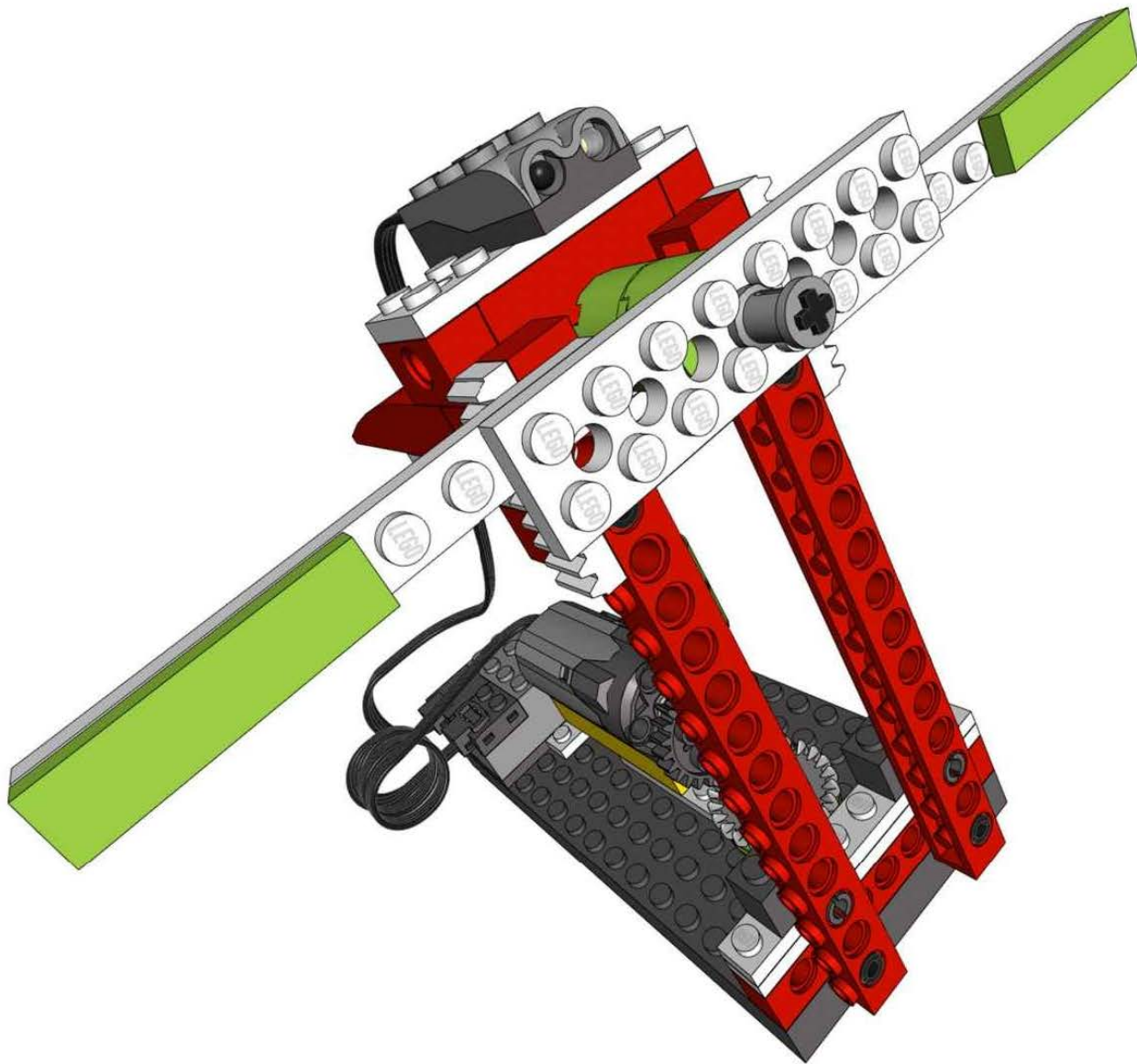


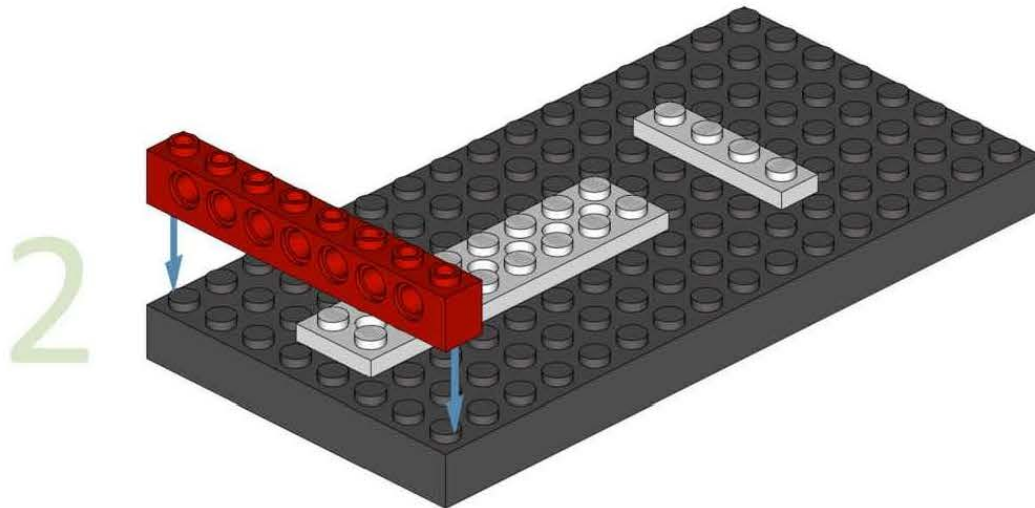
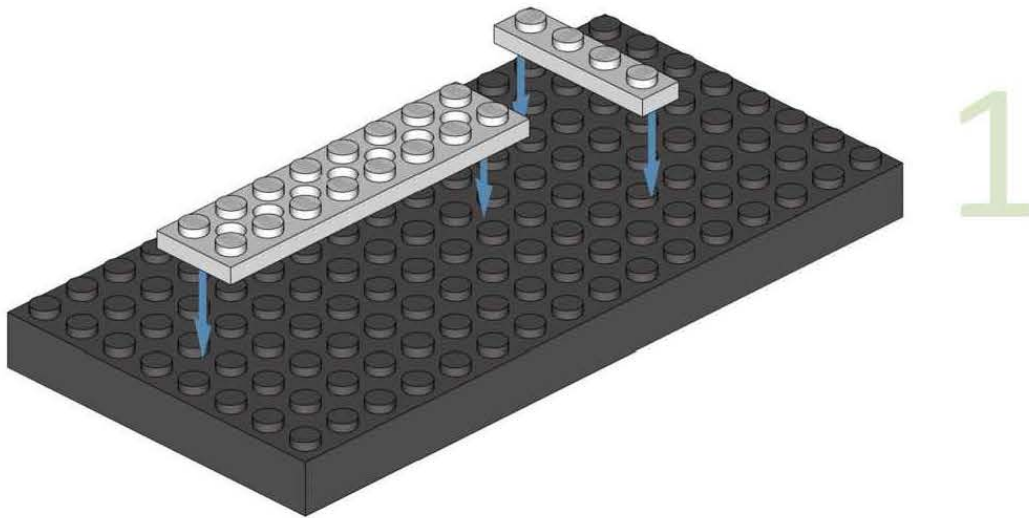
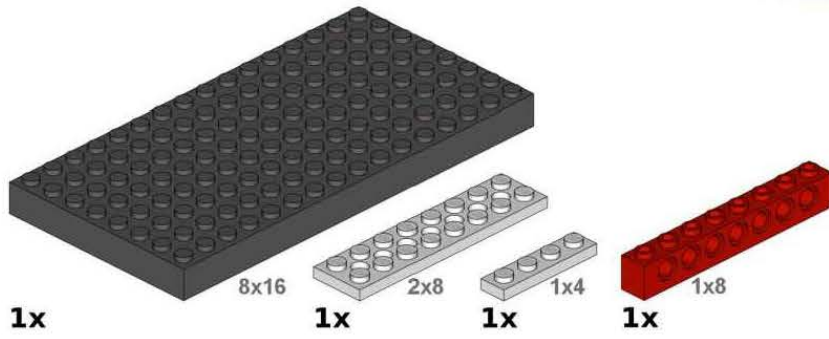
Windmill



Construction

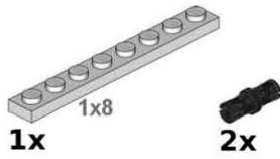
Construction

Windmill

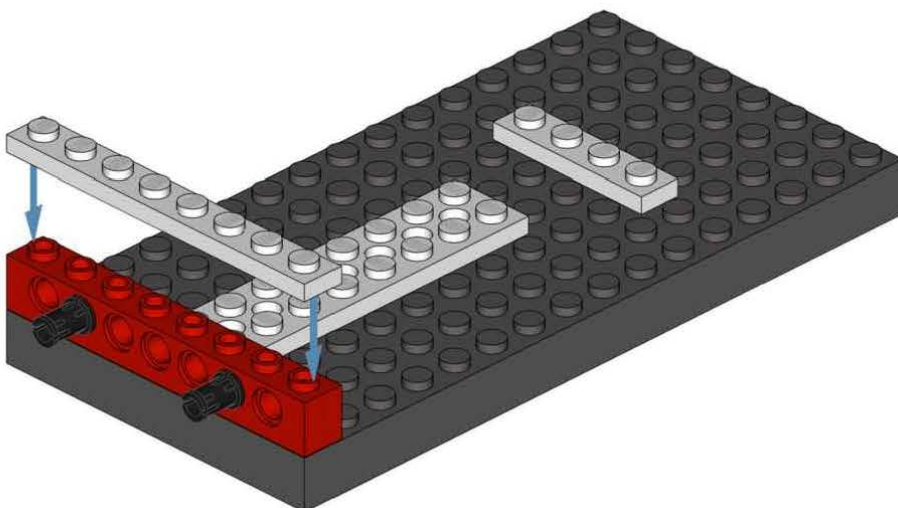
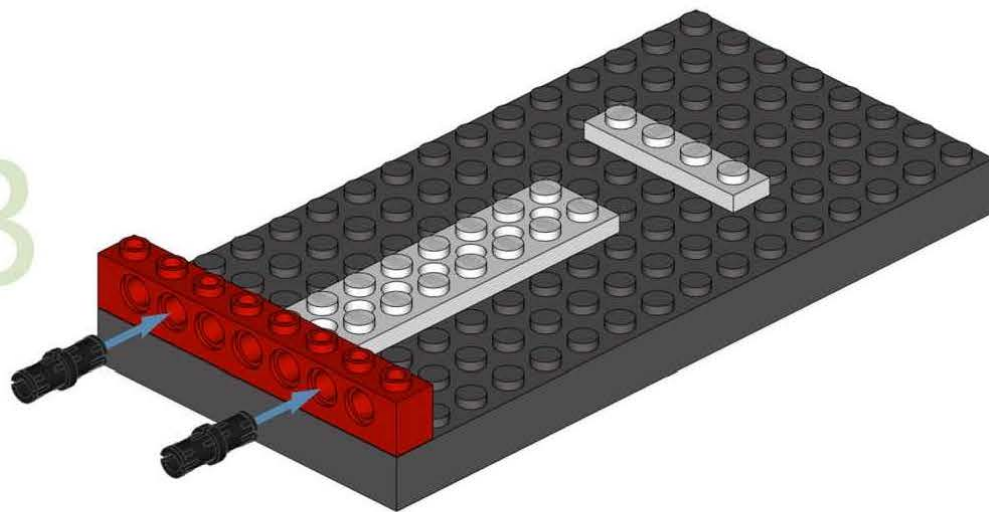


Construction

Windmill



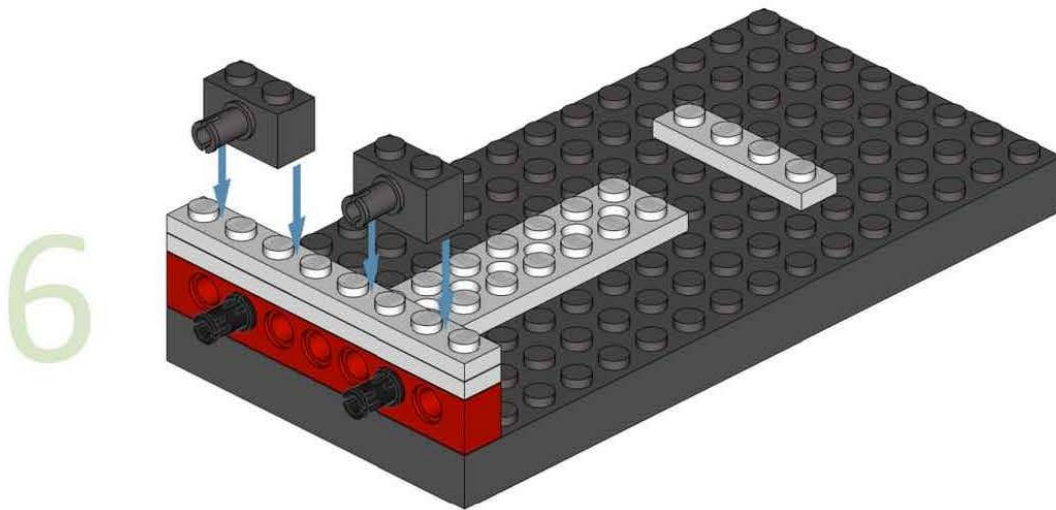
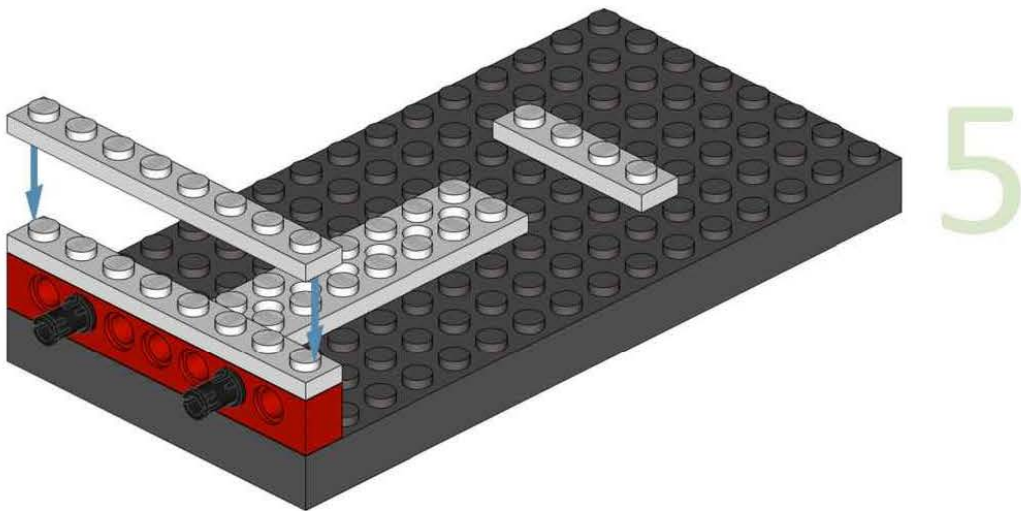
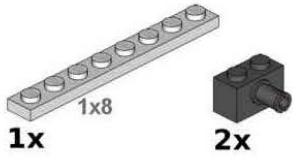
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4

