

K. C. RANDALL.
 OUTDOOR TRANSFORMER.
 APPLICATION FILED OCT. 18, 1909.

1,005,307.

Patented Oct. 10, 1911.

Fig. 1.

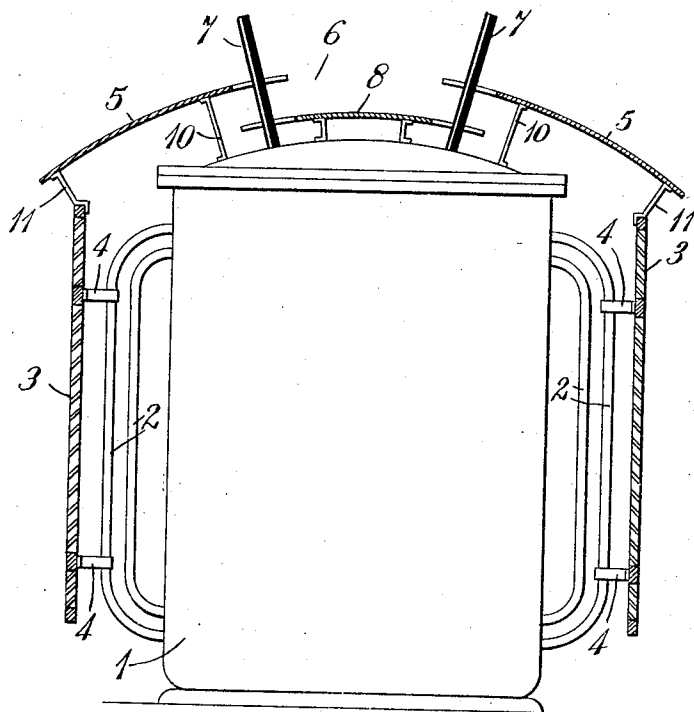
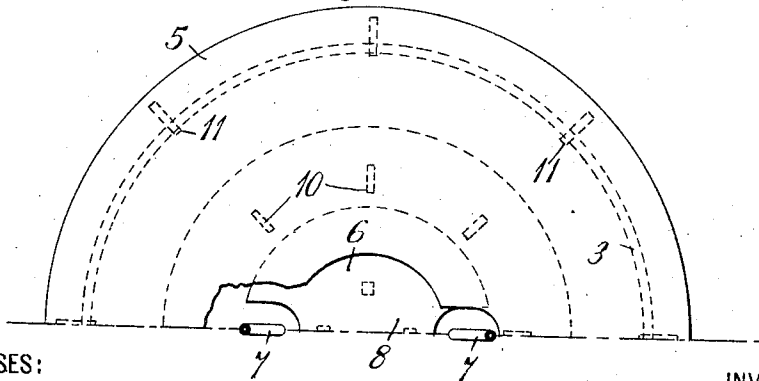


Fig. 2.



WITNESSES:

Fred H. Miller
P. J. Carbone

INVENTOR

Karl C. Randall
 BY
Wesley C. Carr
 ATTORNEY

UNITED STATES PATENT OFFICE.

KARL C. RANDALL, OF EDGEWOOD PARK, PENNSYLVANIA, ASSIGNOR TO WESTINGHOUSE ELECTRIC AND MANUFACTURING COMPANY, A CORPORATION OF PENNSYLVANIA.

OUTDOOR TRANSFORMER.

1,005,307.

Specification of Letters Patent.

Patented Oct. 10, 1911.

Application filed October 18, 1909. Serial No. 523,126.

To all whom it may concern:

Be it known that I, KARL C. RANDALL, a citizen of the United States, and a resident of Edgewood Park, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Outdoor Transformers, of which the following is a specification.

My invention relates to electric apparatus, and it has special reference to outdoor transformers and to similar devices that are disposed in inclosing casings.

The object of my invention is to provide a simple and inexpensive shield structure for electric apparatus of the class indicated above in order to facilitate the cooling of the apparatus and to protect the inclosing casing from the direct rays of the sun, whereby the transformer or other device may be particularly suitable for use in the open air.

High-voltage transformers have usually been located in sub-stations or sheds of some kind in order to protect them from the weather and from the direct rays of the sun. The terminal structures of such apparatus and the inclosed casings have, however, been so developed as to withstand the rain and snow without injury, and, according to my present invention, I provide a simple shield which is not intended to protect the transformer casing from the wet, but is only intended to prevent the direct rays of the sun from heating the parts within.

Figure 1 of the accompanying drawings is a view, partially in section and partially in elevation, of a transformer equipped with my invention, and Fig. 2 is a plan view of a portion of the device shown in Fig. 1.

Referring to the drawings, a transformer or other electrical device is disposed within a tank or casing 1, having a plurality of tubes 2, which are located outside of the tank and form a communication between its upper and lower interior portions in order that oil or some other insulating fluid contained in the tank may circulate through them.

My protective shield comprises a cylindrical shell 3, of sheet metal or other suitable material, which surrounds the casing 1 and is attached to the tubes 2 by means of brackets 4. Above the casing 1 is an outer dome 5, having an opening 6 through which

the transformer leads 7 project, and an inner dome 8 which is within the outer dome and directly below the opening 6.

The inner dome 8 is supported directly upon the cover 9 of the transformer casing and the outer dome 5 is supported by the brackets 10 which are fastened to the cover of the casing and by brackets 11 which are fastened to the shell 3.

The shell 3 is so proportioned that its lower edge is at a material distance from the ground, or the base on which the tank rests, so that the outside air may circulate freely around the tubes 2. The domes 5 and 8 are so located as to cast a shadow on the casing and permit the warm air which rises from the tubes to readily escape through the opening 6. It will be observed that the shield thus serves to protect the casing from the direct rays of the sun and also to assist in producing a circulation of air around the tubes.

I desire that variations which do not depart from the spirit of my invention shall be included within its scope.

I claim as my invention:

1. In electric apparatus, the combination with an inclosing tank, of a shield for intercepting the direct rays of the sun, comprising a tubular portion spaced from the sides and bottom of the tank and a roof portion having ventilating openings.

2. An outdoor transformer comprising an inclosing tank and a shield supported and spaced therefrom and comprising a tubular portion the lower end of which terminates in a plane above the bottom of the tank and a roof portion having ventilating openings.

3. An outdoor transformer comprising an inclosing tank or casing having external tubes for increasing the radiating surface, and a shield secured to the tubes for intercepting the direct rays of the sun and for promoting a circulation of air around the tubes, said shield comprising a tubular portion that is open to the atmosphere at its bottom and a roof portion having ventilating openings.

4. In electric apparatus, the combination with a containing tank or casing, of a shield for intercepting the direct rays of the sun which comprises a cylindrical shell secured to the tank and spaced therefrom, and a

dome or cap supported above the tank and provided with an offset central portion to permit a free circulation of air around the tank.

5 5. The combination with a transformer tank and a shell surrounding the side walls of the tank and spaced therefrom, of a main shield cap having a central opening, and a supplemental cap located beneath the open-

ing in the main cap and spaced therefrom 10 and from the tank cover.

In testimony whereof, I have hereinto subscribed my name this 6th day of Oct., 1909.

KARL C. RANDALL.

Witnesses:

HELEN BURTON,
B. B. HINES.

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