

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

(19) World Intellectual Property
Organization
International Bureau



(10) International Publication Number
WO 2023/018771 A1

(43) International Publication Date
16 February 2023 (16.02.2023)

(51) International Patent Classification:

D03D 1/00 (2006.01) *D02G 3/44* (2006.01)
D03D 15/513 (2021.01) *A41D 31/08* (2019.01)
A62B 17/00 (2006.01)

(21) International Application Number:

PCT/US2022/039918

(22) International Filing Date:

10 August 2022 (10.08.2022)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

63/231,528 10 August 2021 (10.08.2021) US

(71) Applicant: **SOUTHERN MILLS, INC.** [US/US]; 6501
Mall Boulevard, P.O. Box 289, Union City, Georgia 30291
(US).

(72) Inventors: **SELF, Robert**; 6501 Mall Boulevard, P.O. Box
289, Union City, Georgia 30291 (US). **PICKERING, Keith
Edward**; 6501 Mall Boulevard, P.O. Box 289, Union
City, Georgia 30291 (US).

(74) Agent: **DOYLE, Kristin Johnson**; Kilpatrick Townsend &
Stockton LLP, Suite 2800, 1100 Peachtree Street NE, At-
lanta, Georgia 30309 (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, ME, 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, GH,
GM, KE, LR, LS, MW, MZ, NA, RW, 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, 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).

Published:

— with international search report (Art. 21(3))

(54) Title: FLAME RESISTANT FABRICS

(57) Abstract: Flame resistant fabrics formed with fiber blends that provide the requisite flame and thermal protection but that have improved durability. This is accomplished with the use of fiber blends that include relatively large percentages of FR nylon fibers in combination with cellulosic and inherently flame resistant fibers.

WO 2023/018771 A1