



(51) International Patent Classification:

A61B 17/34 (2006.01) A61F 2/46 (2006.01)
A61B 90/00 (2016.01) A61B 17/29 (2006.01)
A61B 17/3205 (2006.01) A61F 2/28 (2006.01)
A61B 17/3207 (2006.01) A61F 2/30 (2006.01)

(21) International Application Number:

PCT/US2023/014503

(22) International Filing Date:

03 March 2023 (03.03.2023)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

63/316,920 04 March 2022 (04.03.2022) US

(71) Applicant: VERICEL CORPORATION [US/US]; 64 Sidney Street, Cambridge, Massachusetts 02139 (US).

(72) Inventors: ROBLES TOTH, Felix Ernesto; 35 Olde Pasture Road, Duxbury, Massachusetts 02332 (US). MACK-INNON, Robert, Bruce, III; 70 South Meadow Road, Carver, Massachusetts 02330 (US). FEHR, Lester, H.; 18 Alexander Dr., Hampton, New Hampshire 03842 (US).

(74) Agent: WANG, Qing Hua et al.; Choate, Hall & Stewart LLP, Two International Place, Boston, Massachusetts 02110 (US).

(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, 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, 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).

(54) Title: METHODS AND DEVICES FOR REPAIRING CARTILAGE DEFECTS

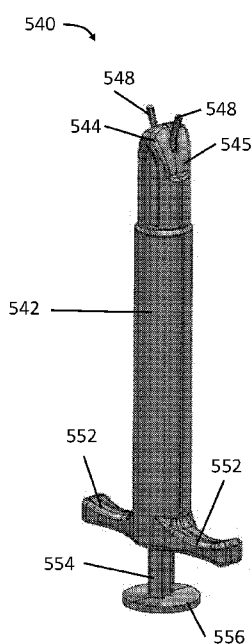


FIG. 45

(57) Abstract: The present disclosures describe devices and methods to repair cartilage defects using arthroscopic surgical methods. The disclosed devices include a cannula assembly including a cannula body, a dam seal sub-assembly disposed proximally from the cannula body, and an obturator inserted coaxially through both the cannula body and the dam seal sub-assembly; an articulated arthroscopic cutting tool; a ring curette; a square curette; a rake curette; a matrix shuttle delivery device (540) comprising at least two deployment wings (548) for delivering a cell-seeded support matrix including chondrocytes; and an applicator tool.

Declarations under Rule 4.17:

- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*

Published:

- *with international search report (Art. 21(3))*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*