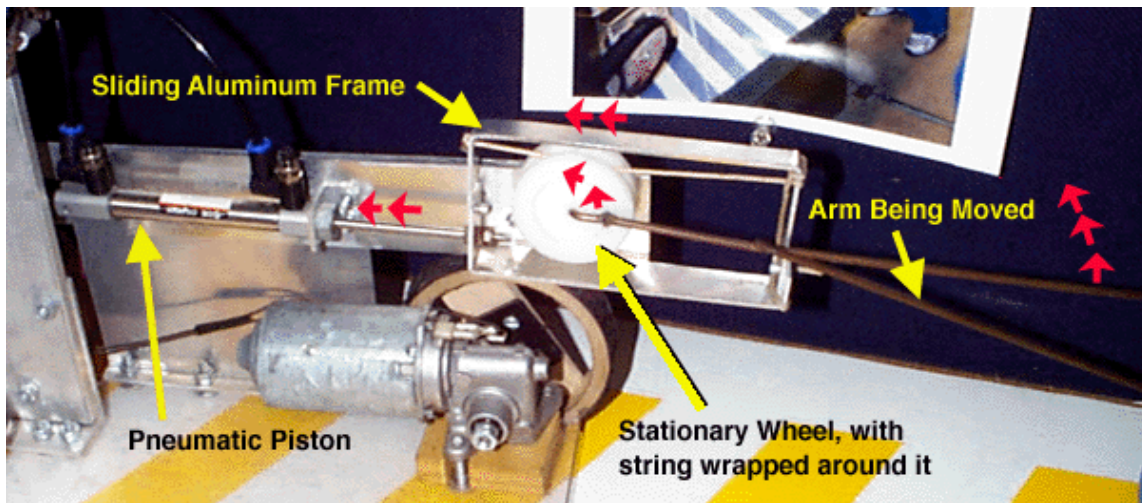
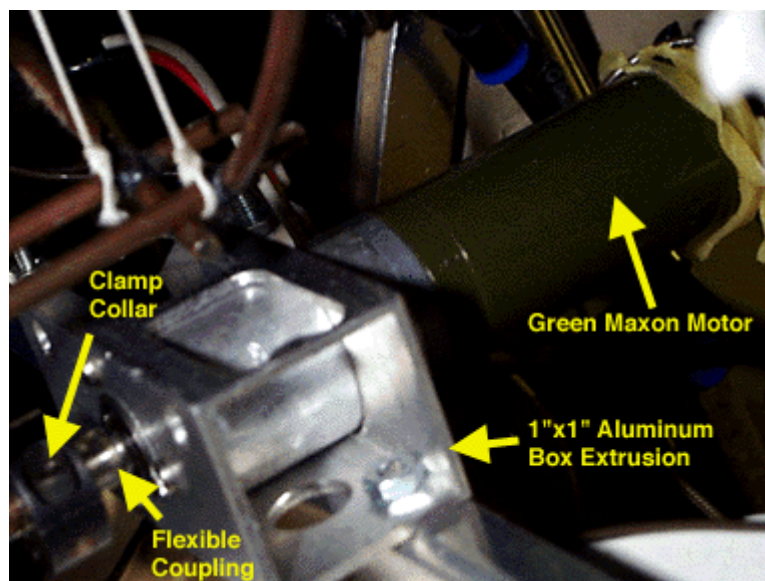


2.007 Mechanism Gallery

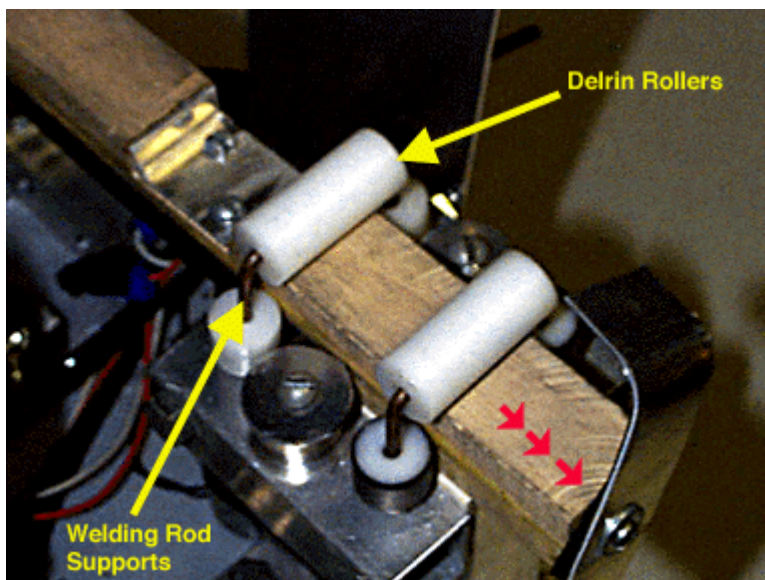
This section is a collection of photos of different machines and mechanisms and commentary on them.



