

No. 666,418.

Patented Jan. 22, 1901.

E. E. GOLD.  
ELECTRIC CAR HEATER.  
(Application filed Aug. 1, 1900.)

(No Model.)

Fig. 1.

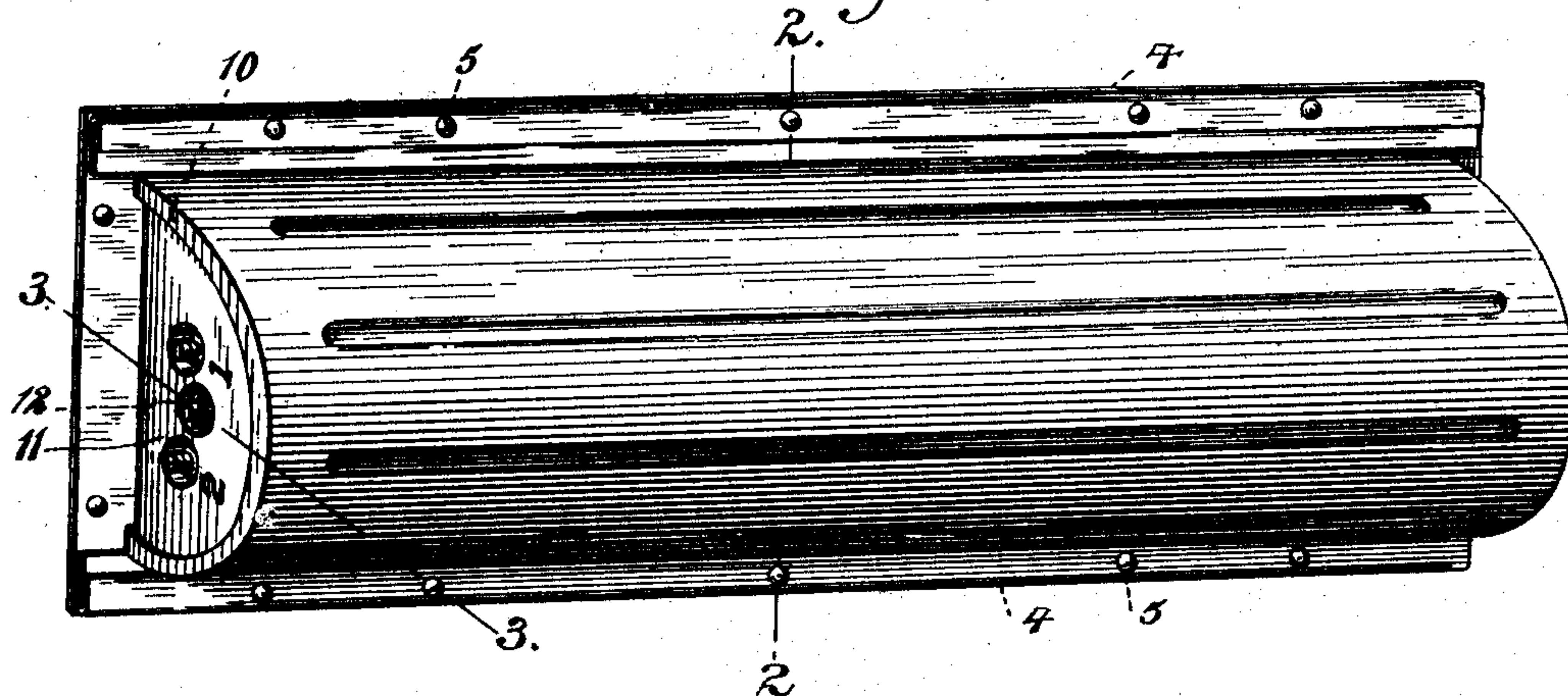


Fig. 2.

