



*The ARAMARK Tower  
1101 Market Street  
Philadelphia, PA 19107-2994*

**FOR IMMEDIATE RELEASE**

**Huge Gears, Silent 94 Years, Get New Duties:  
Telling the Tale of How Humans Affect Nature**

PHILADELPHIA , July 24 — The huge gears in the Fairmount Water Works first clattered to life in 1851. They drove a pump that brought water to a thriving Philadelphia, a commercial and cultural center of 19th-century America. They kept turning for 58 years until 1909, when the city closed the Water Works.

For the next 94 years they sat in darkened silence. They endured neglect and every extreme the elements could muster.

On Sept. 19, when the Fairmount Water Works Interpretive Center opens as Philadelphia's premier eco-tourism attraction, those gears will have a new mission. As an exhibit in the Center's examination of humans and their affects on the natural environment, they will underscore the need to balance growth and environmental concerns.

"Visitors to the center will learn that the very success of the Water Works led to its undoing," says Ed Grusheski, who oversees development of the Center.

The Water Works gave Philadelphia a reliable supply of clean water. Clean water, in turn, brought growth and development, which brought human and industrial waste, much of which ended up in the Schuylkill. Pollution eventually killed the Water Works, Grusheski explains.

By 1850 the Schuylkill was so polluted that Philadelphians could use the river water as ink. Even so, the demand for water was growing.

At that time, the Water Works used 15-foot waterwheels to pump river water to the city's reservoirs atop a hill called Faire Mount. Unfortunately, water wheels are inherently inefficient. And because the Schuylkill is a tidal river, the waterwheels were idle two or three hours twice each day.

In other words, the water wheels at Fairmont were hopelessly overtaxed.

To increase production, the Water Works turned to a bit of hydraulic genius known as the Jonval turbine. The Jonval incorporated ideas from European mathematicians and engineers, including curved blades, which gave it triple the efficiency of a water wheel.

One of seven Jonval turbines powered the immense gears, technically transmission gears, that powered a pump, part of the liquid lifeline that allowed Philadelphia to grow and prosper.

Visitors to the Interpretive Center may be surprised to see that some of the gear teeth are made of wood, mounted in an iron case. They are called, in fitting testament to the rigors of their task, sacrificial gears. Wooden teeth allow for breakage at a single gear instead destroying the entire set of gears

And, of course, their size never fails to impress. The smaller of the two measures four feet, three inches across. Its larger companion is six feet, two inches in diameter.

The Interpretive Center is housed within the Water Works, a complex of graceful neo-classical buildings nestled beside the Schuylkill River. The Center will offer the visitor a variety of experiences through mechanical and computer interactive exhibits, programs in a classroom and water laboratory, and the opportunity to experience the Schuylkill River from the river balconies and riverbank esplanade.

The Center will also feature historical information about the Fairmount Water Works.

The center will be able to accommodate 100,000 visitors yearly and will be completely ADA accessible.

“We are doing all we can to equal the success of the original Water Works by making the Interpretive Center a major eco-tourism destination,” Grusheski says.

“The FWWIC will focus the attention of the region and nation on our most precious natural resource — clean water. We believe the story we have to tell will again elevate the Fairmount Water Works as a major attraction for visitors from around the world,” Grusheski adds.

The Fairmount Water Works Interpretive Center is a project of the Philadelphia Water Department.

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