H. R. VAN DEVENTER.

ELECTRICAL CONDENSER AND MANNER OF MOUNTING THE SAME.

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1,181,623.

Patented May 2, 1916.

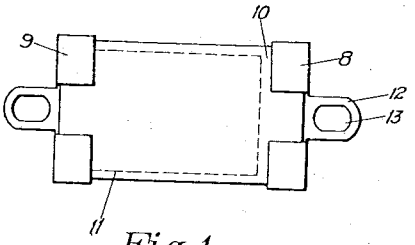


Fig. 1.

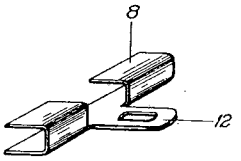


Fig. 4.



Fig. 2.

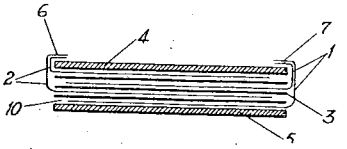


Fig. 3.

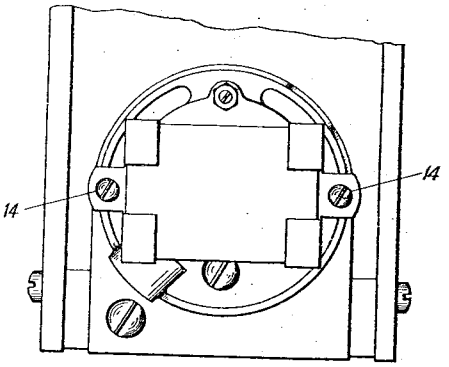


Fig. 5.

WITNESSES:

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UNITED STATES PATENT OFFICE.

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ELECTRICAL CONDENSER AND MANNER OF MOUNTING THE SAME.

1,181,623. Specification of Letters Patent. Patented May 2, 1916.

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To all whom it may concern:

Be it known that I, HARRY RANDOLPH VAN DEVENTER, a citizen of the United States, residing at Sumter, in the county of Sumter and State of South Carolina, have invented certain new and useful Improvements in Electrical Condensers and Manner of Mounting the Same, of which the following is a specification, reference being had to the accompanying drawing.

This invention relates to electric condensers and an improved manner of mounting the same in an ignition dynamo. Condensers as heretofore used for this purpose have been provided with a suitable casing carrying a circuit terminal or terminals, or have been mounted in the armature of the dynamo so as to be protected from mechanical injury. Casings are expensive, as is also the method of mounting in the armature. Where terminals must be provided separate from the leaves of the condenser, there is always difficulty in securing good contact. Separate terminals are also expensive.

This invention consists in providing a condenser in which the insulating medium of the condenser itself acts as a casing and in which an easy and cheap method of mounting the circuit terminals directly on the condenser and in connection with the foil leaves is attained.

A further object is to provide a condenser of small dimensions, especially as regards thickness, adapted to be mounted directly across the terminals of the interrupter mechanism commonly used in ignition dynamos.

Another object is to provide a condenser in which the circuit terminals are directly clamped to the condenser plates, thereby eliminating all soldered connections.

In the accompanying drawings, Figure 1 is a top view of condenser constructed in accordance with my invention. Fig. 2, a side view of the same. Fig. 3, a diagram illustrating the method of construction. Fig. 4, a form of terminal clip, and Fig. 5, a view illustrating how the condenser is mounted in connection with the interrupter mechanism of an ignition dynamo.

Like figures of reference denote the same parts wherever they are shown.

The condenser is built up of alternate metallic sheets such as tin or aluminum foil indicated at 1 and 2, and sheets of a suitable dialectric such as mica, indicated at 3. The top sheet 4 and the bottom sheet 5 of the group are made heavier than the center sheets to secure the necessary stiffness. The ends of alternate sheets of foil are brought out and turned over the ends of the top plate as shown at 6 and 7, and suitable metallic clips shown at 8 and 9 are clamped over the ends of the bundle of foil and mica sheets, thereby forming the unit structure shown in Figs. 1 and 2. As clip 8 engages one group of ends of half the foil sheets, and 9, the remaining half, it will be seen that 8 and 9 form circuit terminals as well as providing means for clamping the condenser structure together.

The foil sheets are so laid in the condenser that the space indicated at 10 is provided at the end of each sheet between the mica sheets, so that all of the foil sheets connected to 9 will not project under that portion of the mica sheets clamped by 8 and vice versa. The foil sheets are not as wide as the mica sheets, as indicated at 11, so there will be no danger of the foil protruding, so that alternate layers could come in contact and cause a short circuit. Suitable projecting ears 12 are provided on each clip, having slotted apertures 13 for the purpose of connecting the condenser in circuit by means of ordinary screws 14, which also mechanically support the condenser.

Fig. 5 shows a condenser as just described in operative position across the interrupter contacts of an ignition dynamo. Suitable supports are furnished on the dynamo, connected to the circuits thereof, and which connect to the ears on said clips. It will be seen that the condenser occupies but little space and is readily covered by the interrupter box cap. As the circuits in which these condensers are used are well known, I do not describe same.

Having thus described my invention, I claim—

1. An electrical condenser comprising imperforate layers of conducting material, imperforate layers of insulating material between the said conducting layers, and means forming circuit terminals engaging the ends of all of said layers and supported thereby for clamping same together.

2. An electrical condenser comprising layers of conducting material separated and

insulated from one another by insulating material and terminals connected to said conducting material, said terminals forming clamps surrounding and embracing the ends of all of said layers whereby same are secured together, substantially as described.

3. An electrical condenser comprising layers of insulating material, a plurality of sheets of conducting material, interleaved with said insulating material and having ends projecting therefrom, and clamps surrounding and embracing the ends of said sheets of conductive and insulating materials whereby same are mechanically held together and electrical contact also made between said conductive material and clamps.

4. An electrical condenser comprising a core of suitably insulated conductive plates, a pair of clamps secured to said core and embracing all of the elements thereof and in electrical connection with said plates, and apertured connecting ears projecting from said clamps.

5. An electrical condenser comprising a core of suitably insulated conductive plates and clamps on the ends of said core embracing all of the elements thereof whereby same is secured together, said clamps forming means whereby said core may be wholly supported as well as connected in circuit.

6. An electrical condenser comprising comparatively thin sheets of insulating material, sheets of conductive material between said thin sheets, a thicker sheet of insulating material, and a pair of clamps embracing the ends of all of said sheets and securing them together and forming circuit terminals for said conductive material.

7. An electrical condenser comprising a bundle of relatively thin insulating and conducting sheets, a pair of relatively thick insulating sheets outside said bundle for stiffening the same, and a pair of clamps surrounding and embracing the ends of said elements and securing all of them to form a condenser, and serving as circuit terminals therefor.

8. An electrical condenser comprising a bundle of flat conductive and insulating sheets, clamps embracing the ends of all of said sheets and securing same together, and projecting ears on said clamps having elongated slotted apertures, substantially as described.

9. In combination with an ignition dynamo, a condenser comprising a bundle of insulating and conducting sheets, clamps surrounding and embracing the ends of said sheets whereby same are secured together, said clamps forming circuit terminals for the condenser, supports on said dynamo for said clamps, said supports forming circuit connections, and means for securing said clamps to said supports.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

HARRY RANDOLPH VAN DEVENTER.

Witnesses:
E. B. ISLER,
E. H. RHAME.