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ABSTRACT OF THE INVENTION**OPTICAL FIBER MACH-ZEHNDER
INTERFEROMETER EMPLOYING MINIATURE BENDS**

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An optical fiber Mach Zehnder Interferometer includes a first and second elongate optical fiber having a core and a cladding, first and second couplers wherein the cladding of the first optical fiber is coupled to the cladding of the second optical fiber. The first optical fiber includes a first elongate interfering arm where the first optical fiber extends between the first and second couplers. The first interfering arm includes a miniature bend formed therein. The second optical fiber includes a second elongate interfering arm extending between the first and second couplers and may also include a miniature bend formed therein. The miniature bends are contemplated to be either packed or unpackaged. The fibers may exhibit different coefficients of thermal expansion to maintain the path length differences of the interfering arms.

FIG. 2