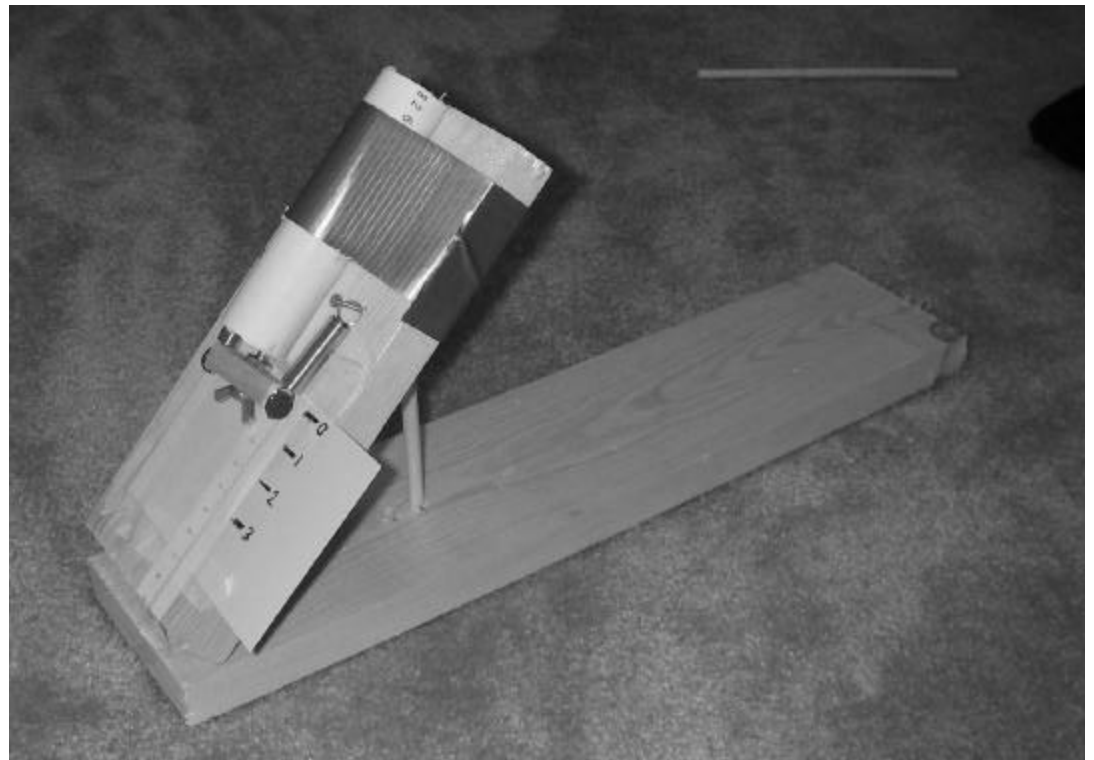


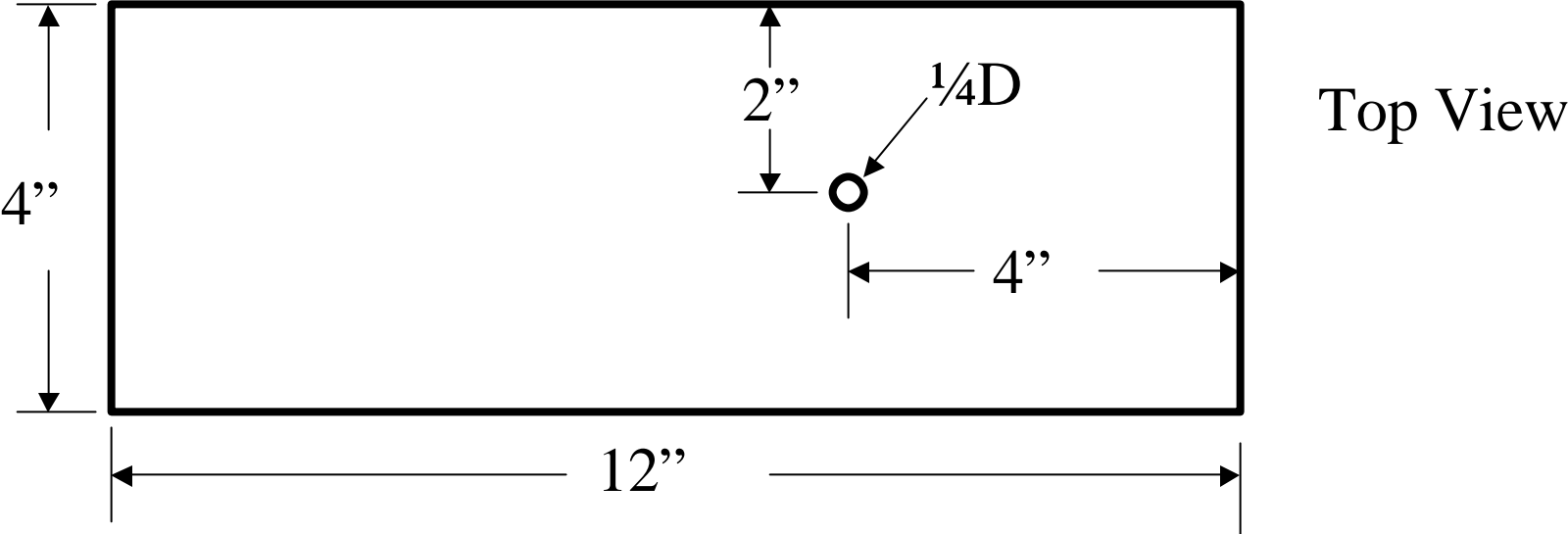
Spring Launcher Building Instructions

Starting materials for one launcher:

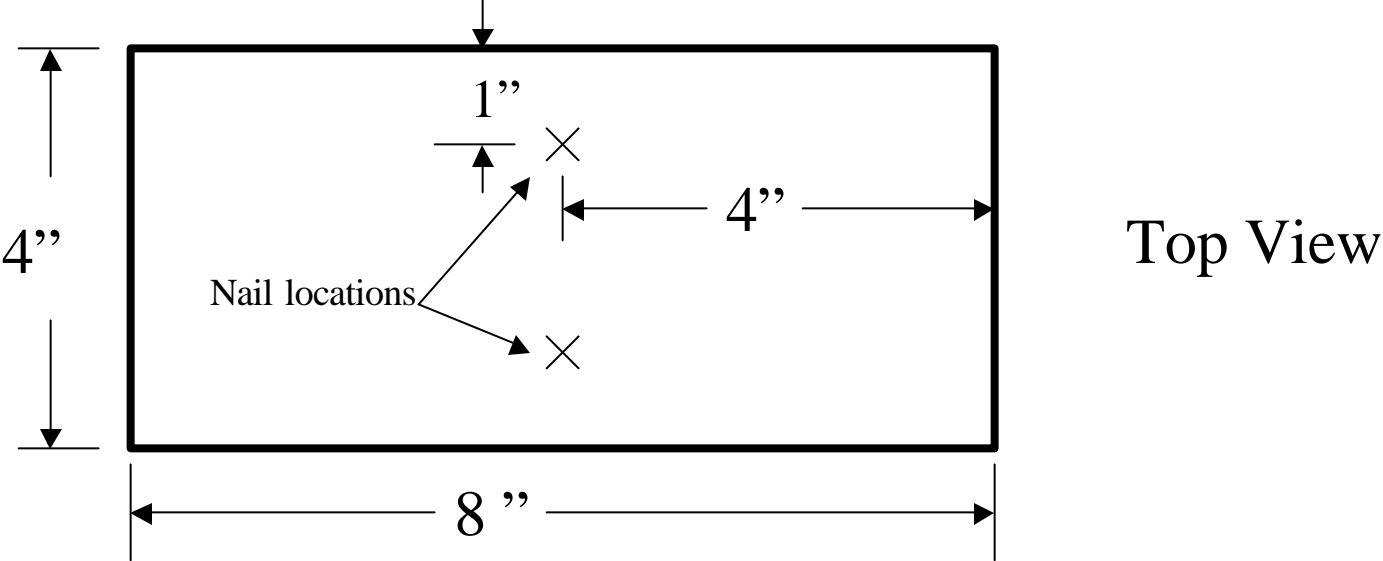
- Wood – (1) 8” long piece and (1) 12” long length of a 1x4 board
- (2) springs (recommended dimensions: 1 1/32” x 1.5” x .025”)
- (1) 3” long 10-32 thread bolt
- (1) 10-32 thread nut
- (2) 10-32 thread wing nuts
- (1) 4” long, 1” diameter PVC pipe
- (1) 4” long, 1/4” diameter dowel
- (1) small hinge
- (2) nails, ~1.5” long
- (1) 2” long, 1/2” square piece of basswood, or similar material
- (2) thumbtacks
- Glue or duct tape
- (Optional) 1/4” diameter dowels of varying lengths, 1”-6”.
- (Optional) Protractor



