

The Fifth R

South Pointing Chariot

If you do not know where you are going, you will surely be lost



Even in ancient times, it was the women who did all the work - in this case, pointing the way south. The men just sat around. But then, he was the Emperor.

The secret to this contraption is the differential gear. It is said that the first differential gear was invented in China circa 4,000 years ago.

This is a nice model to build to show off your differential gear. Except for the mini-figs, the parts are all in your LEGO Mindstorms set. The colors may be different, though. You don't need the RCX.

Note the modern-day chariot to its right.



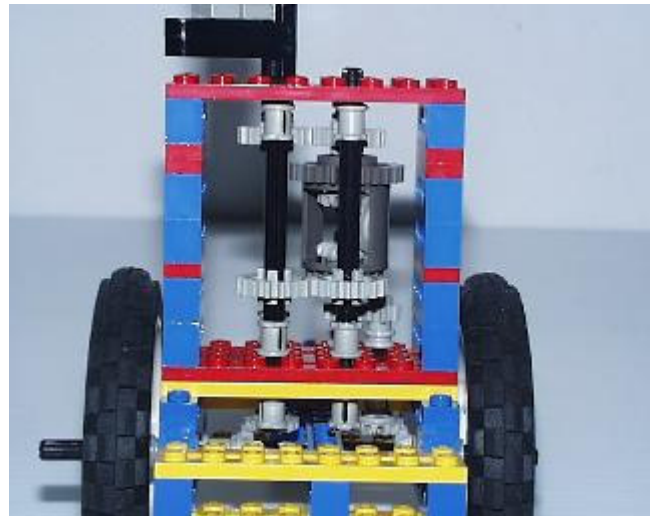
The Emperor gets the chariot ready



and then takes his seat.



