R. H. MANSON.

ELECTRICAL CONDENSER.

APPLICATION FILED MAY 29, 1907.

961,978.

Patented June 21, 1910.

Fig. 2.

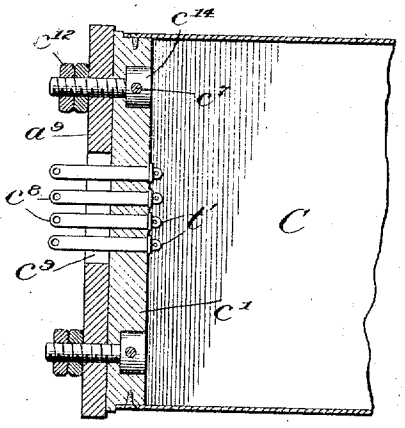


Fig. 1.

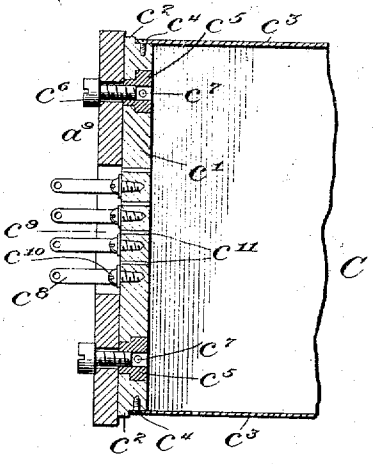
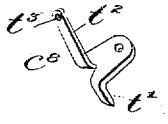


Fig. 3.



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UNITED STATES PATENT OFFICE.

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ELECTRICAL CONDENSER.

961,978. Specification of Letters Patent. Patented June 21, 1910.

Application filed May 29, 1907. Serial No. 376,422.

To all whom it may concern:

Be it known that I, RAY H. MANSON, a citizen of the United States, residing at Elyria, in the county of Lorain and State of Ohio, have invented certain new and useful Improvements in Electrical Condensers, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention relates to electrical condensers, more particularly to those condensers that are used in telephone exchanges and it consists in the construction, combinations, and arrangements herein described and claimed.

An object of my invention is to provide a device so constructed that it may be readily secured on a mounting plate without the use of special insulating strips or bushings, and one in which the terminals can be inspected without opening the condenser can.

A further object of my invention is to provide a cover for the condenser which may be attached securely to the condenser can and which can be readily removed therefrom without any danger of the metal of the can coming in contact with the mounting plate.

A further object of my invention is to so arrange the parts that when the condenser is used in places not requiring a mounting plate there will be no projecting bolts or mounting screws to interfere with the assembling of the adjacent condenser or with the inspection and repair of the terminals.

I am aware of the method of mounting the condenser on a telephone switchboard so that the mounting means, consisting of threaded bolts, constitute also the condenser terminals to which the necessary conducting wires are soldered.

My present invention is designed to obviate certain objections sometimes found to the use of the securing bolts as condenser terminals. In certain cases, when the latter method of mounting the condenser is employed, care must be exercised in soldering the conducting wires to the terminals so that no portion of the solder shall run back into the threaded portion of the terminal and thus interfere with the ready dismounting of the condenser when it is desired to do so.

My invention is illustrated in the accompanying drawings in which—

Figure 1 is a sectional view through a portion of the mounting strip and the condenser. Fig. 2 is a similar view showing a modification of the mounting means. Fig. 3 is a detail view showing the construction of one of the condenser terminals.

Referring to the drawings and particularly to Fig. 1, each condenser C is provided with a wooden cover c^1 having a shoulder c^2 at the ends thereof against which the metal sides c^3 of the condenser can are adapted to abut when the cover is in position. It will be seen that by this arrangement there is no danger of the metal part of the can coming in contact with the metal plate. Retaining screws c^4 secure the cover to the can and at the same time constitute a means for readily removing said cover, if for any reason it should be desired to do so.