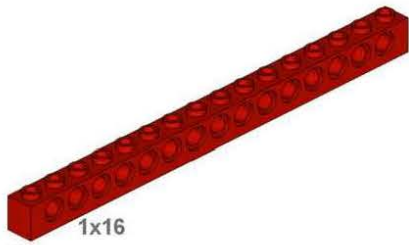
Construction

Windmill

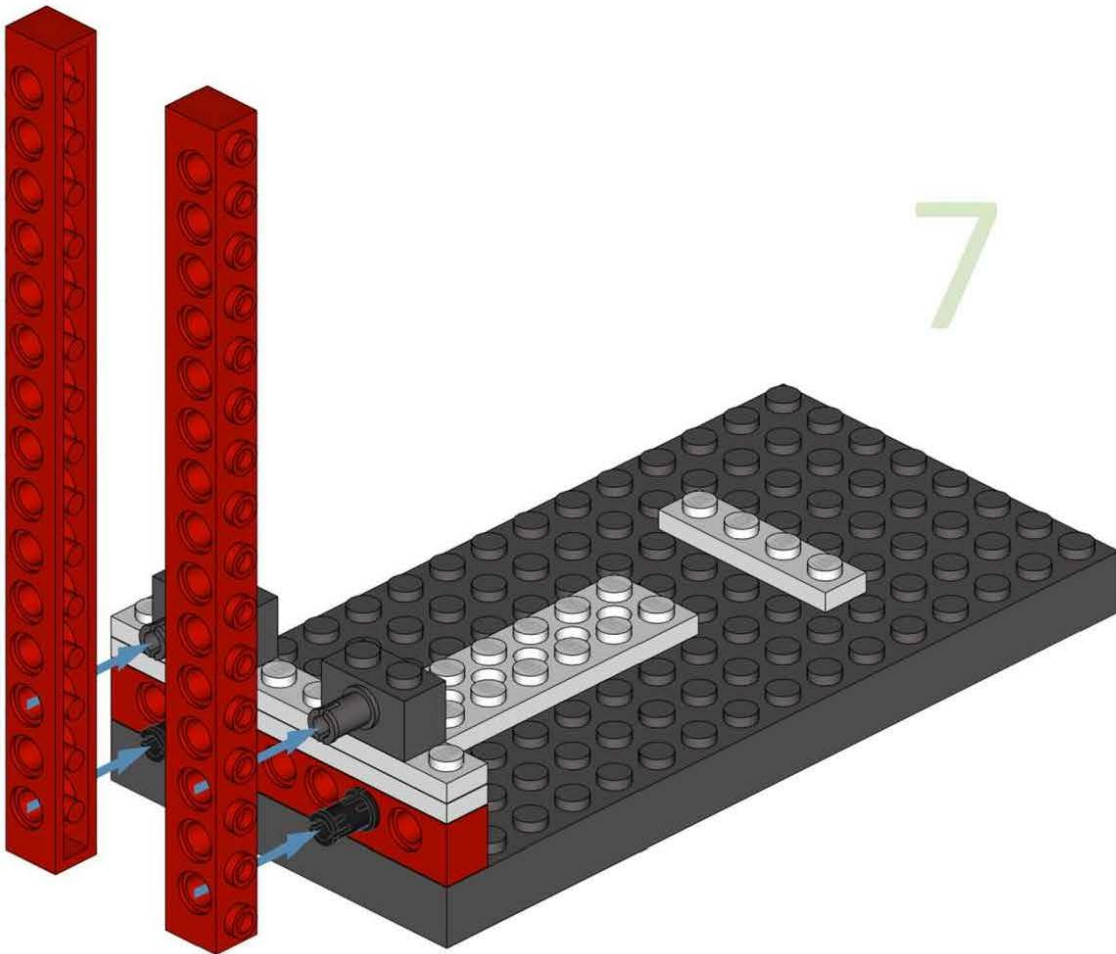


Construction

Windmill

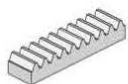


1x16
2x

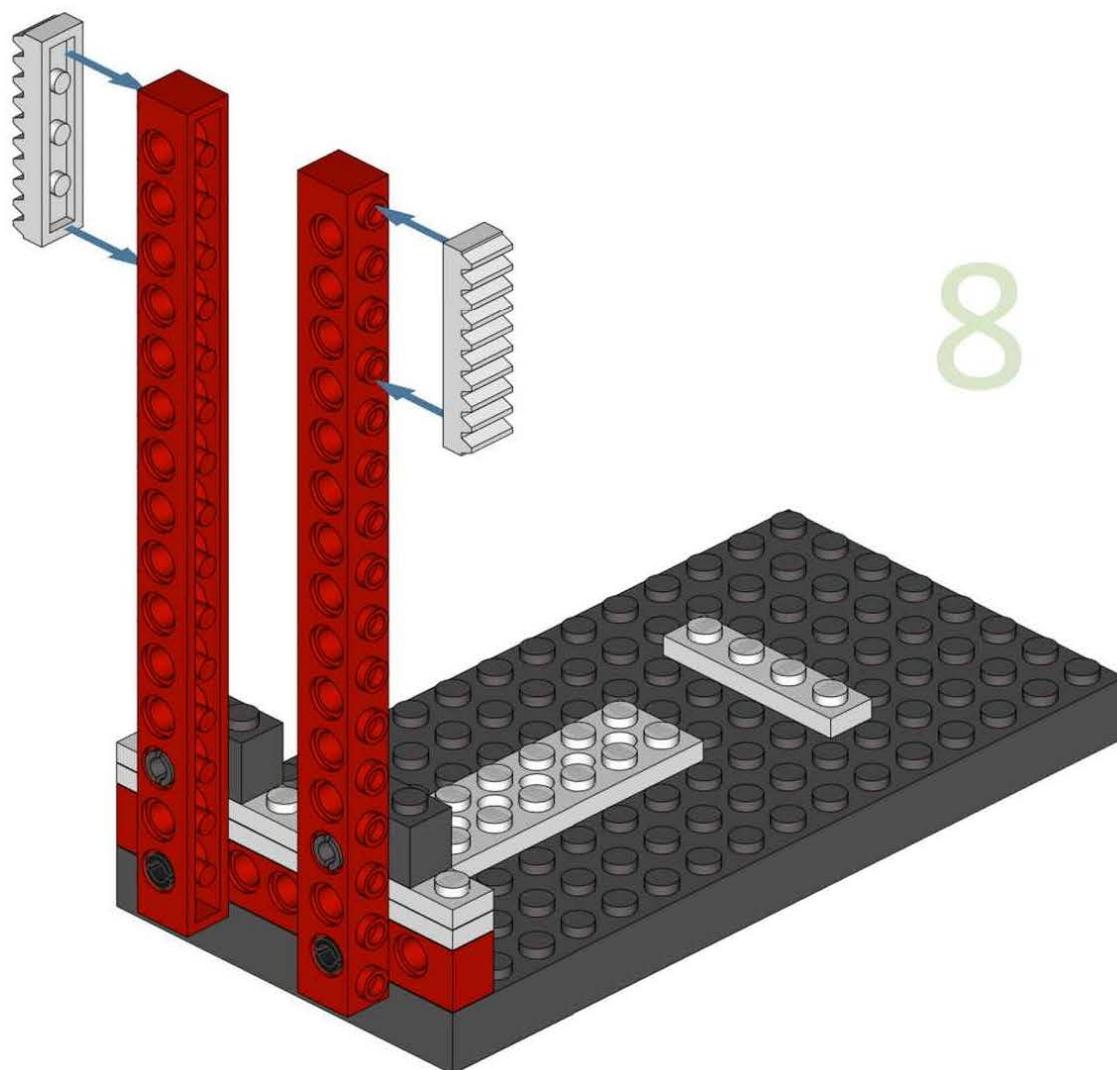


Construction

Windmill



2x

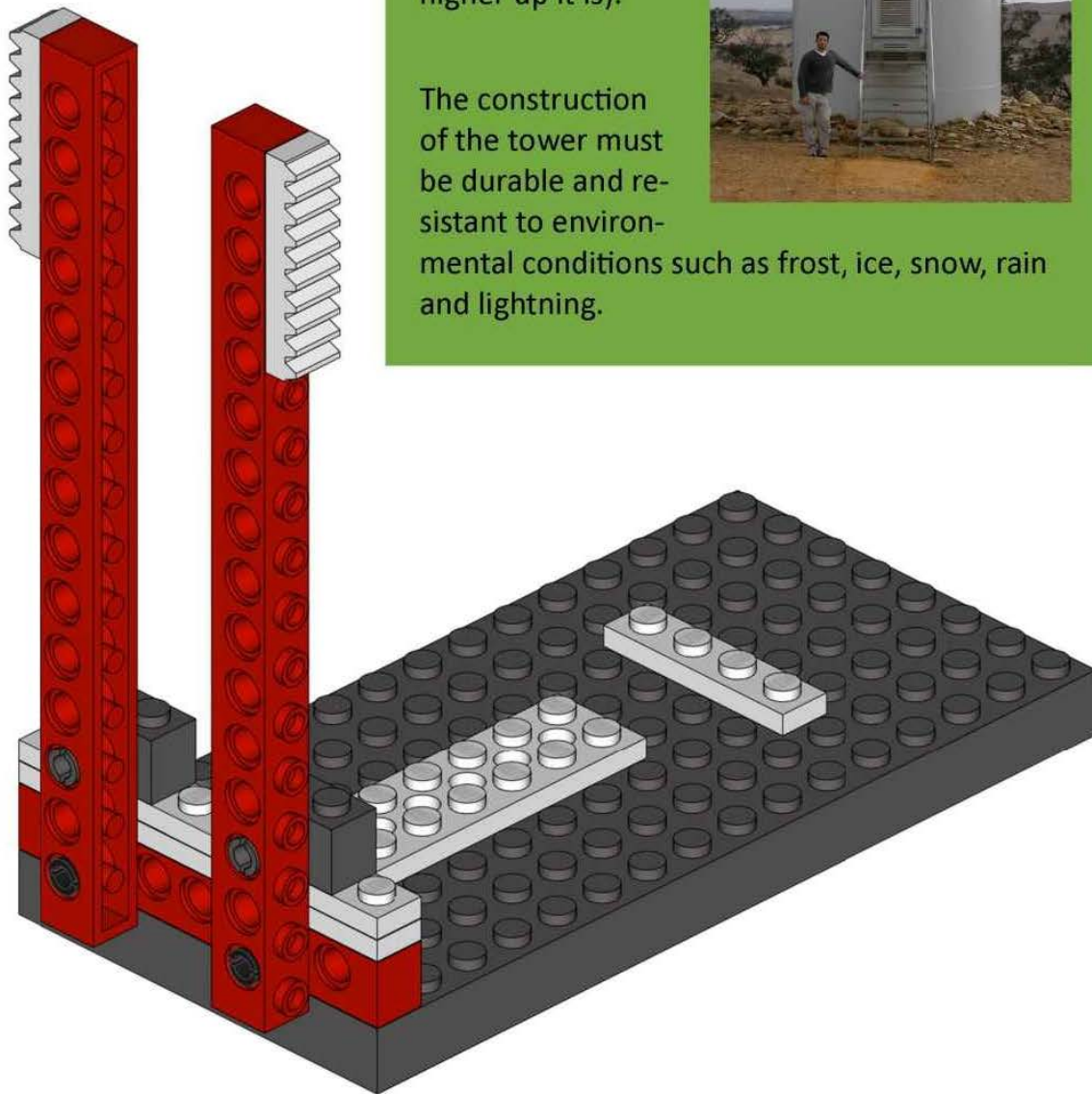


Construction

Windmill

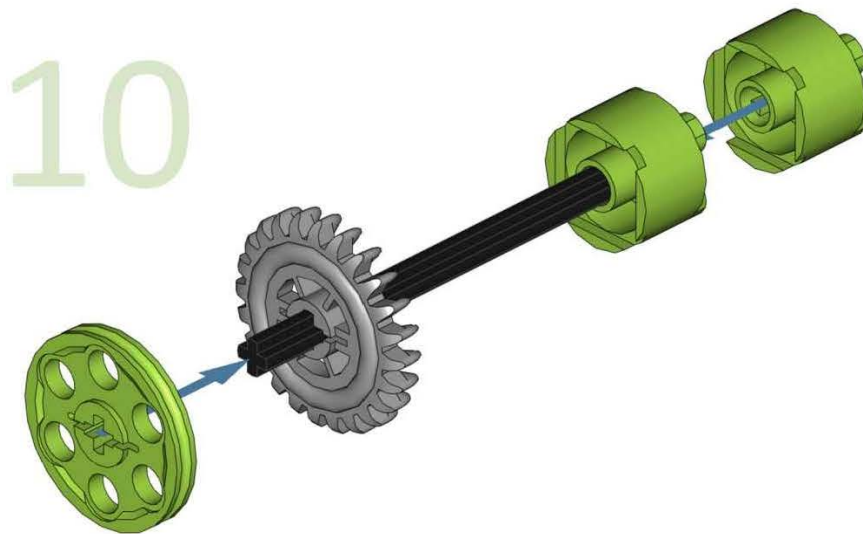
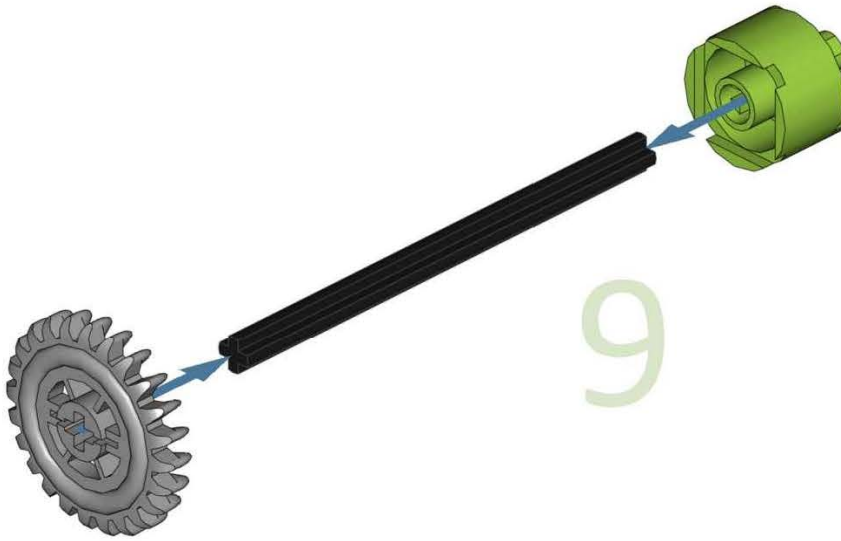
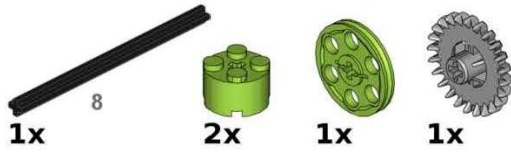
The main purpose of the tower is to place the rotor at the correct height. The higher it is the more effectively the rotor works (it is windier the higher up it is).

