Hang power supply at extreme left end of rod below chalkboard. Hang support A from the two rods, somewhat to the right of the power supply, and support B approximately 60 cm to the right of A. Mount on B either the rectangular slab or the semicircular slab as required. Darken the room as desired. (The darker the room the better the light rays show up, but some light is helpful in seeing the apparatus.)

Although the lecturer will probably wish to improvise frequently, the following basic demonstrations are suggested:

1. Direct a single ray from source S against one face of the rectangular slab, as indicated in Fig. 1 (see back of sheet). By turning the slab into appropriate positions show that: (a) The ray is not deviated at either face when the incident ray strikes the face perpendicularly; (b) With any angle of incidence other than zero the ray is bent toward the normal in passing from air to plastic, and away from the normal in passing from plastic to air; (c) After passing through a parallel-faced slab the emergent ray is parallel to, and somewhat offset from, the incident ray.

2. Direct a single ray against the flat face of the semicircular slab as indicated in Fig. 2, making certain that the ray strikes at the center of curvature (midway along the flat face). Observe that the ray is bent toward the normal upon entering the plastic, and that upon striking the semicircular surface perpendicularly it is not deviated in passing from plastic to air.

3. Allow a single ray to strike the circular face of the semicircular slab perpendicularly, as indicated in Fig. 3. It will be undeviated at the circular surface and strike the flat surface at the center of curvature. Observe that, at the flat plastic-to-air surface: (a) The angle of refraction in air is greater than the angle of incidence in plastic; (b) For a certain critical angle of incidence, or any larger angle, there is no refracted ray; the light is totally reflected.