Disposed in slots in the wooden cover c^1 are the round nuts c^5 threaded to receive the retaining screws c^6 which are adapted to pass through the openings in the metal strip a^9 to firmly secure the condensers to said strip. Pins c^7 pass through the nuts c^5 into the wooden cover c^1 and serve the double purpose of keeping the nuts from turning and also for preventing a long screw from being forced into the condenser winding.

I have shown in the figures a double condenser and terminals therefor. Such a condenser is made of two separate rolled type tin foil and paper condensers each having its respective leaves brought out to its own pair of terminals so that one can contains the two condensers. The terminals c^8 are arranged in groups as shown and each group projects through an opening c^9 in the mounting strip a^9. In my preferred construction I form these terminals of brass strips, said strips being slotted at one end thereof to provide a short arm t^1 and a long arm t^2. The short arm is bent downwardly and is adapted to be driven into the wooden cover, while the long arm is bent upwardly and is provided with an opening t^3 for the reception of the conducting wire which is soldered to it. These terminals are further secured to the wooden cover by means of the retaining screws c^{10}. Openings c^{11} are also provided in the cover a^9 through which the

leading-in wires of the condenser pass, the latter being soldered to the terminals c^8.

The construction described above admits of several advantages. In the first place, if the condenser is designed to be used in places not requiring a mounting plate, it will be seen that there are no projecting screws or bolts to interfere with the assembling of the condensers or with their ready inspection. Moreover, the method of securing the terminals on the outside of the wooden cover within the opening c^9 in the mounting plates a^9 dispenses with the insulating strips and bushings which are usually necessary. The terminals c^8 are insulated from one another and from the metallic mounting plate a^9 by air insulation only, the wooden cover c^1 affording an efficient insulating base upon which these condenser terminals c^8 may be secured.

In Fig. 2 the nuts c^5 and the screws c^6 are replaced by the bolts c^{14} and the nuts c^{12}. The pins c^7 serve the same purpose as those in Fig. 1. The terminals c^8 are formed similarly to those shown in Fig. 1, but instead of being secured on the outside of the cover c^1 they are secured on the inner side of the cover c^1 and pass through openings in said cover, being grouped however in a similar manner to those shown in Fig. 1. The shorter arms t^1 of the terminals are perforated to receive the ends of the leading-in wires of the condenser to which they are soldered. These terminals are insulated from each other by the air insulation provided by the opening c^9 in the cover c^1. The terminals c^8 are readily accessible and as already shown, no insulating strips or bushings are necessary thus rendering the device simple in construction and inexpensive to manufacture.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

1. The combination of an electrical condenser having a metallic casing, a wooden cover adapted to fit within said casing and being provided with a shoulder engaging the end of said casing, securing nuts disposed in perforations in said cover, a group of condenser terminals secured to the outer side of said cover and being connected with the leading-in wires of the condenser, a perforated mounting strip provided with an opening through which the group of condenser terminals projects, and means operated on the outer side of said mounting strip and extending through the perforations thereof to engage said nuts to firmly secure said condenser to said mounting strip.

2. The combination of an electrical condenser having a metallic casing, a wooden cover adapted to fit within said casing and being provided with a shoulder engaging the end of said casing, retaining screws for attaching said cover firmly to said casing, securing nuts disposed in perforations in said cover, said nuts being flush with the outer and inner surfaces of said cover, a group of condenser terminals secured to the outer side of said cover and being connected with the leading-in wires of the condenser, a perforated mounting strip provided with an opening through which the group of condenser terminals projects thereby providing air insulation for the latter, and screws operated from the outer side of said mounting strip and extending through perforations in said strip and adapted to engage said nuts to securely fasten said condenser to said mounting strip.

3. In an electrical condenser, the combination of an insulated cover therefor, a condenser terminal consisting of a strip of metal split part way down from one of its ends and each split portion bent in opposite directions to positions at angles with the unsplit end, one of said split parts serving as a terminal for an electric circuit, the other split part serving as a terminal for the condenser, and mechanical means associated with the unsplit end attaching it to the cover of the condenser.

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

RAY H. MANSON.

Witnesses:
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