The construction of the tower must be durable and resistant to environmental conditions such as frost, ice, snow, rain and lightning.



Construction

Windmill

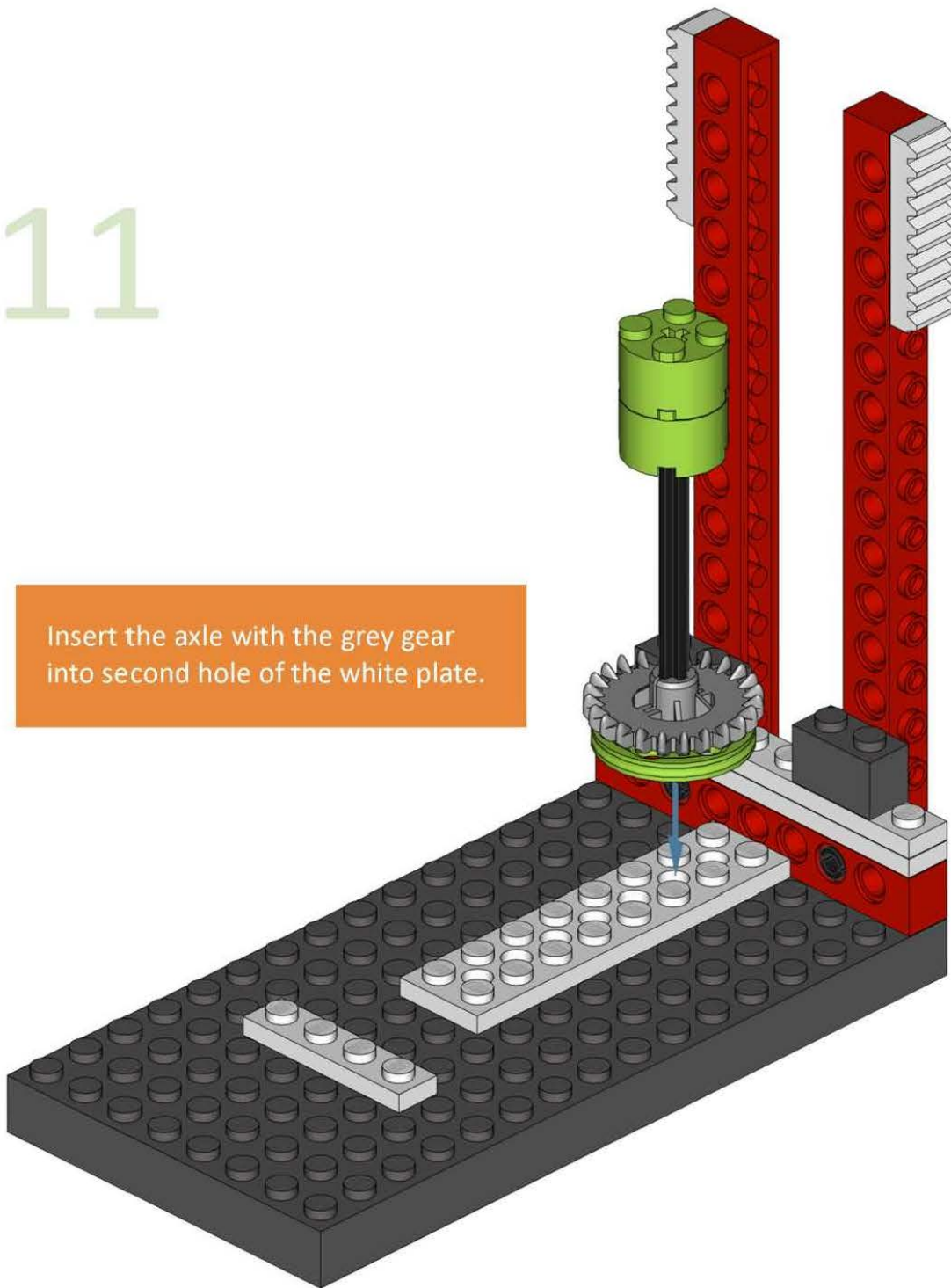


Construction

Windmill

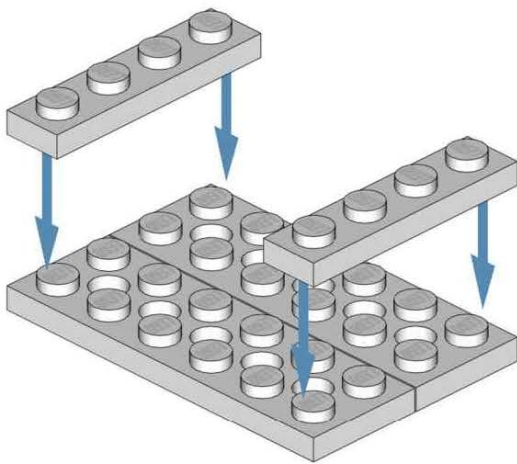
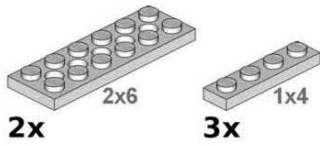
11

Insert the axle with the grey gear into second hole of the white plate.

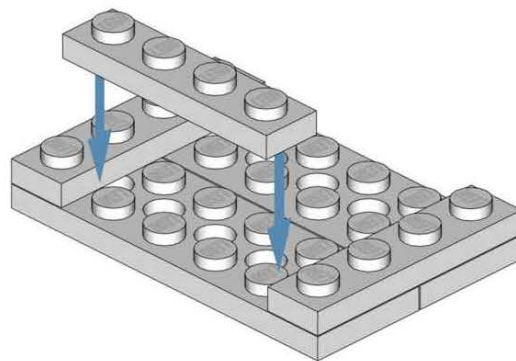


Construction

Windmill

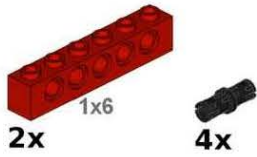


13

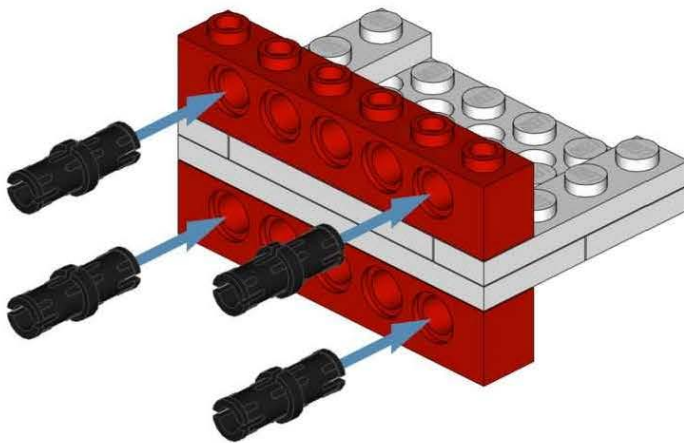
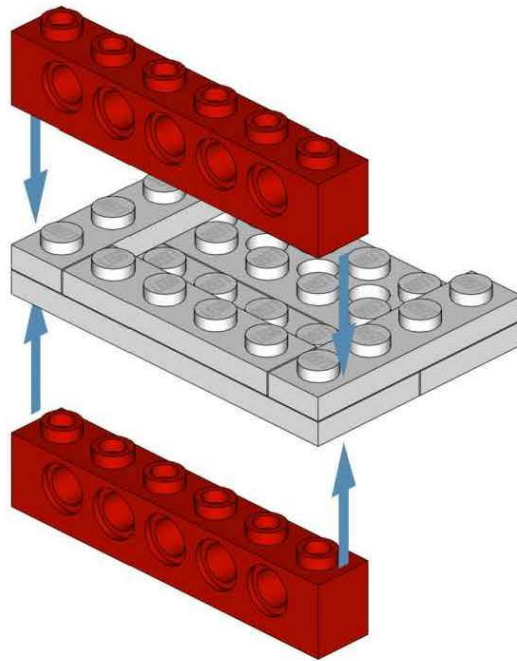


