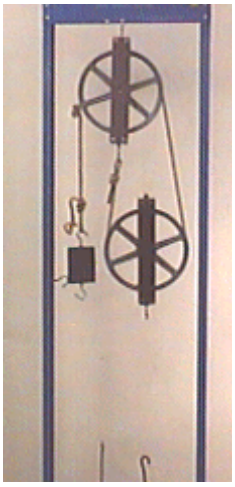
Question #175

A pulley system, shown in the photograph below, can be used to lift heavy objects using a smaller force. In particular, a heavy object is placed on the hook below the lower pulley, and a presumably lighter force is applied to the hook at the left just inside the left support on the frame. The question this week is how much force applied to the rope at the left is required to balance a weight put onto the hook below the movable pulley. Note that this system is in equilibrium; the small black block hanging above the hook on the rope at the left exactly balances the weight of the movable pulley.



Two kilograms of weight placed on the hook at the left will exactly balance how much weight hanging from the hook below the pulley?

- (a) 1 kg.
- (b) 2 kg.
- (c) 4 kg.
- (d) 8 kg.

Click here for Answer #175 after February 16, 2003.

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For questions and comments regarding the *Question of the Week* contact
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given on the Lecture-Demonstration Home Page.