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A. M. KNUDSEN

1,719,298

CONDENSER

Filed June 7, 1926

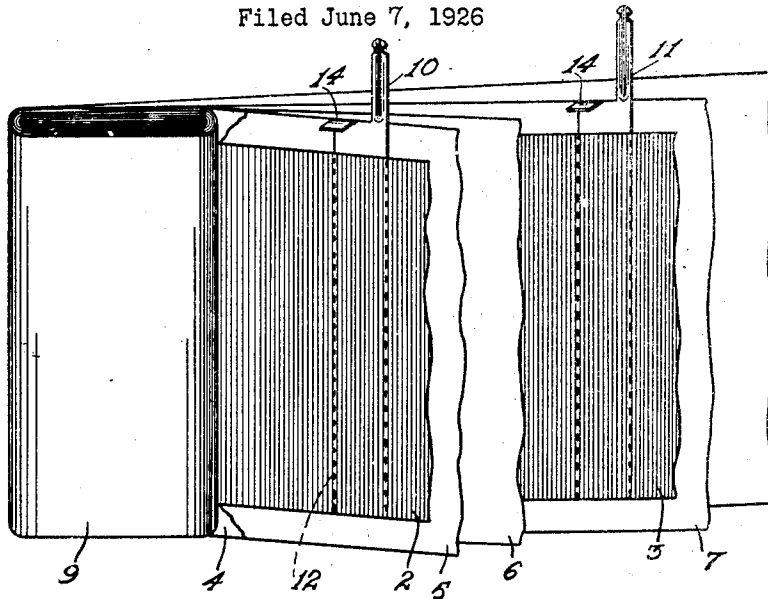


Fig. 1.

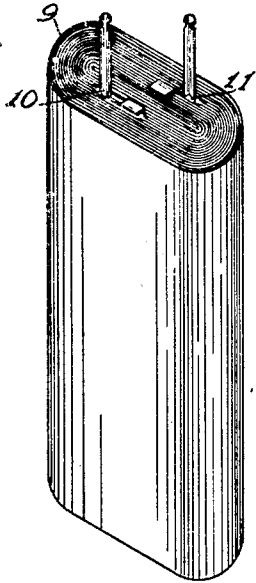


Fig. 2.

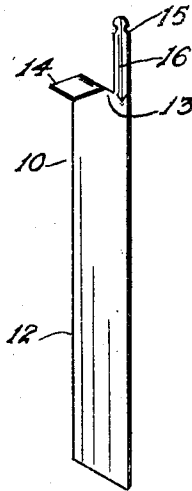


Fig. 3.

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UNITED STATES PATENT OFFICE.

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CONDENSER.

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My invention relates to condensers and has to do more particularly with that type in which the two plates of the condenser are formed of two continuous strips of tin-
5 foil which lie respectively between strips of paper or any other suitable dielectric.

Condensers of the above type are provided with terminals which comprise thin metal ribbon strips which are slipped into position as the condenser is wound and to provide external terminals for the respective plates of the condenser, a connecting rack is used. This connecting rack supports a
10 pair of suitable terminals to which the thin metal strip terminals are soldered and these terminals of the connecting rack provide means for connecting the plates of the condenser to an external circuit.

To eliminate the connecting rack to which
20 the terminals of the condenser are soldered I provide a novel and improved terminal which is inserted as the condenser is wound and is of a one piece construction which provides for a direct connection between
25 the plates of the condenser and the leads of an external circuit. The one piece terminal of my invention eliminates the soldered connection between strip terminals of the plates and the connecting rack and also eliminates
30 the possibility of a loose connection as is often the case when a connecting rack is used.

Other objects and advantages will appear in the ensuing specification and for a more
35 complete understanding of my invention reference may be had to the accompanying drawing in which like reference characters in the several views denote like parts and in which;

40 Fig. 1 is a perspective view illustrating the paper and tinfoil strips of a condenser assembled in a flat roll with the terminals of my invention in position relative to the tin foil strips or plates of the condenser.

