

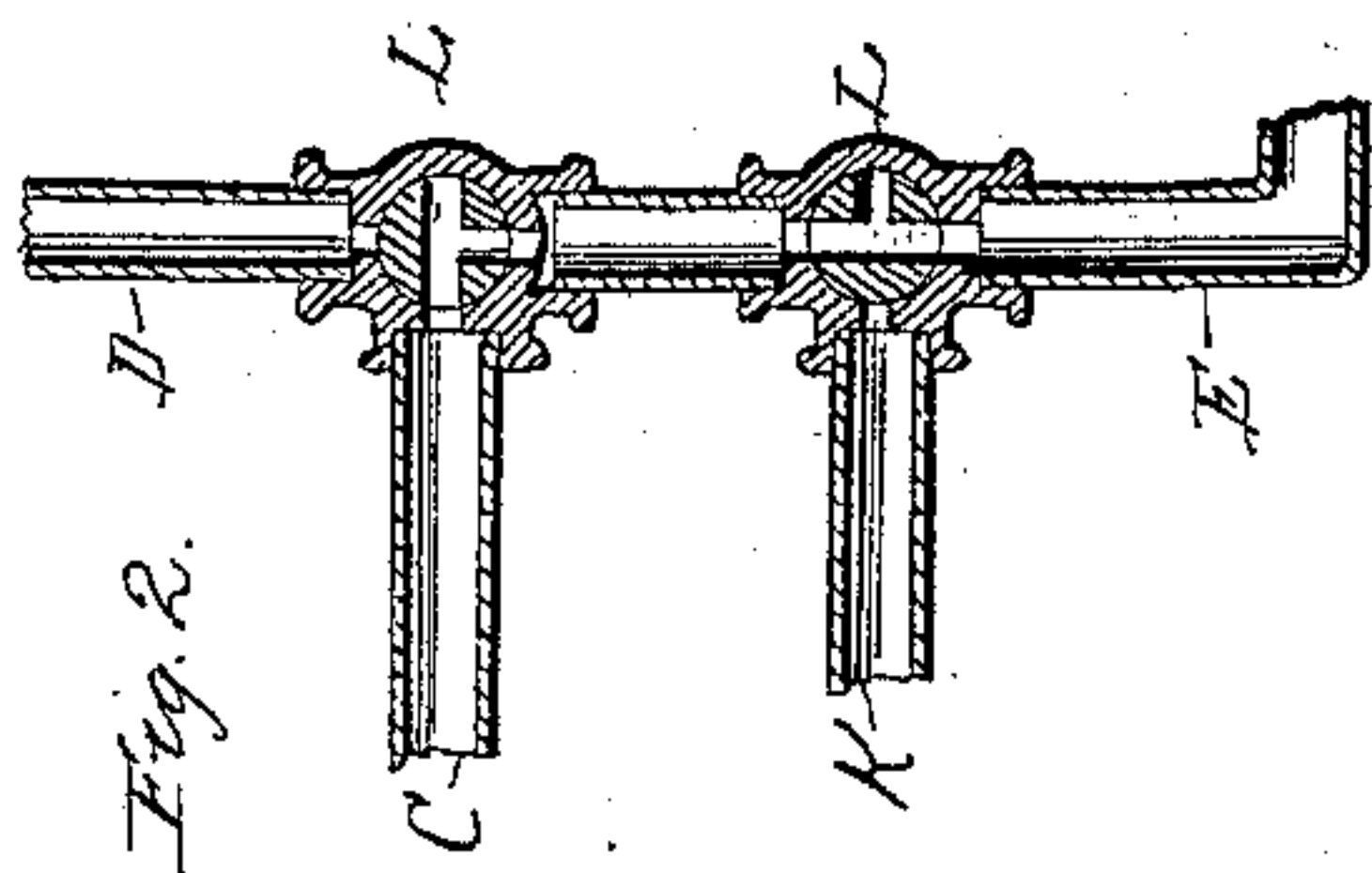
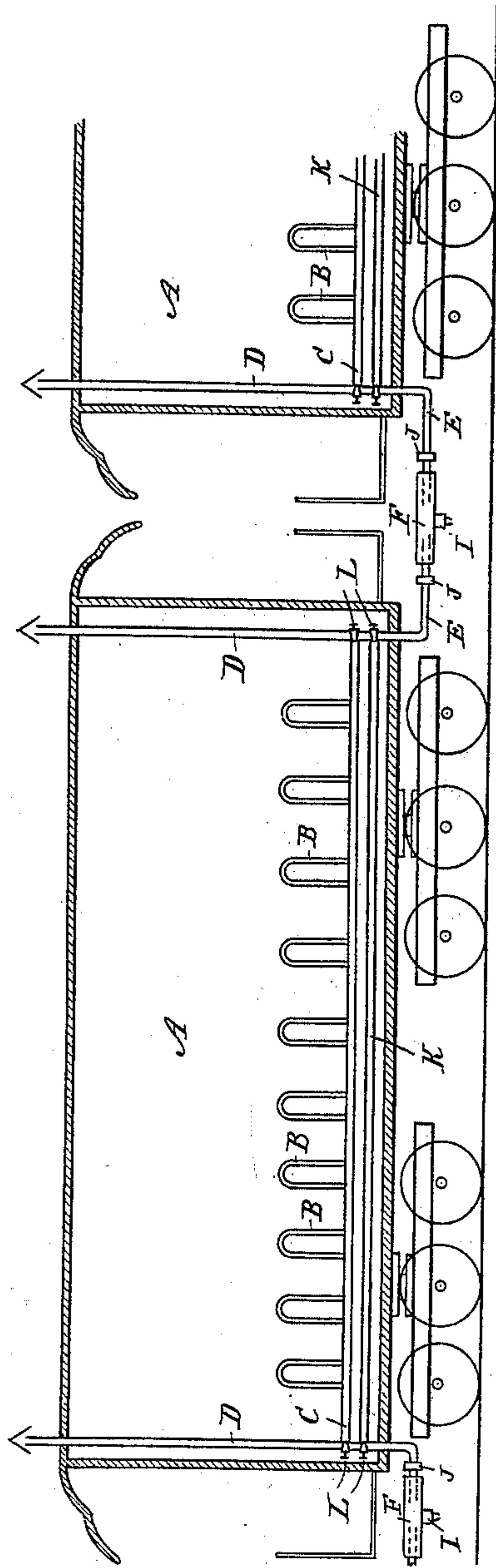
(No Model.)

