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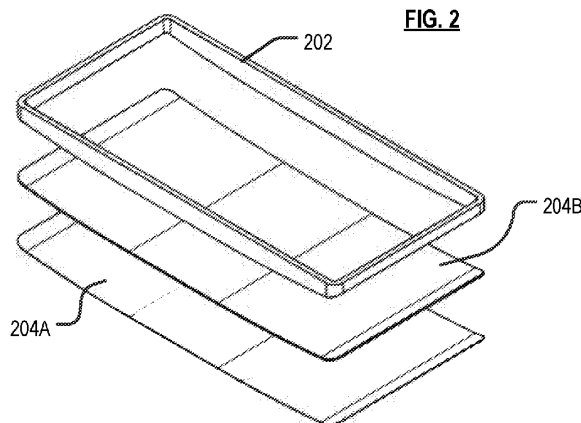
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(54) Title: METHOD AND APPARATUS FOR COMPOSITE RIB AND RIB-AND-SHEET MOLDING



(57) Abstract: Rib-and-sheet structures include a rib comprising continuous, aligned fibers. The rib is fabricated via compression molding from continuous, aligned fiber, thereby providing an aligned, continuously reinforced rib. In one embodiment, rib-and-sheet structures are produced in a two-step compression-molding process, wherein a near net-shape rib is molded, in a first mold, from fiber-bundle based preforms, and then a rib-and-sheet part is molded by placing, in a second mold, the rib with either: (i) a preformed sheet, (ii) plies that form a laminate/sheet or (iii) chopped fibers that form a sheet during the molding process. In another embodiment, rib-and-sheet structures are fabricated in a one-step compression-molding process, wherein fiber-bundle-based preforms and (i) a preformed sheet, (ii) plies that form a laminate/sheet, or (iii) chopped fibers are combined in a single mold and molded in a single step.

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