



(51) International Patent Classification:

C08B 3/06 (2006.01) C08L 23/06 (2006.01)
C08B 3/20 (2006.01) C08L 25/06 (2006.01)

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(21) International Application Number:

PCT/US2021/028541

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(22) International Filing Date:

22 April 2021 (22.04.2021)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

63/013,955 22 April 2020 (22.04.2020) 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, CZ, DE, DJ, DK, DM, DO,
DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN,
HR, HU, ID, IL, IN, IR, IS, IT, 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,

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(54) Title: MOLDABLE AND MOLDED CELLULOSE-BASED STRUCTURAL MATERIALS, AND SYSTEMS AND METHODS FOR FORMING AND USE THEREOF

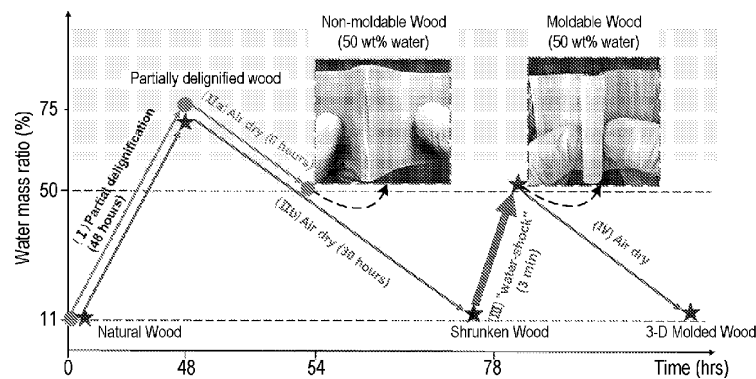


FIG. 14A

(57) Abstract: Naturally-occurring cellulose-based material, such as wood, bamboo, grass, or reed, can be subjected to one or more chemical treatments to remove at least some lignin therefrom. The resulting partially-delignified material can be partially dried or fully dried and then rehydrated to yield a moldable cellulose-based material. The moldable material can be formed from a substantially flat planar configuration into a non-planar three-dimensional configuration. Once formed into a desired configuration, the moldable material can be fully dried to set its shape, thereby forming a rigid molded piece. In some embodiments, the molded piece can be used as a structural material, for example, to form a load-bearing structure or part of a composite load-bearing structure.

[Continued on next page]

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:

- *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))*