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- Declarations under Rule 4.17:**  
— *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*

[Continued on next page]

(54) Title: CONTROLLING MELT FRACTURE IN BIMODAL RESIN PIPE

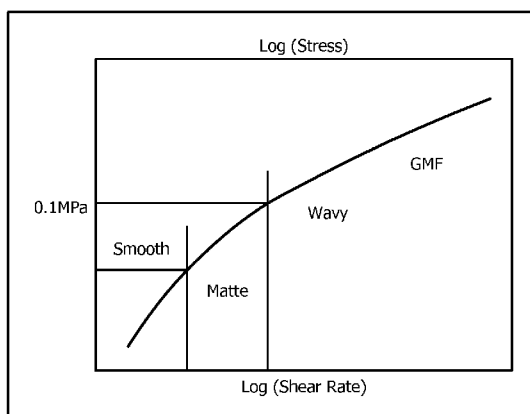


FIG. 1B

(57) **Abstract:** A method of improving processing of polyethylene resins comprising obtaining a plurality of multimodal metallocene-catalyzed polyethylene samples measuring the shear stress as a function of shear rate for the plurality of multimodal metallocene-catalyzed polyethylene samples using capillary rheometry wherein the measuring yields values for a magnitude of slip-stick, a stress for smooth to matte transition, and a shear rate for smooth to matte transition; and identifying from the plurality of multimodal metallocene-catalyzed polyethylene samples individual multimodal metallocene-catalyzed polyethylene resins having a reduced tendency to melt fracture characterized by a magnitude of slip-stick greater than about 300 psi, a stress for smooth to matte transition greater than about 90 kPa, and a shear rate for smooth to matte transition greater than about  $10 \text{ s}^{-1}$ .



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- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*
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