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(54) Title: 48-SLOT 8-POLE FLAT WIRE WINDING STATOR, AND HAIRPIN ELECTRIC MOTOR

(54) 发明名称: 一种 48 槽 8 极扁线绕组定子及扁线电机

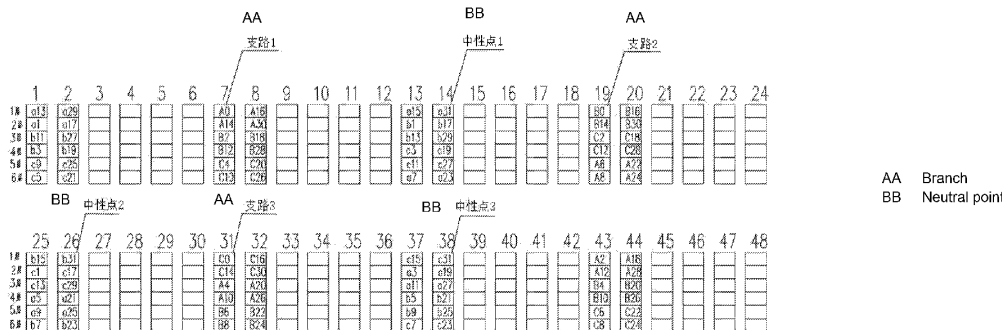


图 7

(57) Abstract: Disclosed in the present invention are a 48-slot 8-pole hairpin winding stator, and a hairpin electric motor. The winding stator comprises three-phase windings, wherein each phase winding comprises a plurality of groups of winding branches that are connected in parallel. Each group of winding branches at least comprise two branches, and each branch comprises single coils and coils having a span of y. In each branch, the single coils are arranged at the innermost layer of a slot opening to serve as a winding start and a neutral point lead, lap-wound coils with a span of y are wound from the slot opening to the slot bottom, lap-wound coils with the span of y are subjected to in-layer transposition at the outermost layer of the slot bottom, the lap-wound coils with the span of y are then wound from the slot bottom to the slot opening, and lap-wound coils with a span of y-1 are subjected to in-layer transposition at the innermost layer of the slot opening; alternatively, concentric coils with the span of y are subjected to in-layer transposition at the outermost layer of the slot bottom, and then the lap-wound coils with the span of y are wound from the slot bottom to the slot opening. The present invention has the advantages of a compact structure, balanced electromotive force in all branches, no circulating currents, etc.; and eliminates a series of problems caused by the asymmetry of the branches.

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(81) 指定国(除另有指明, 要求每一种可提供的国家保护): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CV, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IQ, IR, IS, IT, JM, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, MG, MK, MN, MU, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS, ZA, ZM, ZW。

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本国际公布:

— 包括国际检索报告(条约第21条(3))。

(57) 摘要: 本发明公开一种48槽8极扁线绕组定子及扁线电机, 绕组定子包括三相相绕组, 各相绕组包括多组并联的绕组支路, 每组绕组支路至少包括两个支路, 支路中包括单根线圈和跨距为 y 的线圈, 支路在槽口最内层设置单根线圈作为绕制起始和中性点引出线, 以跨距为 y 的叠绕线圈由槽口向槽底进行绕制, 并以跨距为 y 的叠绕线圈在槽底最外层进行同层换向, 再以跨距为 y 的叠绕线圈由槽底向槽口进行绕制, 并以跨距为 $y-1$ 的叠绕线圈在槽口最内层进行同层换向, 或者, 以跨距为 y 的同心线圈在槽底最外层进行同层换向, 再以跨距为 y 的叠绕线圈由槽底向槽口进行绕制。本发明具有结构紧凑、各支路电势平衡、无环流等优点, 消除了因各支路不对称引起的一系列问题。