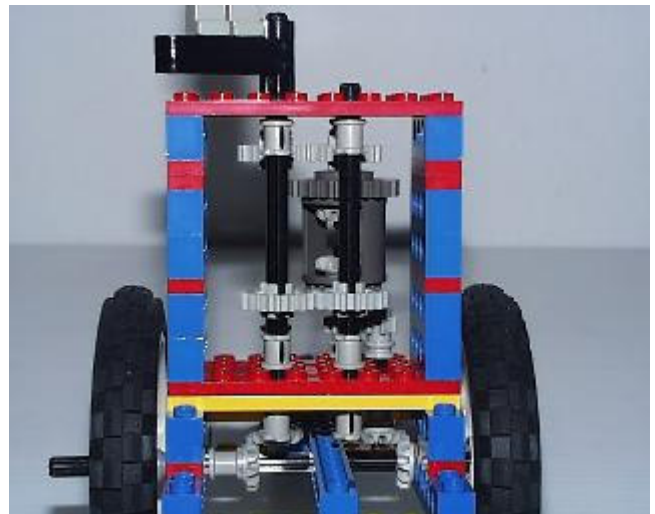
Front View



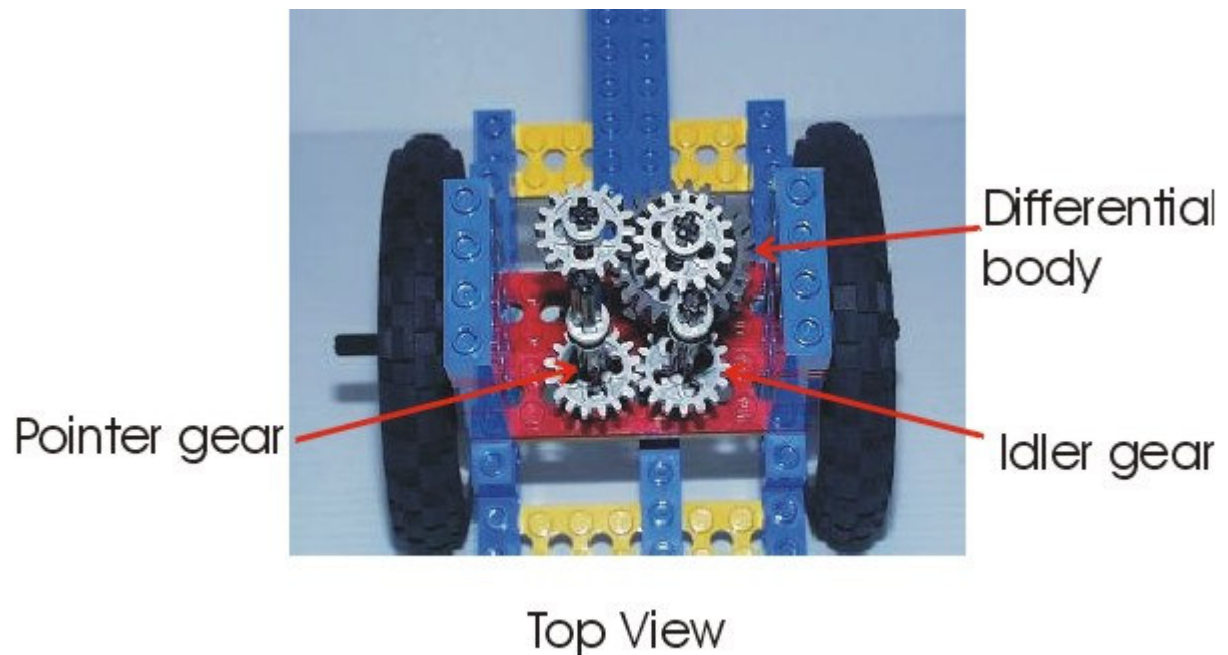
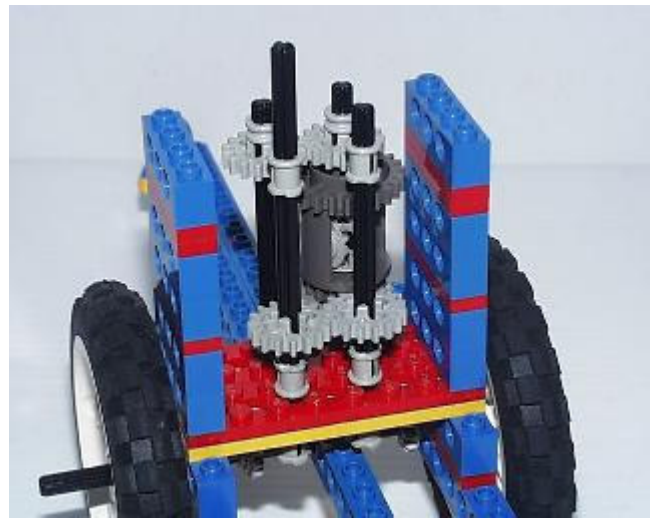
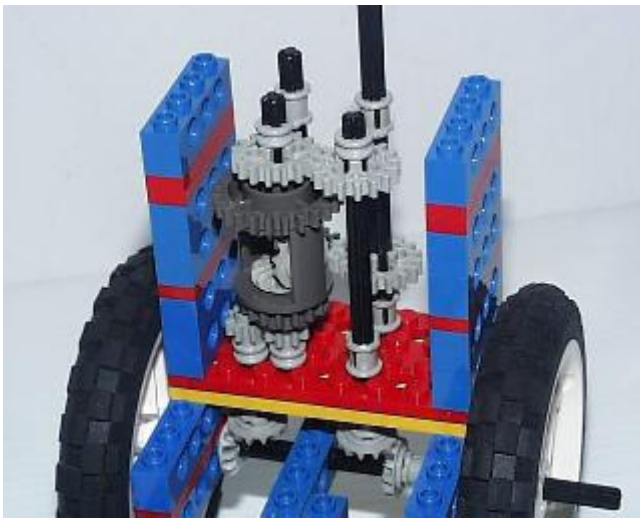
Back View



The left wheel connects to the top input axle while the right wheel connects to the bottom input axle of the differential gear.



The pointer is linked to the lower end of the differential gear housing through the two 16T gears. An idler gear is necessary to get the rotation right.



The small print

There are a few things to note to get this chariot to work correctly.

The distance between the two wheels must be exactly equal to the diameter of the wheels.

It so happens that the diameter of the motorcycle wheel is about right for the 8-stud spacing between the wheels.

You may have to do some adjustment to get it exactly right.

All the gear ratios must be 1:1.

Taken from www.fifth-r.com