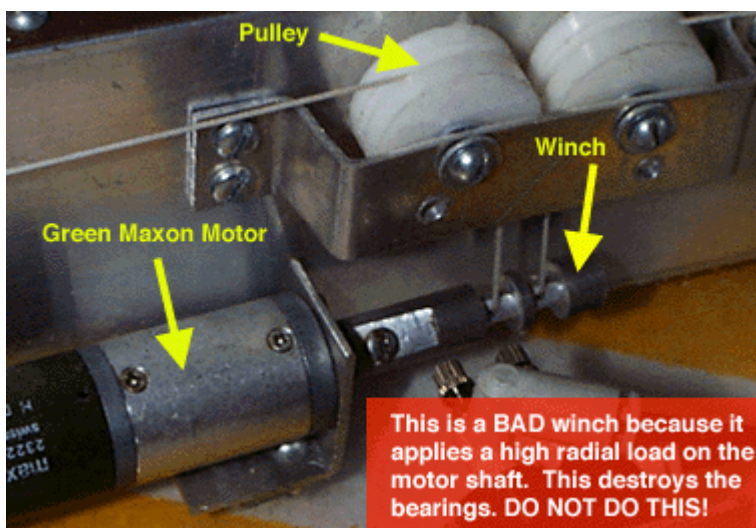
This mechanism converts the linear motion of piston to rotary motion via a string and wheel.



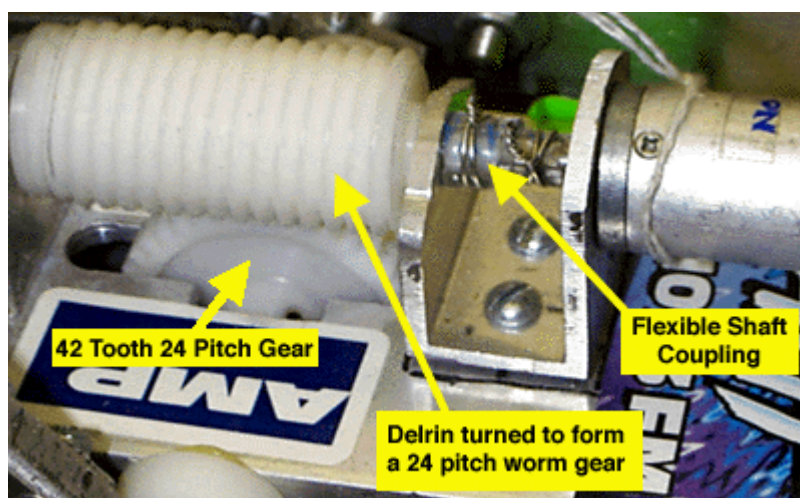
This is good mounting for the green Maxon motor. The box extrusion was drilled to accept the mounting holes and the body of the motor. This fixture did take a lot of skill to make. This is a very stiff mounting fixture. Notice the flexible coupling made of the tygon tubing and the clamp collar. Flexible couplings are very important when attaching things to motor shafts.



This is a very good sliding mechanism. The delrin rollers are much better then just having two flat surfaces slide past each other. This design will support much higher radial load on the sliding part before it binds.

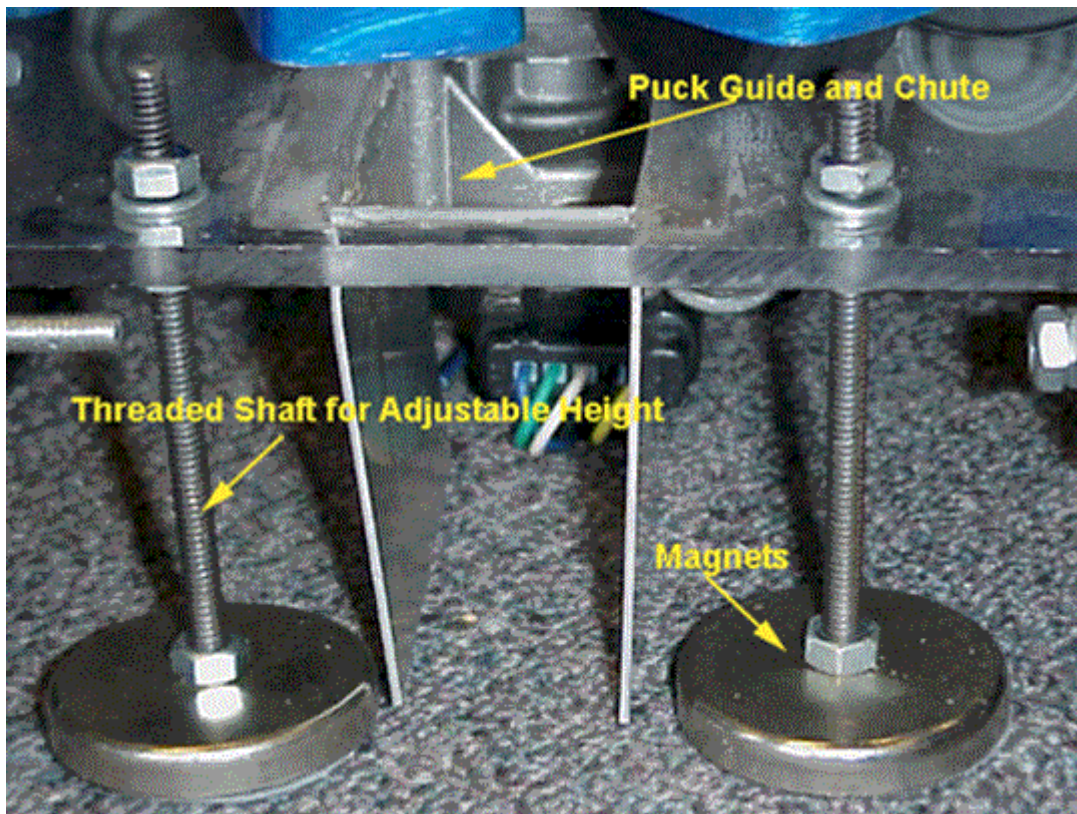


This is a BAD winch because it applies a high radial load on the motor shaft. This destroys the bearings. DO NOT DO THIS!

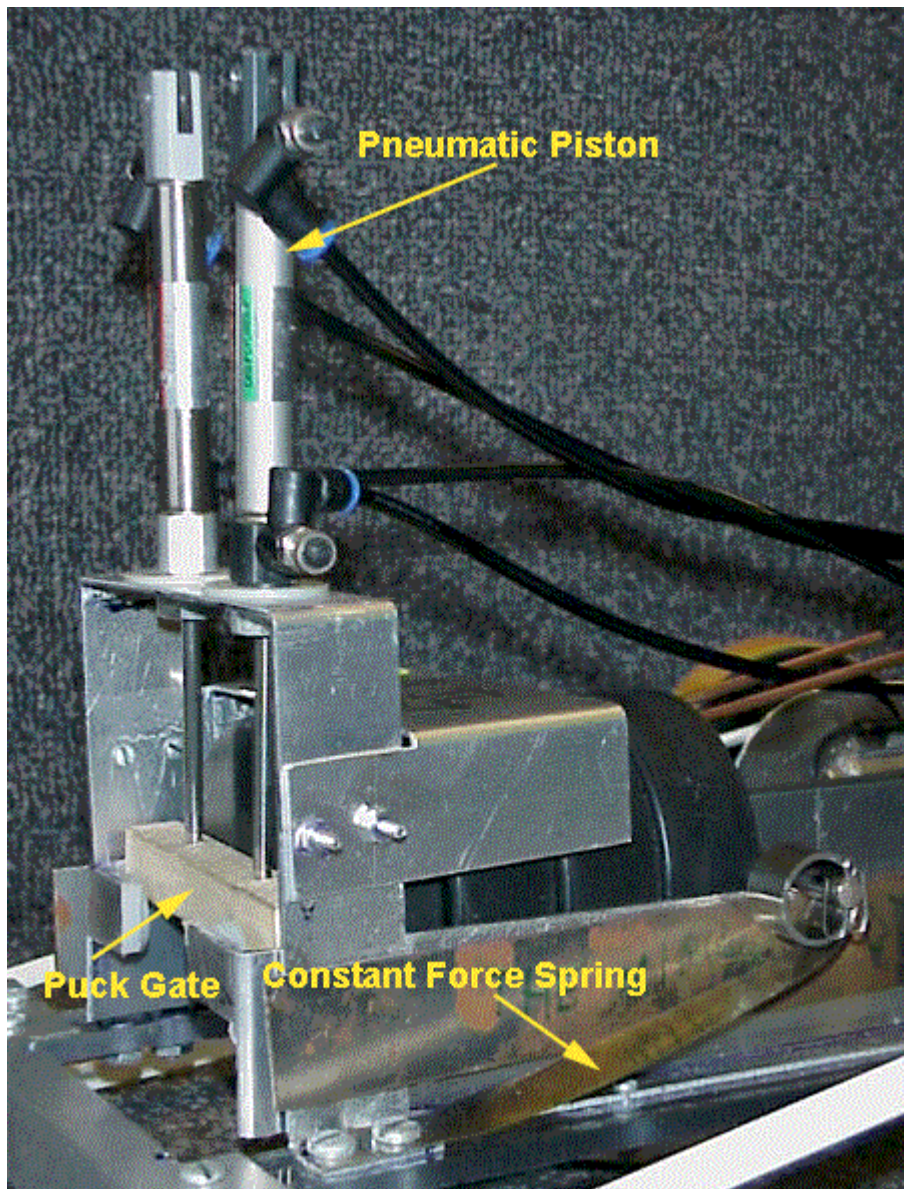


Here a piece of Delrin was turned to make a worm gear. This was a very time consuming process. Before you start anything requiring this much skill and time to make be sure you REALLY REALLY need it. This was a major time sink. Lots of precision milling and lathe work will suck up

