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METHOD OF ATTACHING A STRAIN CLAMP TO A COMPOSITE ALUMINUM-STEEL CONDUCTOR END

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FIG. 1

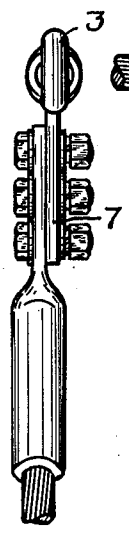
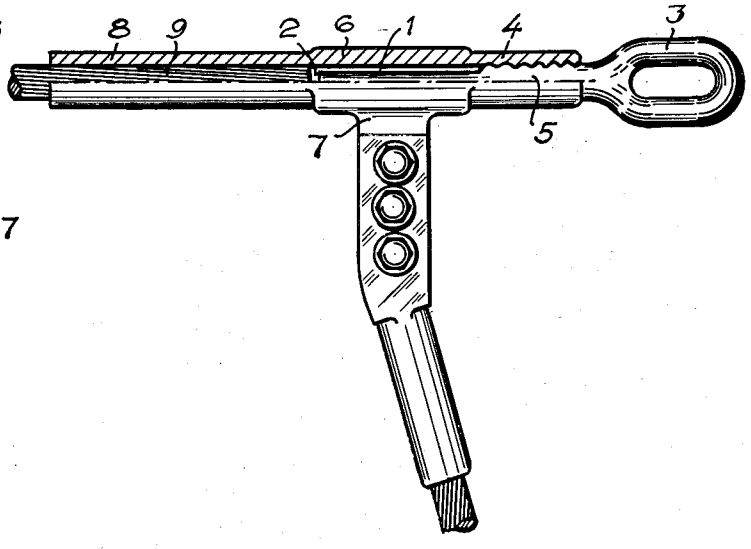


FIG. 2



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METHOD OF ATTACHING A STRAIN CLAMP TO A COMPOSITE ALUMINUM-STEEL CONDUCTOR END

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2 Claims. (Cl. 29—148)

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Our invention relates to improvements in strain clamps for steel-aluminium conductors comprising an inner clamp for the steel core of the conductor, hereinbelow called "steel core clamp," and an outer clamp for the aluminium wires of the conductor, hereinbelow called "aluminium clamp."

The aluminium clamp is to be pressed around conductor and the steel core clamp. This pressing has hitherto been done step by step in the direction from the outer end of the strain clamp, i. e. from the end of the conductor, with the result that the aluminium wires are displaced towards the inner end of the clamp so that a so-called basket is formed from these wires outside the last-mentioned end. The aluminium wires will, consequently, take up a smaller portion of the traction power than is intended and the entire ultimate load will be low. One object of the invention is to prevent the formation of a wire-basket of this kind.

Another object of the invention is to prevent rainwater from flowing down into the clamps and causing corrosion by rust on the inner clamp which, preferably, is made of steel.

A further object is to provide an outer clamp which is soft and tensible so as to be easily squeezed around the conductor and the inner clamp.

Further features of the strain clamp according to the invention as well as a method according to the invention for fastening the clamp to a steel-aluminium conductor will now be described, reference being made to the accompanying drawing in which:

Fig. 1 is an end view; and Fig. 2 is a side view of a strain clamp according to the invention.

The strain clamp is provided with a steel core clamp 1 in the form of a hollow cylinder of steel for pressing around the inner steel core 2 of the composite cable inserted therein after the outer conductive envelope of aluminium wires has been removed. At the free end the steel core clamp is formed with an anchoring device such as a fastening eye 3, for instance, for hanging the clamp on a chain insulator.

Outside the steel core clamp there is arranged an aluminium clamp consisting of an aluminium tube the outer portion 4 of which should be pressed around the portion 5 of the steel core clamp situated adjacent the fastening eye. For this purpose said portion has preferably a rough, for instance rifled or corrugated surface. The middle portion 6 of the aluminium clamp should embrace the inner portion of the steel

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core clamp and is provided with a connection skirt 7. Finally, the innermost portion 8 of the aluminium clamp is adapted to be pressed fast around the aluminium cover 9 of the conductor.

When the strain clamp according to the invention is arranged at the terminal of a conductor first the outer end of the conductor after having been freed from the aluminium cover is inserted in the steel core clamp 1 and this is pressed fast on the steel core by squeezing. Then the aluminium clamp previously threaded on the conductor is displaced towards the end of the conductor and is pressed fast firstly on the aluminium wires 9 by squeezing the portion 8 step by step in the direction from the left to the right in Fig. 2. By this all formation of a so-called basket of the aluminium wires inside the clamp is prevented. A small space has to be left between the cut-off end of the aluminium cover and the inner end of the steel core clamp 1 so that the aluminium wires may move freely towards said end. Finally, the portion 4 of the aluminium clamp to the right of the connection skirt 7 is pressed fast on the portion 5 of the steel core clamp, also by squeezing step by step from the left to the right, and the free end of the portion 4 is caulked against the steel core clamp. Water is thus prevented from infiltrating into the strain clamp.

According to the invention the aluminium clamp may consist of a die cast tube having a welded connection skirt. This is not possible in the construction hitherto used and previously mentioned. The die casting has great advantages. In the previously used cast construction not so pure aluminium could be used as in die casting and, therefore, the aluminium clamp did not become so soft and tensible as really would be necessary with regard to the pressing. Further, in the cast construction there arise easily cracks at right angles to the conductor, which may considerably reduce the tensile strength of the strain clamp. The casting alloy may also sometimes become so hard that the conductor is crushed when the strain clamp is pressed fast so that the strength of the conductor is reduced. All these disadvantages are avoided by using an aluminium clamp produced by die casting, which clamp will be soft and tensible so that it is adapted for pressing and does not damage the conductor. Also, there is no risk for formation of cracks in an aluminium clamp of this kind.

What we claim is:

1. The method of attaching a strain clamp comprised of an inner steel core clamp member

having an anchoring device at one end thereof and a tubular portion at the other end, and an outer clamp member of comparatively ductile aluminium tubular throughout its entire length to the terminal end of a composite conductor having an inner steel core and an outer envelope of aluminium wires, which comprises the steps of sliding the tubular portion of said inner clamp member over an exposed end section of said steel core to a position wherein the tubular end of said inner clamp member is spaced slightly from the terminal ends of said aluminium wires to provide a space permitting elongation of the latter in the direction of said conductor end, pressing the tubular end of said inner clamp member to secure the same upon said steel core, sliding said outer clamp member along said conductor and inner clamp member in the direction of said anchoring device, said outer clamp member when in such position surrounding the tubular portion of said inner clamp member and also an appreciable axial portion of said outer aluminium wire envelope, and pressing said outer clamp member throughout its entire length, said pressing action beginning at the end of said outer clamp member most remote from the end of said conductor and being effected in a step-by-step manner in the direction of said conductor end to secure the outer clamp member upon said aluminium wire envelope and simultaneously elongate the aluminium wire envelope into said space and to thereafter secure said outer clamp member upon the tubular portion of said inner clamp member.

2. The method of attaching a strain clamp to the terminal end of a composite conductor as defined in claim 1 and which further includes the step of welding a connection skirt to said outer clamp member.

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