

(No Model.)

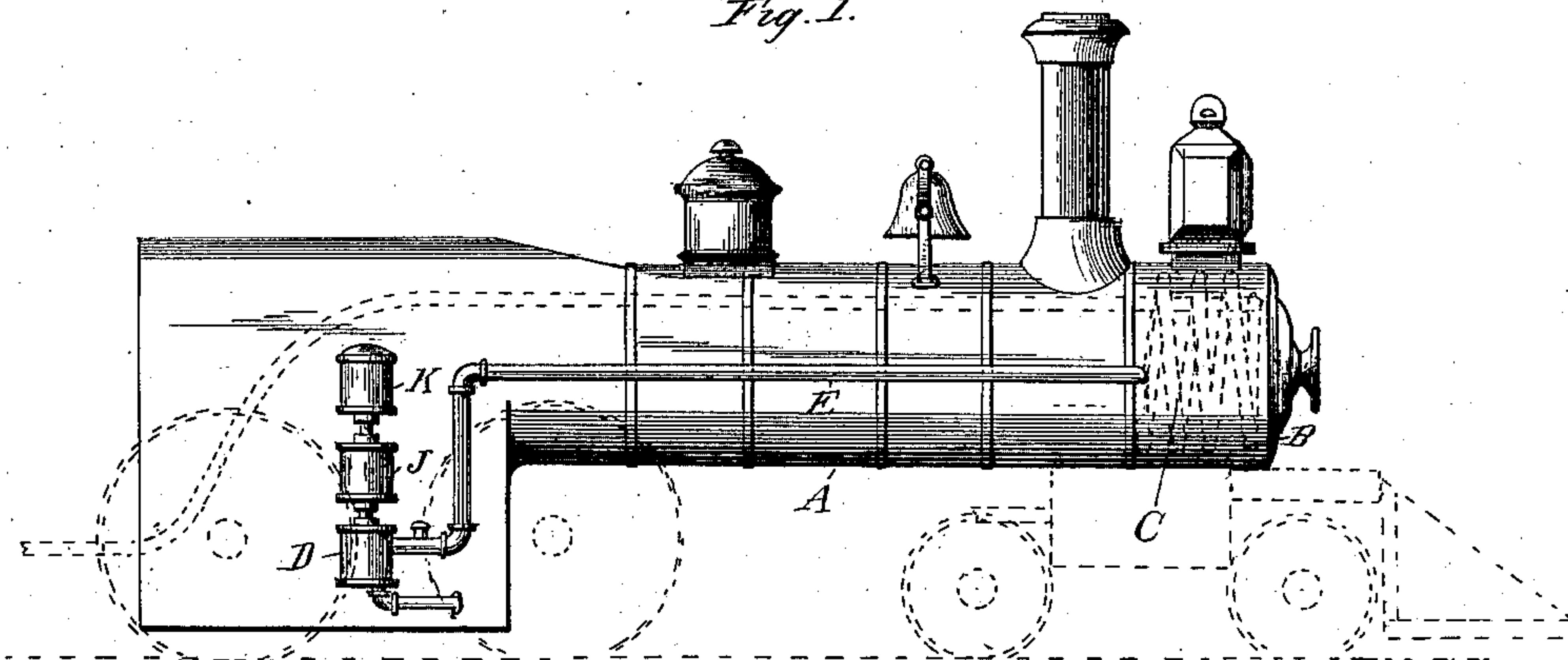
J. R. PEARCE.

CAR HEATER.

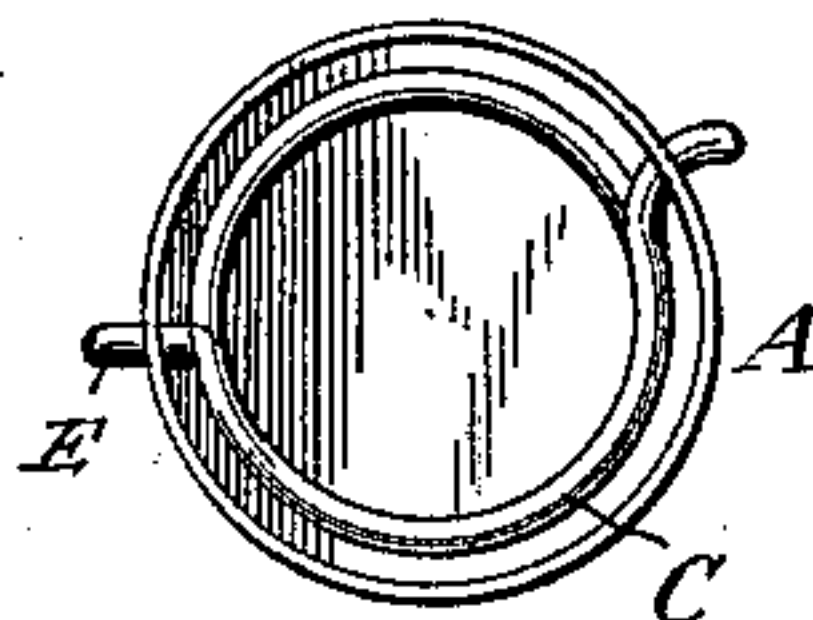
No. 372,169.

Patented Oct. 25, 1887.

