

Anel saltador e lei de Lenz

Example 7.6

The “jumping ring” demonstration. If you wind a solenoidal coil around an iron core (the iron is there to beef up the magnetic field), place a metal ring on top, and plug it in, the ring will jump several feet in the air (Fig. 7.23). Why?

Solution: Before you turned on the current, the flux through the ring was *zero*. Afterward a flux appeared (upward, in the diagram), and the emf generated in the ring led to a current (in the ring) which, according to Lenz’s law, was in such a direction that *its* field tended to cancel this new flux. This means that the current in the loop is *opposite* to the current in the solenoid. And opposite currents repel, so the ring flies off.⁸

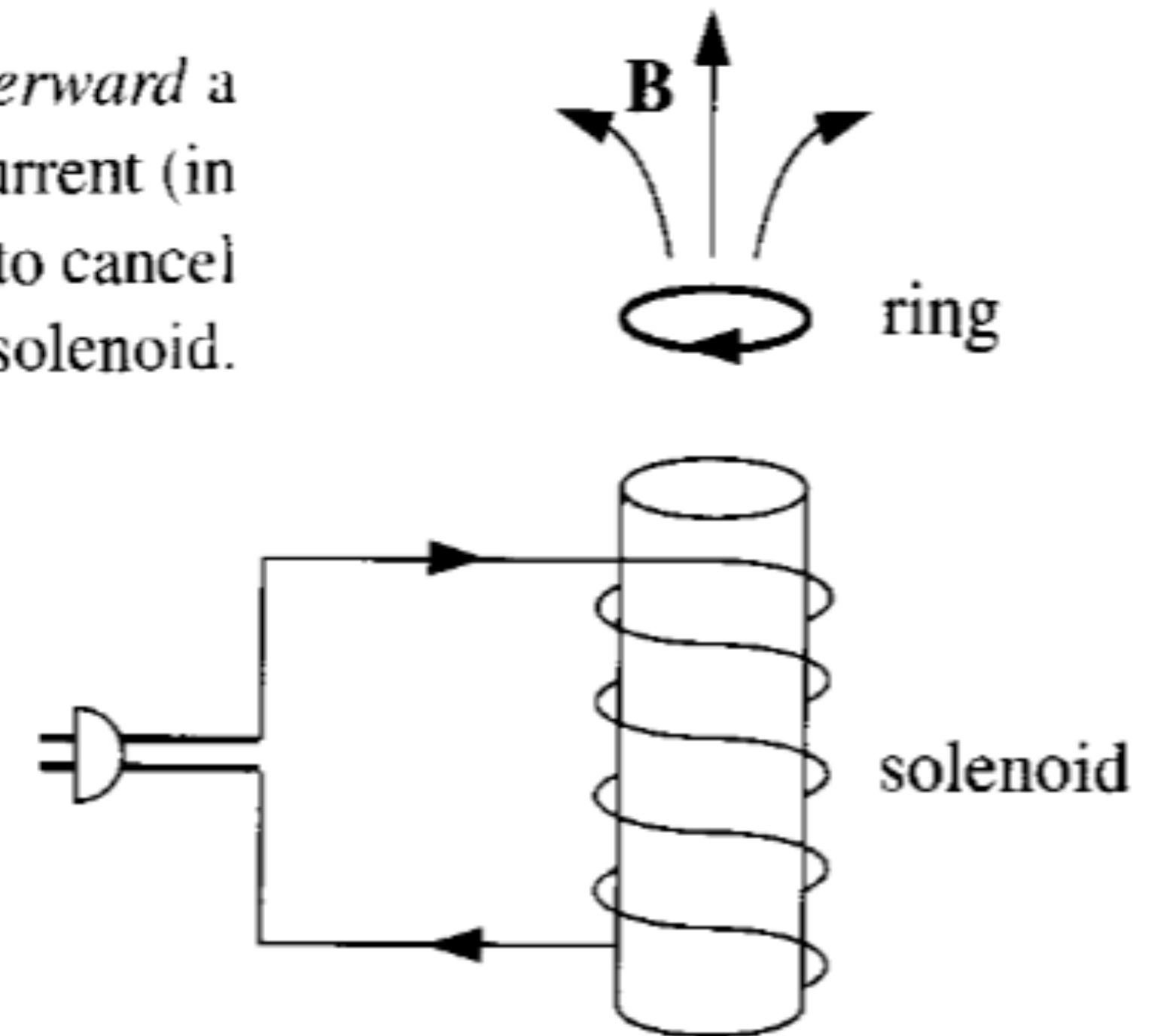
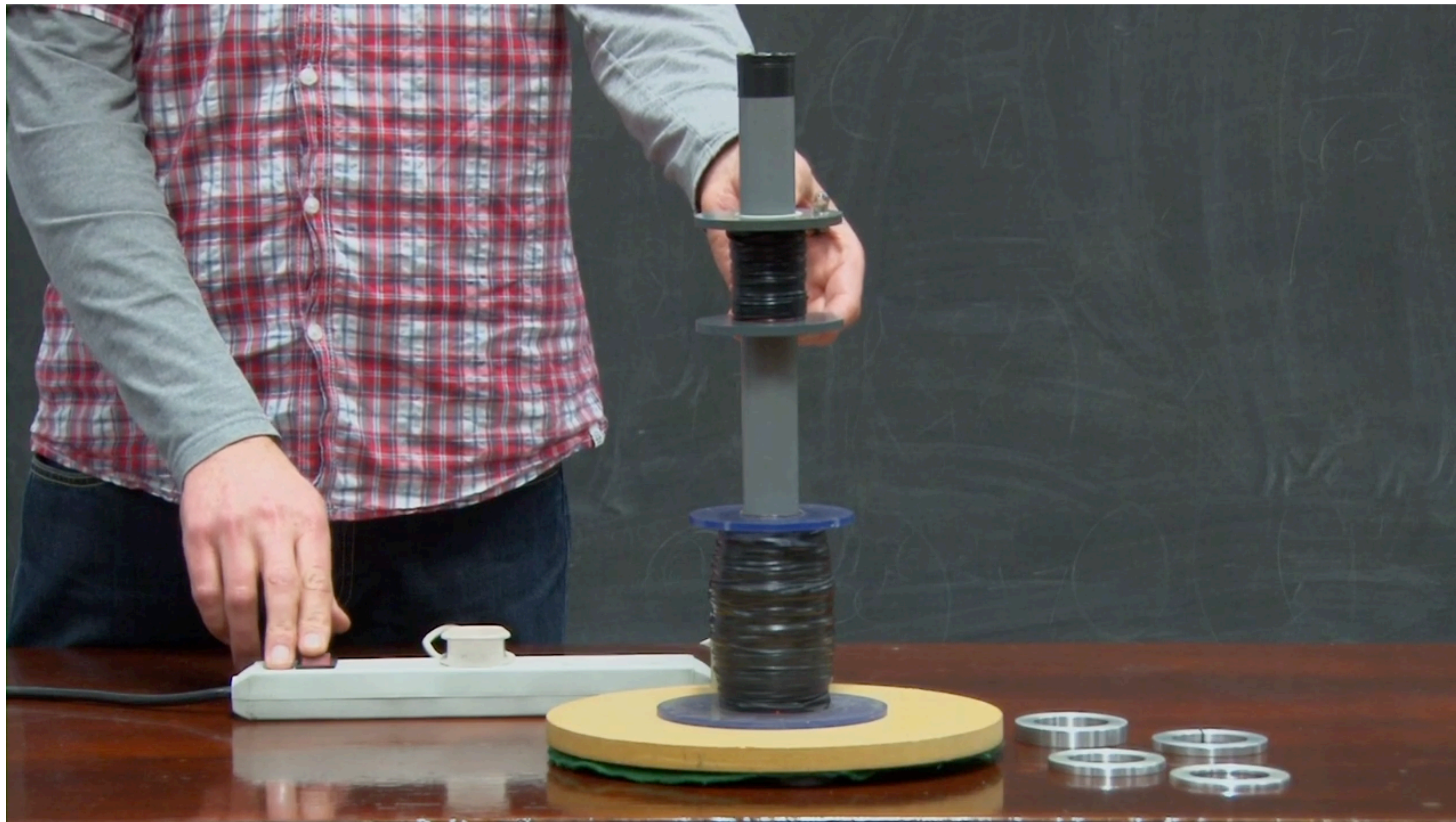


Figure 7.23

Exercícios: 7.12, 7.14

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Clique no vídeo para a versão completa.