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- [54] **PROCESS FOR FORMING NEEDED FIBROUS STRUCTURES USING DETERMINED TRANSPORT DEPTH**
- [75] Inventors: **Philip W. Sheehan**, Pueblo West; **Ronnie S. Liew**, Pueblo, both of Colo.
- [73] Assignee: **The BFGoodrich Company**, Akron, Ohio
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- [52] U.S. Cl. **28/104; 28/108**
- [58] Field of Search **28/104-108, 113; 364/470**

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Primary Examiner—John J. Calvert
Attorney, Agent, or Firm—Kevin L. Leffel

[57] ABSTRACT

The invention relates to the field of needling processes for forming fibrous preform structures. The invention is particularly useful in forming fibrous preform structures suitable for subsequent processing into high temperature resistant composite structures such as carbon/carbon aircraft brake disks. The process according to the invention compensates for fiber pull back induced by fiber resilience, and for compaction in previously needed layers induced during subsequent needling passes. According to a further aspect of the invention, Z-fiber distribution throughout the thickness of the fibrous preform structure may be manipulated as necessary to achieve a desired distribution.

48 Claims, 20 Drawing Sheets

