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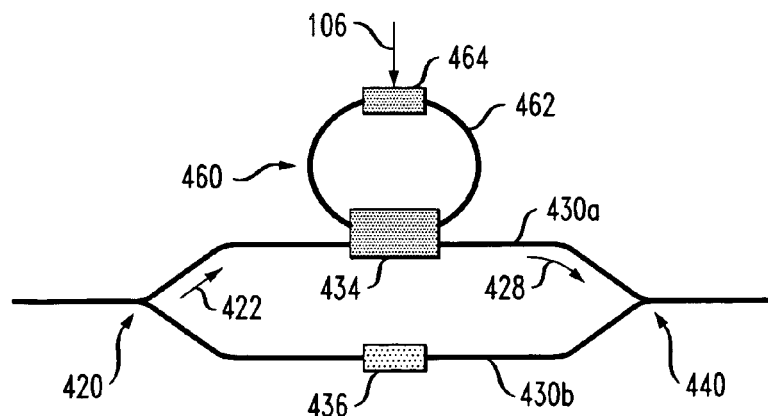
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FIG. 4A

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(57) Abstract: In one embodiment, an optical modulator has a Mach-Zehnder interferometer (MZI) and an optical resonator coupled, via a tunable optical coupler, to one of the MZI internal arms. The optical resonator induces in the MZI frequency-dependent optical losses characterized by a comb of spectral resonances. The coupling strength between the optical resonator and the MZI set by the optical coupler controls the magnitude of the loss due to the resonances, while one or more optical phase shifter located in the optical resonator controls the spectral position of the resonances. Either the optical coupler or the optical phase shifter, or both, can be tuned to adjust the modulator's radio-frequency response curve.