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UNITED STATES PATENT OFFICE.

TRANSFORMER-COVER CONSTRUCTION.

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To all whom it may concern:

Be it known that I, ROBERT V. BINGAY, a citizen of the United States, residing at Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Transformer-Cover Constructions, of which the following is a specification.

This invention relates to the cover of transformer casings or tanks and particularly to means for fastening the cover and tank together. The object of the invention is to provide a cover with fastening means forming a tight seal against leakage and especially the entrance of moisture during damp weather where the transformer is located in an exposed position, and which cover moreover is easily positioned and released, and also permits interchangeability of covers and tanks.

In prior practice the tanks usually have been flanged and the covers fastened by bolts through the flanges, a gasket being placed between the parts and the bolt holes being aligned by drilling through the assembled flanges and gasket or by using expensive jigs or templates. In such a construction the omission or loosening of a bolt would provide opportunity for entrance of moisture through the corresponding bolt hole because of the shorter gasket width at that point and its loosening by reason of the absence of the bolt. Moreover the flanges when once drilled could only be repositioned by matching each hole with its mate exactly as previously drilled so a particular position of a single cover was required to re-form the joint, and removal of the cover required the unscrewing of the nuts off all bolts.

All of these objections are overcome in the cover of this invention set forth in the following description taken with the accompanying drawings in which—

Figure 1 is an elevation of a transformer top illustrating one embodiment of the invention, and Fig. 2 is a sectional view on enlarged scale of the same as in Fig. 1.

In the accompanying drawings a tank 3 containing the transformer coils and core immersed in oil has a cover 4 adapted to be fastened to flange 5 on the tank 3, with a gasket 6 between the flange and the cover. The cover is provided with the usual manhole 10 and bushing holes 11 for the transformer leads and blow offs, which may if desired, be covered in the manner herein described with respect to the main cover 4.

To provide for carrying off water and clamping the top or cover securely in place its outer edge 13 is extended over the edge of flange 5 and provided with spaced holes 14 for bolts 15 passing through clamp lugs 16 and provided with washers 17 and nuts 18 to tighten said lugs. The clamp lugs 16 have upward bent ends 20 bearing against the under surface of the edge 13 and inwardly extending arms 21 engaging flatwise against flange 5.

Tightening of the nuts 18 tips the levers or lugs 16 around their ends 21 and flexes them to bring a distributed upward pressure against flange 5. At the same time the bolts 15 draw down on the cover so that the flange 5 and gasket 6 are pinched between the cover and inner arms of the clamp levers. The flange and gasket are continuous with no holes through them and a wide tight seal is assured. A cover when removed can be replaced without bringing bolt holes into alinement and any cover will fit any similarly sized transformer tank. In order to release the cover it is only necessary to loosen the nuts 18 and turn the clamp levers away from the flange and similarly in replacement the clamps remain assembled on the cover and only have to be tightened to refasten the cover in place.

I claim:

1. The combination with a tank having a flange, of a cover having an edge overhanging said flange, a series of bolts passing through said edge, and a series of complementary clamping lugs carried thereby, the opposite ends of which lugs are adapted to exert upward pressure upon the under side of said flange and the under side of the overhanging cover respectively.

2. The combination with a tank having a flange, of a cover having an edge overhanging said flange, a series of bolts passing through said edge, and a series of complementary clamping lugs carried thereby, the opposite ends of which lugs are adapted to exert upward pressure upon the under side of said flange and the under side of the overhanging cover respectively, the said lugs being loosely mounted on said bolts between the said ends.

ROBERT V. BINGAY.