(No Model.)

2 Sheets—Sheet 1.

J. R. DROZESKI.

STEAM HEATING APPARATUS FOR RAILWAY TRAINS.

No. 508,291. Patented Nov. 7, 1893.

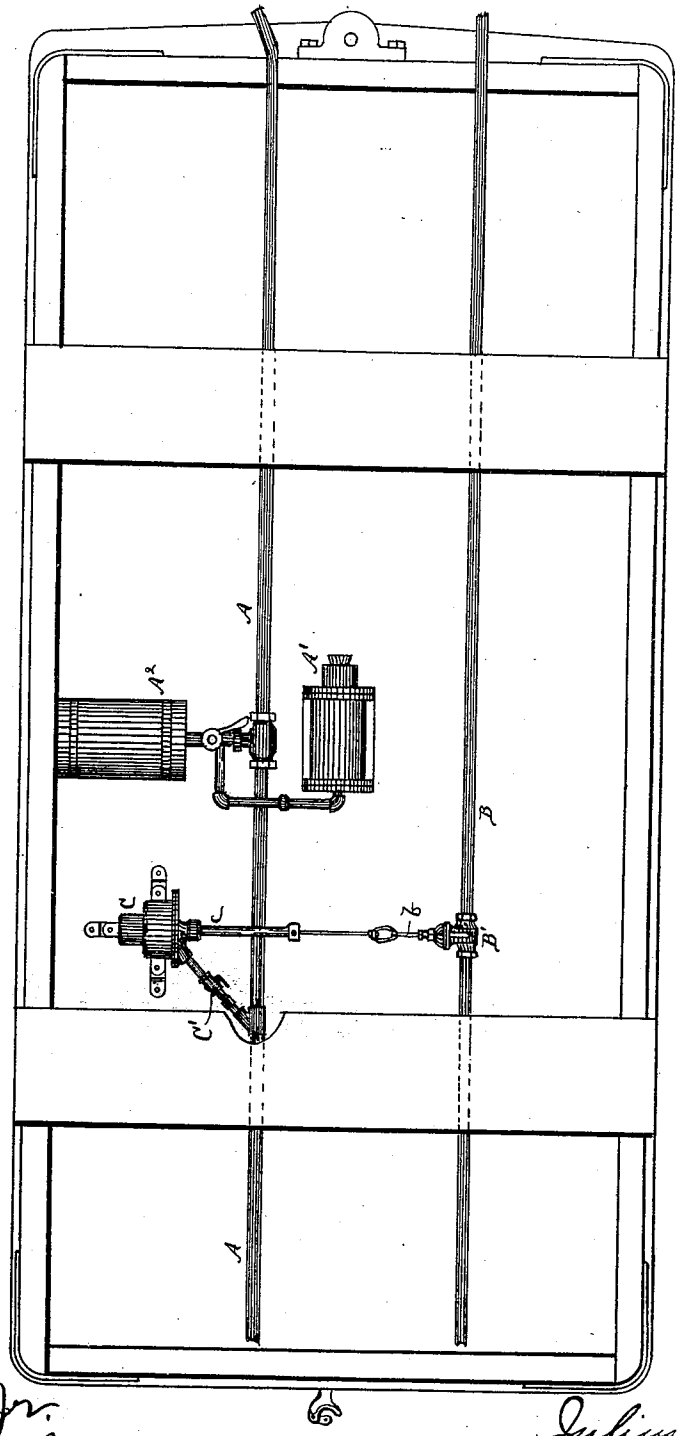

Fig. 1.

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(No Model.) 2 Sheets—Sheet 2.

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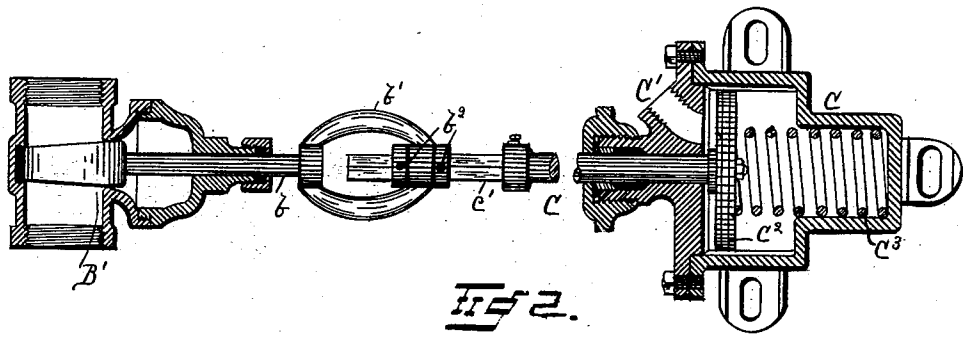

FIG 2.

