

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
21 November 2024 (21.11.2024)



(10) International Publication Number
WO 2024/239017 A2

(51) International Patent Classification:
F04D 1/04 (2006.01) *C08K 3/40* (2006.01)

(21) International Application Number:
PCT/US2024/030256

(22) International Filing Date:
20 May 2024 (20.05.2024)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
63/503,161 18 May 2023 (18.05.2023) US

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(81) Designated States (*unless otherwise indicated, for every kind of national protection available*): 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,

(54) Title: COMPOSITE IMPELLER AND METHODS OF FORMING SAME AND OF FORMING MOLDED COMPOSITE ARTICLES

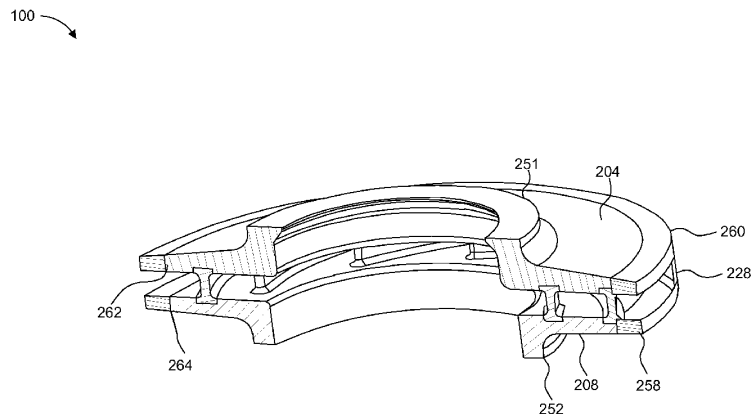


FIG. 24

(57) Abstract: An impeller for use with centrifugal compressors or pumps is provided and described along with methods for making such multi-component polymeric articles such as open or closed impellers and other assembled molded articles, which may optionally include openings therein. The impeller includes a composite comprising a matrix material selected from at least one thermoplastic polymer or at least one thermosetting polymer; and at least one continuous reinforcing fiber. The impeller includes at least one first flange comprising the composite, the first flange having an exterior surface and an interior surface, the first flange defining a first opening extending longitudinally therethrough; and at least one rib having a first end and a second end, the at least one rib positioned such that its first end engages the at least one first flange. Ring members and additional, second flanges, and optionally outer banding rings may be provided in various designs. The multi-component polymeric composite articles are formed of composite parts that are

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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.

- (84) Designated States** (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, CV, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SC, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, ME, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*
- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*

Published:

- *without international search report and to be republished upon receipt of that report (Rule 48.2(g))*

first molded, then assembled, positioned in a mold and remolded, optionally using removable cores for retaining openings within the remolded structures.