



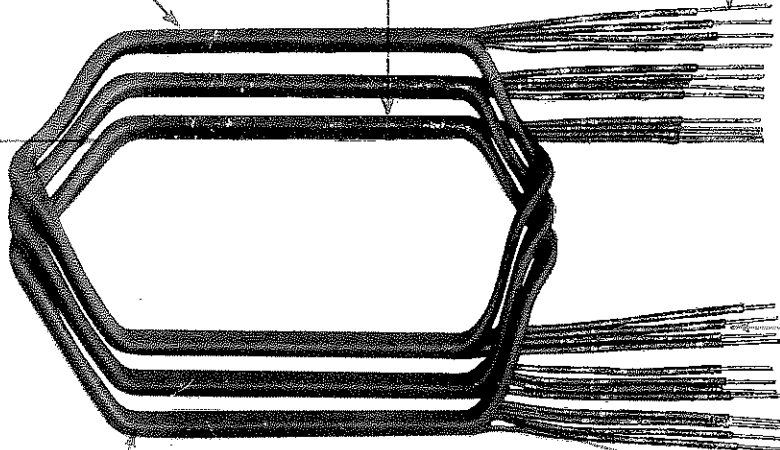
# Railway Motor Armature Coils

Slot insulation wrapped on armature coil makes winding easier, and insures tight fit.

Insulated wires bonded into one solid unit prevents movement of conductors.

Tinned surface free from burrs extends about one inch back from point of contact with commutator.

Spacers on end windings hold individual conductors in place.



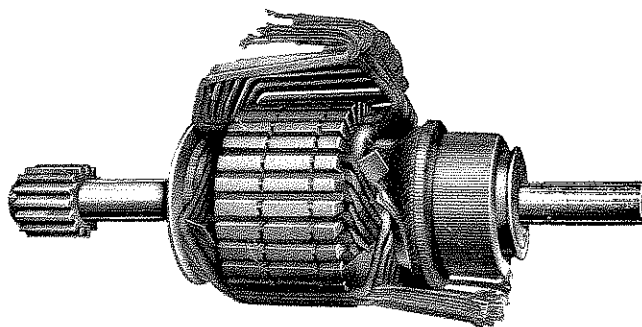
Stocking specially treated to prevent drying out and stiffening.

Corners reinforced by hand with extra insulation to give mechanical strength.

Each renewal coil is a duplicate of the original.

Extra insulation to withstand pressure of top leads crossing over coil.

Coils for railway motors are subjected to the most difficult service of any electrical equipment. This is due largely to the vibration and unfavorable conditions, such as exposure to dirt and moisture, under which these motors operate. Particular care must therefore be taken to prevent any possible movement of the coil in the core slots as such motion or vibration is sure to result sooner or later in a grounded or short circuited armature. The importance of a properly fitting coil cannot be too strongly emphasized, as the life of the coil depends to a very great extent on the prevention of abrasion in the slot and between individual turns. The coil must have a good tight fit, taking up all the available space in the slot and, at the same time, not so tight as to be damaged in assembling the coils on the armature. While an armature may be wound much more quickly if the coils slip into the slots easily, the saving in labor and ease in winding is offset by the much shorter life of such loose fitting coils.



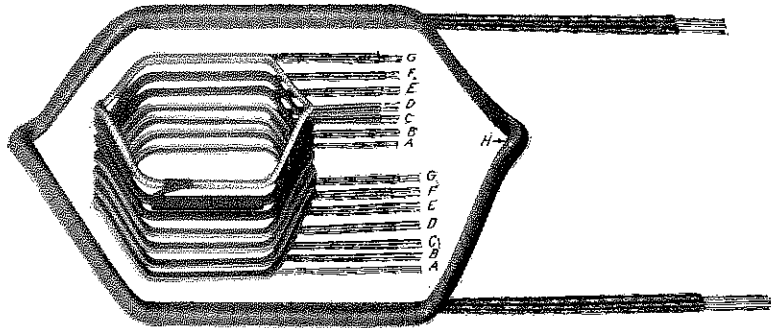
Railway Motor Armature, Partially Wound

**General Electric Company, Schenectady, N. Y.**

SALES OFFICES IN ALL LARGE CITIES



# Railway Motor Armature Coils



## The Evolution of an Armature Coil Showing Stages in Development

- A—Armature Coil as wound on form.
- B—Insulation coated with bonding material inserted.
- C—Stocking slipped over leads.
- D—Slot portion steam moulded.
- E—Coil dipped in insulating compound.
- F—Wrapping on slot insulation.
- G—Taping, showing additional top spacer.
- H—Completed coil.

Armature coils in original equipments are especially designed to meet the exacting service required of a particular motor. The conductors are of ample size properly insulated for maximum life. The slot portion of the coil is bonded into a solid unit by the use of heated moulds making assembly easier and greatly reducing liability of damage to the conductors. The leads are cleaned, tinned and carefully inspected to eliminate burrs. A stocking is slipped over each lead and securely fastened. This stocking is especially treated to prevent drying out and consequent stiffening and to prevent unravelling of the insulation on the conductors. The completed coil is dipped several times in varnish and thoroughly baked after each dipping.

Only by the use of coils made of the same materials and in exactly the same manner can the original quality of the equipment be maintained. Coils made in any other manner will not have the exact fit necessary for easy winding on the one hand or the tightness in the slots to withstand vibration on the other. If inferior materials are used the coils will deteriorate rapidly under severe service conditions. Coils designed simply to produce an interchangeable product at a lower price cannot do the work as well as the equipment manufacturer's high standard product.

G-E coils are made for G-E motors to perform a particular service under carefully analyzed conditions. The same care that is used in selecting original equipment should be exercised in the selection of repair parts for it.

Each G-E coil is a duplicate of the original. The use of G-E replacement coils insures satisfactory operation of G-E motors and minimum maintenance expense.

**General Electric Company**