T. H. BOTTOMLEY.
APPARATUS FOR HEATING CARS.

No. 387,206.

Patented Aug. 7, 1888.

Fig. 1



Attest:
John Schuman.
[Signature]

Inventor:
Thomas H. Bottomley.
by his Atty
[Signature]

UNITED STATES PATENT OFFICE.

THOMAS H. BOTTOMLEY, OF CAPAC, MICHIGAN.

APPARATUS FOR HEATING CARS.

SPECIFICATION forming part of Letters Patent No. 387,206, dated August 7, 1888.

Application filed March 10, 1887. Serial No. 230,317. (No model.)

To all whom it may concern:

Be it known that I, THOMAS H. BOTTOMLEY, of Capac, in the county of St. Clair and State of Michigan, have invented new and useful
5 Improvements in Apparatus for Heating Cars; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form a part of this specification.

10 This invention relates to certain new and useful improvements in apparatus for heating railway-cars.

The object of the invention is to provide means whereby the cars composing a train
15 may be heated by steam from the locomotive.

To this end the invention consists in the peculiar construction and arrangement of the pipes and their connections, all as more fully hereinafter set forth.

20 Figure 1 represents a sectional view of two cars to which my heating system is applied. Fig. 2 is a sectional detail.

In the accompanying drawings, which form a part of this specification, A represents two
25 railway-cars, in which is arranged a suitable system of radiators, B, connected to the steam-pipe C, each end of which is connected to a vertical pipe, D, which projects through the floor of the car and terminates in a horizontal
30 pipe, E.

F is a coupling of larger diameter than the pipes E, which latter, when the cars are coupled together, project into the coupling F. In the lower side of this coupling F is arranged a
35 suitable valve, I, to admit of the discharge of the water of condensation. Upon each of the pipes D is secured, by means of a thumb-screw or other convenient means, a collar, J.

Beneath the coils B in each car is a pipe,
40 K, which also connects with the stand or vertical pipes D, and each of these pipes C K is provided, preferably, with two-way cocks L.

In practice, the car next the locomotive is coupled by any convenient means to a pipe
45 that communicates with the live steam of the locomotive. Supposing it to be desired that all the cars in the train provided with my device, as described, are to be heated by means of the radiators, the two-way cocks of the
50 pipes K are closed, so as to admit of the free

passage of steam to the radiator-coils from the pipe C, the cocks of which latter should be closed as against the egress of steam through the stand-pipes; and it will readily be seen, therefore, that the live steam passing from the lo- 55 comotive under pressure is forced through the radiators in the cars to the rear end of the last car. The upper two-way cock of the stand-pipe in this car permits the clearing of the pipes of air and establishing a circulation of 60 steam through the pipes.

When it is desired to uncouple the cars, one of the collars J is loosened and pushed back on the pipe E, which allows such coupling to be pushed back upon the pipe E. 65

Should it be desired to cut off the steam from the radiators in one or more cars, the two-way cocks which control the passage to such radiators should be closed and those of the pipes K opened, which will allow of a free 70 circulation or passage of the steam through such pipe K, and thence on to the next car.

Should water of condensation accumulate in the coupling F under the ordinary pressure of steam employed, by the engineer giving an 75 additional force or quantity of steam to the heating apparatus, such extraordinary pressure of steam would cause the valves I to open and allow the water of condensation to escape, the valves again seating themselves under the 80 action of a suitable spring as soon as the extraordinary pressure of steam is removed.

What I claim as my invention is—

In a system of heating cars, the combination of two stand-pipes supported at opposite ends 85 of a car, projecting through the car-roof and open to the atmosphere, and provided at their lower ends with suitable couplings to connect between the cars, with a main pipe connecting the stand-pipes within the car, a radiating- 90 circuit independent of the said main pipe and connecting the two stand-pipes, and two-way valves at the connection of the stand-pipes with the main pipe and radiating-circuit, substantially as described.

THOS. H. BOTTOMLEY.

Witnesses:

H. S. SPRAGUE,

T. E. ROBERTSON.