

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
10 April 2025 (10.04.2025)



(10) International Publication Number
WO 2025/075548 A1

(51) International Patent Classification:
F16D 3/50 (2006.01)

(21) International Application Number:
PCT/SG2023/050657

(22) International Filing Date:
02 October 2023 (02.10.2023)

(25) Filing Language: English

(26) Publication Language: English

(71) Applicant: **STIN GLOBAL PTE. LTD.** [SG/SG]; 18 Kaki
Bukit Road 3, Entrepreneur Business Centre #02-07, Singa-
pore 415978 (SG).

(72) Inventor: **ZEID, Mohamed**; Titteridammshöjden 1, 424
68 Angered (SE).

(74) Agent: **ALPHA & OMEGA LAW CORPORATION**; 51
Goldhill Plaza, #16-10/11, Singapore 308900 (SG).

(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,
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,

(54) Title: A FLEXIBLE SHAFT COUPLING APPARATUS FOR TRANSMISSION OF TORQUE

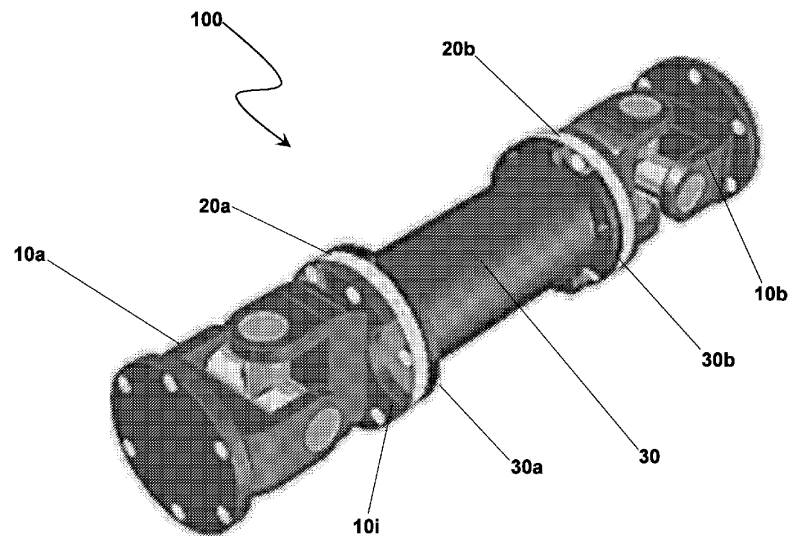


Figure 1

(57) Abstract: The present invention provides an apparatus (100) for transmitting torque from a driving shaft driven by a prime mover, such as a motor or an internal combustion engine, to a driven shaft coupled to a mechanical load. The apparatus comprises a spacer element (30) circumscribed and mechanically coupled at symmetrically opposing ends with a pair of articulated joints (10a, 10b), a first articulated joint (10a) and a second articulated joint (10b). The spacer element (30) is substantially deformable in any direction transverse to its axis of rotation despite being torsion stiff and thus exhibits bending flexibility when subject to reactionary forces that result from the transmission of torque. Aforementioned spacer element (30) is configured to transmit torque from the first articulated joint (10a) mechanically coupled to a driving shaft, to the second articulated joint (10b) mechanically coupled to a driven shaft. Aforementioned first and second articulated joints (10a, 10b) that form the pair of articulated joints (10a, 10b) circumscribing the spacer element (30)

[Continued on next page]

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 the identity of the inventor (Rule 4.17(i))*
- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*
- *of inventorship (Rule 4.17(iv))*

Published:

- *with international search report (Art. 21(3))*

at symmetrically opposing ends, are exemplarily universal joints (10a, 10b).