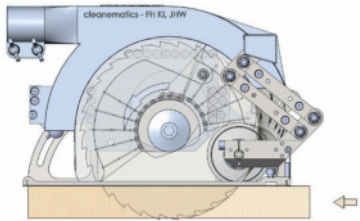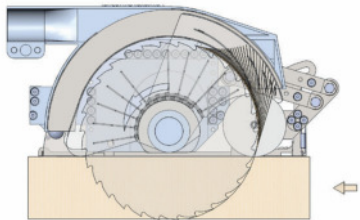**minimum cut depth** (section)

medium cut depth

maximum cut depth (section)

[handy functional model for exhibition uses]

Contact

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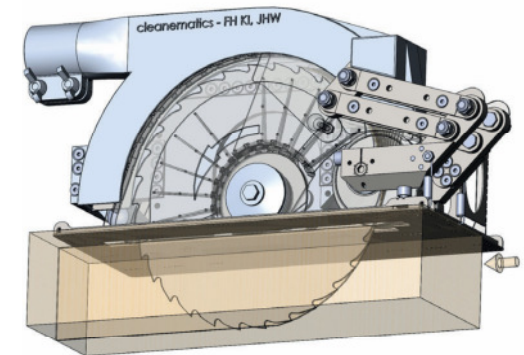**Phone** 0049 (0) 431‑210‑2623
Fax 0049 (0) 431‑210‑6‑2623

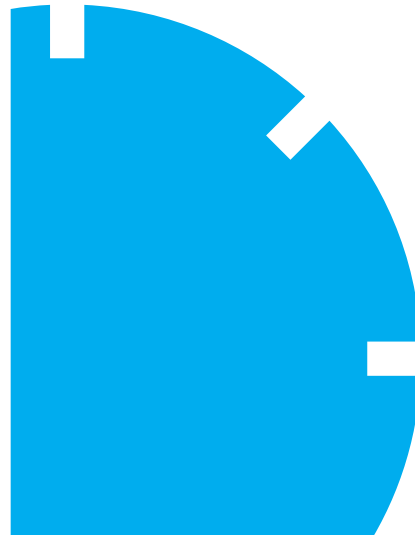*www.fh-kiel.de/cleanematics*

CLEANEMATICS

kinematics for clean circular saws

- clean edges, clean air -
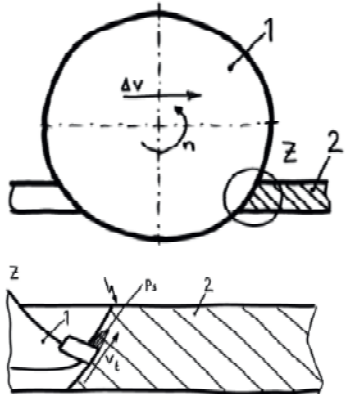*from do-it-yourself applications
to industrial sawing plants*

[handy functional model for exhibition
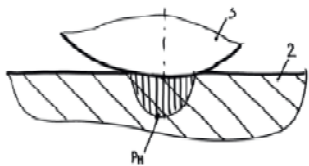uses, 20190520]

Patent pended

Problem

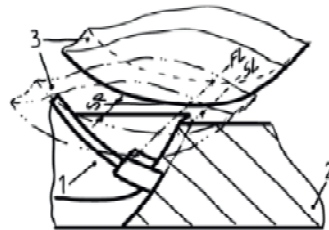The saw blade **1** with its teeth causes cutting pressure p_s in the work piece **2**

The surface of the work piece cannot withstand the cutting pressure – excess removals on the edges result.
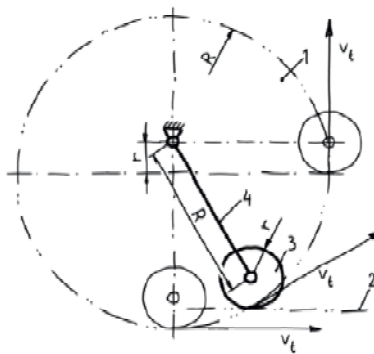
Initial Idea

Two rollers **3** on either side of the saw blade on the surface of the work piece cause Hertzian stress p_H in it compensating the cutting pressure and effect clean edges.

The foot line **FL** of the rollers should be placed near the section line **SL** of the saw blade. The space **SP** between the rollers and the saw blade should be near zero.

A swing arm **4** with the length **R** – the radius of the saw blade - is linked in the distance **r** – the radius of the rollers - above it.

Pleasant Side Effect

Due to lack of space it is replaced by a four bar linkage. These kinematics cause that the tangential velocity v_t of the chips is always perpendicularly orientated to the swing arms.

Therefore the chips can be caught with a maximum of kinetic energy in a hood that is fixed e.g. on a swing arm.

THE EFFECT IS CLEAN AIR.