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(54) Title: AMPLITUDE AND PHASE MODULATION OF A LASER BY MODULATION OF AN OUTPUT COUPLER

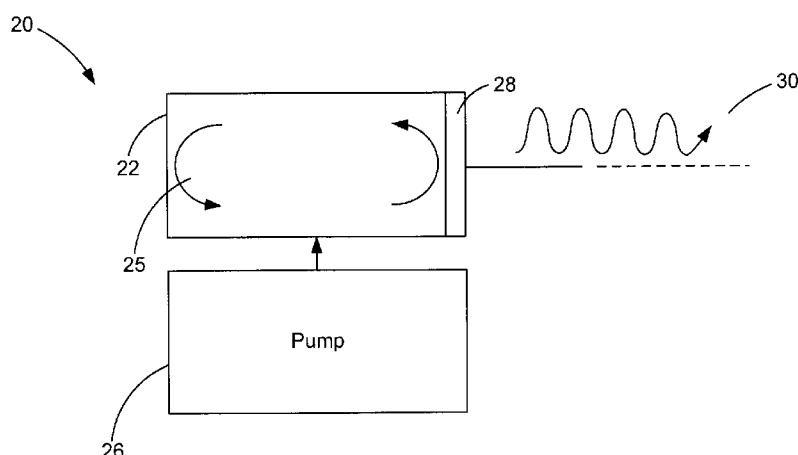


Fig. 1

(57) Abstract: There is provided an output coupler modulated laser. The laser includes an optical resonator for light to circulate within, a gain medium housed within the optical resonator and a pump. An output coupler included in the optical resonator is responsive to a control signal to generate a modulated optical signal at a laser output port, and a complementary signal at a through port to retain circulating light within the optical resonator. The output coupler and the pump are jointly controllable to maintain the power level of the circulating light substantially at a selected, steady state level, and to decouple the modulation response of the laser from the intrinsic response of the circulating light due to interaction with the gain medium. The output coupler is configurable for simple amplitude modulation, Phase-Shift Keying (PSK), Quadrature Amplitude Modulation (QAM), and is suitable for use with high- finesse, micron or millimeter scale resonators.



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