Construction

Windmill



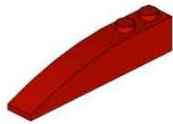
14



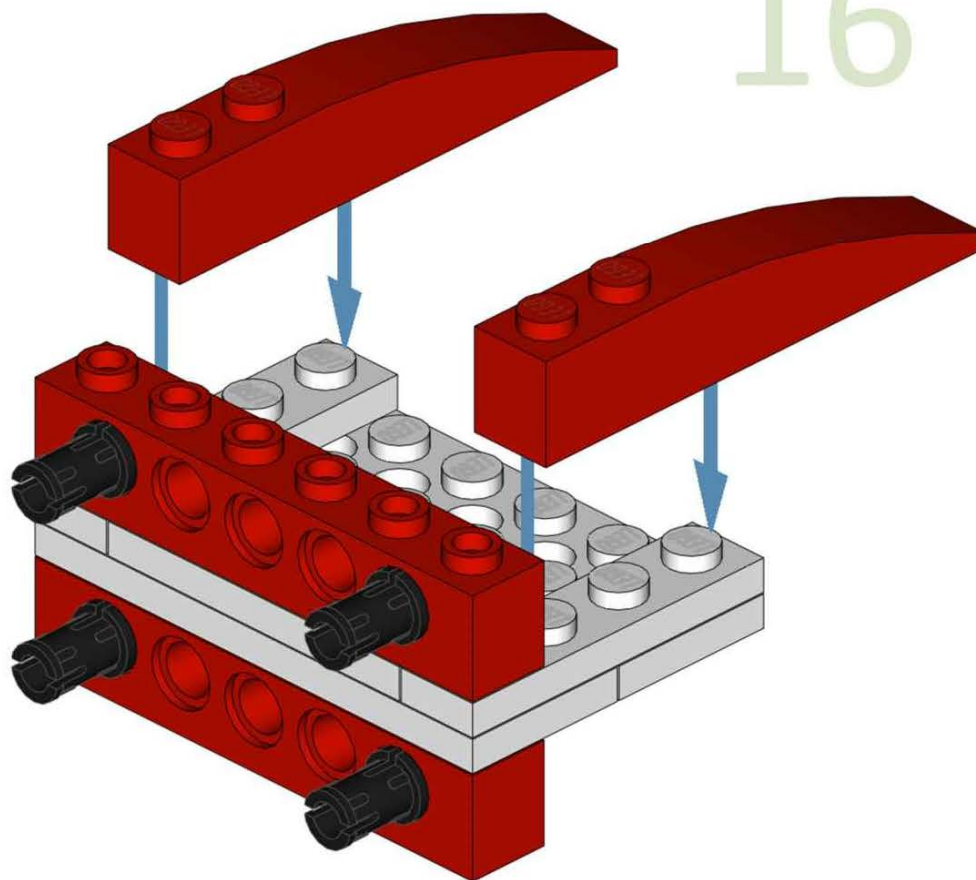
15

Construction

Windmill

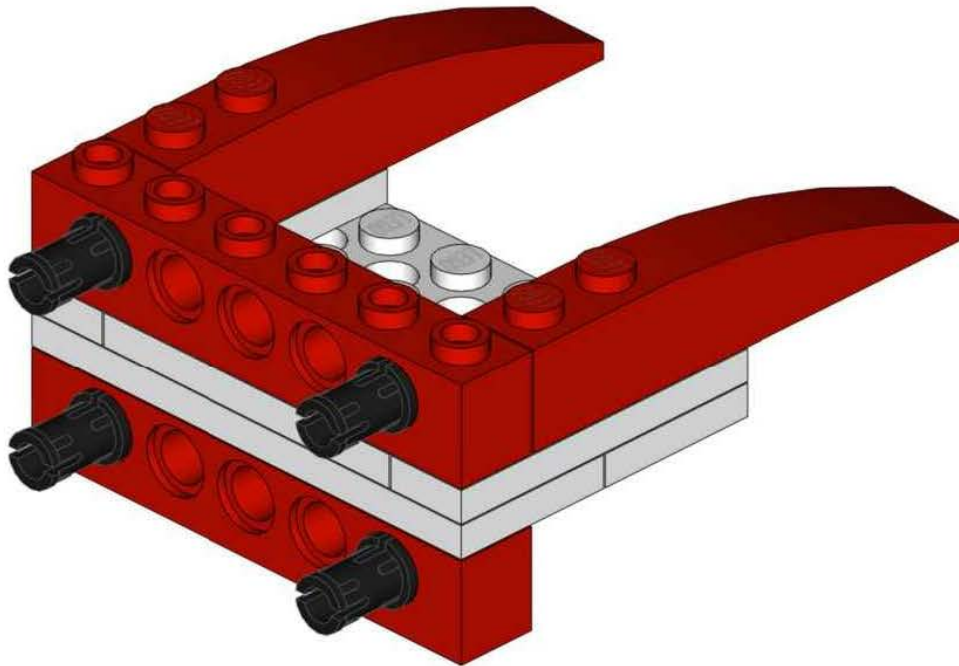


2x

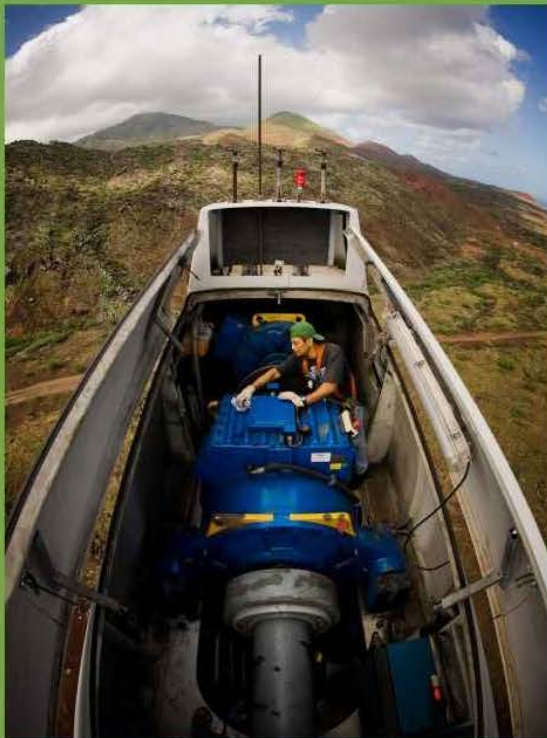


Construction

Windmill



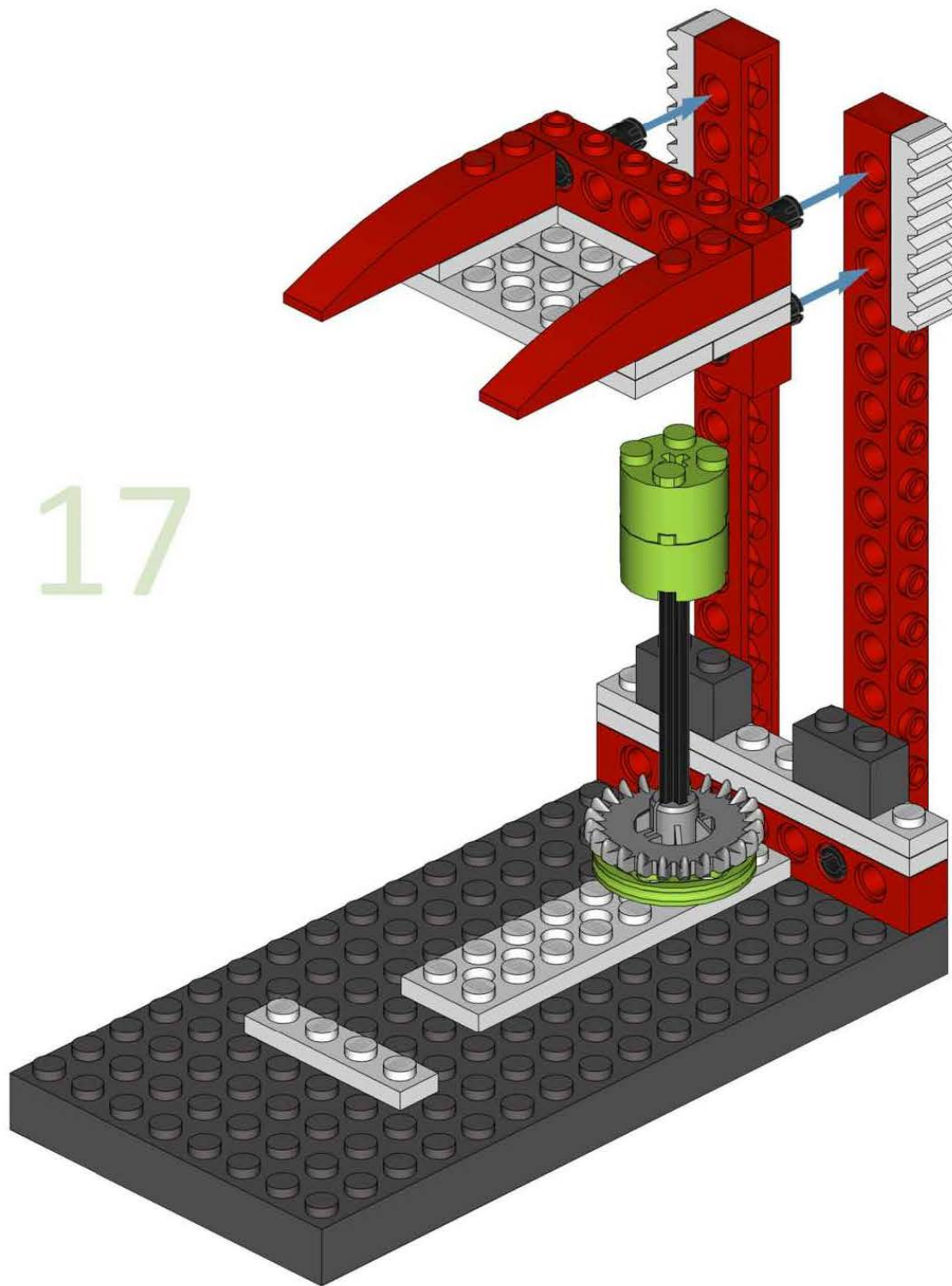
Construction



The cover housing on top is called the nacelle. It is the control system of the entire windmill, where we can find a system of changing wind power into electricity. Staff operating the windmill enter the nacelle with a ladder mounted on the tower or by using the elevator.

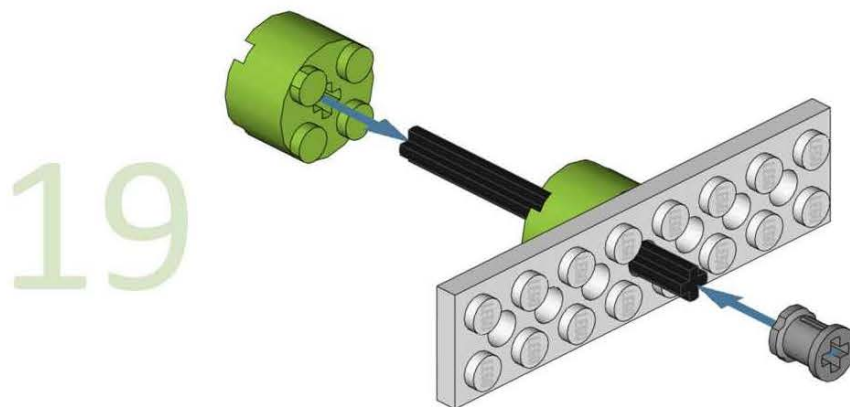
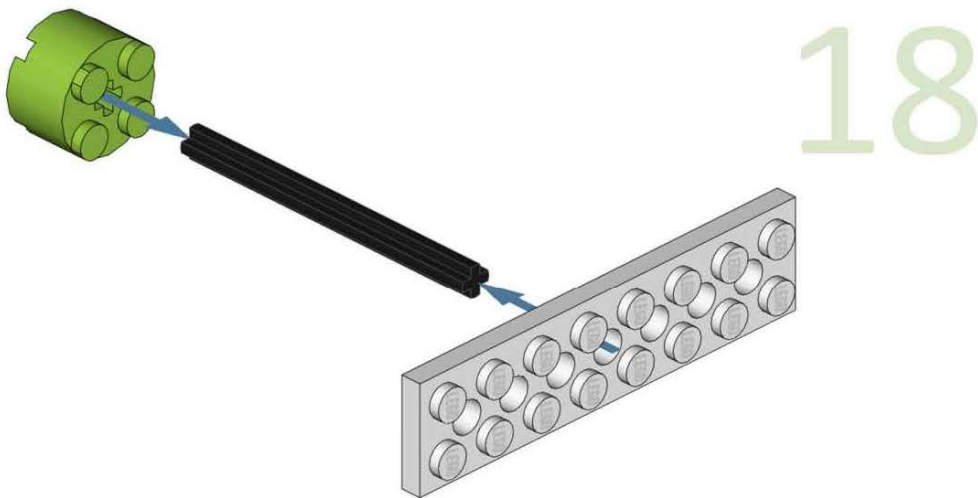
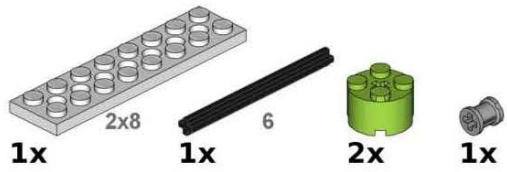


