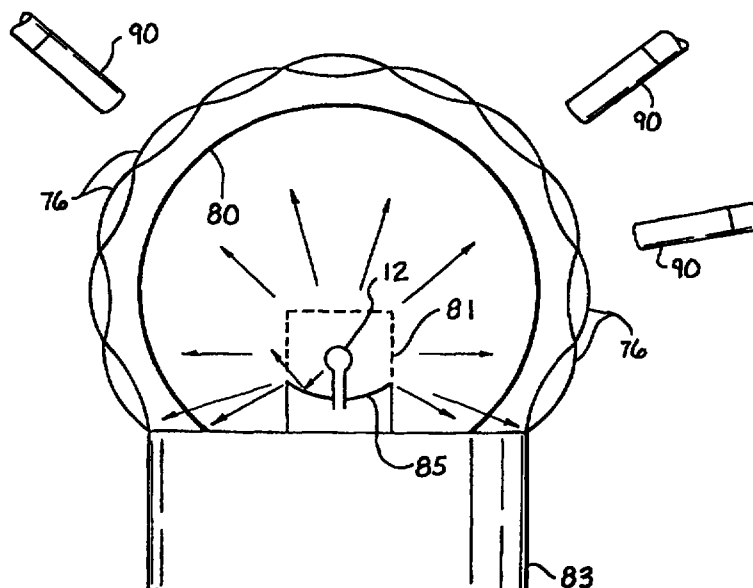


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(54) Title: PARABOLIC AND SPHERICAL MULTIPORT ILLUMINATORS FOR LIGHT GUIDES**(57) Abstract**

An optical system used in transmitting illumination from a central source to a variety of remote locations, coupling the light originating from a lamp, or similar source, into a multiplicity of flexible macroscopic fibers. A heat containment barrier is disposed between the focusing lenses and the illumination source. The light source (12) is surrounded by a wire cage (81), which forms a microwave cavity. The light source (12) is rotated to facilitate a uniform plasma. A curve semi-spherical retro-reflector (85) is provided to redirect light from the light source (12) generally back through the lamp toward the focusing lenses (76). A mixing rod (90) is coupled to each focussing lens.