

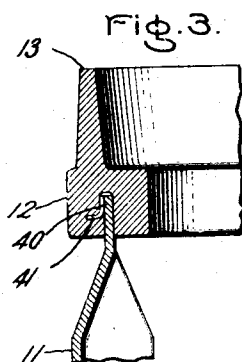
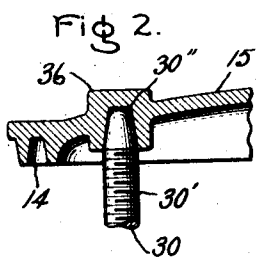
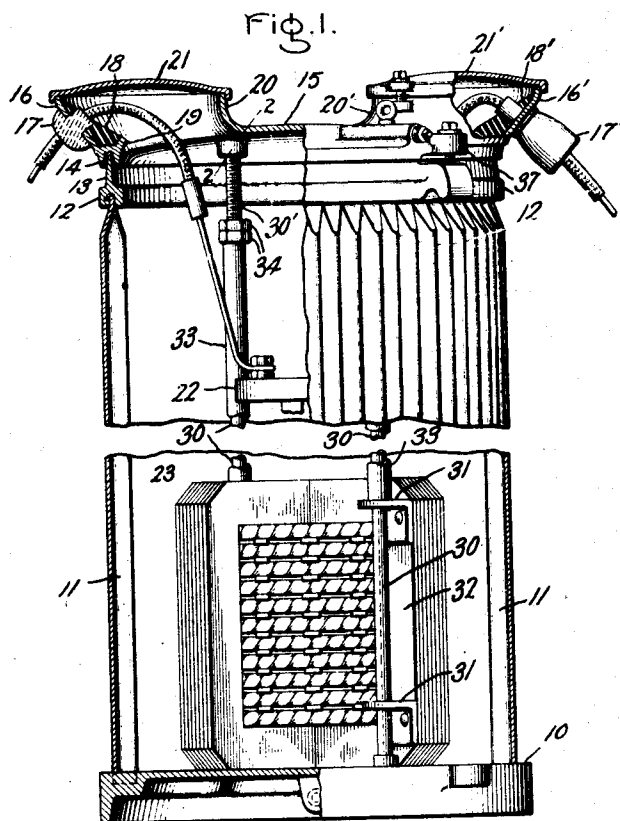
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E. D. TREANOR

INCASED ELECTRICAL APPARATUS

Filed June 25, 1920



Inventor:
Edward D. Treanor,
by *Albert G. Davis*
His Attorney.

UNITED STATES PATENT OFFICE.

EDWARD D. TREANOR, OF PITTSFIELD, MASSACHUSETTS, ASSIGNOR TO GENERAL ELECTRIC COMPANY, A CORPORATION OF NEW YORK.

INCASED ELECTRICAL APPARATUS.

Application filed June 25, 1920. Serial No. 391,767.

To all whom it may concern:

Be it known, that I, EDWARD D. TREANOR, a citizen of the United States, residing at Pittsfield, county of Berkshire, State of Massachusetts, have invented certain new and useful Improvements in Incased Electrical Apparatus, of which the following is a specification.

My invention relates to incased electrical apparatus and has for its object an improved arrangement of parts whereby the apparatus may be readily secured in and removed from its casing. A further object of my invention is to improve details of construction in casings commonly used for electrical apparatus.

In incased electrical apparatus, transformers for instance, and where the voltages are relatively low, it has been customary to provide bushings for the leads in suitable pockets or other formations around the top of the casing. This required that the cover of the casing should have a special form to fit such top. Covers of special form, however, cannot be readily machined which of course makes them relatively expensive. Also, in casings for electrical apparatus, utilizing the higher voltages where it is not permissible to use the pocket and bushing construction, much inconvenience is sometimes experienced in mounting bushings on the covers and making the interior electrical connections. Still further inconvenience has heretofore been experienced when it was desired to remove or secure in place the contained apparatus on account of the bolts and bracing customarily employed.

In the practice of my invention these difficulties are entirely avoided for I employ a cover of improved formation which in itself provides the bushing receiving formations under large manholes or openings where access to the interior electrical connections may be readily had. The cover is preferably round so as to be readily machined and in addition is itself formed to cooperate with bracing previously provided to retain the apparatus in place.

