

G. EGLY.
ELECTRIC RADIATORY STOVE.
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994,447.

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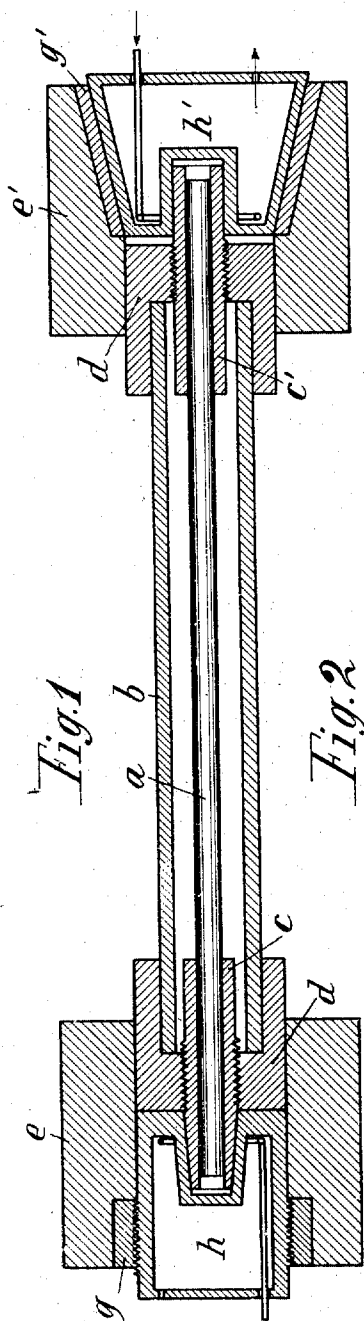
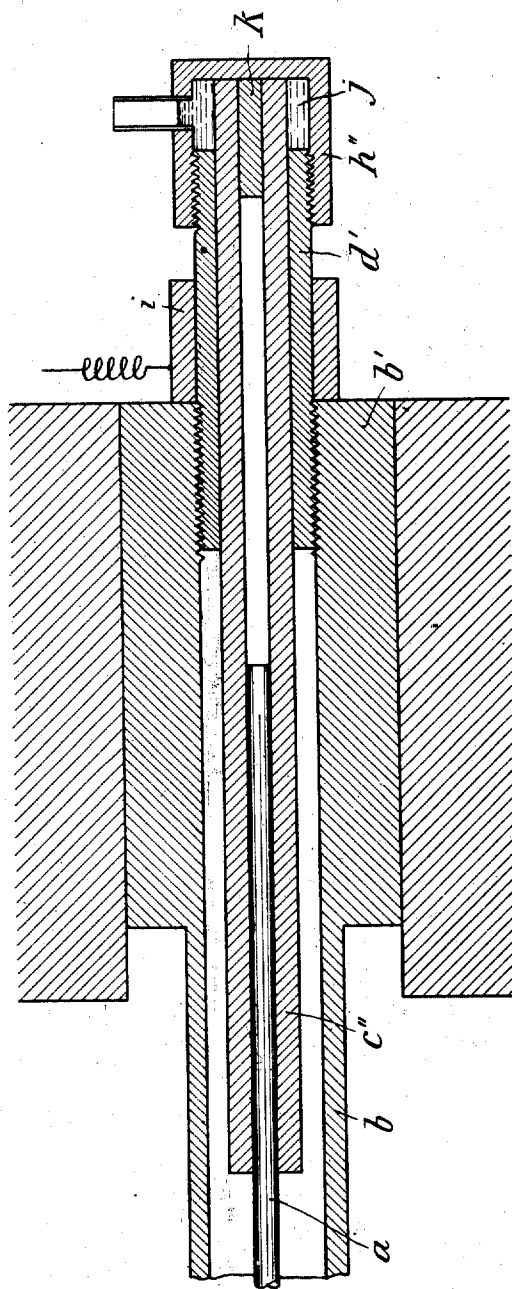


Fig. 1

Fig. 2



Witnesses
H. H. Knight
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Inventor
George Egly
by his attorney
[Signature]

UNITED STATES PATENT OFFICE.

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ELECTRIC RADIATORY STOVE.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, GEORG EGLY, a subject of the German Emperor, and residing at Treptow, near Berlin, Germany, have invented certain new and useful Improvements in Electric Radiatory Stoves, of which the following is a specification.

My invention relates generally to electric radiatory stoves, and particularly to electric radiators therefor substantially consisting of a non-metallic, highly refractory, good heat-conducting, protective tube, in which a rod is heated.

