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Declarations under Rule 4.17:

— of inventorship (Rule 4.17(iv))

(54) **Title:** HIGH POWER NARROW LINEWIDTH FIBER LASER SYSTEM WITH SINGLE FREQUENCY DEPOLARIZED SOURCE

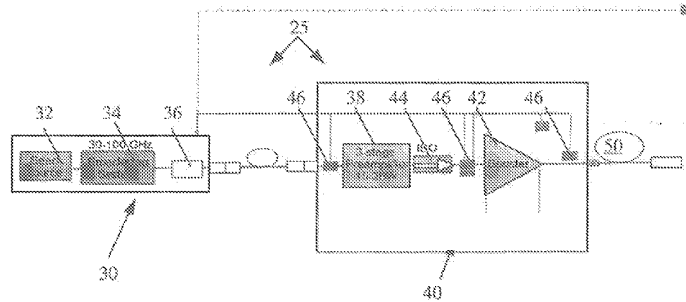


FIG. 3

(57) **Abstract:** The disclosed high power narrow linewidth laser system is configured with a master oscillator power fiber amplifier (MOPFA) architecture including a single mode single frequency (SMSF) linearly polarized seed outputting a linearly polarized signal at a desired wavelength and a power fiber amplifier. The laser system further includes a one-piece fiber depolarizer between the seed and power fiber amplifier and is configured to depolarize the linearly polarized signal generated by the seed. During the amplification of the depolarized signal in the fiber amplifier the onset of a four-wave mixing nonlinear effect is increased so that the fiber amplifier outputs the amplified depolarized signal at an output power in excess of 2 KW with a spectral linewidth which matches that of the linearly polarized signal at an input of the one-piece fiber depolarizer.

[Continued on next page]

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