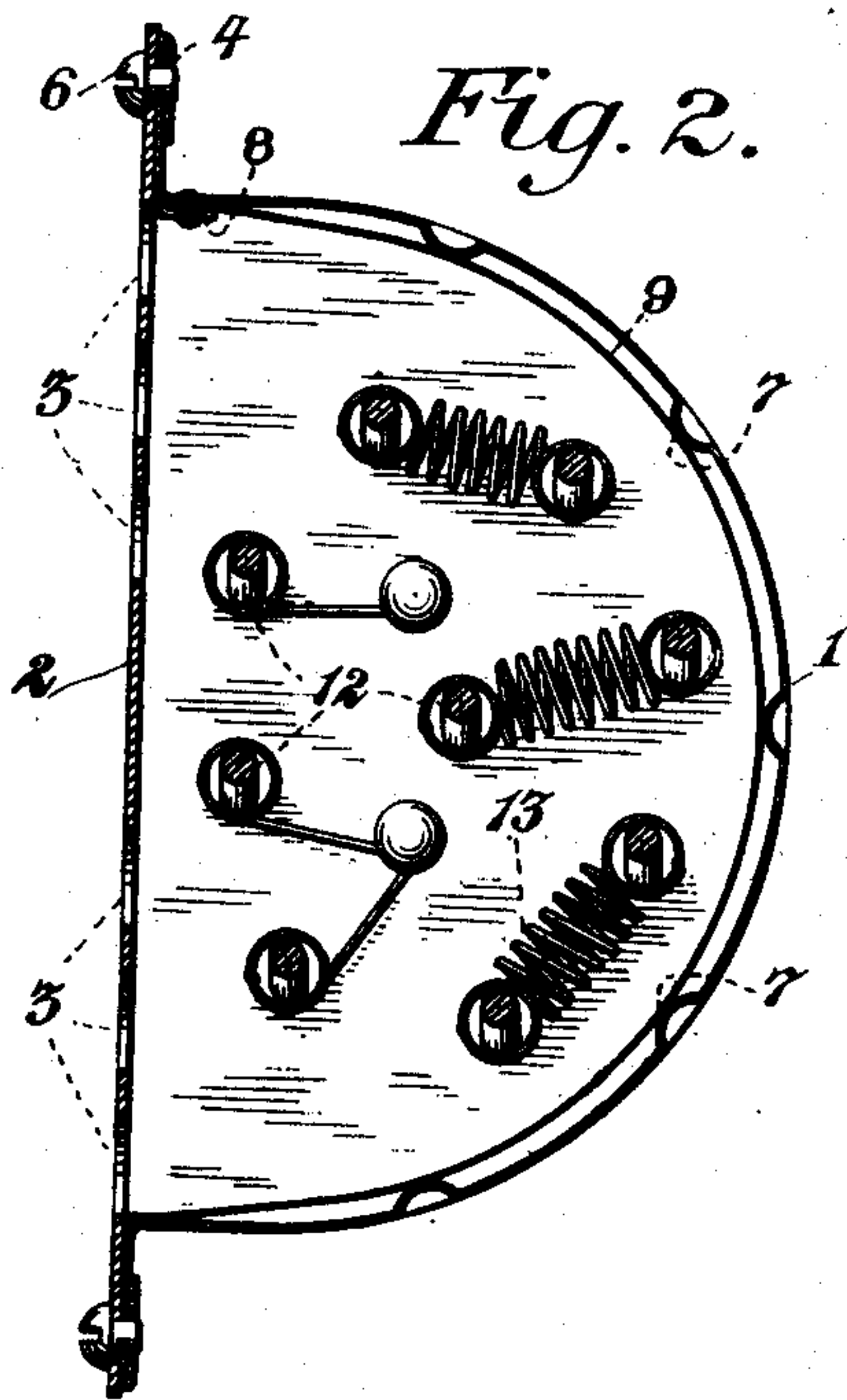
