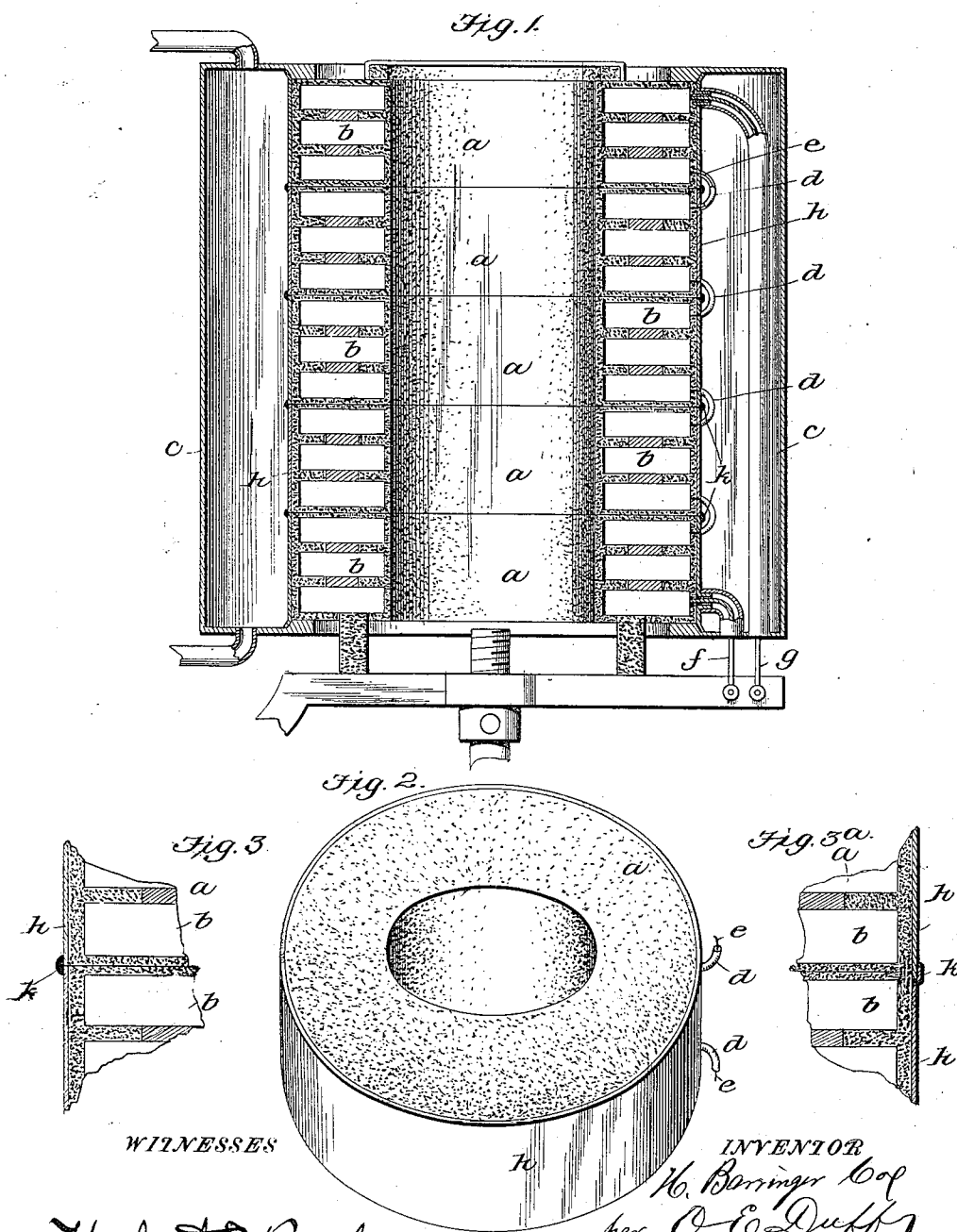


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SECTIONAL THERMO ELECTRIC GENERATOR.

No. 529,710.

Patented Nov. 27, 1894.



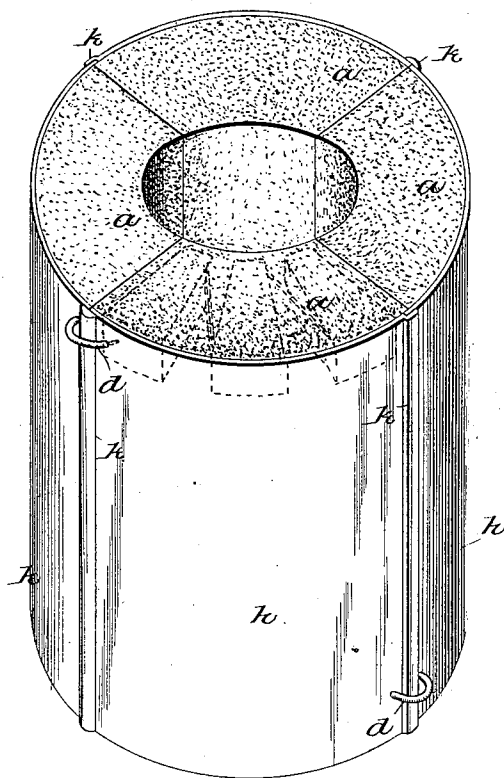
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Fig. 4.