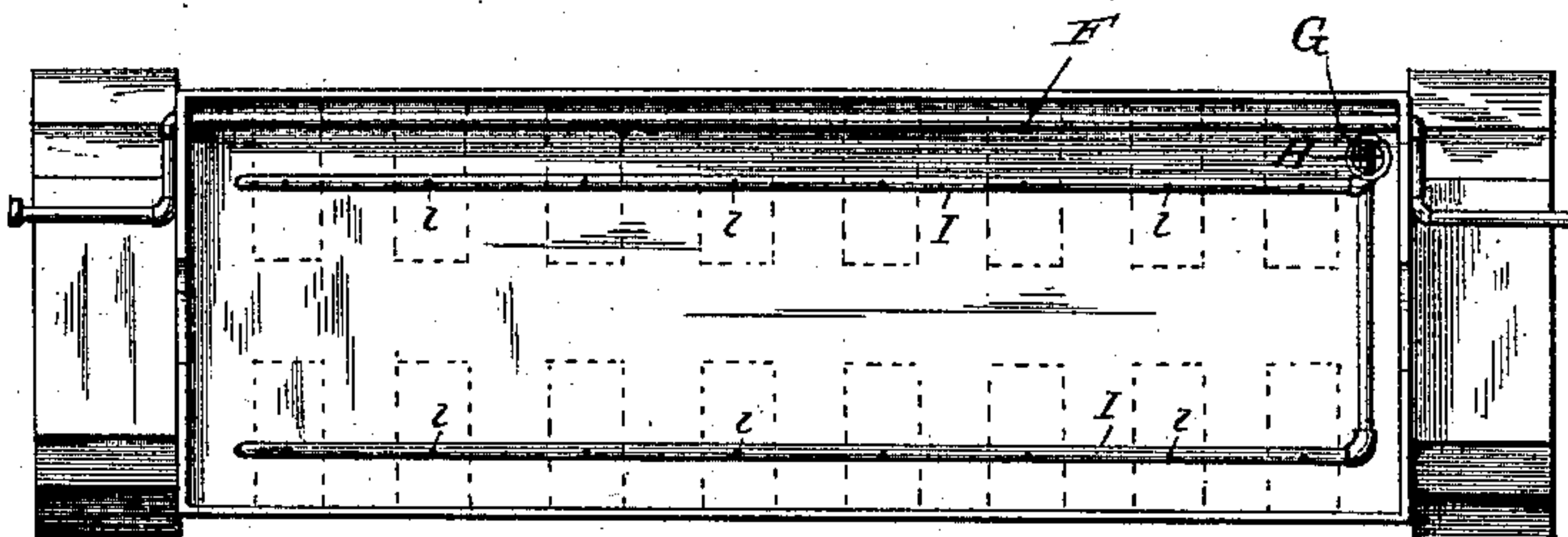
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



Witnesses

*H. Haeder.*

*Thos. C. Robertson.*

Inventor

*John R. Pearce*

By his Attorney

*T. J. W. Robertson*

# UNITED STATES PATENT OFFICE.

JOHN R. PEARCE, OF LOUISVILLE, KENTUCKY, ASSIGNOR OF ONE-FOURTH  
TO JOHN EVANS, OF SAME PLACE.

## CAR-HEATER.

SPECIFICATION forming part of Letters Patent No. 372,169, dated October 25, 1887.

Application filed March 18, 1887. Serial No. 231,430. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN R. PEARCE, a citizen of the United States, residing at Louisville, in the county of Jefferson and State of Kentucky, have invented certain new and useful Improvements in Car-Heaters, of which the following is a specification, reference being had therein to the accompanying drawings, in which—

10 Figure 1 is a side view of a locomotive, showing my apparatus for forcing and heating the air. Fig. 2 is an end view showing the arrangement of the heating-coil, &c.; and Fig. 3 shows the arrangement for distributing the heated air.

15 This improvement relates to that class of car-heaters where the waste heat of the locomotive is used to heat air which is afterward employed to heat the cars drawn by the locomotive; and the invention consists in the peculiar construction, arrangement, and combination of parts, hereinafter more particularly described, and then definitely pointed out in the claim.

Referring, now, to the details of the drawings, A represents a locomotive-boiler having an extension, B, in front of the smoke-box of the locomotive, in which is a coil, C, of pipe of any suitable material, but preferably of copper, on account of its good heat-conducting properties, one end of which coil is connected with a cylinder, D, by the pipe E, and its other end is connected with another pipe, (shown in dotted lines,) which passes along the other side of the locomotive, and may be connected by any suitable coupling to a main pipe, F, running along each car, and from which main pipe runs a branch, G, having a valve, H, and distributing-pipes I, which run along each side of the car and are perforated at *i*, under each seat, so as to distribute the hot air from the main pipe.

To force the air through the pipes, I use the cylinder D, before referred to, which is set be-

neath the air-brake cylinder J, and has its piston on an extension of the air-brake piston-rod, so that there are three cylinders in a line—viz., the steam-cylinder K, the air-brake cylinder J, and the cylinder for driving the air through the coil to be heated, and which I shall call the “hot-air” cylinder to distinguish it from the air-brake cylinder.

The operation is obvious and hardly requires description. It will therefore suffice to say that the air is driven through the coil C by the piston of the cylinder D, is heated in the extension of the smoke-box by the waste heat of the locomotive, is carried to the rear of the engine to the different cars by the main pipe F, and distributed in each car by the pipes I, the amount of hot air being governed by the valve H, which may be under the control of the brakeman.

I deem it important that the coil shall be arranged in an extension of the smoke-box, for if it were arranged in the smoke-box itself, or in the smoke-stack, as has been proposed, it would injure the draft or steam-making power of the engine, whereas in my improvement there is no hinderance to the draft or to the making of steam, and yet the air is fully heated.

What I claim as new is—

The combination of a locomotive having an air-brake apparatus and an air-heating coil with a steam-cylinder, an air-brake cylinder, and a second air-cylinder for forcing the air through the coil, and a piston-rod common to all three cylinders, substantially as described.

In testimony whereof I affix my signature, in presence of two witnesses, this 15th day of March, 1887.

JOHN R. PEARCE.

Witnesses:

PERRY BROWN,  
A. F. WEBB.