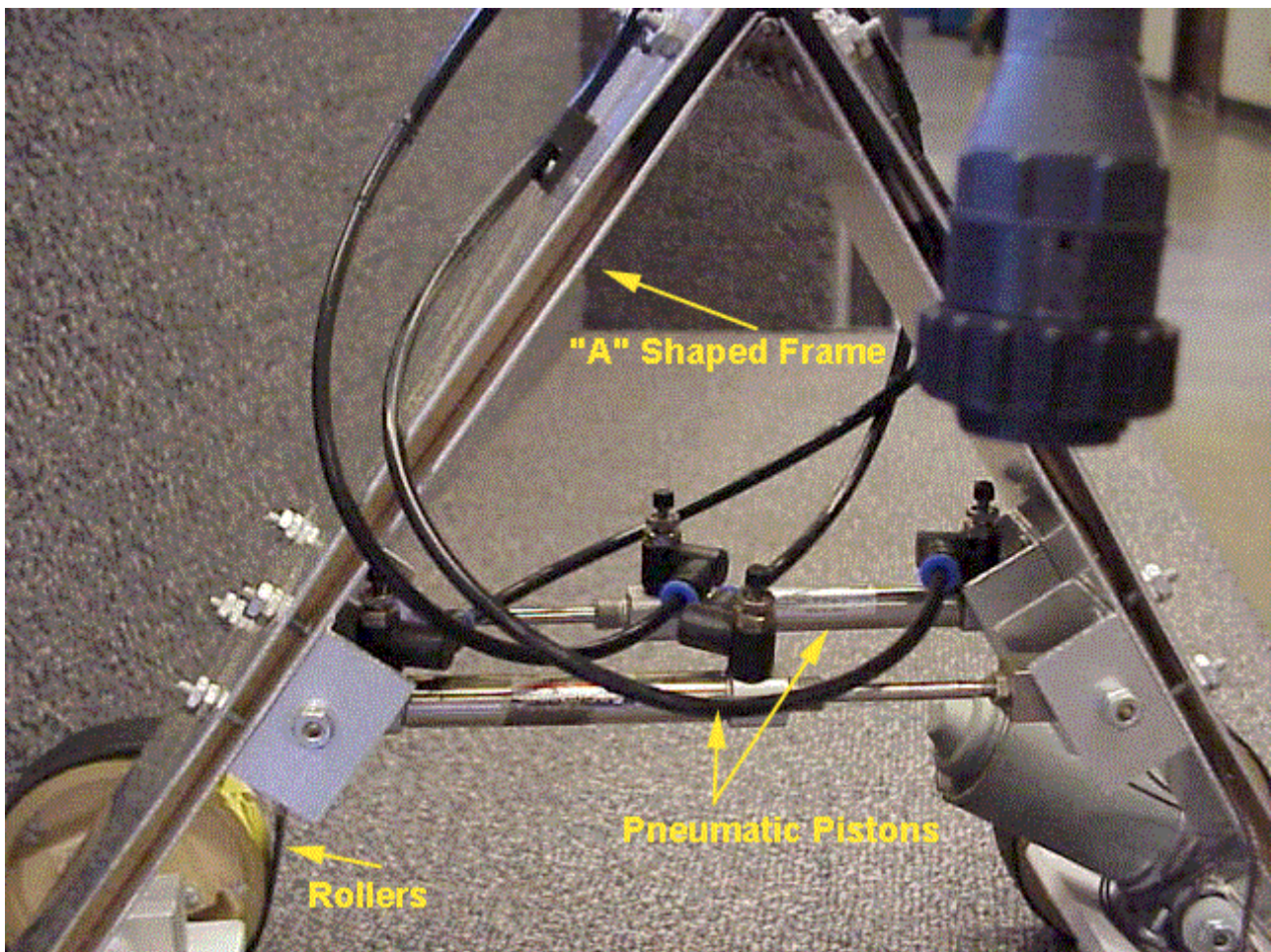
your time in the shop faster than your can possibly imagine!



By having a threaded shaft, the magnet height from the table could be adjusted thereby increasing or decreasing the normal force. The puck guides are another good mechanism that prevent jamming of the pucks between the slot in the table and the device.



