June 20, 1933. P. W. BAKER 1,915,115

METHOD OF MANUFACTURE OF SQUIRREL CAGE ROTORS

Filed July 13, 1932

Fig.1.

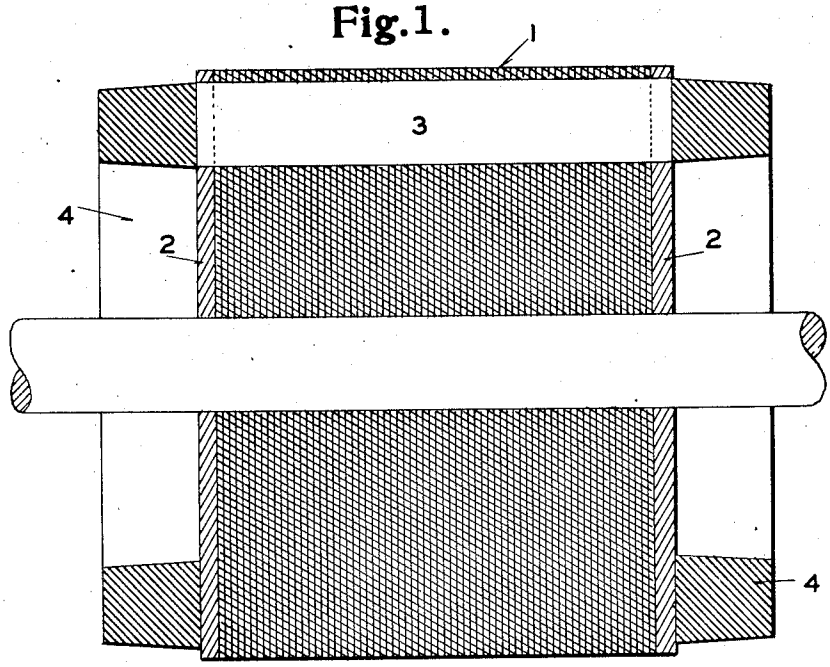
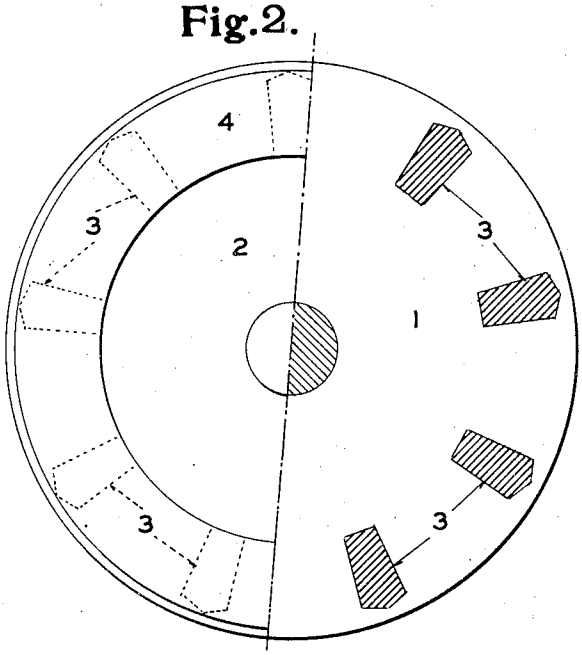


Fig.2.



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Att'y.

Patented June 20, 1933 1,915,115

UNITED STATES PATENT OFFICE

PAUL W. BAKER, OF ST. LOUIS, MISSOURI, ASSIGNOR TO WAGNER ELECTRIC CORPORATION, OF ST. LOUIS, MISSOURI, A CORPORATION OF DELAWARE

METHOD OF MANUFACTURE OF SQUIRREL CAGE ROTOR

Application filed July 13, 1932. Serial No. 622,248.

My invention relates to a method of manufacturing squirrel cage rotors for dynamo electric machines, its object being to enable the production of cast squirrel cage rotors of the same size but of different resistances without varying the composition of the casting metal, the size of the rotor slots, or providing different end ring dies.

The invention is particularly useful in the manufacture of squirrel cage rotors having lower resistance than the standard rotors for which the dies and punchings were designed and affords means for reducing the resistance to a greater extent than can be achieved by variation of the casting alloy employed, since the specific resistance of suitable casting alloys does not greatly differ.

My invention comprises placing a punching of low resistance material, such as copper or brass, at each end of the assembled rotor laminæ, said punchings being provided with openings aligned with the squirrel cage bar openings through the laminæ. The squirrel cage is then cast on the assembly in the usual manner, the end ring material engaging the outer faces of the low resistance punchings and being maintained in good electrical contact therewith as the result of the contraction of the squirrel cage bars upon cooling. The conductive end punchings lower the resistance of the squirrel cage, the extent of the modification being governed by the thickness of these punchings.

In the accompanying drawing Figure 1 is a cross sectional view of a rotor constructed in accordance with my invention; and Figure 2 is an end view, a portion of the squirrel cage end ring being omitted.

1 indicates the steel rotor laminæ and 2 the end punchings of conductive material through which the cast squirrel cage bars 3 pass and with which the inner faces of the end rings 4 are in electrical contact.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent of the United States is:

1. The method of forming a squirrel cage rotor for a dynamo electric machine which comprises assembling a selected number of laminæ of magnetic material, placing at an end of said assembly a sheet of conductive material, and applying a squirrel cage winding to said assembly by casting, one end ring of the squirrel cage being cast against the outer face of said sheet of conductive material and in conductive engagement therewith.

2. The method of forming a squirrel cage rotor for a dynamo electric machine which comprises assembling a selected number of laminæ of magnetic material having transverse openings for the squirrel cage bars, placing at each end of said assembly a sheet of conductive material having bar receiving openings in alignment with the laminæ openings, and applying a squirrel cage winding to said assembly by casting, the end rings of the squirrel cage being cast against the outer faces of the end sheets of conductive material and in conductive engagement therewith.

In testimony whereof, I hereunto affix my signature, this 6th day of July, 1932.

PAUL W. BAKER.