45 Fig. 2 is a perspective view of a completed condenser illustrating the terminals of my invention in position, and

Fig. 3 is a perspective view of the terminal of my invention.

50 Referring now in detail to my invention as illustrated in the accompanying drawing and referring to Fig. 1 the two strips of tinfoil 2 and 3, each lie between two strips of paper 4, 5 and 6, 7 and are wound to form an oblong
55 or oval shaped roll 9 and the completed con-

denser as illustrated in Fig. 2 is inserted in a suitable container the open end of which is filled with a suitable material such as sealing wax to exclude moisture. The terminals 10
60 and 11 are made of suitable conducting material such as thin sheet brass and are slipped into position and in engagement with the respective plates 2 and 3 of the condenser as the condenser roll 9 is being formed as illustrated in Fig. 1. As both terminals 10 and
65 11 are identical in construction a description of one will suffice. The body portion 12 of the terminal 10 which contacts with the plate of the condenser is of suitable width and length, its one end 13 being provided with an
70 integrally formed tongue 14 extending at right angles to the body 12. This angular extending tongue 14 engages the ends of the rolled strips of paper of the completed condenser and prevents the terminal being forced
75 down in the condenser after the condenser has been formed and pressed into a suitable shape as clearly illustrated in Fig. 2. The end 13 is provided with a reduced portion or terminal
80 end 15 which is transversely bent or kinked as indicated at 16 to increase its rigidity and thus prevent it from bending.

From the above it is readily apparent that I provide a one piece terminal which is simple in construction, which insures a positive
85 contact between the body 12 of the terminal, and its associated plate of the condenser and further that the terminal ends 15 which are integrally formed with the body of the terminal project above the wax filled container
90 of the condenser to which conductors from an external circuit may be soldered. With this type of terminal I provide for a direct connection from the external conductors soldered to the terminal ends 15 and the plates
95 of the condenser thus eliminating the soldered connections between the terminals of the plates and the terminals of the connecting rack, and also eliminating the possibility of a loose or poorly soldered connection which
100 would necessarily reduce the efficiency of the condenser.

I have illustrated a particular size of terminal but it is to be understood that the terminals may be made of varying lengths and
105 widths for the different size condensers.

Having described my invention what I desire to claim as new and secure by United States Letters Patent is:

1. A device of the character described in- 110

cluding a condenser comprising layers of
conducting and non-conducting material,
an electric terminal comprising a flat body
portion for contacting a layer of conducting
5 material and adapted to be maintained in
position by the layers of said condenser, a
terminal end forming a continuation of the
body portion and being small in size relative
to said body portion, said terminal end being
10 transversely bent to increase its rigidity and
means angularly disposed relative to the said
body portion of said terminal for prevent-
ing movement of the said terminal by engag-
ing said condenser.
15 2. A device of the character described in-
cluding a condenser comprising layers of
conducting and non-conducting materials, an
electric terminal comprising a flat body por-
tion for contacting a layer of conducting ma-
20 terial and adapted to be maintained in posi-
tion by said layers of material of said con-
denser, a terminal end forming a continua-
tion of the body portion and being small in
size relative to said body portion, and an an-
25 gular tongue extension of said body portion

formed at right angles to said terminal end
and said body portion and engaging the end
of said condenser to prevent longitudinal
movement of said terminal relative to said
layer of conducting material.

30 3. A device of the character described in-
cluding a condenser comprising layers of
conducting and insulating materials, an elec-
tric terminal comprising a flat body portion
for contacting a layer of conducting material
35 and adapted to be maintained in position by
the layers of material of said condenser, a
terminal end forming a continuation of the
body portion being small in size relative to
said body portion and transversely bent to in-
40 crease its rigidity, and an angular tongue ex-
tension of said body portion extending at
right angles to said terminal end and said
body portion and engaging the end of said
condenser to prevent longitudinal and lat- 45
eral movement of said terminal relative to
said plate.

In testimony whereof I have signed this
specification.

ANTON M. KNUDSEN.