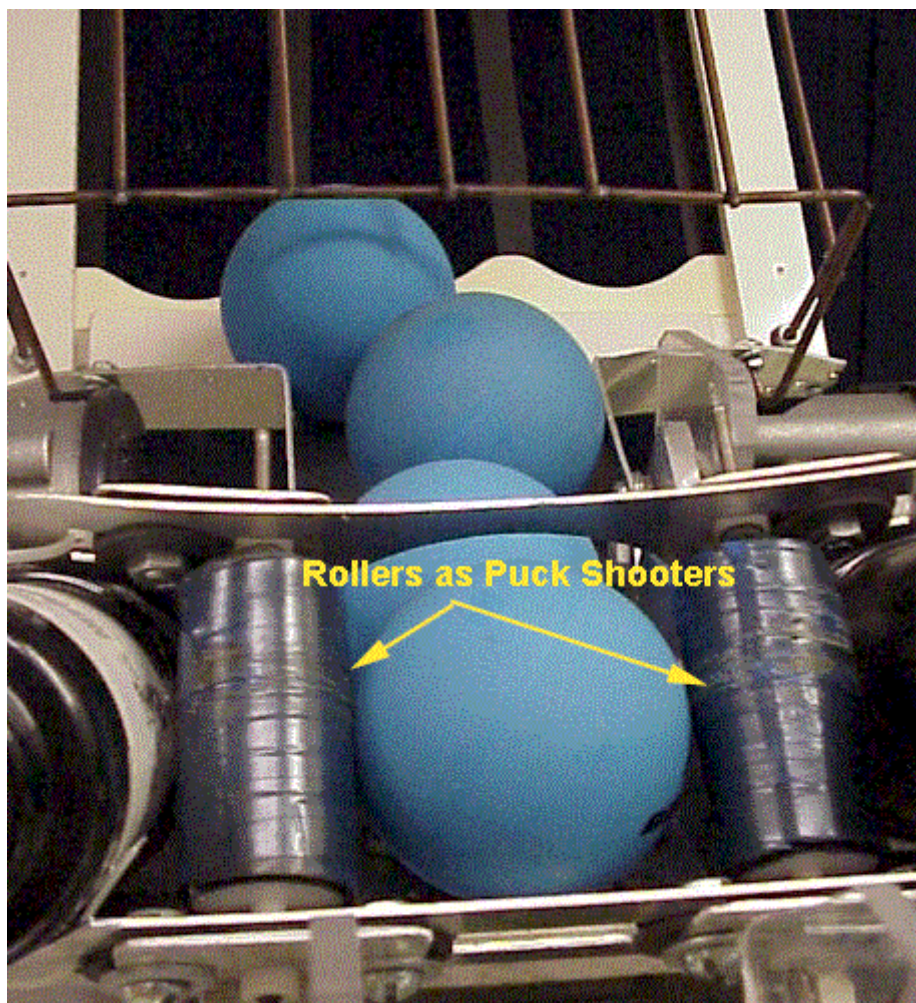
This puck dispensing mechanism is activated via the pneumatic pistons which lift the puck gate. When the puck gate is lifted the constant force spring pushes the pucks to the dispensing chute.



This "A" shaped mechanism is a creative simulation of "walking". With the assistance of the rollers, the pistons push the frame out further. When the pistons are deactivated, the back end of the frame is edges its way back to the starting angle.... and the process starts over.

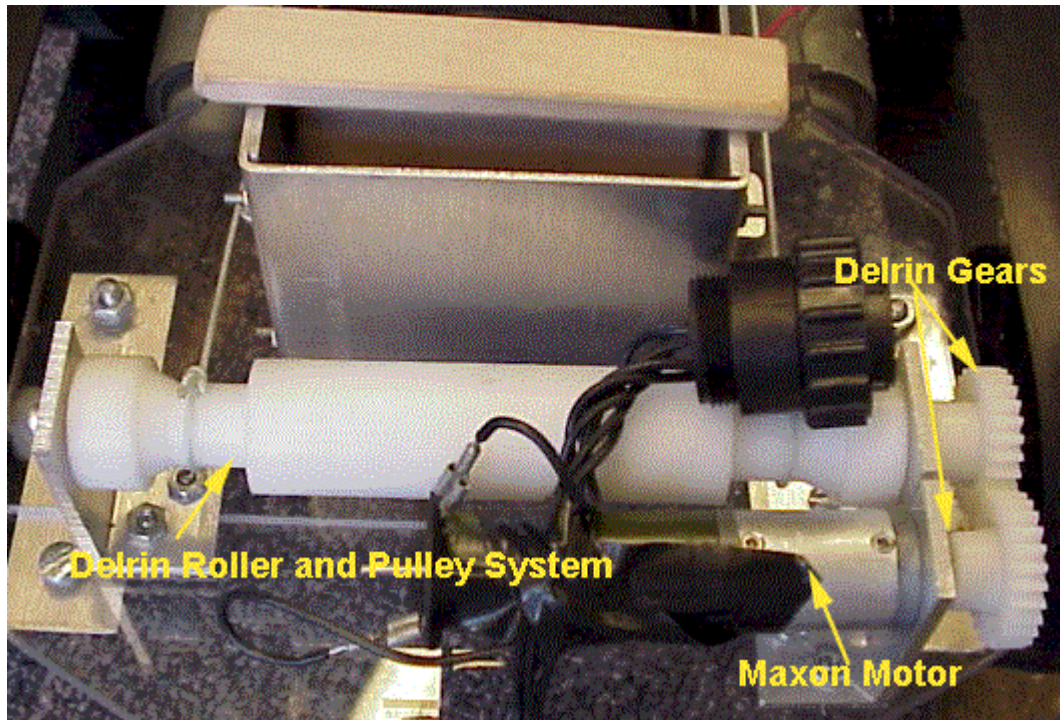


Make sure that you build your machine to be robust.