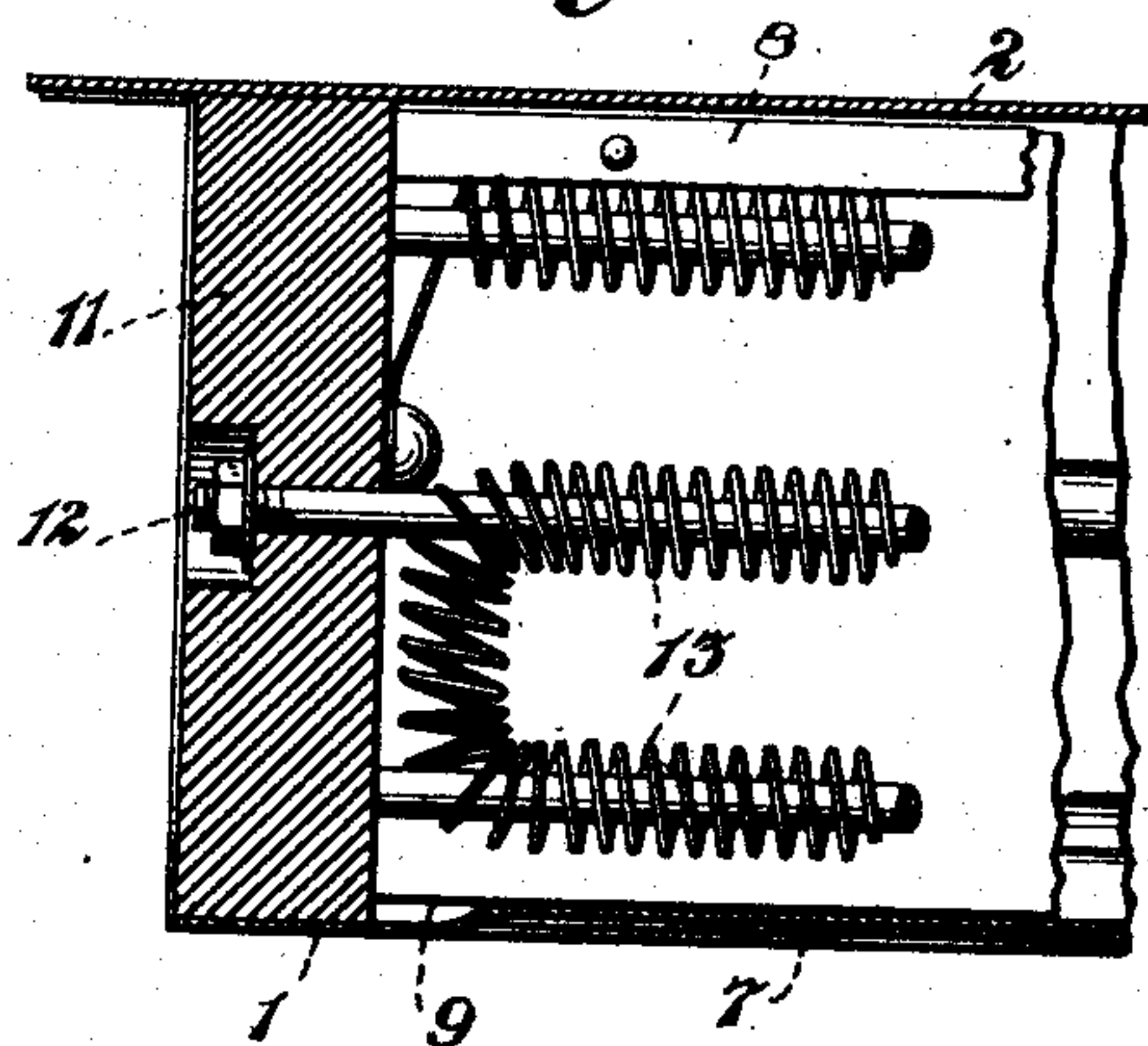


