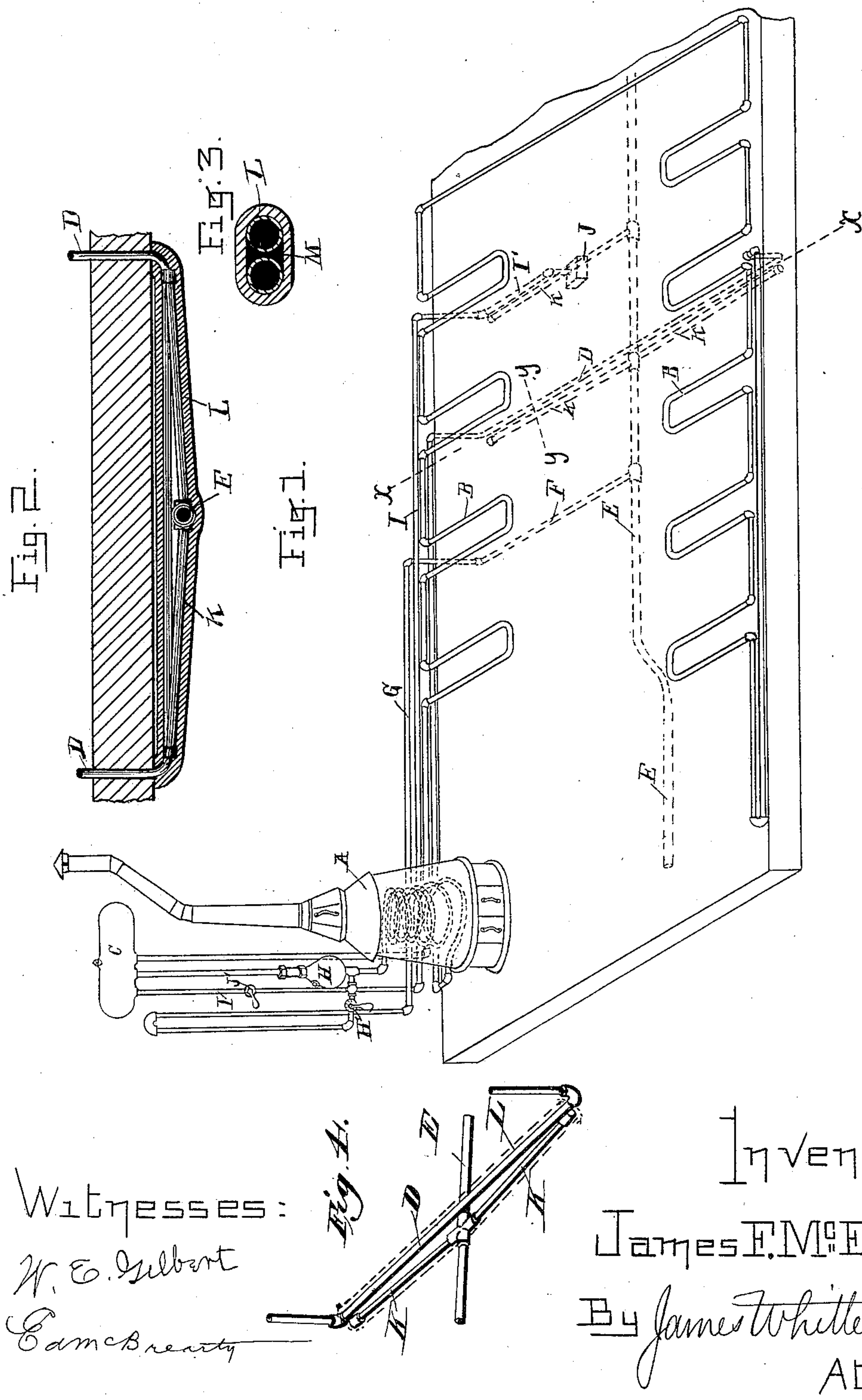


(No Model.)

J. F. McELROY.
TRAIN PIPE FOR RAILWAY CARS.

No. 428,016.

Patented May 13, 1890.



Witnesses:

W. E. Gilbert

Sam Bready

Inventor:

James F. McElroy

By James Whittemore
Atty

UNITED STATES PATENT OFFICE.

JAMES F. McELROY, OF ALBANY, NEW YORK, ASSIGNOR TO THE CONSOLIDATED CAR HEATING COMPANY, OF WHEELING, WEST VIRGINIA.

TRAIN-PIPE FOR RAILWAY-CARS.

SPECIFICATION forming part of Letters Patent No. 428,016, dated May 13, 1890.

Application filed October 10, 1889. Serial No. 326,633. (No model.)

To all whom it may concern:

Be it known that I, JAMES F. McELROY, a citizen of the United States, residing at Albany, in the county of Albany and State of New York, have invented certain new and useful Improvements in Train-Pipes for Railway-Cars, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to new and useful improvements in car-heating apparatus; and the invention consists in the peculiar arrangement of a spur or branch from the train-pipe in proximity to the exposed parts of the heating-system, which are liable to freeze, whereby the heat from the steam in said spur prevents the freezing and bursting of the exposed parts of the system, and, further, in the peculiar arrangement and combination of such piping with a covering common to both of such pipes, all as more fully hereinafter described.

