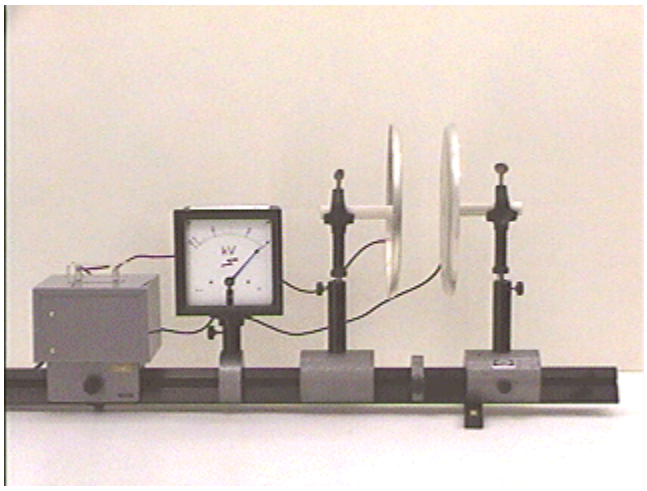
Question #28

A parallel plate capacitor consists of two equal and oppositely charged metal plates separated by a small distance, as seen in the photograph below. The voltage across the plates that created this charge separation on the plates is measured by the voltmeter in the picture, which is wired across the plates.



Now suppose that a thin circular, uncharged metal sheet, with the same diameter as the plates of the capacitor, is inserted between the plates of the capacitor. What happens to the voltage across the plates as measured by the voltmeter when the uncharged metal plate is inserted between the plates of the capacitor?

- (a) The voltage across the plates will increase.
- (b) The voltage across the plates will decrease.
- (c) The voltage across the plates will remain the same.

Click here for Answer #28 after September 4, 2000.

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For questions and comments regarding the *Question of the Week* contact Dr. Richard E. Berg by e-mail or using phone number or regular mail address given on the Lecture-Demonstration Home Page.