Windmill



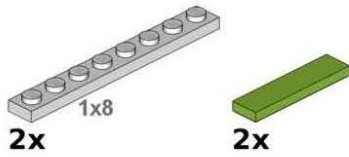
Construction

Windmill

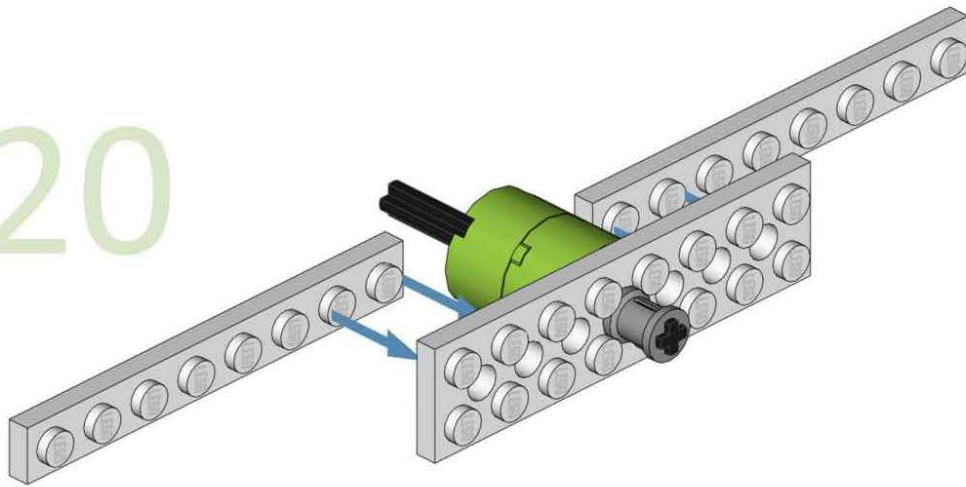


Construction

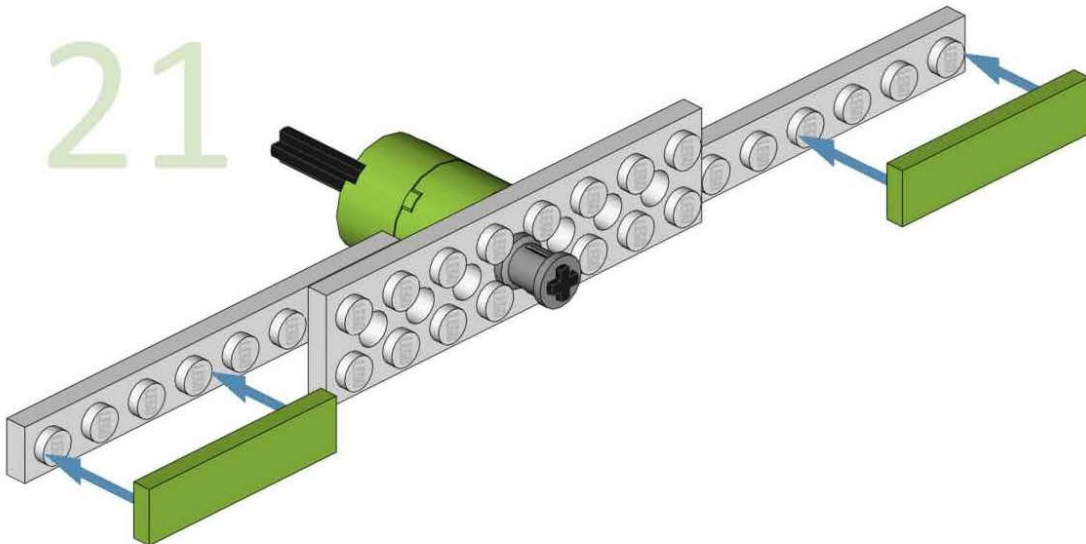
Windmill



20

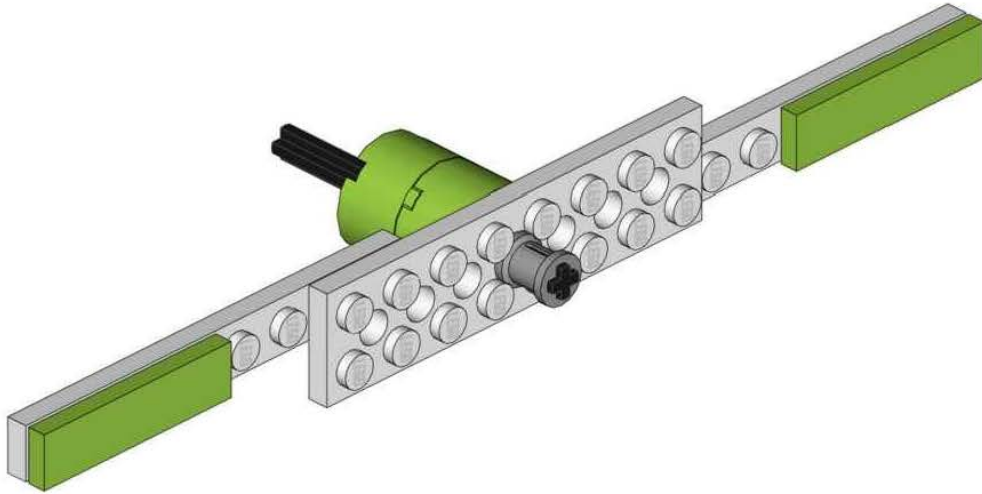


21



Construction

Windmill

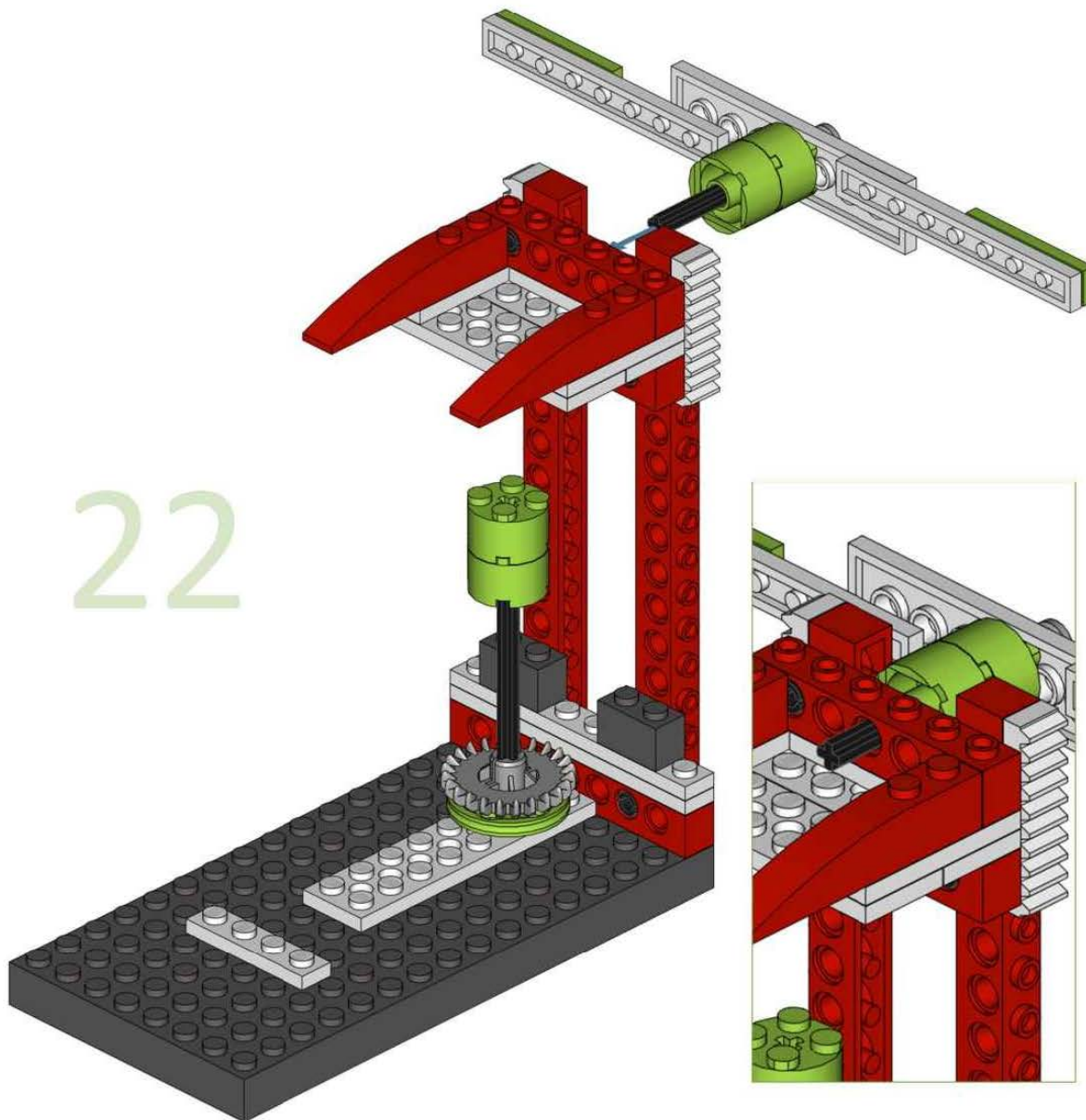


The efficiency and stability of the wind power plant depends mainly on the blades of the turbine. On the shape of the blades depends a very important parameter of wind turbines is dependent on the shape of the blades – the wind utilization rate. A rotor with fewer blades turns faster. Nowadays the most common are equipped with three blades. Each wind turbine must be equipped with a security system against winds that are too strong. Without these the generator could be destroyed very easily.



Construction

Windmill



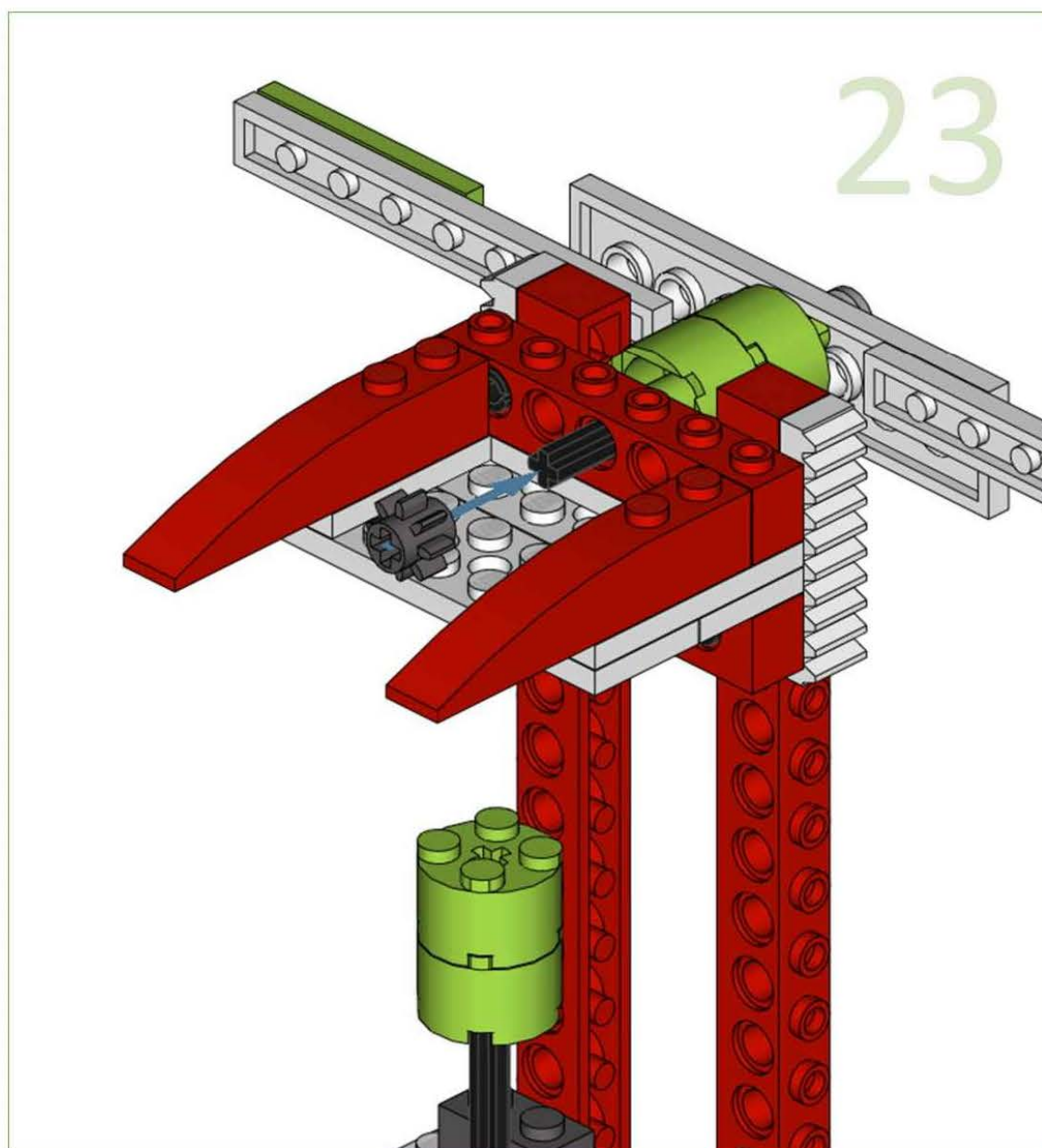
22

Construction

Windmill

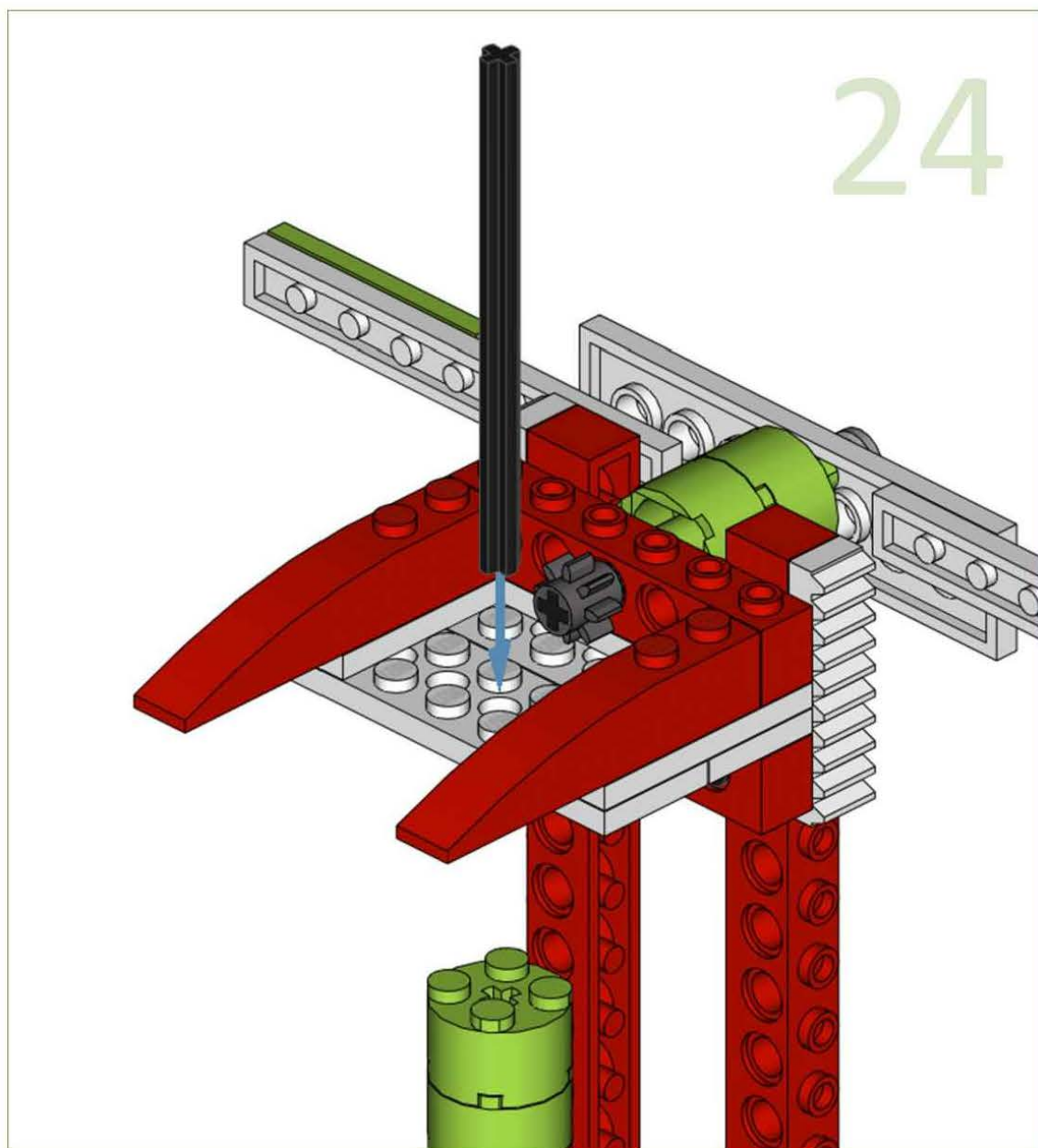


1x



Construction

Windmill

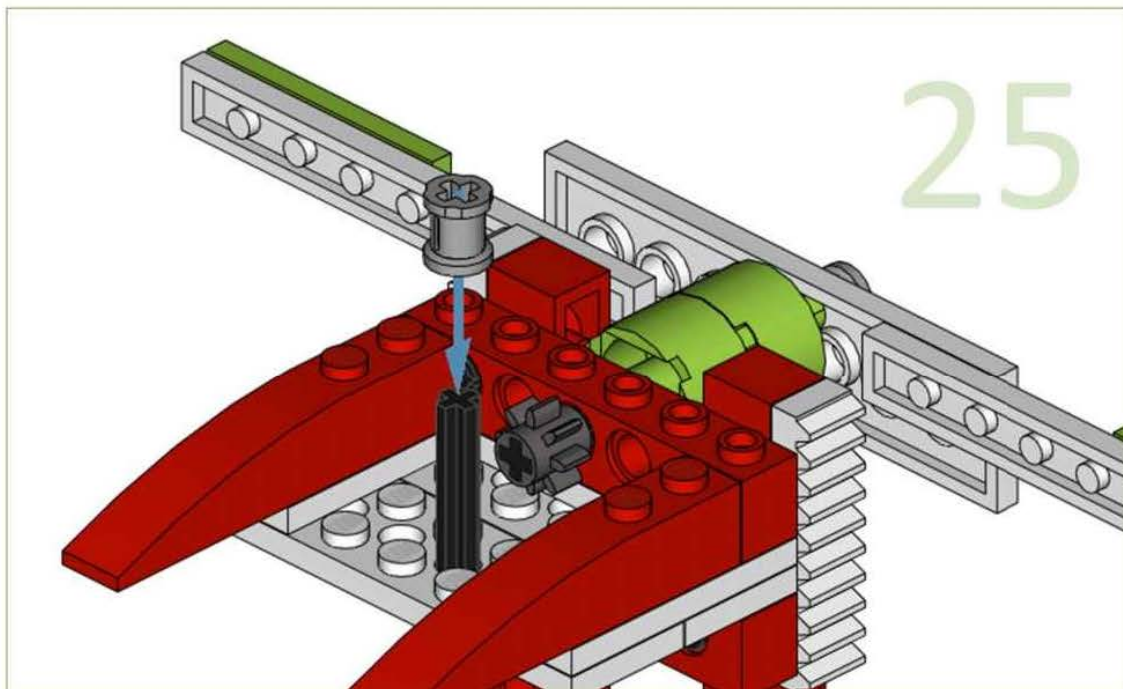


Construction

Windmill

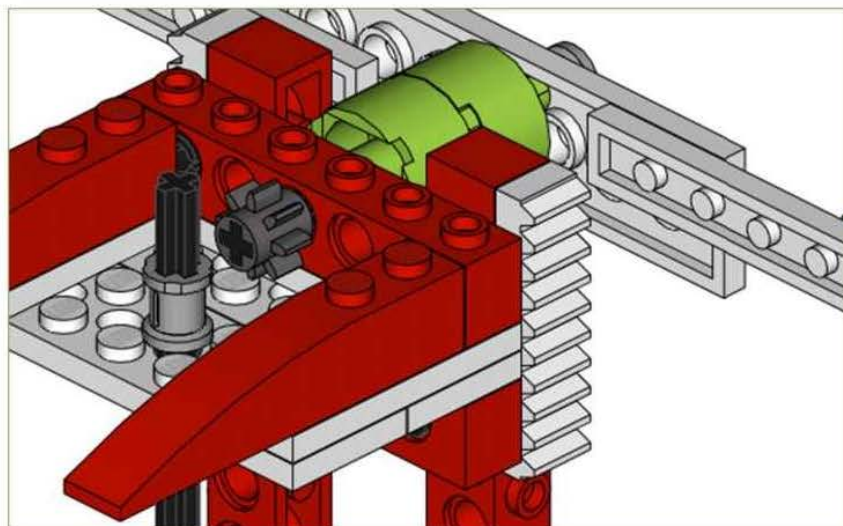


1x



Note!