Fig. 3.



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# UNITED STATES PATENT OFFICE.

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## ELECTRIC-CAR HEATER.

SPECIFICATION forming part of Letters Patent No. 666,418, dated January 22, 1901.

Application filed August 1, 1900. Serial No. 25,496. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD E. GOLD, a citizen of the United States of America, residing in the borough of Manhattan, city of New York, in the State of New York, have invented certain new and useful Improvements in Electric-Car Heaters, of which the following is a specification.

This invention relates to electric-car heaters, and has for its object to construct an electric-car heater with a back or casing formed of sheet metal that is sufficiently durable to withstand the strain incidental to railway use, that is simple in construction, and that can easily be assembled.

In the accompanying drawings, Figure 1 represents in perspective a rear elevation of my improved electric-car heater. Fig. 2 represents a transverse section of the same on the line 2 2 of Fig. 1. Fig. 3 is a detail view representing a horizontal section on the line 3 3 of Fig. 1.

The frame of the heater consists of a back or casing 1, of sheet metal, and a front plate 2. The face-plate is provided with a number of perforations 3, which permit free circulation of the air into and from the casing. The sides of the casing are bent to form outwardly-projecting side flanges 4, that have their outer edges folded and are provided with openings or perforations 5 to receive rivets or screws 6, that engage in or through the base-plate and secure the casing thereto. A plurality of longitudinal corrugations or depressions are formed or struck up in the casing, preferably lengthwise thereof, that project inwardly from the surface of the casing to form internal ribs 7. One or more brackets or clamps 8 are secured to the casing adjacent to the base-plate to hold a lining 9, of asbestos or similar material, that conforms to the shape of the casing and engages with the internal ribs or corrugations. The ends of the casing are folded inward to form retaining-flanges 10, that hold the end pieces 11 of the heater against outward displacement and stiffen the casing, so as to prevent same from being bent out of shape. Said end pieces are held apart by a plurality of rods 12, which support a number of resistance-coils 13, that are connected in any preferred manner with a suitable source

or sources of electrical energy. By means of this construction a heater can be made that is simple to manufacture, easy to assemble, and that possesses great durability. The casing is made from a single piece of sheet metal, the corrugations being struck up therein and the flanges being formed by bending the ends and sides thereof. In this way a considerable saving of metal is effected and the weight of the heater is reduced to a minimum. The heater is thus made available in many cases where a heavy heater could not be used, and the use of a larger number of heaters is permitted in cases where the total weight of the conveyance is limited to a certain amount. The asbestos lining is secured to each side of the casing lengthwise thereof and is held out of contact therewith by the corrugations, so that a dead-air space is formed between the lining and the casing, which assists in preventing radiation of the heat through the lining. What heat passes through the lining and the air-space to the casing is quickly radiated by the casing instead of being retained thereby, as when the casing is of different material, such as cast-iron or wood. The effective heating capacity of the heater thus becomes available as soon as the heater is put in operation.

I claim as my invention—

1. In an electric-car heater, the combination of a perforated metal front plate, a sheet-metal casing having corrugations struck up therein to form internal ribs, and having its side edges turned outwardly to form securing-flanges and its ends turned inwardly to form retaining-flanges, means for securing said flanges to the front plate, end pieces held against outward displacement by said retaining-flanges, and supporting-rods arranged between the end pieces, substantially as described.

2. In an electric-car heater, the combination of a perforated metal front plate, a sheet-metal casing having corrugations therein to form internal ribs, and having its side edges turned outwardly to form securing-flanges and its ends turned inwardly to form retaining-flanges, means for attaching said securing-flanges to the front plates, end pieces held against outward displacement by said

retaining-flanges, and an asbestos lining corresponding in section with said casing and secured to the side edges thereof, said lining contacting with the internal ribs to form a  
5 dead-air space between said lining and casing, substantially as described.

In testimony whereof I sign this application,

in the presence of two witnesses, this 26th day of July, 1900.

EDWARD E. GOLD.

Witnesses:

L. M. WILSON,  
ROSWELL S. NICHOLS.