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Bergmann et al.

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(54) **VARIABLE SINGLE-MODE ATTENUATORS BY SPATIAL INTERFERENCE**

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( * ) Notice: Under 35 U.S.C. 154(b), the term of this patent shall be extended for 0 days.

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(52) U.S. Cl. ........................... **385/140**; 359/846; 359/850
(58) Field of Search ................................. 385/15, 18, 25, 385/31, 47, 48, 140; 359/298, 302, 318, 846, 847, 850, 851, 855, 856, 857, 865

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(57) **ABSTRACT**

An optical attenuator is disclosed that utilizes the concept of destructive and constructive interference to enhance the ability to attenuate the light signal sent between an optical transmitter and an optical receiver. Rather than completely blocking out a portion of the light signal or utilizing a membrane coated with a partially reflecting material, the present invention utilizes a very high reflectivity coating on divided surfaces, and controls the relative distances between each of the divided surfaces and the optical transmitter/receiver.

**22 Claims, 9 Drawing Sheets**
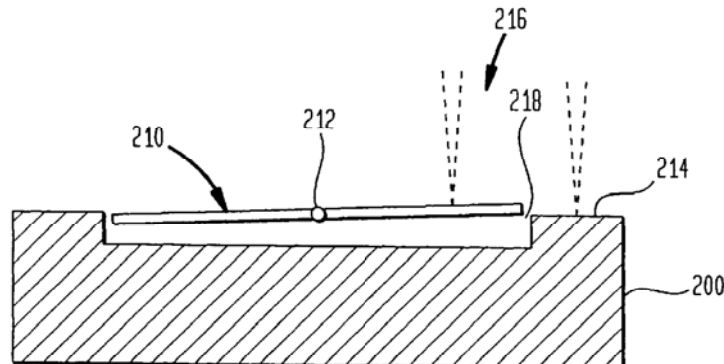


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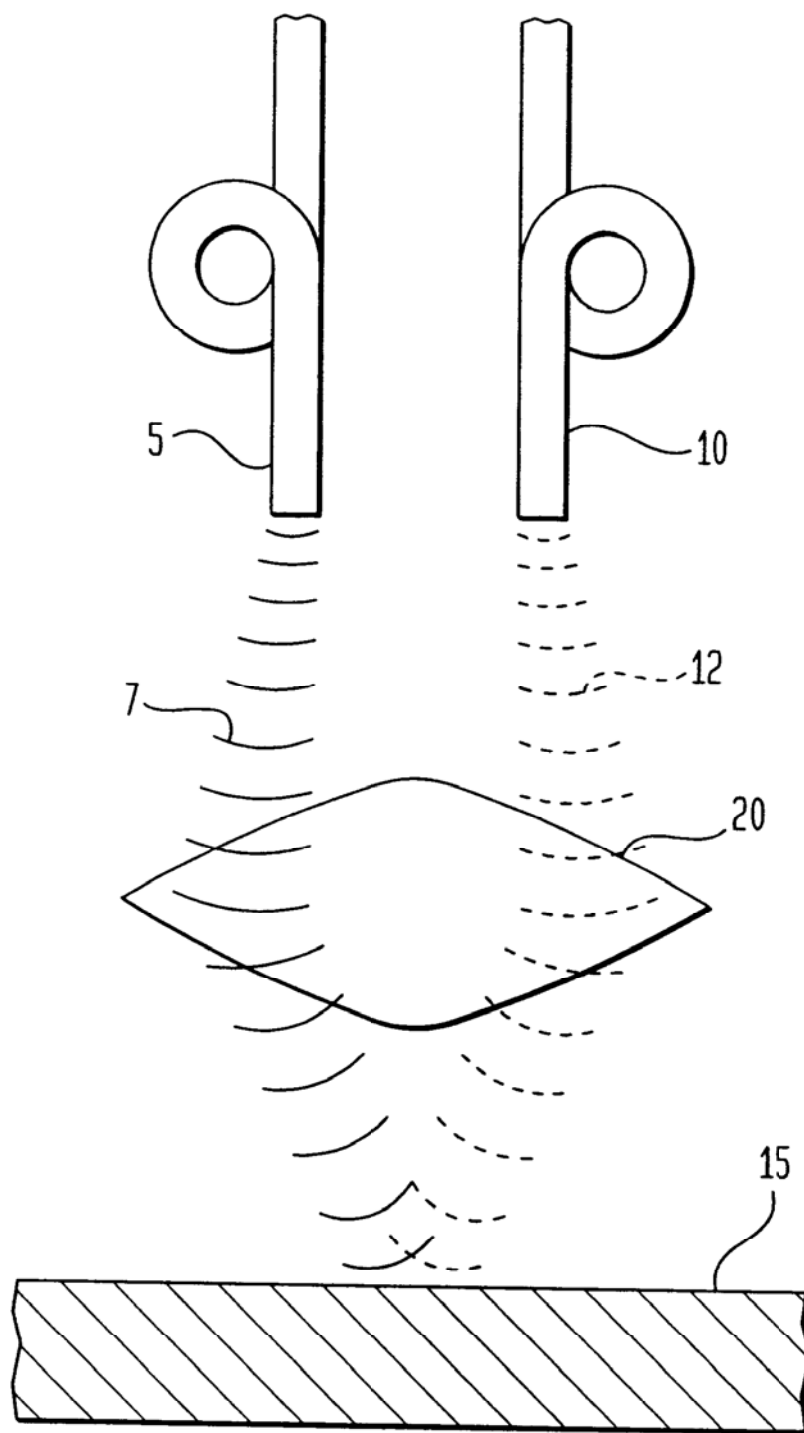
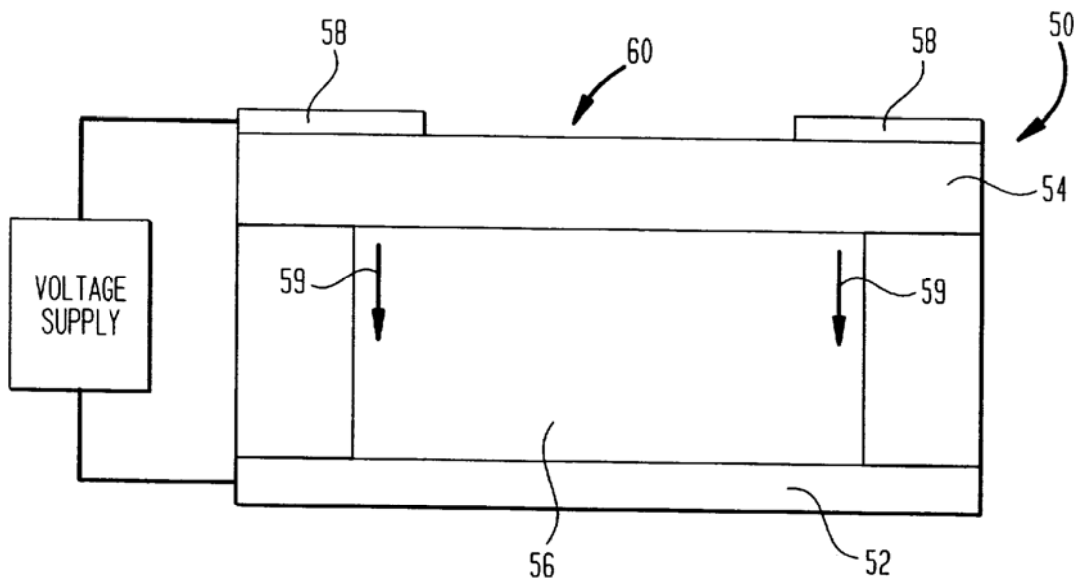\* cited by examiner
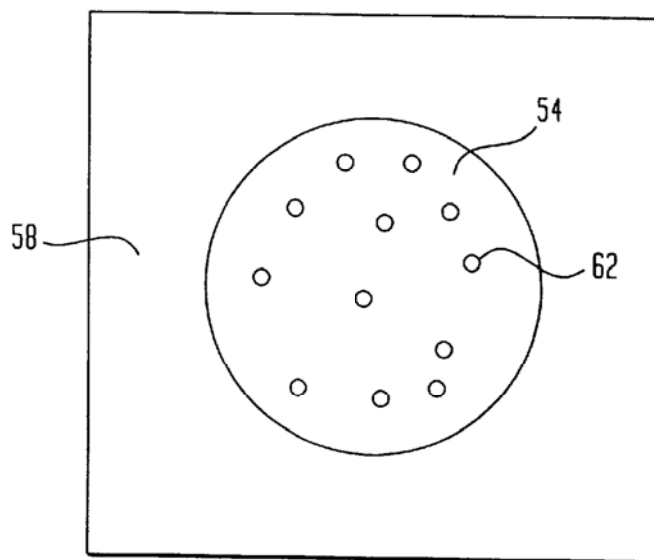
# FIG. 1