1. Drill a 1/4" hole in the 12" long wood piece, 4" from one end. See drawing below.

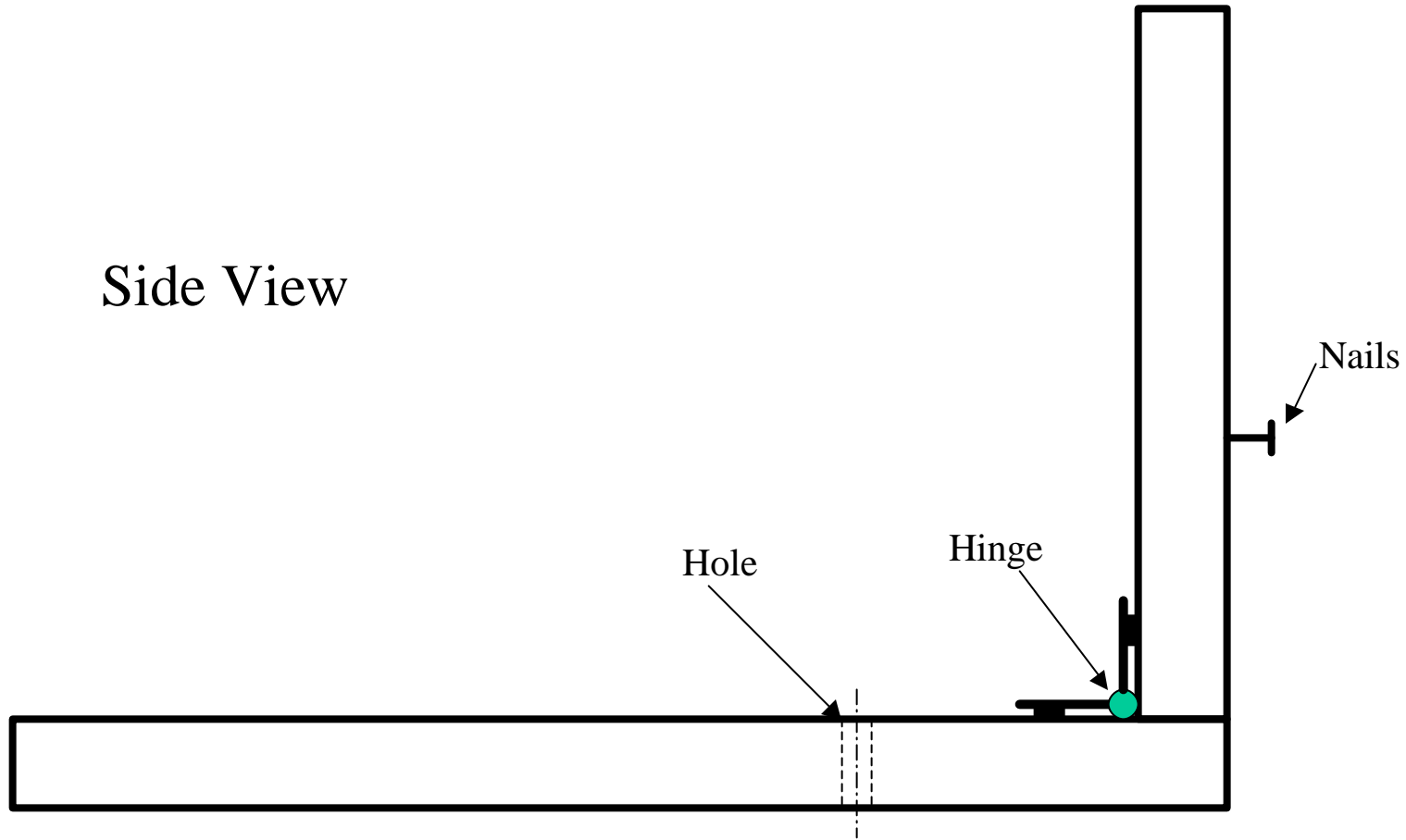


2. Hammer two nails partway into the 8" long piece of wood, 4" from the end and 1" from either side. The head of the nail should protrude from the board about 1". Springs will hang from these nails.