This device has an interesting approach of getting the balls into the scoring area: by shooting them! The delrin rollers mounted on welding rod are powered by a motor and shoot the balls as they fall into

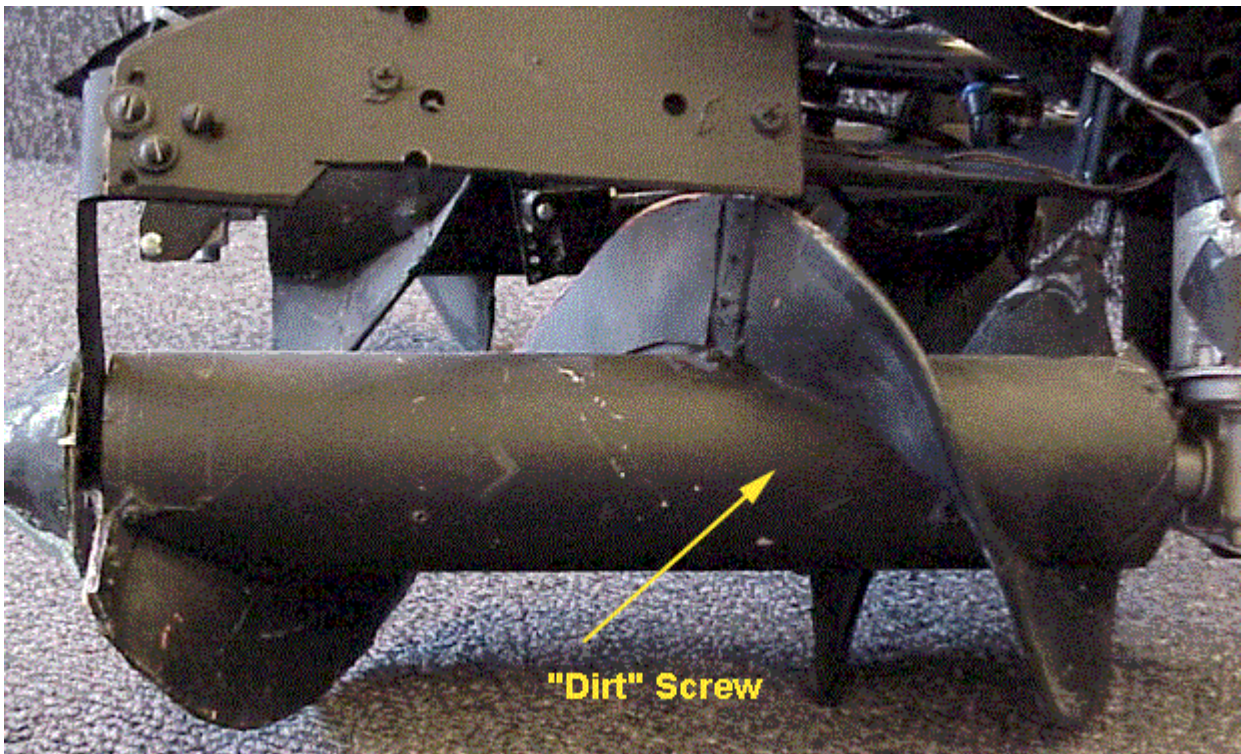
place from the storage area.



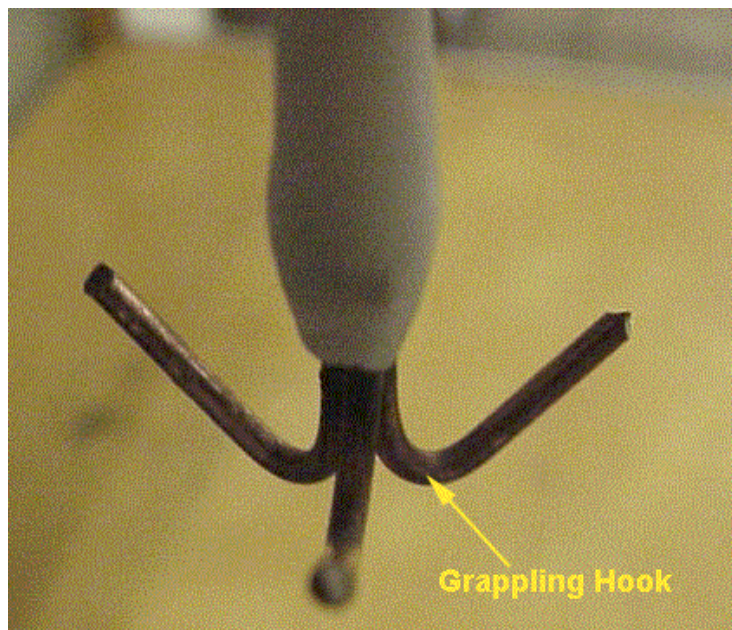
This is a good use of delrin gears. The geared green maxon motor drives the pulley system which pulls the puck gate back, allowing the pucks to exit the storage area.