WITNESSES

Hubert O. Beck
C. M. Werle

INVENTOR

Harry Beringer Esq.
per O. E. Duff
Attorney

UNITED STATES PATENT OFFICE.

HARRY BARRINGER COX, OF HARTFORD, CONNECTICUT.

SECTIONAL THERMO-ELECTRIC GENERATOR.

SPECIFICATION forming part of Letters Patent No. 529,710, dated November 27, 1894.

Application filed January 31, 1894. Serial No. 498,658. (No model.)

To all whom it may concern:

Be it known that I, HARRY BARRINGER COX, of Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Sectional Thermo-Electric Generators; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification.

This invention relates to certain improvements in thermo-electric generators.

The object of this invention is to so improve the construction of thermo-electric generators that portions thereof can be removed and replaced when damaged or for other reasons without destroying the entire generator and thereby reducing the cost of maintenance and whereby sections of the generator are interchangeable and can be supplied to users as required for repairing.

The invention consists in certain novel features of construction and in combinations of parts more fully and particularly pointed out hereinafter and described in the claims.

Referring to the accompanying drawings:—
Figure 1, is a vertical sectional view of one form of the present invention, showing the same built up of the vertical series of sections. Fig. 2, is a detail perspective view of one of the sections of said generator. Figs. 3 and 3^a are detail sectional views showing the joint between the metal jackets of two sections of the generator. Fig. 4, is a detail perspective view of the thermo-electric generator without the water jacket or heating means showing the generator built up of segmental sections in a horizontal series.

This invention consists in building up the generator in the series of independent sections complete in themselves and suitably coupling the sections together electrically so that if any portion of the generator becomes injured or bored out or otherwise inoperative the particular section can be removed and a new one inserted in place thereof and the machine coupled up and put in proper condition.

In Fig. 1, the generator is shown built up of the vertical series or ring shaped sections

a, placed one on the other in a vertical series. Each section is composed of any suitable rings *b*, of thermo couples electrically connected in any suitable or usual manner and then coated throughout with any suitable refractory material which is baked to make a hard ring exteriorly covered with refractory material and having the opposite electrical terminals or take offs projecting there-through; each one of these sections being complete in itself and thoroughly coated and protected with the protective covering.

c, is the water jacket surrounding the generator.

The different sections composing the generator are suitably connected together electrically as by means of the water proof pipes *d*, in the water jacket extending from one section to another and inclosing electrical connections *e*, between said sections so that the entire current of the generator can be taken off by two main wires such as *f* and *g*.

The exterior of the generator is provided with a metal jacket *h*, forming the inner wall of the water jacket. Each section of the generator is provided with its exterior metal jacket so that when the generator is built up the edges of the metal jackets of the various sections abut against each other as shown in Fig. 3, or overlapped as shown in Fig. 3^a, or arranged to form a tight joint in any suitable manner so as to unite all the sections of the generator rigidly. This is accomplished preferably by brazing, soldering or otherwise rigidly uniting the metal jackets of the sections at their meeting edges so as to form joints *k*. These joints may be joined by a flexible gasket, but are preferably joined by soldering or brazing. The sections can be arranged in any desirable manner or of any desirable shape. For instance, in Fig. 4, segmental sections are shown arranged in horizontal series. In this case each section is shown of the same as the generator with the vertical engaging edges and the metal plates on their outer sides coupled together as before. In this case the electric connections can be made between the sections in any suitable manner such as shown and described in connection with Fig. 1.

When any portion of the generator is injured and rendered inoperative from any

cause the outer water jacket and parts are separated and the electrical connections severed between the sections and the particular injured section removed and a new and perfect section substituted therefor and the generator properly coupled up and the parts arranged in operative adjustment.

The sections of the generator are preferably made interchangeable so that sections of different sized generators can always be kept in stock at the factory or at suitable headquarters and can be furnished to customers whenever desired.

The word "section" as herein employed is used to designate a series or plurality of thermo-electric couples, each section complete in itself.

It is evident that various changes might be made in the forms, arrangements and constructions of parts described without departing from the spirit and scope of my invention. Hence I do not wish to limit myself to the exact construction herein set forth, but consider myself entitled to all such changes as fall within the spirit and scope of my invention.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. A thermo-electric generator built up of interchangeable sections each section exteriorly coated and complete within itself, as set forth.

2. The thermo-electric generator built up of sections, each section complete in itself, and having a hard permanent coating with electric terminals thereof projecting through the coating, substantially as described.

3. The thermo electric generator built up

of sections, each section complete in itself and covered exteriorly with suitable refractory material.

4. The thermo-electric generator built up of interchangeable sections secured together by a surrounding metal jacket each section being suitably coated and provided with its own metal jacket, the jackets of the various sections being united.

5. As an article of manufacture an interchangeable section of a thermo-electric generator complete in itself by having a hard permanent covering.

6. As an article of manufacture a section of the thermo-electric generator complete in itself and coated exteriorly with the refractory material and having exterior metal covering on its outer side.

7. The thermo-electric generator built up of interchangeable sections suitably coated and each provided on its exterior with the metal coating, the coatings of the section being suitably united at their edges.

8. The thermo-electric generator built up of sections each complete in itself and each provided with a covering and the outer metal plate; the plates of the various sections being united at their edges and the insulated electrical connections between the various sections.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

HARRY BARRINGER COX.

Witnesses:

O. E. DUFFY,
C. M. WERLE.