

How Did the Water Wheel Power the Eagle Lock Factory?

Water was stored in several ponds upstream, then released to the top of the Water Wheel through a wooden flume. Water collected in the wooden buckets in the wheel, and the weight of the water turned the wheel on its horizontal axis. (*The water flow is shown in blue below*).

The wheel has 280 iron teeth attached to its perimeter. It is actually a giant gear. A smaller gear, called a rim gear, sits behind it, and would have been connected to it.

The rim gear has 37 teeth. Dividing 280 by 37 creates a gear ratio of 7.6. Every time the Water Wheel turned one revolution, the rim gear turned 7.6 times.

An iron rod connected the rim gear to more gears inside the factory, to which leather belts were attached to power the machines.

The Water Wheel is listed on the National Register of Historic Places and is only a 5-minute walk from the Lock Museum.

