(No Model.)

J. G. NOYES.

ELECTRIC CAR HEATER.

No. 557,282. Patented Mar. 31, 1896.

Fig. 1

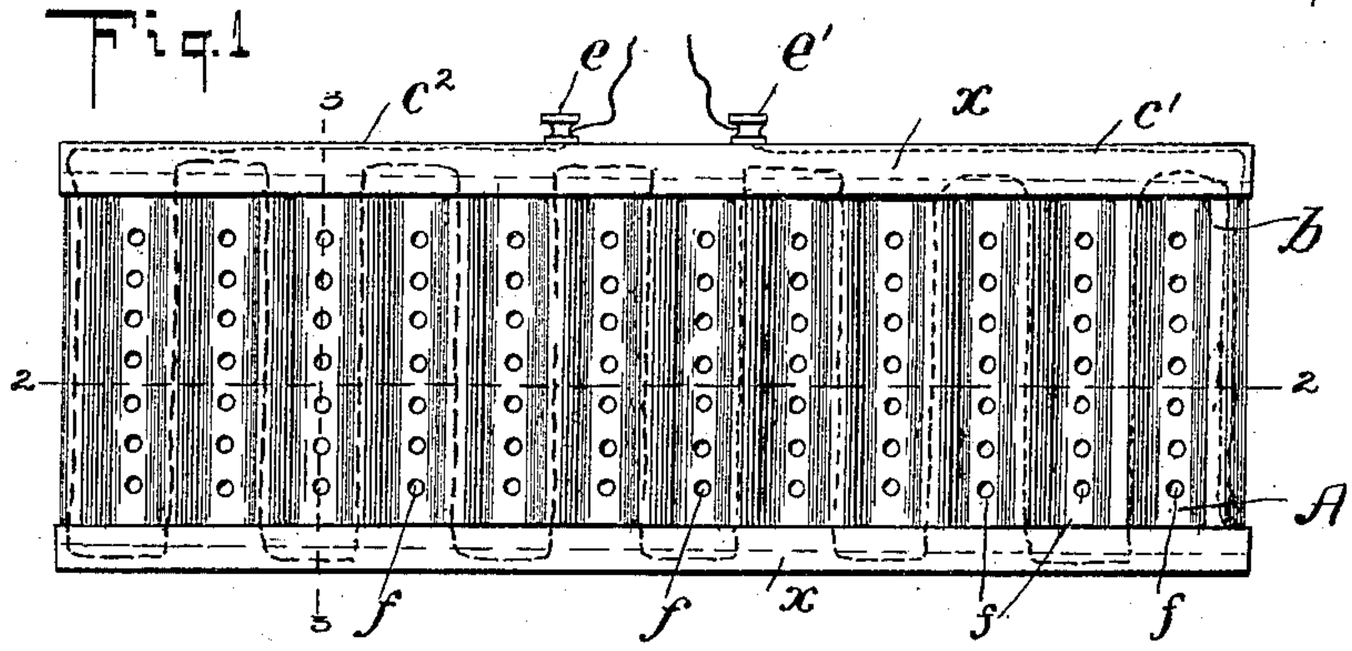


Fig. 2

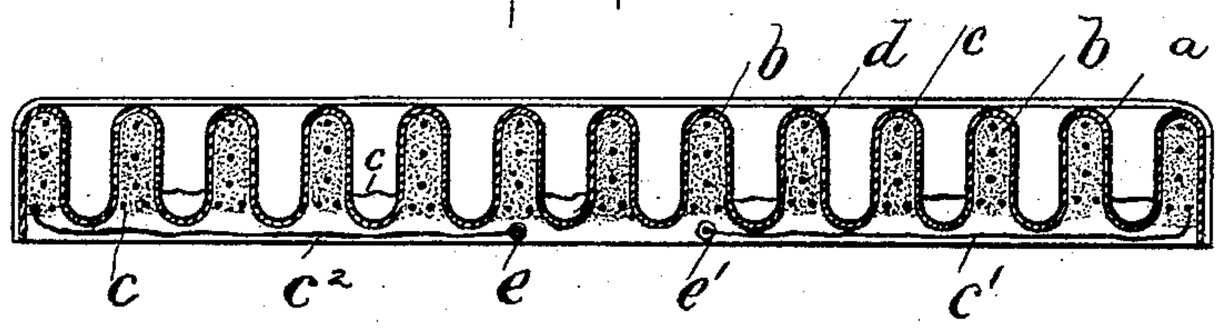
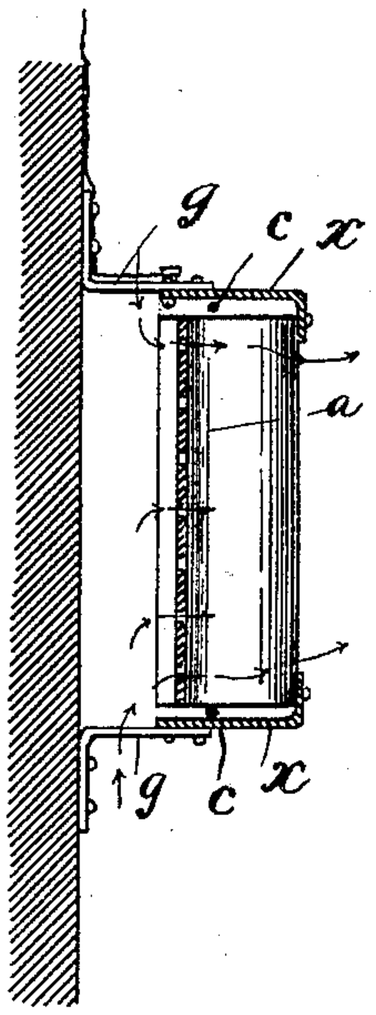


Fig. 3



WITNESSES:

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JOSEPH G. NOYES, OF MILFORD, CONNECTICUT.

ELECTRIC CAR-HEATER.

SPECIFICATION forming part of Letters Patent No. 557,282, dated March 31, 1896.

Application filed August 16, 1895. Serial No. 559,452. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH G. NOYES, a resident of Milford, New Haven county, State of Connecticut, have invented a new and useful Improvement in Electric Car-Heaters, of which the following is a full, clear, and exact description, reference being made to the accompanying drawings.

My invention relates to electric heaters, more especially adapted for use in railway-cars and like vehicles.

The object of my invention is to produce a simple, cheap, and efficient electric heater constructed of but few parts and which can be readily placed in position and taken down.

To this end my invention consists in an electric heater having a corrugated heater-body containing electric conductors embedded in cement in the corrugations on one side thereof and being provided with perforations between the corrugations which contain the electric conductors.

In the drawings, Figure 1 represents a face view of an electric heater embodying my invention. Fig. 2 is a longitudinal section on the line 2 2 of Fig. 1. Fig. 3 is a transverse sectional view of the heater on the line 3 3 of Fig. 1, showing the heater attached to a side of the car.

