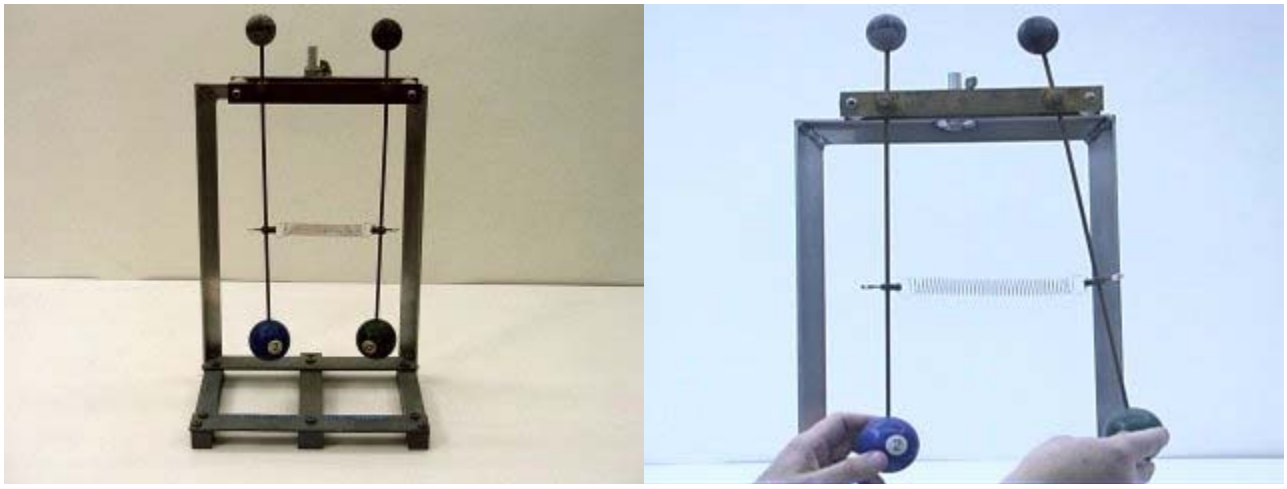
Question #241

The photograph below shows two identical rigid (physical) pendula coupled by a light spring. The motion of the pendulum at the left, with the right pendulum held fixed can be seen by clicking your mouse here; the motion of the pendulum at the right, with the left pendulum held fixed can be seen by clicking your mouse here



Now suppose that the pendulum at the right is pulled out to the side (as it was in the individual videos above) and the pendulum at the left is held in its (vertical) equilibrium position and both released at the same time from the position seen in the photograph at the right above. The pendula might quickly end up swinging back and forth in phase, or perhaps back and forth out of phase. Or perhaps the motion will quickly cease. Or perhaps something else might happen. With these hints, you are to descrube the ensuing motion of the system.

When the pendulum at the right is pulled out and released at the same time as the pendulum at the left is released from its equilibrium position, the pendula will:

- (a) quickly begin to move in phase together.
- (b) quickly begin to move out of phase together.
- (c) quickly cease their motion.
- (d) execute some other type of motion.

If you suggest "some other type of motion" you must describe what that motion might be.

Click here for Answer #241 after February 13, 2006.

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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.