Slide the bush with the smooth edge down, this way it won't block an axle.



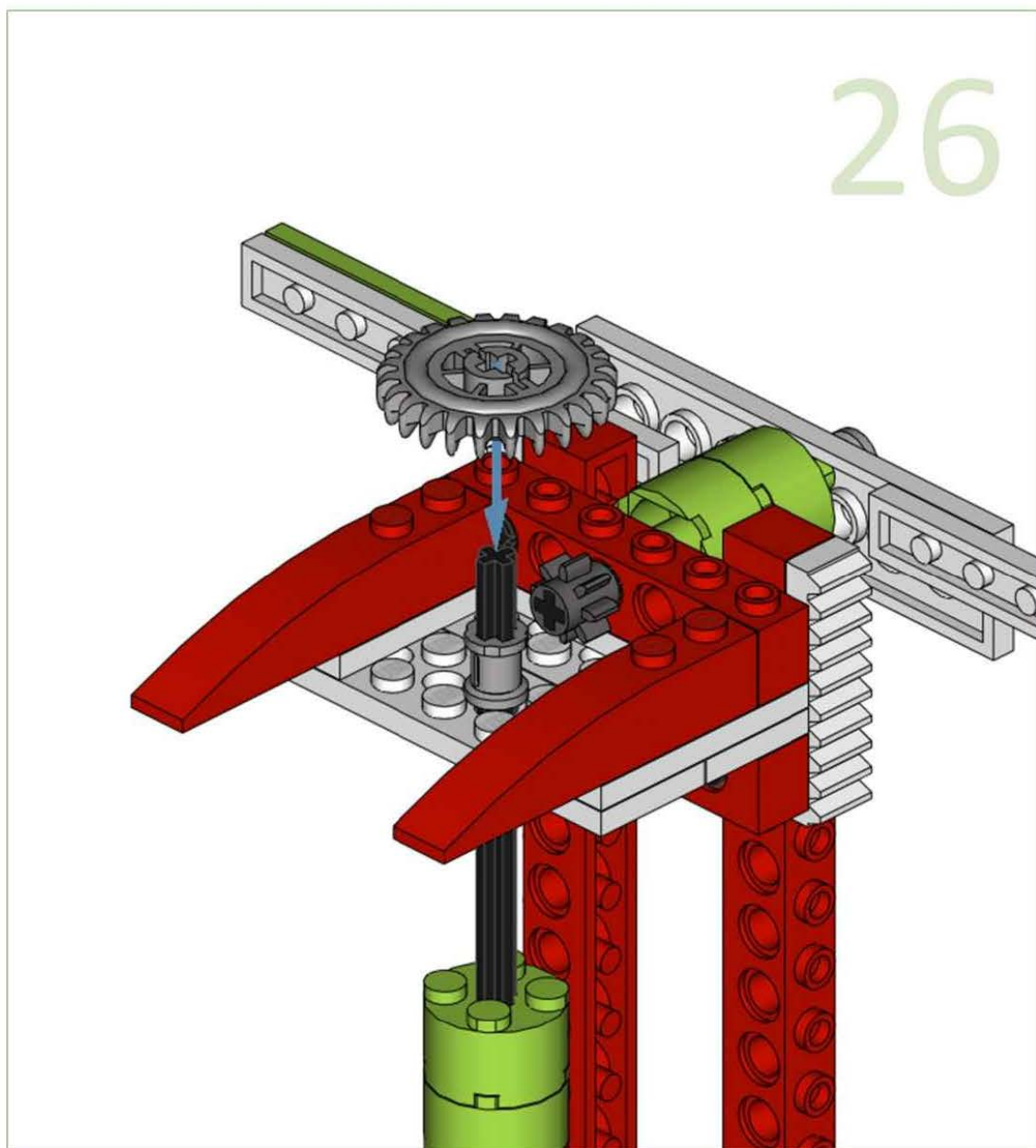
Construction

Windmill



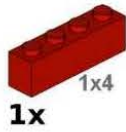
1x

26

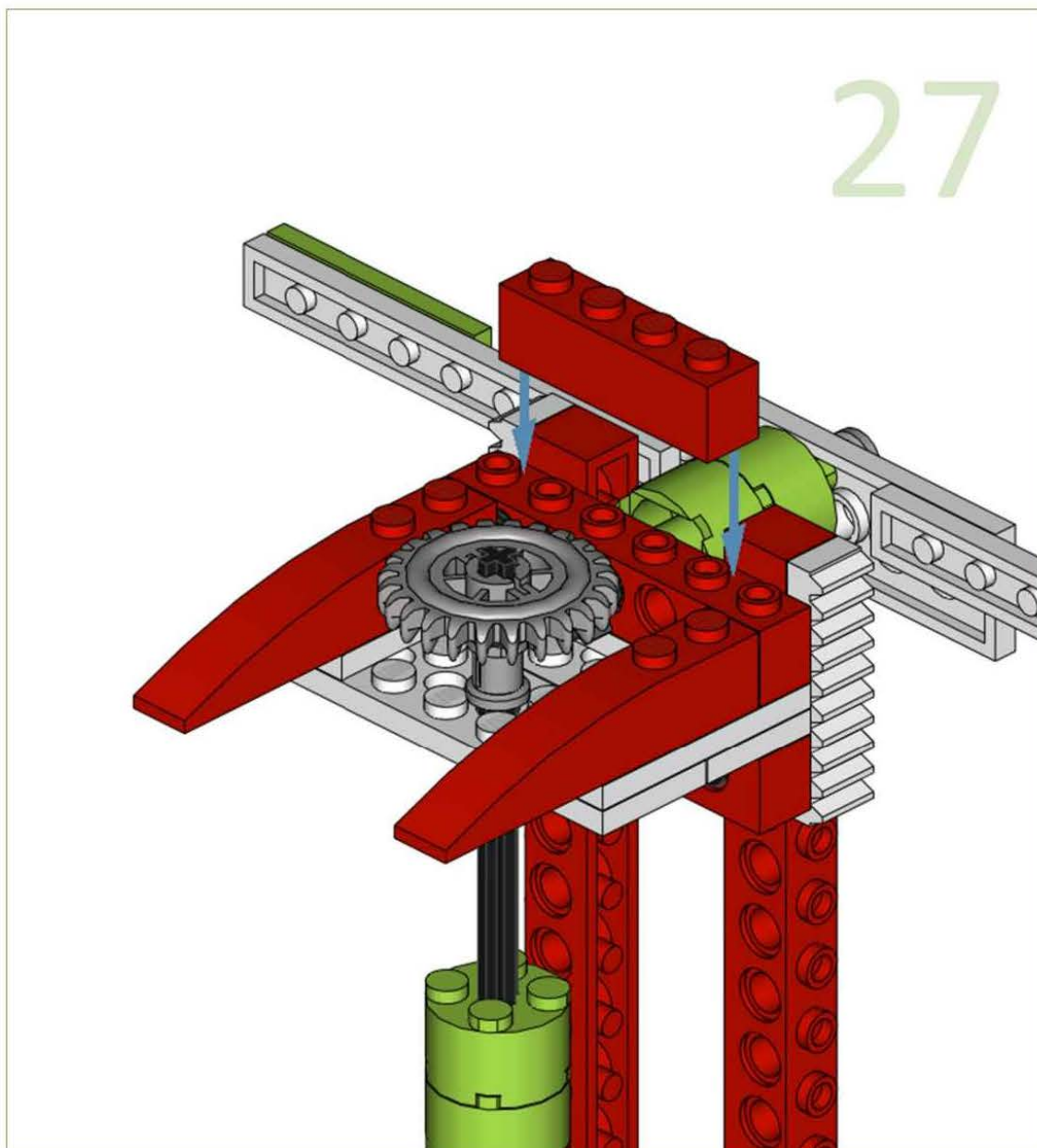


Construction

Windmill



27



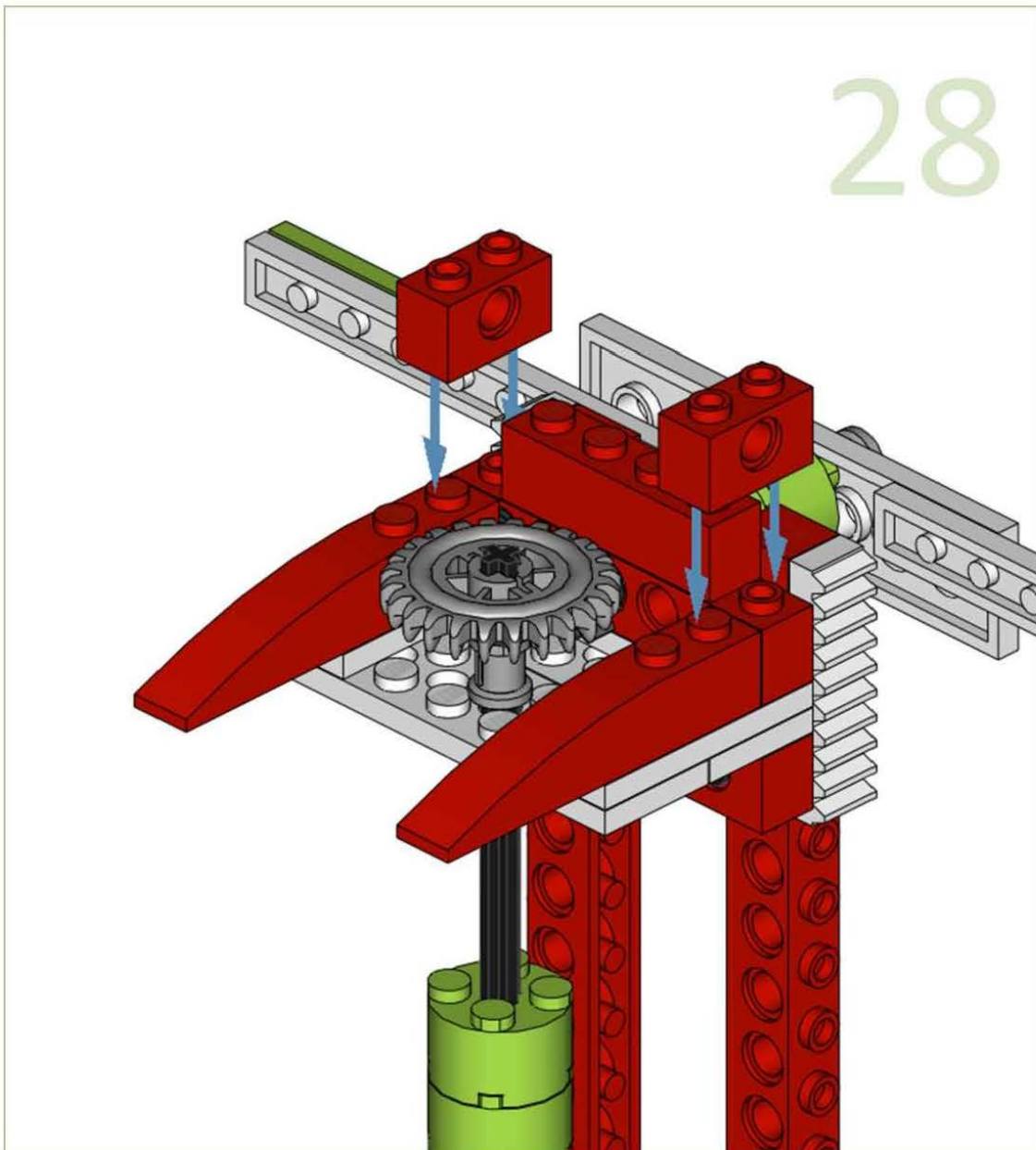
Construction

Windmill



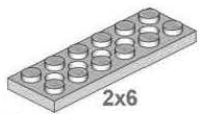
2x

28



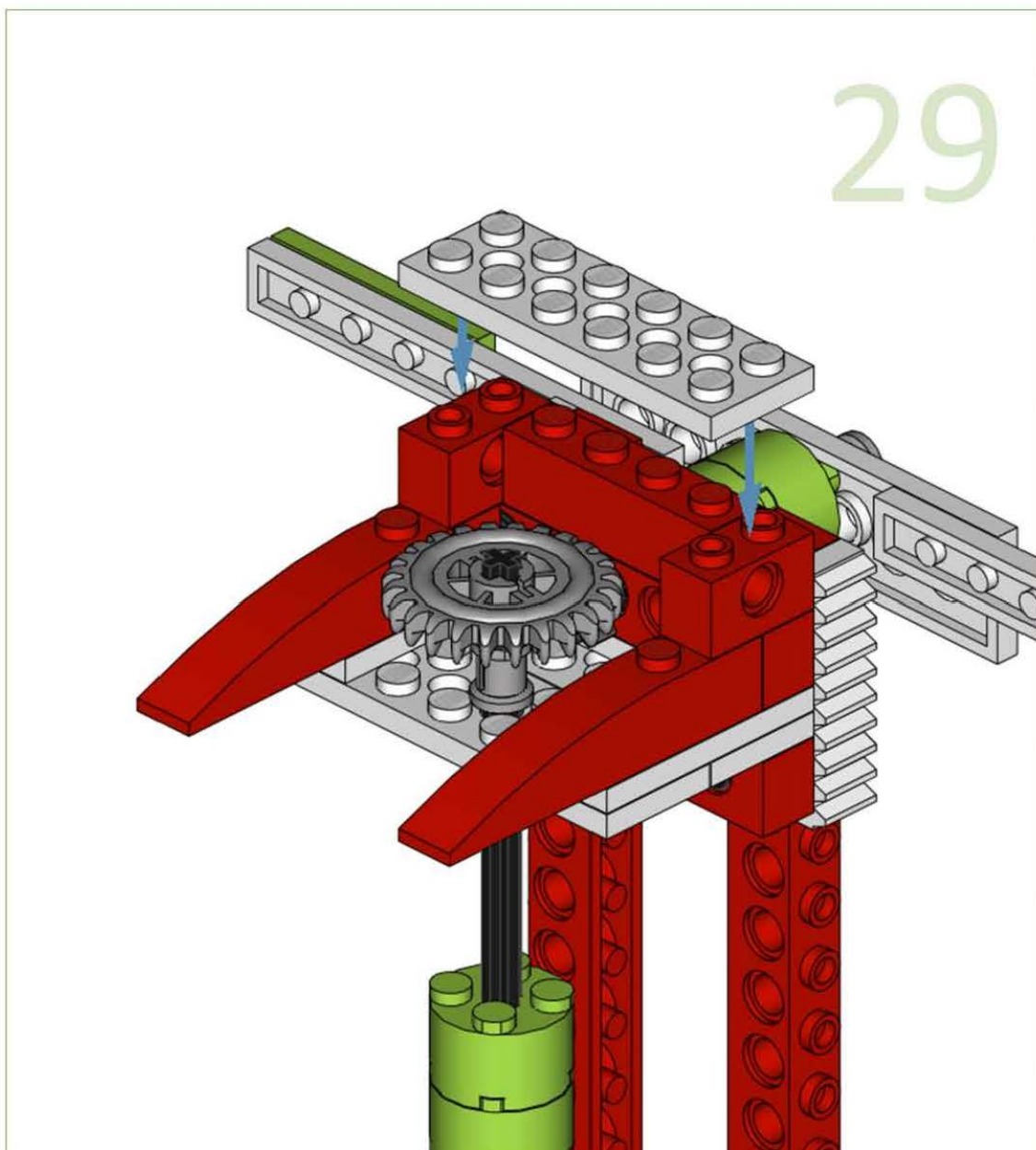
Construction

Windmill



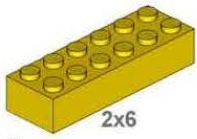
1x

29



Construction

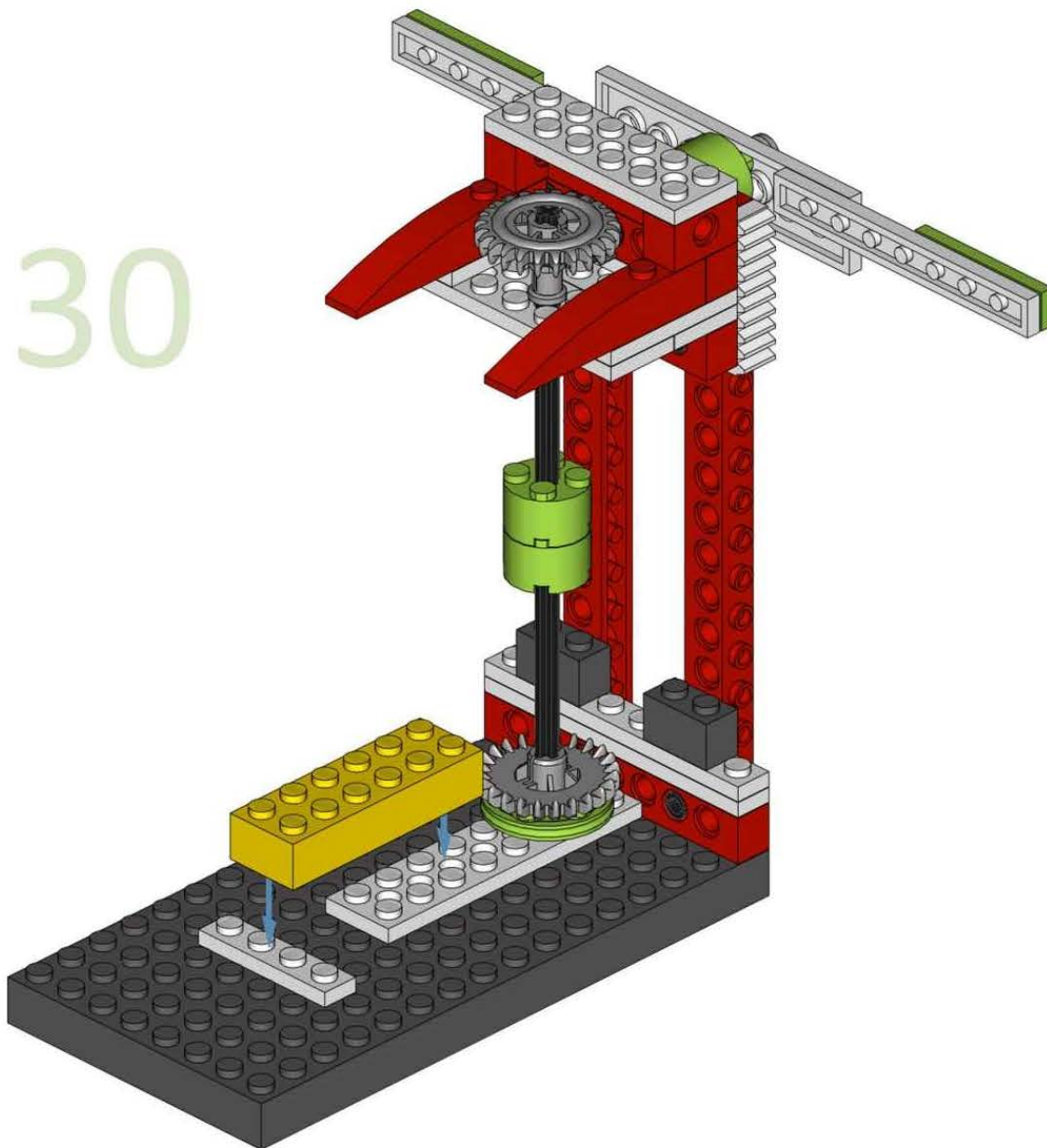
Windmill



2x6

1x

30



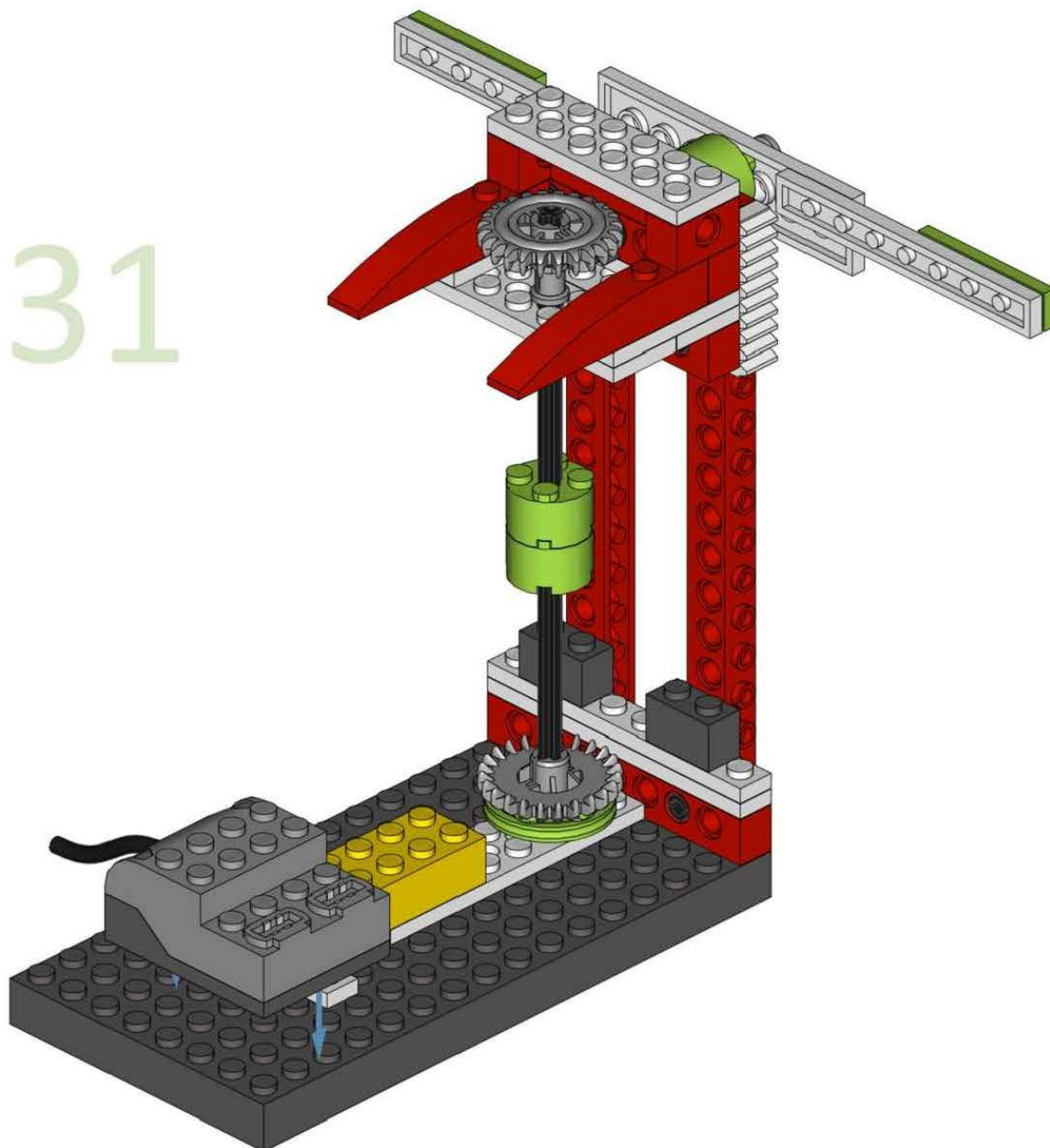
Construction

Windmill