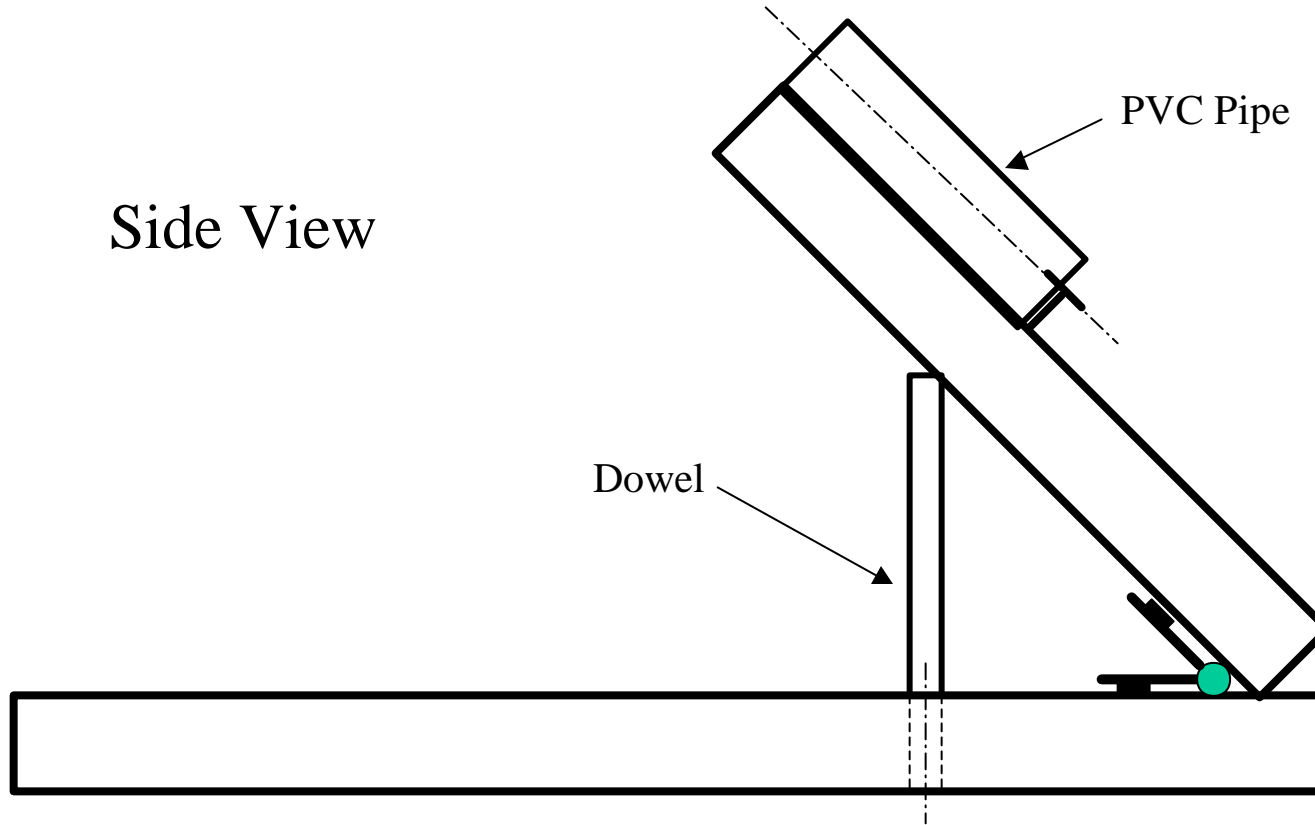
3. Attach the two boards together with a hinge so that they can open to a right angle, with nails and hole oriented as shown below. Pilot holes may be helpful for attaching the screws holding the hinge in place.

Side View



4. Cut a 4" long piece off of a 1/4" diameter dowel. By inserting the dowel in the hole, you should be able to set the launcher at a stable angle. With tape or glue, attach a 4" long piece of PVC pipe to the center of the upper wood piece, from the tip to the nails.

Side View



5. To build the “pusher” for the launcher, drill a 3/16” hole through the narrow edge of a 2”x1/2”x1/2” piece of bass wood or similar material. Attach springs, thumbtacks, bolt, nut, and wingnuts as shown:

