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ALLIANCE 90/THE GREENS

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Suggestion regarding climate protection and sustainability

Use of a patent I developed "self-adjusting sprocket"

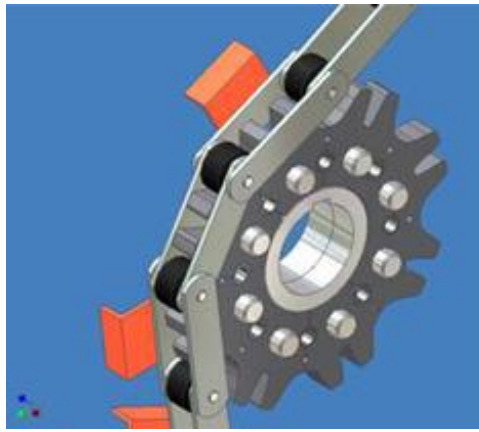
Sale of the patent to the industry

Dear Minister Dr Habeck,

You have set yourself a Herculean task in terms of achieving the climate goals.
A task that will certainly not be so easy to master.

I would like to take the liberty of drawing your attention today to an invention of mine that could make at least a **small contribution to climate protection**, to **sustainability**, and thus also contribute at least a **fraction to achieving the climate goals**, and that in Germany as well.

I am the owner of the patent **EP 2 594 824 "self-adjusting sprocket"**, applied for by me in 2011 **granted in 2015**, which is **still protected by patent law in Germany** for **almost 10 years**.



Originally, the patent had protection rights in 10 European countries. Since it was my goal from the beginning that as many operators as possible would benefit from this **cost-saving patent**, I gradually dropped nine of these property rights and publicized the special features of the patent worldwide.

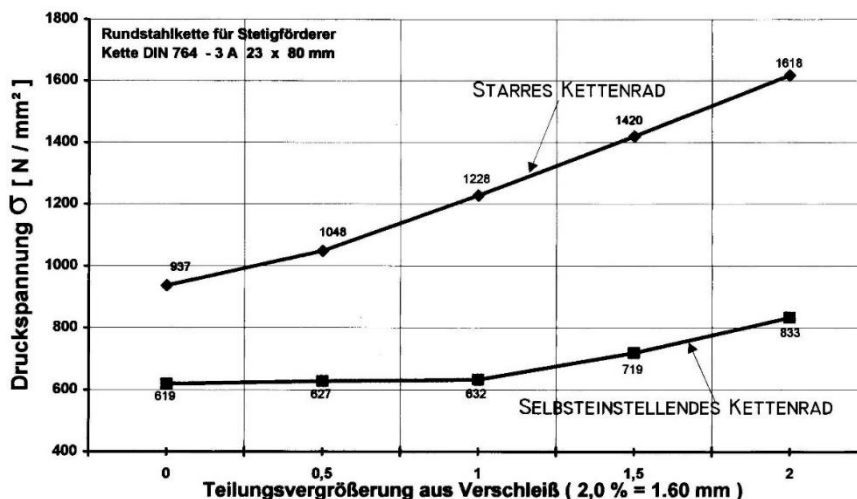
However, the use of this "self-adjusting sprocket" not only means a cost saving for the **operators of all systems operated with chains**, but it would also **contribute to climate protection**, as the chains, which are manufactured at great expense, **could remain in use considerably longer** through the use of this "self-adjusting sprocket", thus **naturally protecting the environment**.

The special feature of the "self-adjusting sprocket" I developed is that on this **sprocket ALL the teeth are involved in transmitting power to the chain and** thus the load is distributed to the individual teeth and the chain.

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Beanspruchung aus Punktberührung

Zugkraft $F = 120 \text{ kN}$ auf den ersten im Eingriff stehenden Zahn



Karl Herkenrath
Diagramm.xls

The reason is that the teeth of this sprocket are movable, whereas in a conventional sprocket the teeth are rigid and after a certain time, due to this

wear, only the first tooth carries the entire load of the chain, which means that the chain has to be replaced after a few years. When a chain is replaced, the two sprockets are also replaced. Above all, the costs for a new chain are very high, depending on the chain size, and there are longer downtimes until the system can be operated again. By using my patent, **EVERY CHAIN** in Germany would also **last considerably longer than is** currently the case.

Already 30 years ago I started to deal with the problem of wear reduction of chains, i.e., conveyor chains, drive chains etc. in my spare time. At that time, I was employed by the company PWH in Saarland, which was later taken over by Thyssen-Krupp.

In 1993 I invented a "self-adjusting sprocket wheel", which was registered by Thyssen-Krupp at the patent office. This patent was also granted and the patent rights were transferred to me by Thyssen Krupp in 1996.

