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(54) Title: OPTICAL FIBER CONNECTOR USING FIBER SPRING FORCE AND ALIGNMENT GROOVE (57) Abstract A fiber optic connector comprising a plug and a receptacle uses the spring force supplied by bowing of the plug fiber to maintain a continuous compressive load at the fiber joint located in a fiber-alignment groove. The plug has a holder for securing the plug fiber and a shroud which snaps onto the holder with the plug fiber extending generally straight inside the shroud. The shroud has a slot providing access to the terminal portion of the plug fiber, and a sliding door which selectively covers the slot. The receptacle includes a housing and another fiber holder for securing the receptacle fiber, with a projection or finger attached to the receptacle fiber holder, the projection having the fiber-alignment groove. The finger is oriented within the receptacle housing such that, when the plug is inserted into the receptacle, the finger extends through the slot in the shroud at an oblique angle with respect to the plug axis. In this manner, as the plug is inserted, the end of the plug fiber slides into the fiber-alignment groove in the finger and comes into contact with the end face of the receptacle fiber. Continued insertion results in bowing of the plug fiber to achieve the compressive load. The plug door may have camming surfaces which are actuated by corresponding surfaces on a door of the receptacle. The connector may be used to simultaneously interconnect a plurality of fiber pairs, or to terminate a fiber to an active optical device.		