## FIG. 2
(PRIOR ART)



## FIG. 3
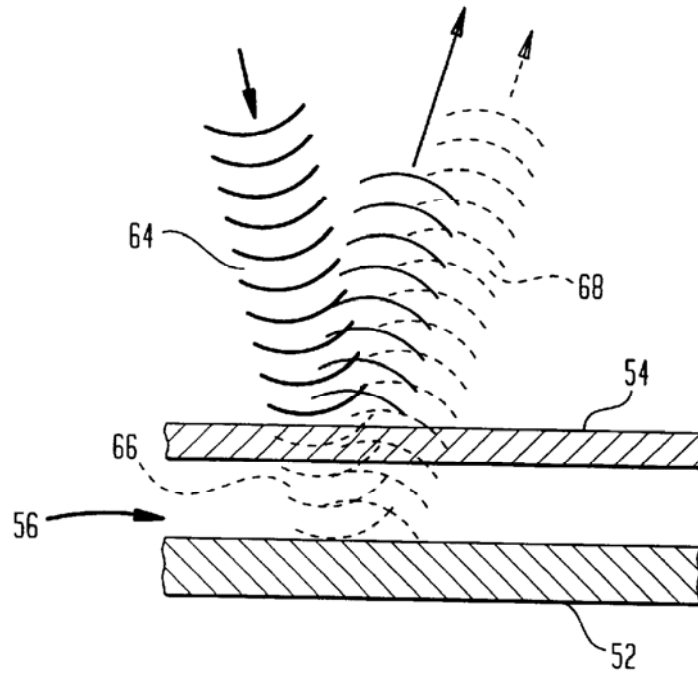(PRIOR ART)

FIG. 4
(PRIOR ART)



FIG. 5

# DOCKET ALARM
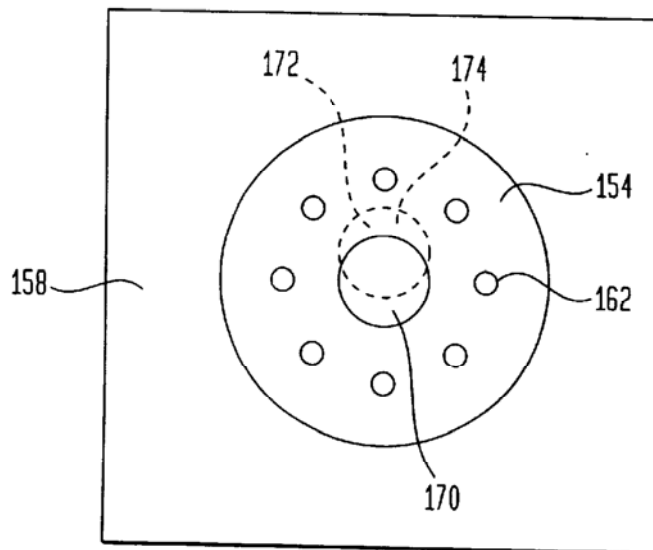
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