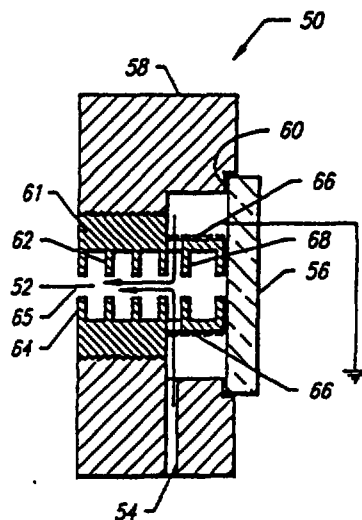




(54) Title: APPARATUS FOR, AND METHOD OF, MAINTAINING A CLEAN WINDOW IN A LASER



(57) Abstract

A first gas in a laser cavity is ionized by an electrical discharge in the cavity as a step in producing an energy radiation. Debris (particulates) is produced during the formation of the energy radiation. The radiation and the debris move toward an optical element in the cavity. The optical element may be a window or a mirror. The debris tends to deposit everywhere in the cavity, including on the optical element, thereby dirtying the optical element. This inhibits the efficiency in the laser operation. A clean gas is directed into the cavity through a passage (54) at a position displaced from the optical element (56). The clean gas then passes in the cavity through an orifice (65) further from the optical element than the passage. The flow of the first gas through the orifice creates a venturi effect on the clean gas to insure that the clean gas will move away from the optical element. In this way, the clean gas inhibits the first gas and the debris from moving to the optical element. Baffles (62) in the cavity between the passage and the orifice provide irregularities in the movement of the first gas from the orifice to the optical element, thereby further inhibiting the movement of the debris to the optical element. Baffles (68) in the cavity between the passage and the optical element also inhibit the movement of any gas to the optical element. An electrically grounded screen (66) in the displaced passage attracts any ions present in the clean gas.