

## WHAT LED TO THE INVENTION OF THE SELF-ADJUSTING CHAIN SPROCKET?

For more than 35 years, the inventor of the self-adjusting chain sprocket - Karl Herkenrath - has been concerned as a constructor with all kinds of topics in Material Handling Systems Engineering.

One day, he came across a worn chain link with considerable wear marks. He knew by experience that the load will only be carried by the first engaged tooth once the break-in phase is over, and, therefore, always only one tooth will be loaded in order to transmit the full force.

Examining the totally worn chain link he decided to find a solution to this wear. Later on, he took a scribbling pad and started sketching his first thoughts on the way to a solution to the problem. He hit on the idea to design the teeth with a flexible bearing in order to distribute the transmission of the force from the chain sprocket to the chain on multiple teeth.

Further reflections eventually led to the self-adjusting chain sprocket which he had then patented.

- Those theoretical reflections, however, were difficult to prove. What he needed was a practical operational application which came about in the year 2001 at the Ensdorf power plant; for details please continue reading under the chapter **FIRST APPLICATION OF THE SELF-ADJUSTING CHAIN SPROCKET AT THE ENSDORF POWER PLANT IN 2001**

In 2011 and with this first chain sprocket in operation that had been tried and tested without problems for more than 10 years, Karl Herkenrath again applied for a patent for the chain sprocket.