In the time that followed, I **left practically no stone unturned to have the** then patent built and distributed by a chain manufacturer. I was invited several times by the chain manufacturers, some of them wanted to or even concluded license agreements with me, but as soon as they realized that the sprocket I had developed would last considerably longer than the commercially available sprockets, they very quickly refrained from concluding a license agreement and building the "self-adjusting sprocket".

As you can see from the following **publication from 2002**, Ketten Wulf wanted to **distribute the predecessor patent of the patent that is for sale today**, because they had concluded a corresponding license agreement with me.

"ARTICLE FROM THE TRADE JOURNAL "KONSTRUKTION" 7/8-2002

At the same time, a 2-year trial was conducted on a chain simulator and a **test report** confirmed after these 2 years a **30% reduction in wear of my self-adjusting sprocket compared to the conventional sprocket from Ketten Wulf**. After that, the trial was abandoned and Ketten Wulf "cheated" its way out of the license agreement.

It is IMPORTANT to mention that this 2-year trial at Ketten Wulf **was preceded by the UNIQUE PRODUCTION of two such self-adjusting** sprockets by the then

Koch company in Wadgassen, which had **installed** these two self-adjusting sprockets as a "pilot project", so to speak, **together with a Ketten Wulf chain in a portal scraper in the Ensdorf power station in Saarland in 2001.**

These two "**self-adjusting sprockets**" are still **working together with one and the same Ketten Wulf chain** after **almost 21 years**, without this **chain having to be replaced even once.**

I had published this aforementioned investigation report on my homepage a few years ago. However, the company Ketten Wulf sued me **for injunctive relief before the Regional Court of Cologne**, because they **did not want this investigation report to be accessible to the public.** I think that's all that needs to be said!

By the way, I would be happy to present the advantages of this patent to you in Berlin. On this occasion, you can of course also take a look at the examination report.

The Ensdorf power station was shut down at the end of 2017, but the portal scraper still seems to be in use, as I make sure from time to time.



In 2016 I wrote a book about the history of the "self-adjusting sprocket", see the two PDF files below:

» [Buch: "Erfinder mit langem Atem" als PDF-Datei \(Deutsch\)](#)

» [Book: "Inventor with long breath" as PDF-file \(English\)](#)

I also posted a film about this "self-adjusting sprocket" on YouTube a few months ago, which you can watch in ten languages:

» [Filme bei YouTube in verschiedenen Sprachen](#)

NO CHAIN WITHOUT A SPROCKET

This "self-adjusting sprocket" can be used in **all conceivable systems**, such as **wind turbines**. Enclosed you will find a list of the various possible applications.

A look at the daily statistics on my website shows me that there is great interest in this "self-adjusting sprocket" in over 120 countries worldwide, which can, after all, also be built and used outside Germany without any problems.

This patent is now only protected in Germany.

As **Minister of the Environment**, I think you are the first port of call for a **contribution to climate protection**. Just think of the devastating consequences of the flood disaster in the summer of 2021, which hit the Ahr valley particularly hard, but also other regions, and from the **point of view of a Minister of Economics**, it would surely be a shame if German operators of chain-driven plants had to forego the advantages of this patent, which also means a competitive disadvantage vis-à-vis the rest of the world.

AND WHAT WOULD BE THE BEST THING ABOUT USING THIS "SELF-ADJUSTING SPROCKET":

THAT THERE ARE NO INVESTMENT COSTS HERE, AS THE PREDECESSOR PATENT OF THE PATENT NOW FOR SALE WAS ALREADY TESTED MANY YEARS AGO AT A WELL-KNOWN CHAIN MANUFACTURER ON A CHAIN SIMULATOR FOR 2 YEARS, AND AFTER THESE TWO YEARS THE WEAR REDUCTION WAS ALREADY 30%,

THAT ONLY MINOR CONVERSION WORK WOULD BE NECESSARY AT THE SPROCKET MANUFACTURERS, SO TO SPEAK, AND THUS

A CONTRIBUTION TO CLIMATE PROTECTION IS MADE WITH IMMEDIATE EFFECT AND

A HUGE COST REDUCTION WOULD IMMEDIATELY TAKE PLACE FOR ALL OPERATORS OF CHAIN-OPERATED PLANTS.

AND ALL THIS WITHOUT EXPENSIVE DEVELOPMENT COSTS.

This "self-adjusting sprocket" can be manufactured by the **chain manufacturers** as well as the **sprocket manufacturers**, but certainly also in **machine or tool construction**. The construction method should be easy for any technician to understand, even in Germany.

I am of the opinion that sustainability should also play a major role in chain production and the essential life span of a chain, and a rethink on the part of the manufacturers should also take place here.

I am always available for further information.

I will post this letter as an "open letter", so to speak, in another film on YouTube, as there are certainly one or two companies in Germany that also want to make a contribution to climate protection and reduce their costs at the same time.

For today I remain

With kind regards

Karl Herkenrath

Enclosure: 4 pages Possible applications of the "self-adjusting sprocket wheel