Title: Automatic ball collector with counter

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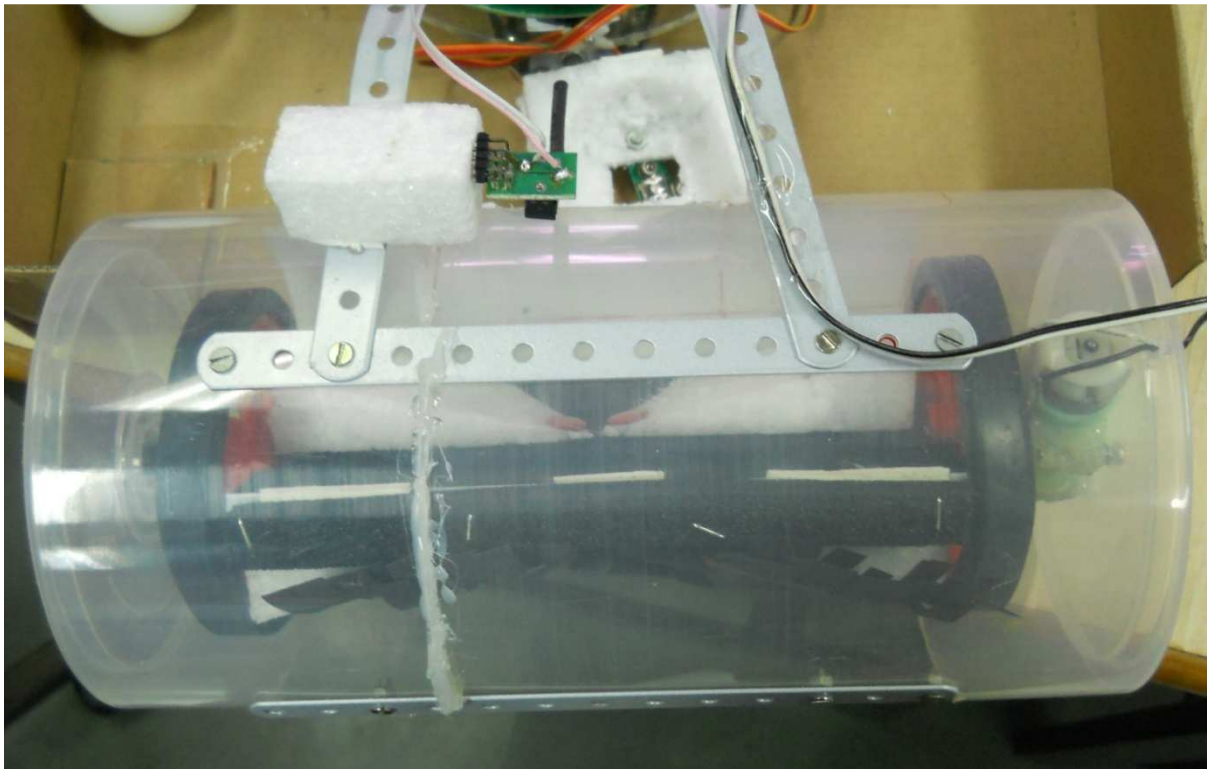
Introduction:

The ‘Automatic ball collector project is aimed to collect balls.

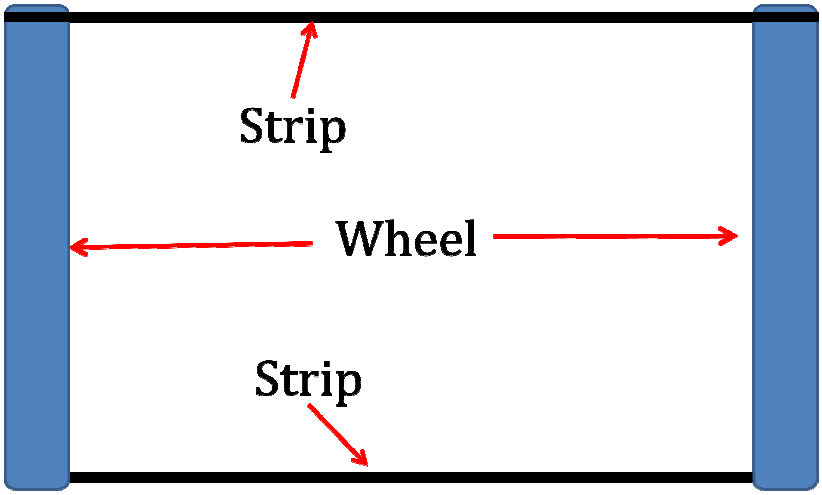
Description:

The automatic ball collector is developed by using fire bird V (P89V51RD2) using a ball collector drum (shown in fig.).

