Place laser at back of room, darken room completely, and project diffraction patterns on screen at front. (See WARNING.) Place slide holder (A) in fitting nearest laser, and diverging lens (Q) in center fitting, turning lens so that it will not be in the beam. This lens, when later turned into the beam (preferably in that direction which leaves it farthest from the object), simply enlarges the pattern. A flashlight is provided to facilitate working in the darkened room.

**Single Wire:** Place slide (I), containing two single wires of different diameters d, in the holder, and adjust its position until first one and then the other wire is centered in the beam. Observe the diffraction patterns. In order to observe the central portion of the pattern in more detail, center the larger wire in the beam, turn lens (Q) into the beam, and readjust the slide until the central portion of the pattern is symmetrical. Note the bright line in the center of the shadow.

**Double Wire:** With lens (Q) out of the beam, place in the holder slide (J) which contains opaque, photographic images of two pairs of parallel wires of different separations d. Adjust its position until first one and then the other pair is centered in the laser beam.

**Opaque Disk:** Turn lens (Q) into the beam, and place slide (I) containing two opaque, photographic disks in the slide holder. Adjust the vertical position of the holder and the lateral position of the slide until first one and then the other disk is centered in the beam. Note that the center of the diffraction pattern is bright.

**Straight Edge:** Screw diverging lens (V) into the laser. This lens converts the beam into one coming from a point source. Place in the holder slide (K) containing a razor blade and, with lens (Q) out of the beam, adjust its position until the shadow of the blade covers half of the circular beam of light on the screen. The interference fringes can be made much more obvious by turning lens (Q) into the beam. The edge of the blade (or even the outer edge of the aluminum frame of the slide) does not cast a sharp shadow. Examination under more favorable conditions shows that: (1) Within the geometrical shadow the intensity falls gradually and continuously to zero. (2) Outside the geometrical shadow the intensity first rises somewhat, then goes through a series of maxima and minima (minima not zero), gradually falling to zero.

**WARNING:** Never allow the direct beam from the laser to enter the eye. Warn students that they should not look into the beam.