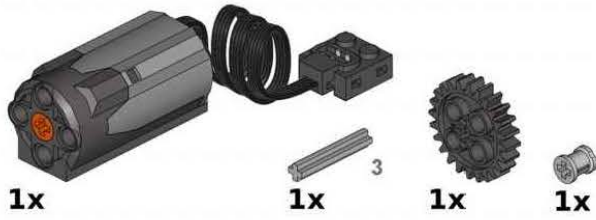
1x

31

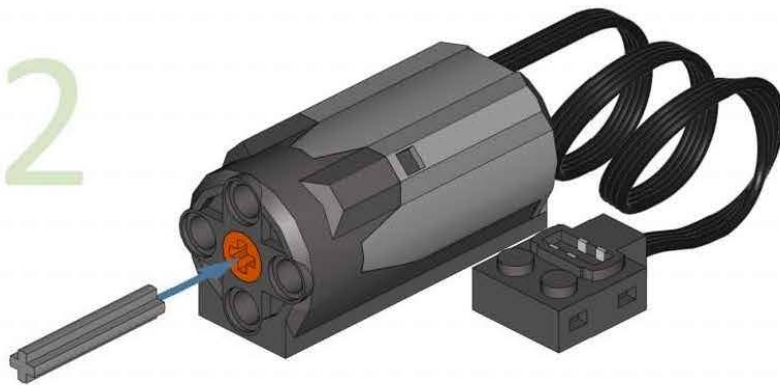


Construction

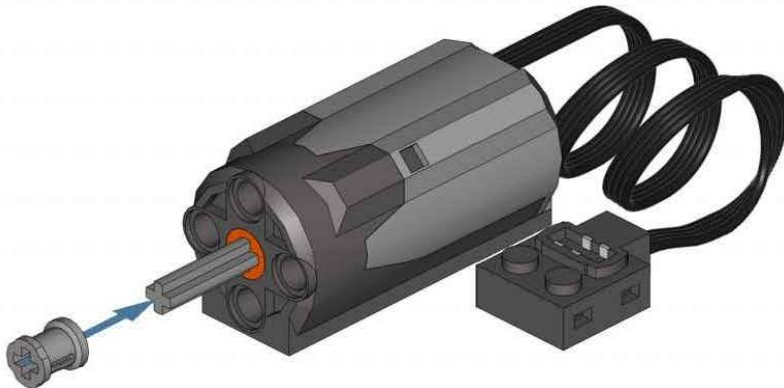
Windmill



32



33

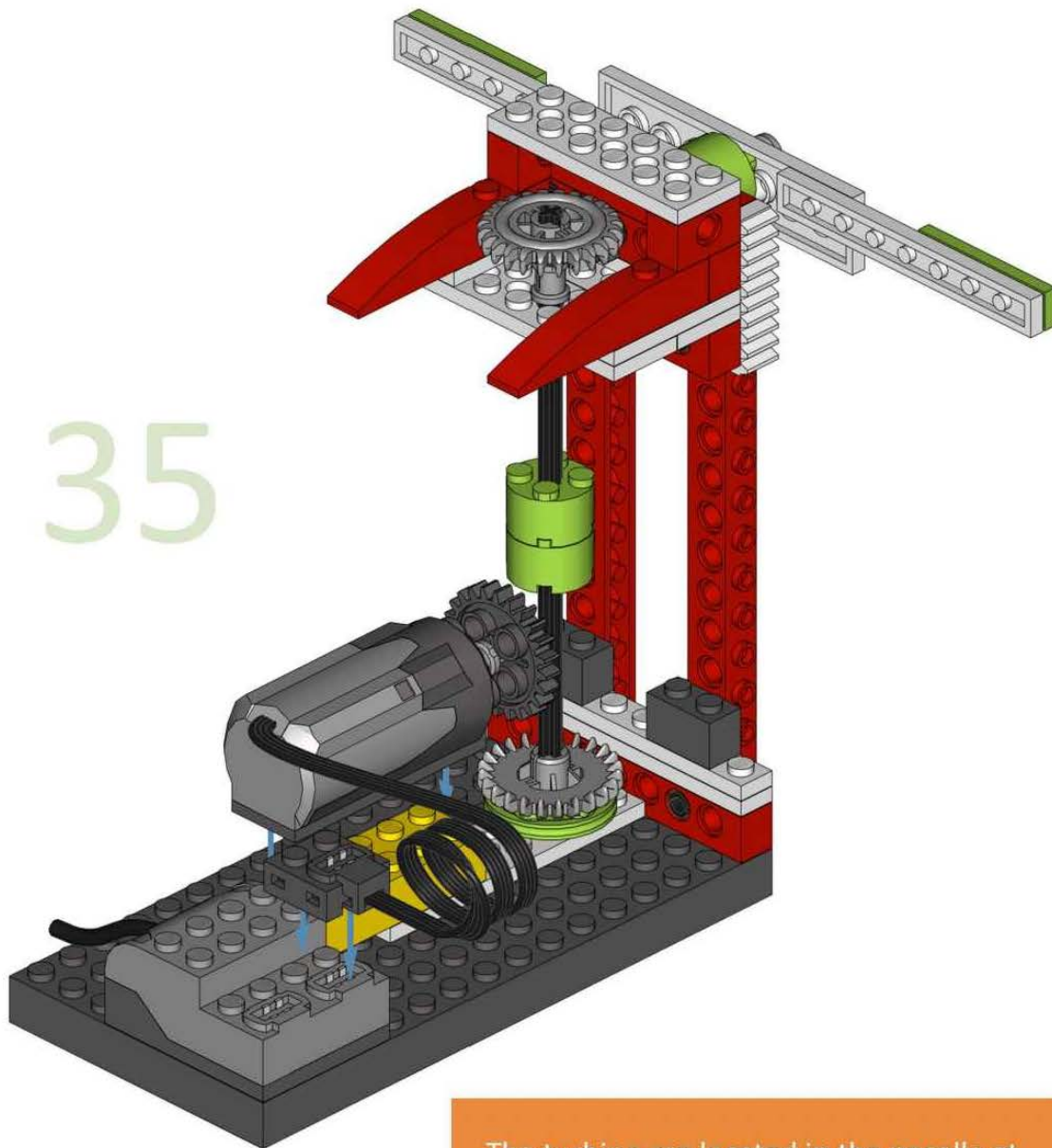


34



Construction

Windmill



35

Construction

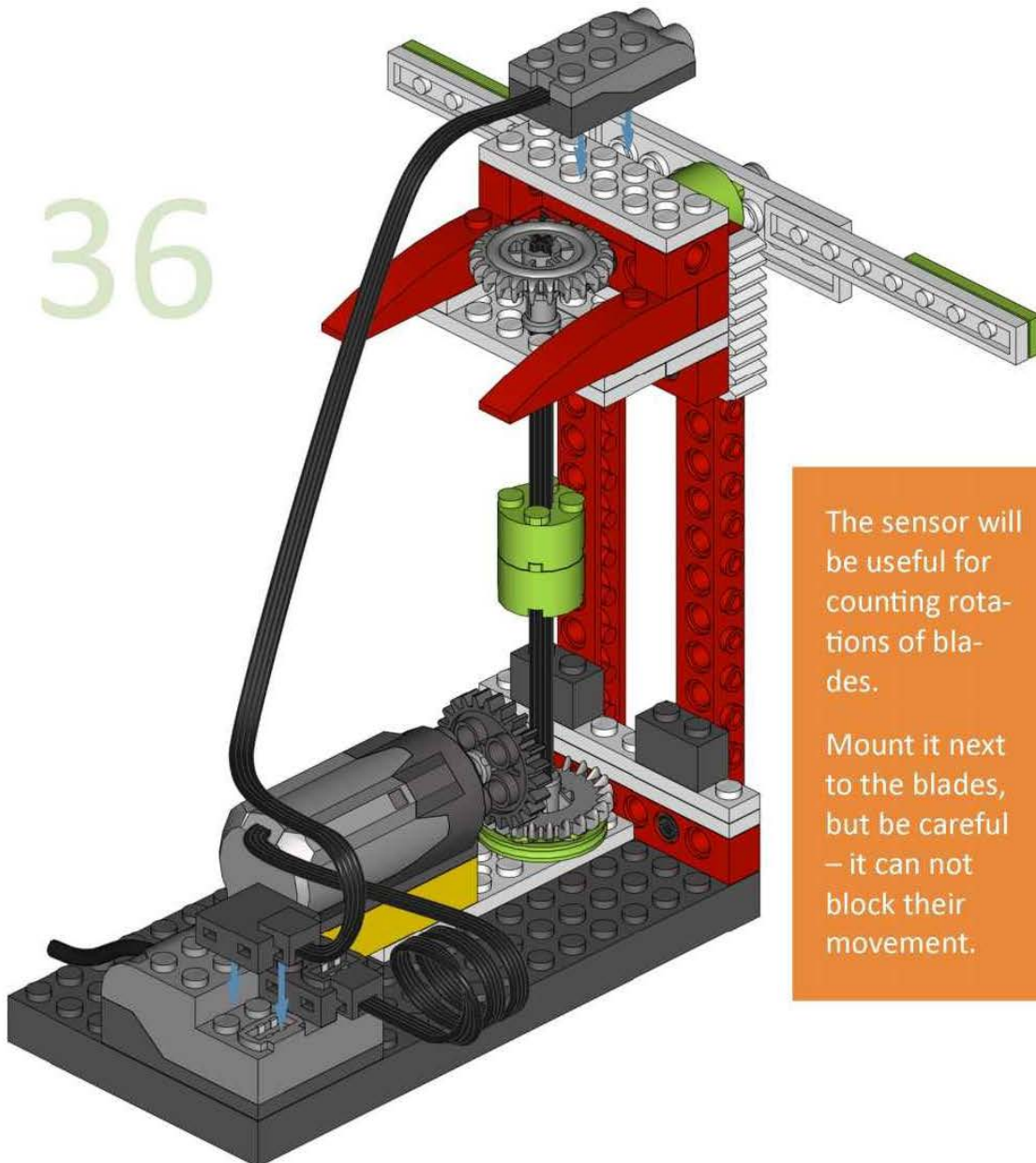
The turbine are located in the nacelle at the top of the tower on real windmill . On the LEGO model we will mount the motor on a platform, next to the hub. The movement will be transmitted up through the gears and the long axle.

Windmill



1x

36

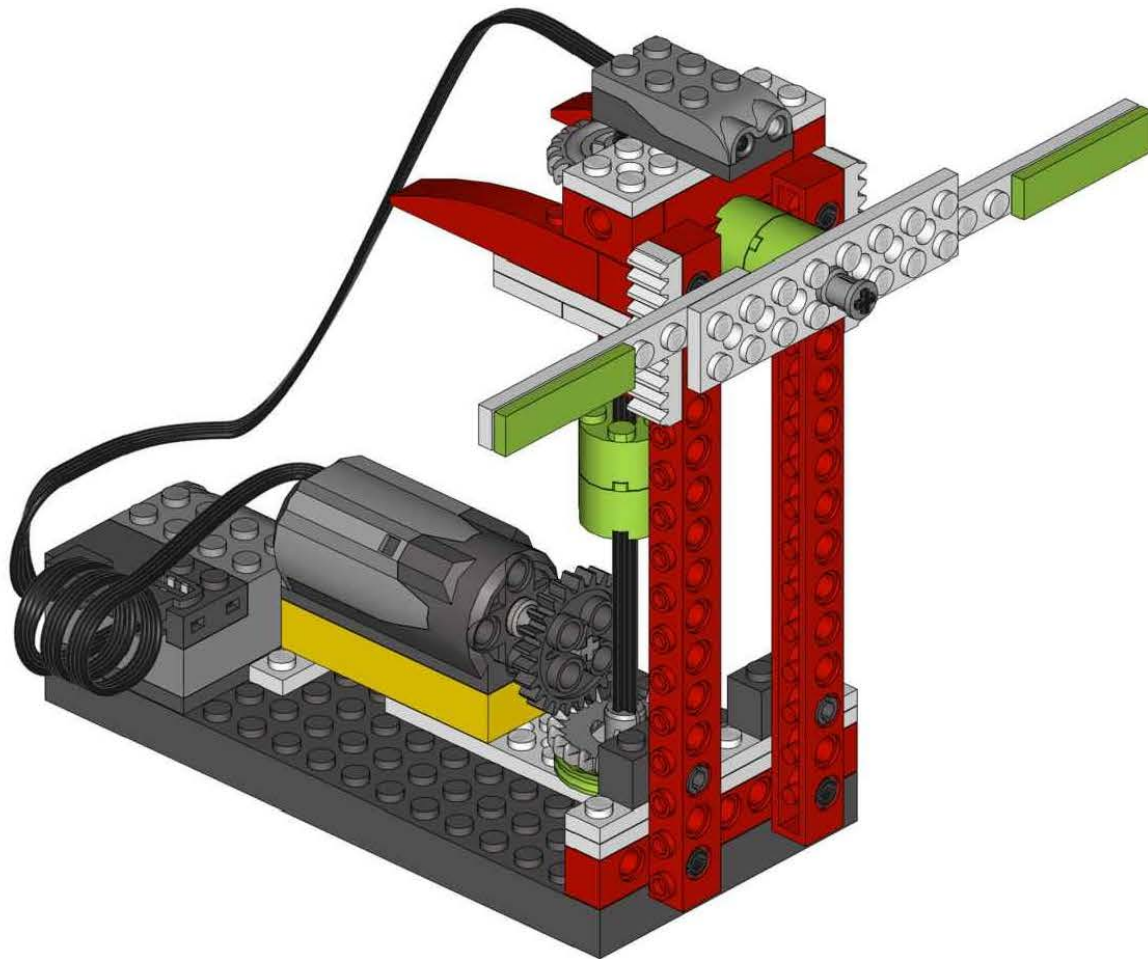


The sensor will be useful for counting rotations of blades.

