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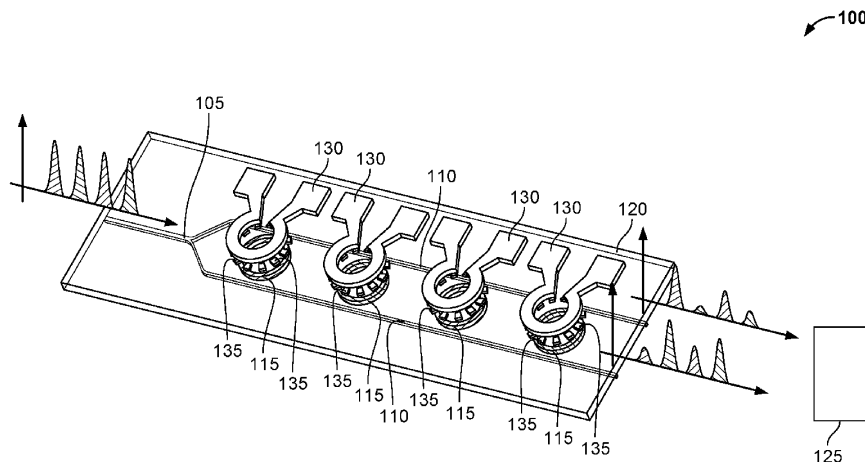


FIG. 1A

(57) Abstract: Described is a device that can include a waveguide. The waveguide can include a first segment and a second segment. The device can include a plurality of rings disposed between the first segment and the second segment. The plurality of rings can include a magneto-optic material. The magneto-optic material can exhibit a non-reciprocal phase shift. The device can include an analyzer configured to receive first light from the first segment and second light from the second segment.

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