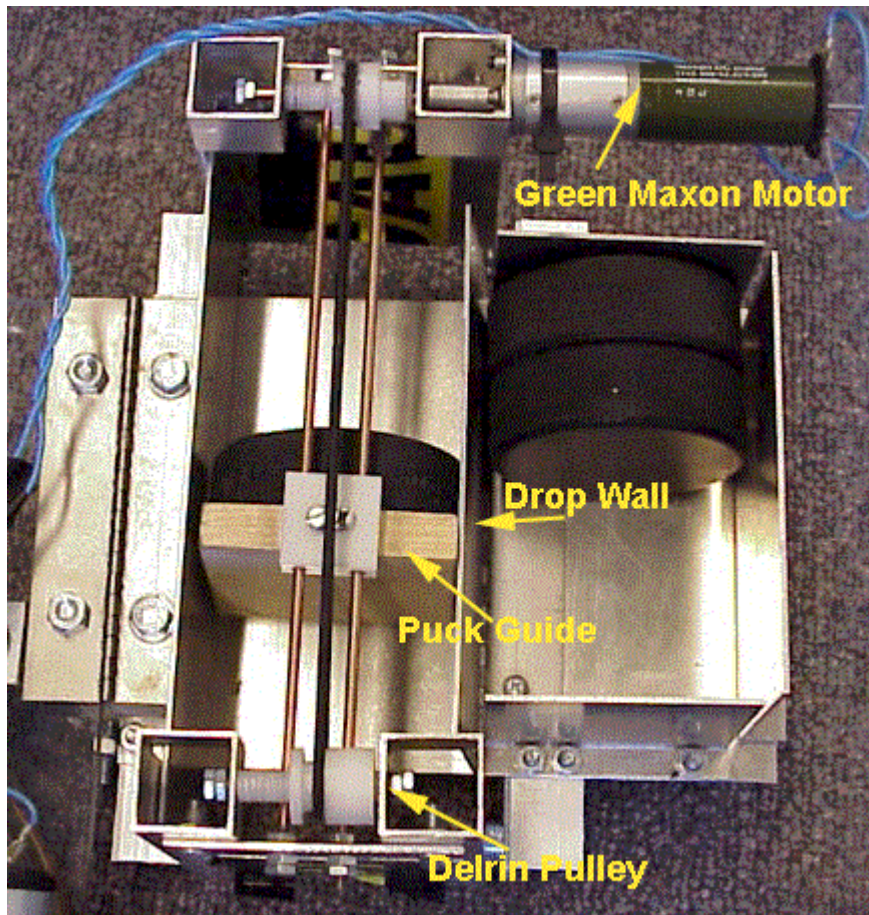
Convex Wheels are GOOD for keeping tracks from slipping.



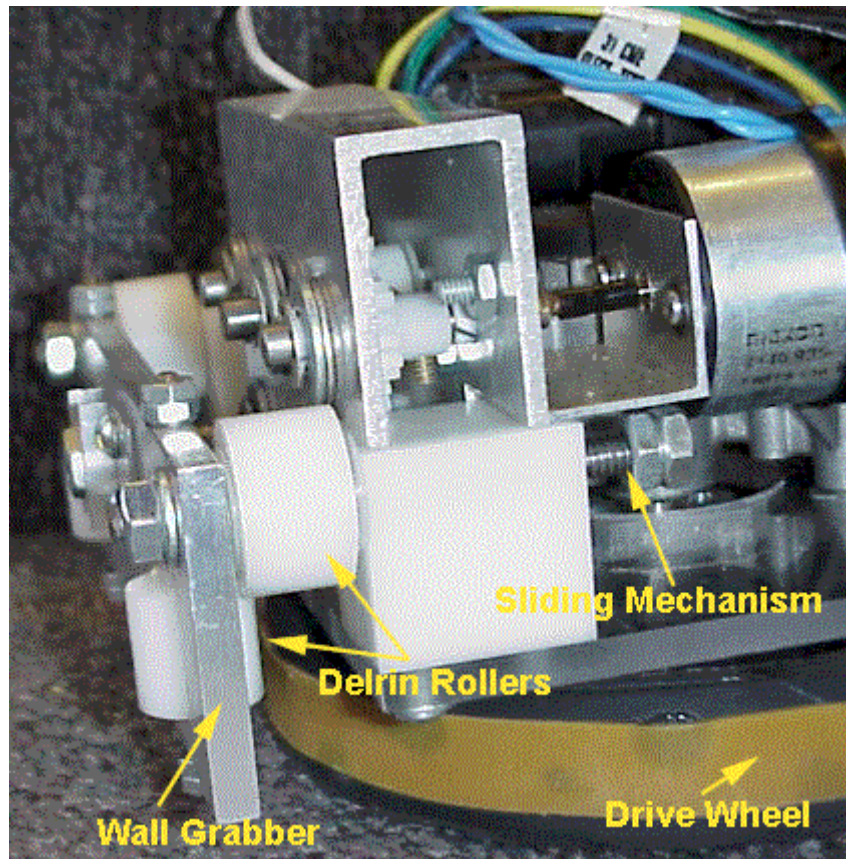
Though this dirt screw was not entirely functional, it was a creative way of propelling the device forward.