Mount it next to the blades, but be careful – it can not block their movement.

Construction

Windmill

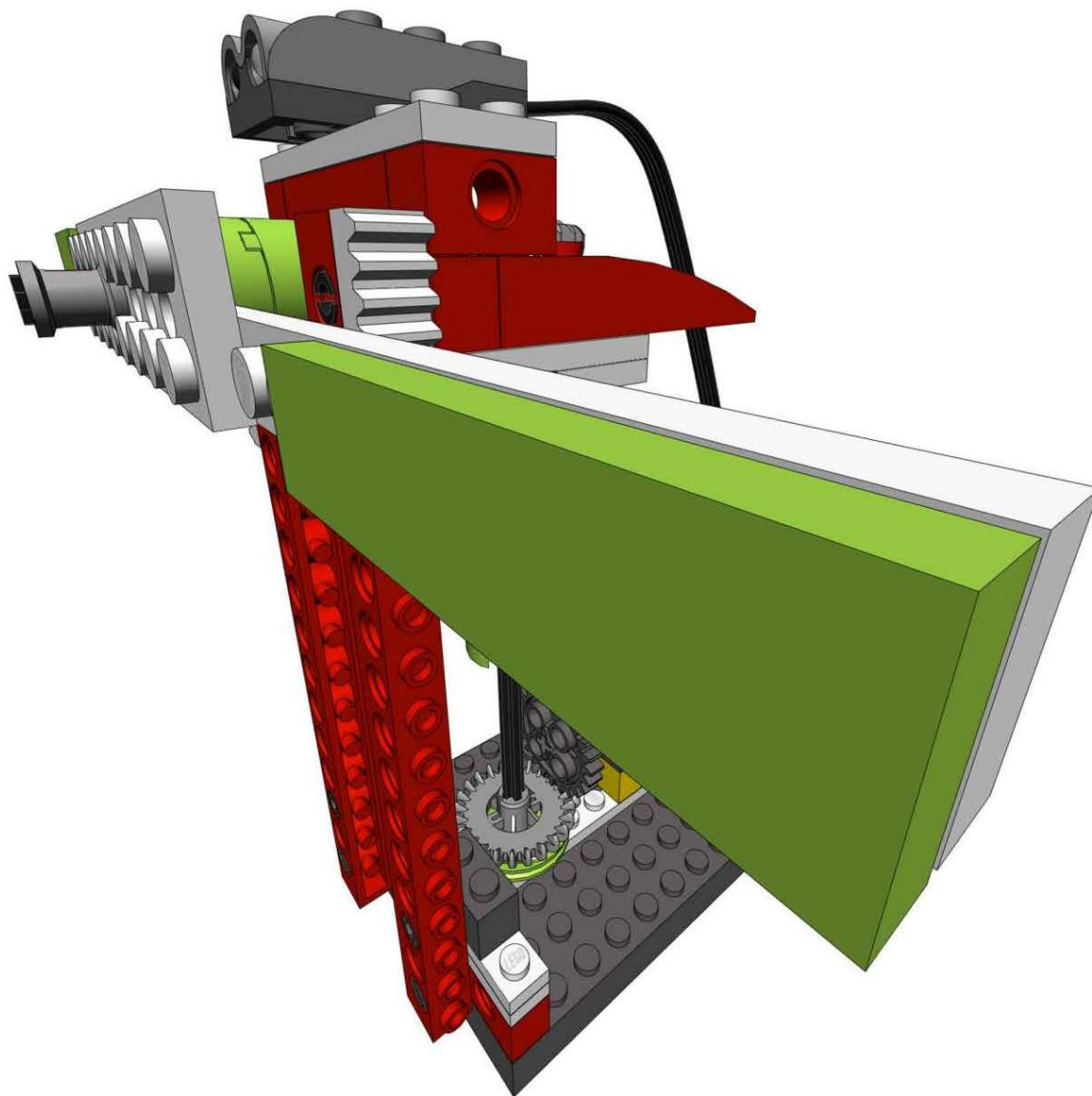


Construction

The windmill is finished.

Proceed to programming and make the windmill spin its blades.

Windmill



Program

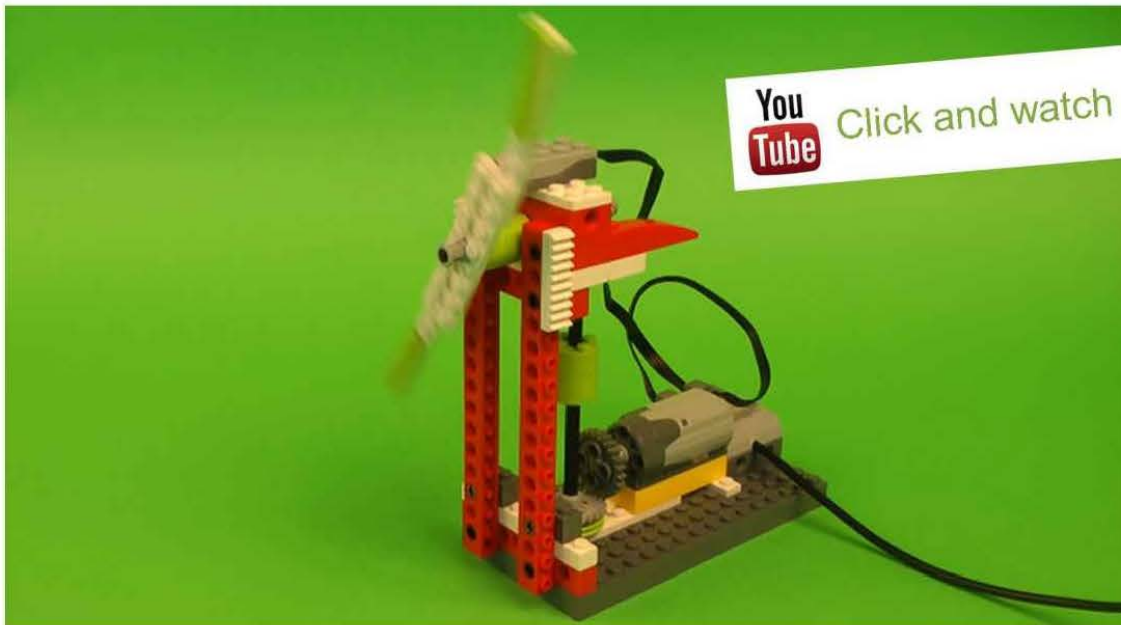
Program

Windmill

13

The ready program should display the number of rotations made correctly and in a nice way.

If playing a sound takes too much time and our program can't keep up with counting the rotations, reduce the speed of the motor by setting it to "5".



Click and see if your windmill works like the one in the film.

Program