Important objects of my invention are to prevent the heating-rod in a radiator of this type changing its shape owing to the heat, and to prevent air entering into the protective tube surrounding the heating-rod, so that the latter cannot burn away too rapidly. To these ends, the rod is carried by its ends in long, electrically-conducting sleeves, but so, however, that it can expand freely longitudinally in both directions. The sleeves are connected with the protective tube by special holders connected airtight with the latter. In order as much as possible to limit the admission of air through the ends of the sleeves surrounding the rod I provide special caps which close the outer ends of the sleeves airtight.

One illustrative embodiment of my invention and a modification thereof are represented by way of example in the accompanying drawings, wherein:—

Figure 1 shows a complete radiator in longitudinal section, and Fig. 2 is a like view showing one end of a symmetrical radiator of a modified form.

Referring firstly to Fig. 1, the rod *a*, composed for example of carbon, is in the protective tube *b* which has holders *d* cemented on its ends and is preferably made of silit, a mass composed of silicon, carbon and nitrogen. The rod *a* is surrounded but not firmly held at its ends by electrically-conducting sleeves *c, c'* fitted by means of screw-threads as airtight as possible in the holders *d*, so that it can expand freely longitudinally in both directions, and changes of shape due to expansion are prevented. The holders *d* carrying the protective tube are held in the blocks *e, e'*, composed of a resisting material, such as carbon, stone,

silit or the like, at the ends of the furnace. In order to prevent air entering through the sleeves *c, c'* into the tube *b*, caps *h, h'* are let into the blocks *e, e'* over the ends of the sleeves *c, c'* and in this illustrative embodiment are made hollow and serve as cooling means. The bottom of each cap is recessed so that the ends of the sleeves *c, c'* surrounding the rod *a* project into the socket-like bottoms of the caps and are effectively cooled by cold water introduced into the caps. The cap *h'* at the one end of the rod is fitted conically, while the cap *h* at the other end is fitted cylindrically in its block, an intermediate metal ring *g', g* firmly connected with the block being, however, provided in both cases. The cylindrical cap *h* is screwed airtight to its metal ring *g*, while the conical cap *h'* is ground into its metal ring *g'*. Current is supplied to the rod *a* by way of the caps. The protective tube *b* and the holders *d* are able to expand owing to clearance being provided at the one end between the holder and the bottom of the cap *h'*, while the other holder is close against the bottom of the cap *h*.

Referring now to Fig. 2, the burned heating-rod *a* in this modified form of radiator can be more conveniently exchanged without its being necessary to loosen screwed parts. As in the illustrative embodiment shown in Fig. 1, the rod *a* is inclosed in the protective tube *b* which is composed for example of silit, pervious to heat, but closed airtight, and has each end mounted in a closely-fitting sleeve *c''* serving simultaneously as conductor for the current. In this modification, however, each sleeve extends a considerable distance beyond the end of the radiator, fits well in the metal holder *d'* and extends beyond the outer end of the latter. The inner end of the holder is screwed airtight to the enlarged end *b'* of the silit tube *b*. Current is supplied by way of the holder *d'*, for example by means of the contact bush *i* on the latter. For protecting the sleeve *c''* and simultaneously for closing the radiator as airtight as possible the protective cap *h''* preferably consisting of the same material as the holder *d'* is screwed on the latter. The sleeve *c''* has its outer end closed by the plug *k*. In order to exclude air still more perfectly from the

tube *b* the cap *h''* may be so formed that a chamber in it can be filled with liquid or plastic packing *j*, *e. g.* oil or paraffin.

I claim:—

- 5 1. In an electric radiator of the character described, the combination of a heating-rod, and a non-metallic tube of considerably greater diameter than the thickness of the rod surrounding the latter, of an electrically-conducting sleeve carrying one end of
10 the rod mounted free to expand axially at the end of the tube, and a cap at the end of the sleeve for preventing air entering into the tube.
- 15 2. In an electric radiator of the character described, the combination of a heating-rod, and a non-metallic tube of considerably

greater diameter than the thickness of the rod surrounding the latter, of a holder fitted air-tight to one end of the tube, an electrically-conducting sleeve carrying one end
20 of the rod mounted free to expand axially in, and extending beyond the outer end of the holder, and a hollow cap, containing liquid packing, fitted on the outer end of
25 the holder and closing the end of the sleeve.

In testimony whereof I have signed my name to this specification in the presence of two witnesses.

GEORG EGLY.

Witnesses:

WOLDEMAR HAUPT,
HENRY HASFER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."