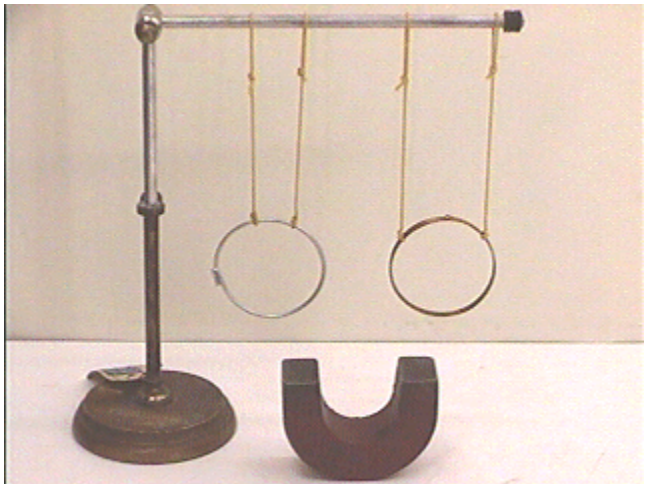
Question #170

Two loops of wire hang on a frame as pictured in the photograph at the left. The loop at the left consists of a single closed loop of thick aluminum wire. The loop at the right consists of several turns of copper wire connected together to form a closed coil. One pole of the horseshoe magnet, lying in front of the two coils, will now be pushed into the multi-turn copper wire coil from behind.



The question is what will happen when the pole of the magnet is moved into the coil. Will the coil move at all? Will it move and remain in a new position? Or will it remain in place, thus illustrating the difference between electrical and magnetic forces?

When the pole of the magnet is thrust, from the rear toward the camera, into the coil loop and held in that position,

- (a) the coil will move toward the camera and remain in its new position.
- (b) the coil will move toward the camera and then return to its original position.
- (c) the coil will move back away from the camera and remain in its new position.
- (d) the coil will move back away from the camera and then return to its original position.
- (e) the coil will not move.

Click here for Answer #170 after January 12, 2004.

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For questions and comments regarding the *Question of the Week* contact

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