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UNITED STATES PATENT OFFICE.

JULIUS R. DROZESKI, OF ERIE, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO JOSEPH McCARTER, OF SAME PLACE.

STEAM HEATING APPARATUS FOR RAILWAY-TRAINS.

SPECIFICATION forming part of Letters Patent No. 508,291, dated November 7, 1893.

Application filed December 18, 1889. Serial No. 334,239. (No model.)

To all whom it may concern:

Be it known that I, JULIUS R. DROZESKI, a citizen of the United States, residing at Erie, in the county of Erie and State of Pennsylvania, have invented certain new and useful Improvements in Steam Heating Apparatus for Railway-Trains; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to steam heating apparatus for rail road trains and consists in a means for automatically shutting off the steam from the service pipes under certain conditions.

My invention is illustrated in the accompanying drawings as follows:

Figure 1, is a plan view of the under side of the locomotive tender tank and shows my invention applied. Fig. 2 shows the steam shut off valve and the device by which it is operated as applied in Fig. 1.

The object of my invention is to automatically shut off the supply of steam from the generator whenever an accident occurs or is likely to occur.

The air brakes on trains are now so applied that whenever a train breaks in two the brakes are automatically set, and whenever the brakes are set there is a change of pressure in the air pipe which runs from car to car. I propose to accomplish the object of my invention by so connecting the shut off valve in the steam supply pipe, with the brake mechanism of the train that whenever the brakes are set the shut-off valve will be closed by the action of the brake mechanism.

A, A′, A^2, represent the ordinary Westinghouse air brake apparatus as arranged under the tank of the locomotive tender; A being the air pipe which leads from car to car.

B, is the steam supply pipe which leads from the boiler to the cars composing the train.

B′ is a shut-off valve in the pipe B.

C, is a piston device whose stem *c* is connected with the stem of the shut-off valve B′.

C′ is a branch pipe leading from the air pipe A to the piston device C.

In Fig. 2 is a detail view of the piston device C. It consists of a cylinder having therein a piston C^2 which is moved in one direction by a spring C^3 and in the other by air which is admitted from the branch pipe C′. The piston stem *c* is connected with the stem *b* of the valve B′ by an adjusting device consisting of the yoke *b*, set screws b^2 and squared rod *c*′.

The operation of the air brake is well understood and needs no explanation.

At all times except when the brakes are set there is a high pressure of air in the pipe A. This pressure of air acts upon the piston C^2 and drives it back in its cylinder, compressing the spring C^3 and this holds the valve B′ open. In case of an accident which breaks the train apart or whenever the brakes are to be set the pressure of air in the pipe A is reduced and this will allow the spring C^3 to force back the piston C^2 and this will close the valve. If there is no accident and the brakes have been set to stop the train the pressure will shortly be restored in the pipe A and the valve B′ will be forced open, so although the valve B′ has to be closed whenever the brakes are set it will be opened shortly unless there has been an accident and then it should and will remain shut.

What I claim as new is—

1. In the steam heating system of a railway train, the combination with the steam supply pipe and a shut off valve within said pipe, of a piston device for operating said valve which is operated in one direction by the air pressure which operates the brakes, and means for reacting said piston device, substantially as shown, whereby when the air acts to set the brakes it will relieve said piston device and the reaction will close said shut off valve.

2. In the steam heating system of a railway train, the combination with the steam heating supply pipe, B, and shut off valve, B′, in said pipe, of a piston device for operating said shut off valve which is connected with the air pipe of the brake operating mechanism and operated in one direction by the air supplied by the air pipe, and reacted by a spring substantially as set forth.

3. In the steam heating system of a railway train, the combination of a steam supply pipe, B, shut off valve, B′, the piston, C^2, moved in

one direction by air supplied through the pipe, C′, and in the other direction by the spring, C^3, and having its stem, *c*, connected with the stem, *b*, of the shut off valve, and the branch pipe, C′, connecting the piston device with the air supply pipe of the brake operating system.

In testimony whereof I affix my signature in presence of two witnesses.

JULIUS R. DROZESKI.

Witnesses:
JNO. K. HALLOCK,
E. S. WILLIS.