



(12) **United States Patent**
Siebert

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(54) **FABRICS SIMULTANEOUSLY WOVEN FROM TWO DISTANCE FABRICS**

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(58) **Field of Classification Search**

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See application file for complete search history.

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(56) **References Cited**

U.S. PATENT DOCUMENTS

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2,060,502 A * 11/1936 Kaufman 139/398
2,108,046 A * 2/1938 Drobile 139/397

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Related U.S. Application Data

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(57) **ABSTRACT**

A fabric material consisting of two distance fabrics (42, 44) which are simultaneously woven on a loom and provided with piles (424, 444) and which have an inner layer (FL2, FL4) and an outer layer (BL2, BL4) for each distance fabric, the inner and outer layers are bound with connecting warp yarns (401-404) extending between the inner and outer layers, pile warp yarns (501, 502) are woven between the distance fabrics. During weaving, the inner and outer layers of each distance fabric are kept apart by respective lancet means (202, 204) and each pick (P1-P13) and for each connecting warp yarn (401-404) and each pile warp yarn (501, 502), one selects on the basis of the information relating to the layer (BL2, FL2, BL4, FL4) in which the warp yarn has been interlaced in a previous pick, on the basis of the shedding pattern and amongst several predetermined positions, a position (A1-A8, B1-B12) was taken by a shedding element (10) driving the warp yarn (401-404, 501, 502) during the pick.

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8 Claims, 7 Drawing Sheets

