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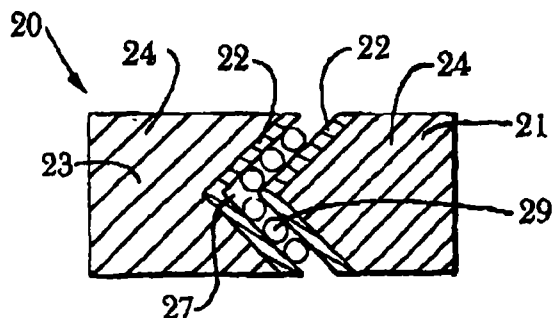
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ACTION

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mechanical fasteners or other mechanical fit such as a friction or interference fit. Preferably, the attachment is by means of a metallurgical bond. A gib that utilizes such guideways is useful in machines requiring fast, precise movement of one part relative to another, such as machines for semiconductor chip fabrication and assembly.

(57) Abstract: A macrocomposite guideway (23), wherein the existing guideway material (22) (e.g., hardened steel) is maintained as the surface intended to be in contact with one or more bearings (27), and wherein this surface is supported by a substrate (24) comprising a stiff, lightweight material. This macrocomposite guideway combines the desirable friction and wear characteristics of the traditional bearing materials with the stiffness and low mass of advanced materials. Candidate substrate materials include composites having a ceramic and/or a metallic matrix, monolithic ceramics or monolithic light metals. A cladding comprising the surface layer may be attached to the substrate by adhesive bonding,