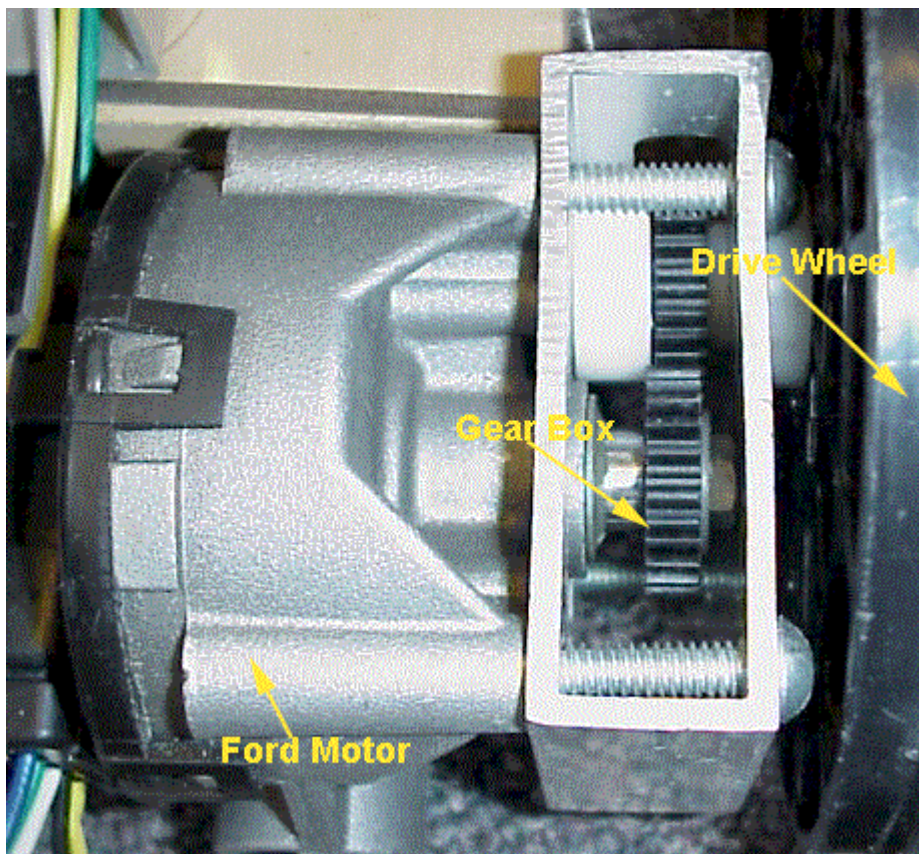
One way of getting a device up an incline without driving up it is to shoot a grappling hook (via a the propulsion of a constant force spring, for example) over the top edge and then wind the device up to it.



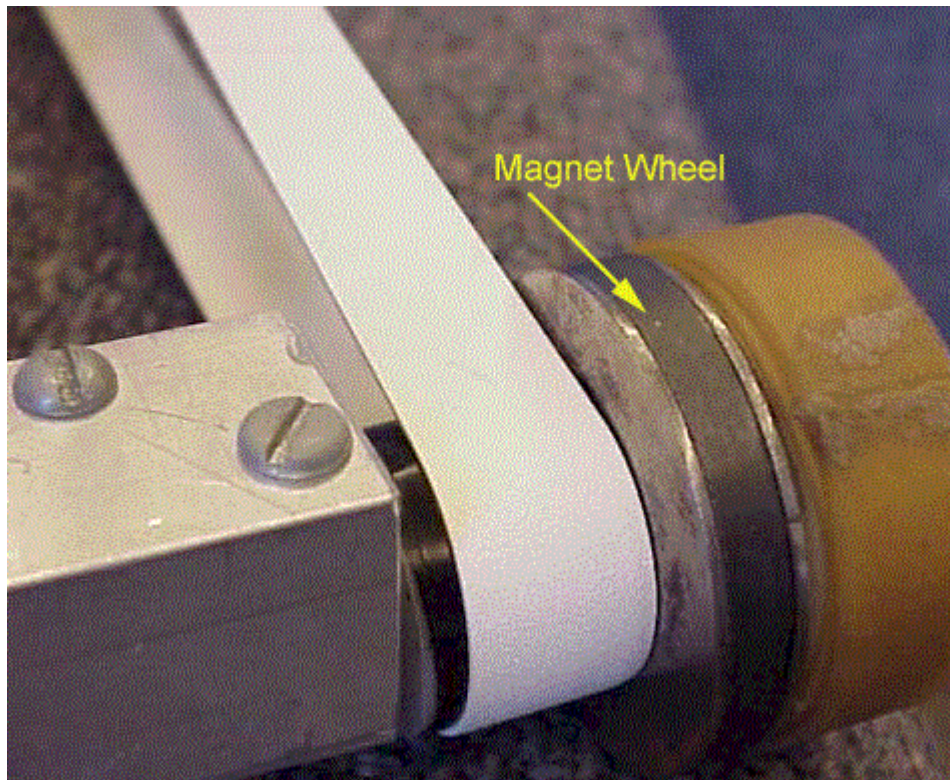
This device has two storage areas of five pucks. The Maxon motor drives the pulley system. As the puck gate reaches the end of the storage tray, the dividing wall drops down and the other pucks roll into the left bin where the process is repeated.



This wall-crawler sliding mechanism moves and allows the wall grabber to tighten on to the side wall. The drive wheel and delrin rollers (connected to motor) drive the device up the incline. By driving up the side wall, the operator does not have to worry about the horizontal positioning of the device with respect to the scoring slots.



This gear box increases the speed of the Ford Motor (at the expense of torque) which is connected to the drive wheels.. When time is a concern, speed is good.



Using magnets as wheels increased the normal force of the device without an overpowering "sticking" effect.



Good example of how to mount the battery packs.