The heater-body A is preferably made of a continuous corrugated sheet-metal plate having a vitreous enamel coating *a*, and may be cylindrical or straight, as shown, or of any other suitable form. In the raised portions *b* of the corrugations are contained electric conductors *c* embedded in cement *d*. These electric conductors preferably consist of a wire starting at one end of the heater-body and traversing longitudinally the end raised portion *b* a number of times, then proceeding to the next raised portion *b*, and so on to the other end. This wire *c* is insulated at c' c^2 and has the ends thereof connected to binding-posts *e* e', where connection is made with the electrical supply. These wires are protected on each side of the heater-body by suitable end frame-pieces *x*. Between the raised portions *b* of the corrugated plate are series of unobstructed perforations *f*, which allow of a circulation of air through the heater-body.

Suitable supports *g* are provided to secure the heater-body away from the side of the car, so that a complete circulation of air may be had around and through the heater-body, where it is heated and a constant circulation thereby maintained.

It will be observed that by my invention I am enabled to provide means for containing the electrical conductors in the heater-body constructed of a single piece, and that I thereby greatly reduce the cost of production over devices which employ complicated structures composed of many parts and wherein there is no adequate means provided for maintaining a constant circulation of the heated air.

What I claim, and desire to secure by Letters Patent, is—

An electrical heater having a corrugated heater-body containing electrical conductors embedded in cement in the corrugations on one face thereof and being provided with perforations between the corrugations which contain the electrical conductors, substantially as described.

JOSEPH G. NOYES.

Witnesses:
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