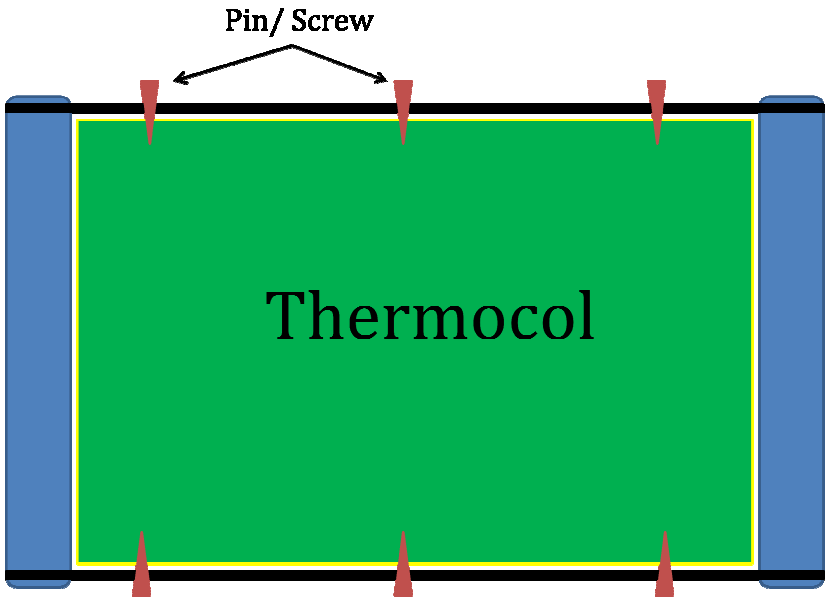


The drum is made by trash. To made small prototype drum, used CD box, wheel, thermocol, geared DC motor with high torque, and mechanical parts (as shown in fig.).

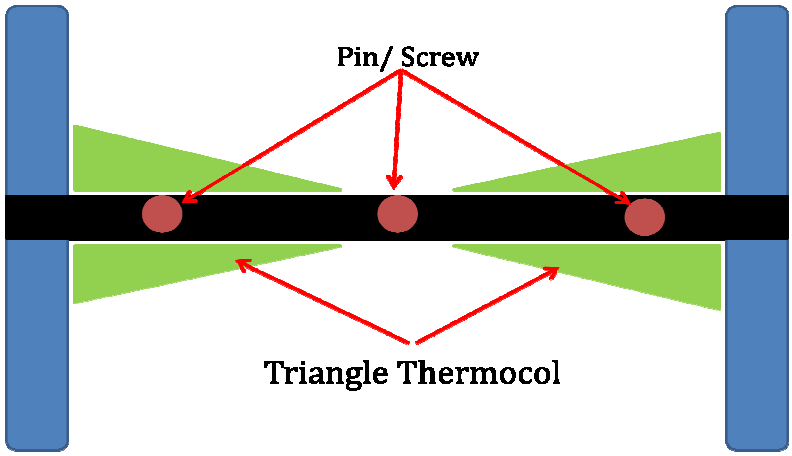
First of all connect the two wheels with mechanical strip as shown in fig.



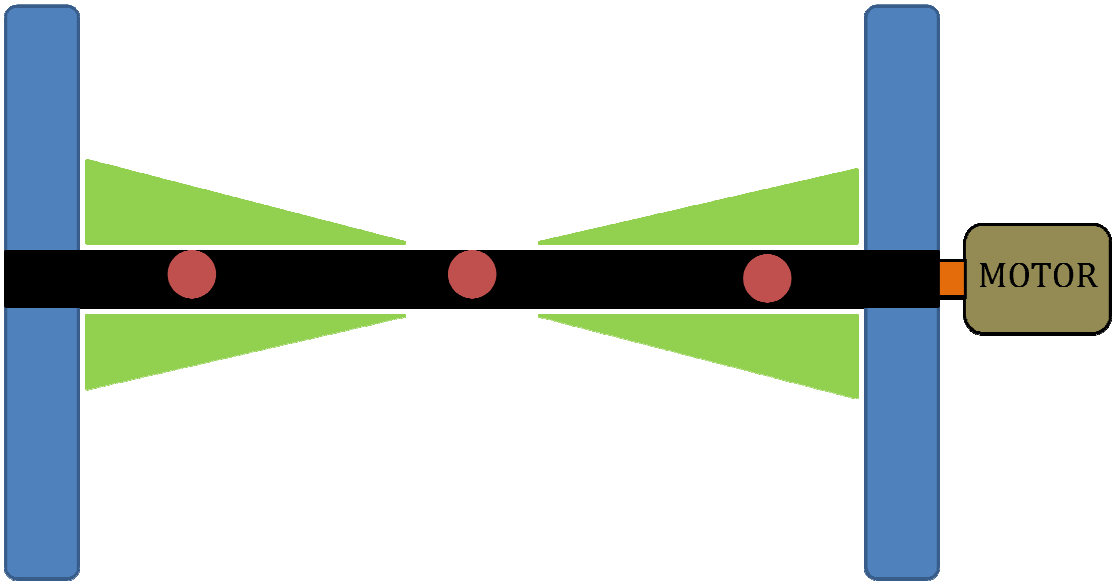
Then put thermocol between two mechanical strips and give it strength by small pin or screw.



Then cut thermocol in triangle shape and put it (as shown in fig.) to collect balls from middle side of drum.



Then connect the DC motor with any one of two wheels and fit all assembly in drum (here we are using empty two CD box small and big as shown in video) and fix it with screw.



Working:

The drum is connected with fire bird as shown in fig. This drum has dc motor which is connected to +5 V. When switch on the bot the DC motor rotates and collects ball whatever comes in front of drum. And it collects all balls from middle due to triangle shape thermocol. At the exit point of the drum, “touch sensor” has been placed and whatever balls comes out it generates pulses, and the no. of pulses indicates no. of balls collected.

References:

1. FireBird V AVR2560 Hardware Manual
2. FireBird V AVR2560 Software Manual