

(19) United States

(12) Patent Application Publication (10) Pub. No.: US 2024/0235304 A1 NAGY et al.

Jul. 11, 2024 (43) **Pub. Date:**

(54) HOLLOW COPPER ELECTRICAL **CONDUCTORS**

(71) Applicant: GM GLOBAL TECHNOLOGY OPERATIONS LLC, Detroit, MI (US)

(72) Inventors: Sayed Youssef Sayed NAGY, Troy, MI (US); Anil K. Sachdev, Rochester Hills, MI (US); Anthony Michael Coppola, Rochester Hills, MI (US); Jian Yao, Shanghai (CN); Chengwu Duan, Shanghai (CN)

(21) Appl. No.: 18/364,868

Filed: Aug. 3, 2023 (22)

(30)Foreign Application Priority Data

Jan. 6, 2023 (CN) 202310023259.7

Publication Classification

(51)	Int. Cl.	
` ′	H02K 3/22	(2006.01)
	H02K 1/20	(2006.01)
	H02K 3/24	(2006.01)
	H02K 9/19	(2006.01)

(52) U.S. Cl. CPC H02K 3/22 (2013.01); H02K 1/20 (2013.01); H02K 3/24 (2013.01); H02K 9/19 (2013.01)

(57)**ABSTRACT**

A process for making a hollow electrical coil for an electric motor includes forming a sacrificial insert material into a coil shaped insert. The coil shaped insert is placed into a copper plating bath and a copper plated coil shaped member is removed from the copper plating bath. The sacrificial material is removed from within the copper plated coil shaped member to create a hollow passage through a hollow copper coil shaped member. An exterior of the hollow copper coil shaped member is coated with an insulating adhesive material and the copper coil shaped member is compressed until the insulating adhesive material is set.

