Egg in a Beaker



1. Fill a medium sized beaker or a wide-mouth glass 1/2 full with water.

2. Place the beaker, a pizza pan, a cardboard cylinder

 fashioned from a file card, and a hard-boiled egg near the

 edge of a table as is shown in the figure. The egg and

 cylinder must be directly over the beaker. Also, the pizza pan

 must extend beyond the edge of the table.

3. Place the broom handle next to the edge of the pizza

 pan.  With your foot on the bristles of the broom, “cock” the

 broom by pulling the handle away from the pan.  This will put

 the handle under tension.

4. Release the handle.  With luck, the egg should drop into the beaker.

5. Why did the egg fall straight down and not move with the

 cardboard cylinder and pizza pan?

6. Do you think the mass of the object placed on the cylinder

 matters? You may wish to check your answer by replacing the

 egg with a ping pong ball.