For a more complete understanding of the nature and objects of my invention, reference should be had to the following detailed description when taken in conjunction with the accompanying drawing in which:

Fig. 1 is a view partly in side elevation and partly in vertical section of a transformer casing constructed to embody my invention, parts thereof being broken away; Fig. 2 is a partial sectional view taken on the line 2-2 of Fig. 1, while Fig. 3 shows another detail of construction.

Referring now to the drawing, 10 denotes the bottom or base of the casing, which may be and preferably is of cast metal such as iron, and has secured therein about its periphery the side wall 11 of the casing, here shown as a corrugated cylindrical wall whose upper end has been crushed in order readily to accommodate a narrow top-band 12, which also may be cast in place.

The top-band 12 has a tapered upper edge 13, as clearly shown in Fig. 3, which is adapted to project into a corresponding annular groove 14 formed about the periphery in the under side of the cover 15; such groove being adapted with the assistance of packing to make a tight joint with the edge 13.

The cover 15 is provided with one or more upwardly and outwardly projecting wall formations, as shown at 16 and 16'. These formations serve as the pockets in which bushings 17 and 17' are mounted; such bushings being shown as sealed in place by the customary insulating compound indicated at 18 and 18', but any convenient securing means such as clamps may be employed. A ledge shown at 19 is provided on the interior of the cover to retain the compound at 18 and 18' in place.

The wall formations 16 and 16' are continued as upstanding rims 20 and 20' about portions of the cover serving as manholes or openings affording access to the leads which enter the bushings. These openings are closed by small auxiliary covers 21 and 21'. These openings are preferably made relatively large so that access may be readily had to the ends of the leads on the terminal board 22 of the electrical apparatus 23 within the casing.

The cover 15, as heretofore indicated, is also arranged to cooperate in securing the apparatus 23 within the casing. To this end two rods 30 are secured in the base 10 at points equally distant from the centre on a convenient diameter of the base 10 (such diameter being chosen so as not to intersect with the projection of an opening on the

base). Brackets 31 on opposite sides of the frame or core 32 of the apparatus are arranged to slip over these rods as indicated. The rods 30 are threaded for some distance at their upper ends, as clearly shown at 30', and have slipped thereover tubes 33, which abut against the brackets 31. These tubes are held in place by nuts 34 engaging with the threads on the rods 30 and run down threon till they jam against the tubes 33. The tips of the rods 30 are slightly chamfered or have the threads removed as indicated at 30'' in Fig. 2 and are adapted to snugly engage with and project into the recessed bosses 36 formed in the cover 15 when the cover is put in place. This cover, when held in place as by the external bolts shown at 37 in Fig. 1, is thus seen to coast in retaining the rods 30 on which the apparatus is secured against lateral displacement.

Fig. 3 shows a further detail in the manner of securing the wall 11 in the top-band 12. This comprises the use of a strip or beading 40 of L-shaped cross section which is welded to the top of the crushed corrugations of wall 11 preparatory to its having the top-band cast thereon in a manner to provide a laterally extending fin 41. This L-shaped strip not only assists in preventing the top-band 12 from being readily displaced from the wall 11 under a lifting strain, but assists in closing the capillary passages up through the crushed ends of the wall 11 which otherwise might permit the

oil, or other insulating medium that is contained in the casing, to siphon out through such capillary passages.

It should be observed that when the cover is removed all electrical connections are at the same time removed (such connections having first been disconnected from the terminal board of the incased apparatus), together with all the internal bracing for the contained apparatus; hence such apparatus may then subsequently be taken from the casing without further trouble when the nuts 34 are removed.

Having now described an embodiment of my invention which is at present the best means known to me for carrying the same into effect, I would have it understood that this is merely illustrative and that I do not mean to be limited thereby to the precise details shown, nor restricted in the choice of recognized equivalents except as defined in my claim hereunto annexed.

What I claim as new and desire to secure by Letters Patent of the United States is,—

In a casing for electrical apparatus, a metal beading secured to the upper edge of the side wall of said casing, said beading having a thin laterally extending fin, and a top band cast onto said upper edge of the side wall and around said fin, whereby said fin forms a tight welded joint between the side wall and the top band.

In witness whereof, I have hereunto set my hand this 23rd day of June, 1920.

EDWARD D. TREANOR.