INSTRUCTIONS:
(1) Make sure the timer is "on" (Switch is on the back) and that the black photogate is centered above the track so the sail on the cart can pass through the photogate without hitting it.
(2) Set the timers in the "+ Pulse Duration" mode. Adjust if necessary by pressing the "Mode Select" button.
(3) Press the "Reset" button to clear the timer.
(4) Cock the brake release mechanism on the cart as shown at the right. Set the hole on one end of the cart over the rod on the cocking stand and push the short handled rod into the other end of the cart. Apply an inward force on each end simultaneously to release the brakes. Press the trigger (on the bottom) in with the thumb. Move the cart up and down until the trigger drops into place and holds both sets of brakes away from the wheels.
(5) Perform the experiment by rolling the cart down the incline.

NOTES:
(A) Up to this stage, in our present development of Physics, we have only considered the kinetic energy associated with translational motion. As you will see in a few weeks, there is rotational kinetic energy associated with the rotation of the wheels (in addition to the translational kinetic energy as the wheels move with the cart). Because of this, the total kinetic energy of the moving car (when the wheels are rolling) is approximately 12 percent larger than it would be if the wheels were not rotating. Thus the total K at point 2 is 1.12(K of linear motion).