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United States Patent [19] Dahlgren

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- [54] **FUSED FIBER OPTIC COUPLER**
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- [58] Field of Search **350/96.5, 96.2, 96.21, 350/320**

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[57] ABSTRACT

A fiber is mounted with a bare portion extending between two blocks. Four blocks securing a pair of fibers in this manner are mutually aligned by one or more external sleeves, and the fibers are fused and drawn to form a coupler of defined coupling ratio. One sleeve then slides over all four blocks and is bonded to constitute a rigid housing surrounding the fusion region. A preferred coupling block is a grooved D-rod, and different geometries are shown to provide effective PZ and PM fusion couplings, with fiber stress axes aligned with respect to a flat surface of the rod. Portions of the rod provide fiber support and alignment during fusion, and break away from the assembled coupler when complete.

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