In the drawings which accompany this specification, Figure 1 is a perspective view of the piping of a hot-water heating apparatus as applied to a car having my improvement embodied therein. Fig. 2 is a cross-section thereof on line *xx* in Fig. 1. Fig. 3 is a section on line *yy* in Fig. 1. Fig. 4 is a detail perspective view of the spur and cross-pipe, showing the connection with the train-pipe.

The apparatus herein described is the same as that shown and described in United States Letters Patent No. 391,326, issued on the 16th day of October, 1888, wherein—

A is the hot-water heating-stove of any desired construction.

B are the hot-water-circulating pipes in the car.

C is the expansion-drum. The heating-coils on each side of the car are connected by means of the cross-over pipe D.

E is the main steam-supply or train-pipe from the locomotive.

F is the branch steam-supply pipe, conveying the steam through the pipe G into the water-heater H, this pipe being controlled by a valve H'.

I is the overflow-pipe, connecting at the top into the expansion-drum and extending at or near the middle of the car through the floor, having connection underneath the car by

means of the pipe I' with the trap. The overflow-pipe is controlled by a valve J'.

The parts being thus constructed and arranged, their operation is as follows, being the same as in my previous patent above mentioned: When the stove is desired to be used for circulating the water, a fire is built therein, the steam-connections being shut. When steam is desired to be used to heat the system, the valves H' and J' being opened, steam enters the water-heater H and heats and circulates the water within the stove, the accumulating water of condensation passing out through the overflow-pipe, the pipe I', and trap J. In the circulation of the water it is necessary, as there is but one heater located on the side of the car, to connect with the coils on the other side of the car, which is usually done by means of the cross-overs D, which for convenience are run beneath the car-floor. These cross-overs are the lowest point of the system, and it often happens that in extremely cold weather the circulation of the water becomes so sluggish as to cause them to freeze up. To prevent this difficulty, I have constructed my improvements, which consist in placing a spur K in the side of the train-pipe, extending in both directions in proximity to the cross-overs, so that the heat from the steam in the spurs will be communicated to the water in the cross-overs, thus preventing any possibility of freezing. It will also be of advantage in the circulating of the system under unfavorable circumstances, as it will heat more or less the water at this lowest point, thereby assisting it in moving. I preferably arrange these spurs on an incline, so that any condensation therein will drop back into the train-pipe and be carried off in the usual manner.

My improvement is equally applicable to use in connection with exposed parts of the system—such as, for instance, the pipe I, connecting to the trap—and in the drawings I have shown another spur arranged in proximity to this pipe.

In the practical application of my improvements I have found it desirable in retaining the heat in proximity to the exposed part of the system desired to be protected to put the ordinary pipe-covering L around both of the

pipes, thereby forming a heat-retaining chamber M, common to both pipes.

The application of my train-pipe with the spurs, as described, will answer as well in
5 direct steam-heating for hot-water heating apparatus where the pipes are liable to freeze in exposed places.

What I claim as my invention is—

1. In a car-heating apparatus, a train-pipe
10 having spurs located in proximity to exposed portions of the heating system, substantially as described.

2. In a car-heating apparatus, a train-pipe, a system of heating-pipes within the car, hav-
15 ing portions thereof outside adjacent to the train-pipe, of spurs extending from said train-pipe in close proximity to such exposed portions, substantially as described.

3. In a car-heating apparatus having a main
20 supply or train pipe beneath the car and a

heating system within the car, having portions thereof outside the car adjacent to the train-pipe, of spurs on said train-pipe in close proximity to such exposed portions, and of a covering common to both of such pipes, sub- 25
stantially as described.

4. The combination of the circulating system, a portion of which is exposed with the main steam-pipe and a portion of which is in
proximity to the exposed portion of the cir- 30
culating system to impart heat to the same, substantially as described.

In testimony whereof I affix my signature, in presence of two witnesses, this 23d day of September, 1889.

JAMES F. McELROY.

Witnesses:

EDWIN A. SMITH,
W. E. GILBERT.

Corrections in Letters Patent No. 428,016.

It is hereby certified that in Letters Patent No. 428,016, granted May 13, 1890, upon the application of James F. McElroy, of Albany, New York, for an improvement in "Train-Pipes for Railway-Cars," errors appear in the printed specification requiring the following corrections, viz: On page 2, in line 28, a comma should be inserted after the word "exposed," and the word "and" in line 29 should be stricken out; and that the said Letters Patent should be read with these corrections therein that the same may conform to the record of the case in the Patent Office.

Signed, countersigned, and sealed this 10th day of June, A. D. 1890.

[SEAL.]

CYRUS BUSSEY,
Assistant Secretary of the Interior.

Countersigned:

C. E. MITCHELL,
Commissioner of Patents.