main reservoir, 18, of an automatic air brake system, which is, in most cases, available, and is the most desirable source of supply, although not a necessary one, as direct steam pressure or other application of pressure not derived from an air brake apparatus could be employed without departure from the spirit of my invention.

In operation, the water supply reservoir 1 is automatically charged with water from the tender or engine tank, by gravity, by reason of being located below the normal water level in the tank, the check valve opening inwardly and allowing the free inflow of water to the reservoir. Upon the admission of fluid under pressure to the reservoir by opening the cock 17, the check valve 2 immediately and automatically closes, preventing return of water or escape of pressure into the tender or engine tank, and water is discharged from any one or more of the branches of the service pipe, the cock or cocks of which may at the time be opened by the engineer or other member of the train crew. Upon the release of pressure from the reservoir 1, by the closure of the cock 17, the reservoir 1 is immediately replenished with water from the main tank, by the automatic opening of the check valve under the weight of the water in the main tank above it.

My invention is applicable, at comparatively trifling cost, to rolling stock of the various constructions ordinarily employed, and may be effectively utilized under various circumstances in which the ready and immediate application of water when needed at points on or near a train is an important auxiliary in railroad service. Among these may be mentioned the extinguishment of fires in cars, under boiler jackets, or adjacent to the right of way, cooling hot journal bearings, wetting down cinders, watering stock while in transit, washing out cars, driving off persons who are stealing rides on cars, &c.

I claim as my invention and desire to secure by Letters Patent—

1. The combination of a water supply reservoir located below the normal water level of the tender or tank of a locomotive, an automatic check valve controlling an inlet from said tender or tank to said reservoir, a service pipe leading from said reservoir to a point of delivery, and a valve controlled fluid pressure supply pipe leading into said reservoir, substantially as set forth.

2. The combination of a water supply reservoir located below the normal water lever of the tender or tank of a locomotive, an automatic check valve controlling an inlet from said tender or, tank to said reservoir, a service pipe leading out of said reservoir, a line of flexible hose connected to said service pipe, and a valve controlled fluid pressure supply pipe leading into said reservoir, substantially as set forth.

3. The combination of a water supply reservoir, located below the normal water level of the tender or tank of a locomotive, an automatic check valve controlling an inlet to said reservoir, a service pipe leading out of said reservoir, a sprinkler connected to a discharge outlet from said service pipe, and a valve controlled fluid pressure supply pipe leading into said reservoir, substantially as set forth.

4. The combination of a water supply reservoir, located below the normal water level of the tender or tank of a locomotive, a check valve controlling an inlet to said reservoir, a service pipe leading out of said reservoir, a car service pipe supported on a railroad car and adapted to be coupled to the service pipe of the reservoir, a discharge pipe connected to said car service pipe, and a valve controlled fluid pressure supply pipe leading into said reservoir, substantially as set forth.

5. The combination of a water supply reservoir, located below the normal water level of the tender or tank of a locomotive, a check valve controlling an inlet to said reservoir, a service pipe leading out of said reservoir, a car service pipe supported on a railroad car and adapted to be coupled to the service pipe of the reservoir, a discharge nozzle on said car service pipe provided with a coupling for the connection of a hose, and a valve controlled fluid pressure supply pipe leading into said reservoir, substantially as set forth.

6. The combination of a water supply reservoir located below the normal water level of the tender or tank of a locomotive, an automatic check valve controlling an inlet from said tender or tank to said reservoir, a service pipe leading from said reservoir to a point of delivery, and a valve controlled supply pipe leading from an air brake reservoir to the water supply reservoir, substantially as set forth.

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Witnesses:
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