



- (51) **International Patent Classification:**
G01N 21/89 (2006.01) *B65H 43/00* (2006.01)
- (21) **International Application Number:**
PCT/US2012/024987
- (22) **International Filing Date:**
14 February 2012 (14.02.2012)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
61/446,404 24 February 2011 (24.02.2011) 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, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO,

[Continued on next page]

(54) **Title:** SYSTEM FOR DETECTION OF NON-UNIFORMITIES IN WEB-BASED MATERIALS

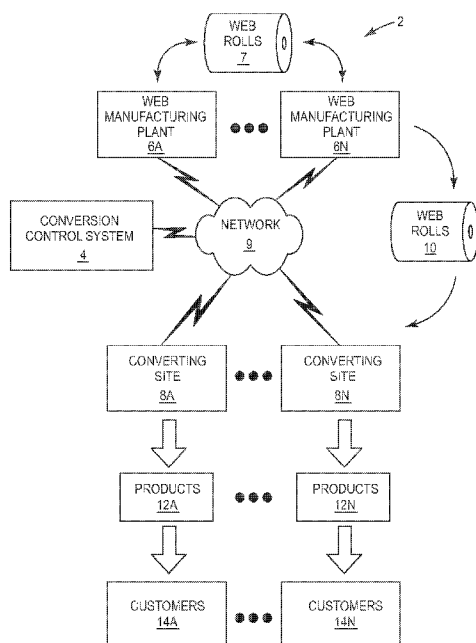


FIG. 1

(57) **Abstract:** A system is described for detecting the presence of non-uniformity patterns and providing output indicative of a severity of each type of non-uniformity pattern. The system includes a computerized rating tool that assists a user in efficiently and consistently assigning expert ratings (i.e., labels) to a large collection of training images representing samples of a given product. In addition, the rating software develops a model that allows a computerized inspection system to detect the presence of non-uniformity patterns in a manufactured web material in real time and provide output indicative of a severity level of each pattern on a continuous scale. The system also includes algorithmic and hardware approaches to significantly increase the throughput of the inspection system.



DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, 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, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, 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, 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))