

A. PRUESSMAN.
PAPER CONDENSER.
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1,127,513.

Patented Feb. 9, 1915.

Fig. 1.

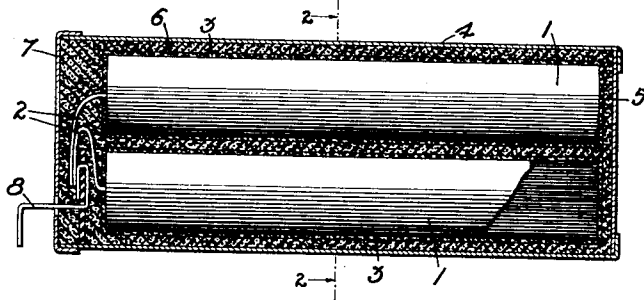
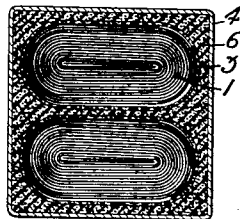


Fig. 2.



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UNITED STATES PATENT OFFICE.

ALBERT PRUESSMAN, OF CHICAGO, ILLINOIS, ASSIGNOR TO WESTERN ELECTRIC COMPANY, OF NEW YORK, N. Y., A CORPORATION OF ILLINOIS.

PAPER CONDENSER.

1,127,513.

Specification of Letters Patent.

Patented Feb. 9, 1915.

Application filed August 2, 1913. Serial No. 782,637.

To all whom it may concern:

Be it known that I, ALBERT PRUESSMAN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Paper Condensers, of which the following is a full, clear, concise, and exact description.

This invention relates to condensers and the method of making the same, and its object is to produce a condenser which shall possess increased efficiency and permanence and notwithstanding shall be compact and cheap to manufacture.

The invention broadly consists of a condenser in the form of a roll of continuous conducting strips separated by insulating strips, but more particularly relates to the means for inclosing the units whereby they are retained in their original form and size and are effectively sealed.

Referring to the drawings Figure 1 represents a condenser showing the can and the filling material in cross section and the units located therein; and Fig. 2 is a section on the line 2—2 of Fig. 1.

In accordance with this invention the strips of conducting material and insulating material are first assembled by rolling them together to form a roll. After having boiled the units in melted paraffin wax or equivalent material, they are subjected to slight pressure on the flat sides thereof and are allowed to cool and set. The units are then placed in a container, the space between said container and the unit being filled by a molten insulating substance which solidifies at ordinary temperatures and which is impervious to moisture, whereby the unit is retained in its original form and is protected from the deteriorating effects of the atmosphere.

As this invention does not reside in the manner of forming the units which may be substantially the same as that shown in Patent No. 575,653, but relates more particularly to the means of protecting the units from the atmosphere which tends to cause a decrease in insulation therein, and means whereby the units are caused to retain their original form and size, thus maintaining their capacity constant, we will assume that the individual units have been rolled and then impregnated by boiling the same in paraffin wax, or like material, and

have been allowed to cool while pressure is applied to the sides thereof.

We will now consider the method of sealing the same, wherein resides the principal feature of this invention. After the paraffin or other substance has cooled, two of the rolls 1 are secured together by uniting their terminals 2, as shown in Fig. 1. While only one terminal is shown in the drawings for each roll, it is of course understood that each is provided with two in the usual manner, the terminals being connected in pairs. The two rolls thus joined are then dipped in a molten insulating compound which solidifies at ordinary temperatures. This compound preferably includes asphaltic cement and may also include rosin and Montan wax united in such proportions that, while it will melt at a reasonably low temperature, say 400°, it is sufficiently hard not to flow at normal atmospheric temperatures. I have found that a compound composed of approximately 80% asphaltic cement, 8% rosin and 12% Montan wax is very satisfactory. As the quality of different samples of the substances used in this compound is not always the same, the exact proportions to be used in a given case can only be determined by experimenting. By this dipping process each roll will thereupon receive a layer 3 of the insulating compound. The rolls are then inserted in a container 4, the bottom of which has been covered to a slight depth by a pouring 5 of said compound. Care being taken to insure that the unit is equally spaced from the sides of the container, an additional pouring 6 of the compound is made, extending above the terminals of the units. The container may now be provided with a cap or cover 7 through which the conducting strips 8 secured to the terminals 2 project.

The commercial condenser formed as above described is of substantially two microfarad capacity. If a condenser of one microfarad capacity is desired, of course only one roll will be used. The process of manufacturing otherwise is substantially as just described.

In condensers as at present manufactured it has been found that they deteriorate very rapidly; both as to capacity and insulation resistance, the deterioration in capacity being due to a loosening up or separating of the folds or layers of the condenser, and the

deterioration in resistance being due to the admission of moisture to the insulating layer. The method of sealing condensers herein disclosed, however, maintains the condenser units in their original form and absolutely prevents the entrance of moisture thereto.

While the compound above described has been found particularly satisfactory in sealing condensers, it is to be understood that the invention is not limited to this specific compound, as other compounds of a similar nature have been found to give very satisfactory results.

15 What I claim is:

1. In a condenser, a unit consisting of alternate layers of conducting material and insulation, a container in which said unit is positioned, and a compound consisting of substantially 80% asphaltic cement, 8% rosin and 12% Montan wax surrounding said unit within said container.

2. In a condenser, a unit consisting of layers of conducting material and insula-

tion, a container in which said unit is positioned, and a compound of asphaltic cement and Montan wax surrounding said unit within said container.

3. In a condenser, a unit consisting of layers of conducting material and insulation, a container in which said unit is positioned, and a compound of asphaltic cement and Montan wax in proportions of substantially eight parts of cement to one part of wax surrounding said unit within said container.

4. In a condenser, a unit consisting of layers of conducting material and insulation, a container in which said unit is positioned, and a compound of asphaltic cement, rosin and Montan wax surrounding said unit within said container.

In witness whereof, I hereunto subscribe my name this 31st day of July, A. D., 1913.

ALBERT PRÜESSMAN.

Witnesses:

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