Square Plate: Mount the square plate on the tripod base, tightening the screw firmly, with one edge parallel to a line joining the ends of two tripod legs. Set the apparatus in the center (lengthwise) of the lecture table, with the ends of these two tripod legs as close as possible to the front edge of the table. Set the mirror behind the apparatus, with the mirror two or three inches from the edge of the plate. (See WARNING.) Sprinkle sand uniformly over the plate, bow the plate, and observe the figures formed by sand as it accumulates at the nodal lines. (See Note for tips on bowing.) Most satisfactory points at which to bow are at a point either 1/4 or 1/2 the distance from one corner to an adjacent corner.

Round Plate: Replace the square plate with the round plate, tightening the screw firmly, and repeat the demonstration. All points on the circumference of the plate are about equally satisfactory for bowing. Different, and often better, figures can be produced by holding the edge of the plate between thumb and forefinger at one point and bowing at a point from 1" to 3" from the point at which it is held. (Although the note suggests using two hands on the bow, satisfactory bowing can be accomplished with one hand by gripping the bow in such a way that significant pressure can be maintained between the free end of the bow and the plate.)

Note: The sand will distribute itself along clear-cut nodal lines only if the first attempt at bowing produces a tone of well-defined pitch. A little practice prior to sprinkling sand on the plate is therefore advisable. The manner of bowing is rather critical. The most satisfactory method is as follows. Tighten the bow and draw it lightly two or three times across the rosin which has been removed from its container. Grasp the bow with one hand at either end, place what is normally the free end against the plate with the length of the bow vertical and, with the hand at that end exerting significant pressure between the bow and the plate, move the bow downward in a vertical line. (Loosen the bow after using.)

WARNING: Avoid striking the mirror with either the shaker while sprinkling sand or the plate while changing plates. When lifting the mirror, grasp the two, horizontal, end portions of the frame.