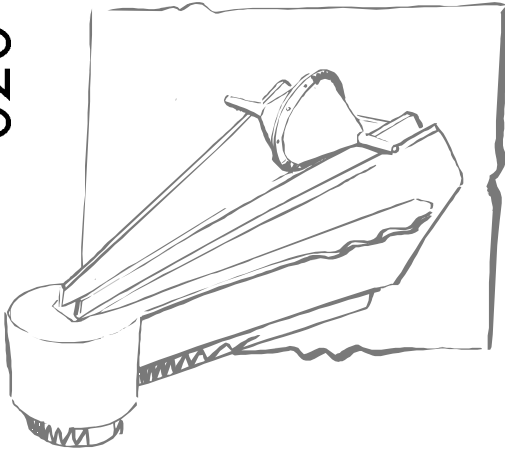


020



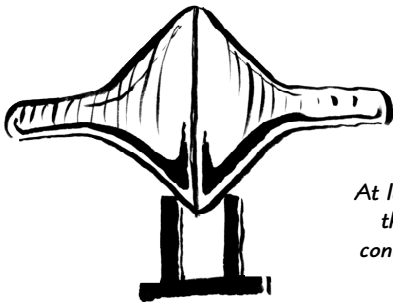
## Roll Uphill

**What to do:** Put the cone-shaped roller on the track at the lower end and let go.

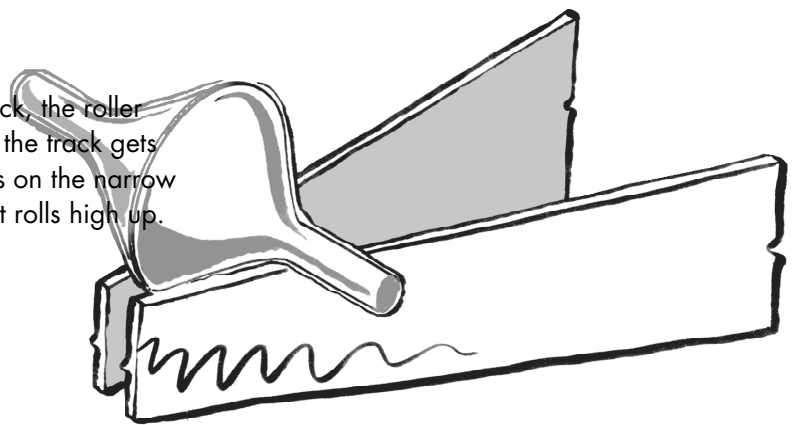
**What happens:** The roller rolls up the track towards the upper end, apparently defying gravity!

### HOW IT WORKS

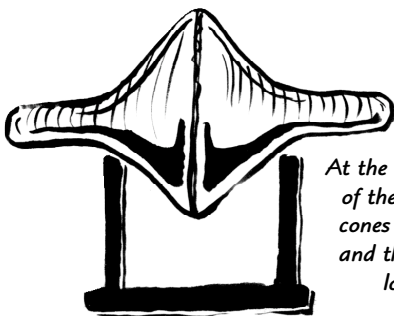
1. Although the roller moves to the upper part of the track, the roller actually gets lower while it is rolling. This is because the track gets wider apart towards the upper end. The roller begins on the narrow track and because of its shape, wide in the middle, it rolls high up.



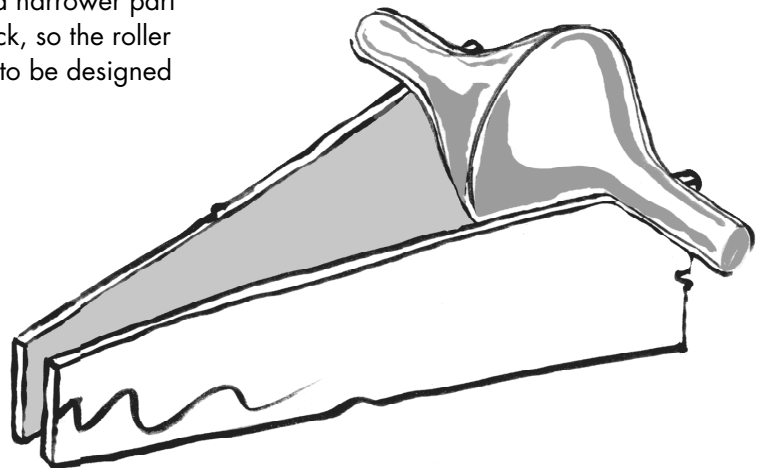
*At lower end of the track the cones ride high*



2. As the track rises, it gets wider, so the roller rolls on a narrower part of the cones. This more than offsets the rise of the track, so the roller itself gets lower and carries on rolling. The track has to be designed that the cones fall more than the track rises!



*At the upper end of the track the cones ride lower and the roller is lower down*



### DID YOU KNOW?

- A beach ball would roll the same way on the tracks. At the wide part of the track, the ball would fall down in the same way as the conical roller.