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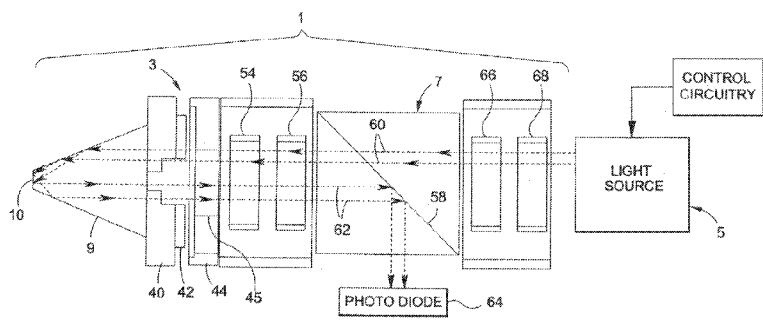


FIG. 3

(57) Abstract: An applanation tonometer (I) for measuring intraocular pressure (IOP) so that the health of a human or animal eye can be determined. The applanation tonometer (I) includes a prism (9) having a contact tip (10) at one end to be moved into contact with and lightly touched against the cornea of the eye. Incident laser light (76) is transmitted inwardly through the prism to the contact tip (10) at which some of the light (82) is decoupled and lost through the contact tip depending upon the area of contact between the contact tip and the cornea. The remaining light (84) is reflected by the contact tip outwardly through the prism. A photo detector (64) which is responsive to the light (84) reflected by the contact tip (10) of the prism (9) and a force detector (44) which is responsive to the pressure at the area of contact between the contact tip and the cornea generate paired force and area data pairs that are processed to measure IOP.

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