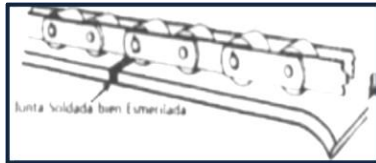
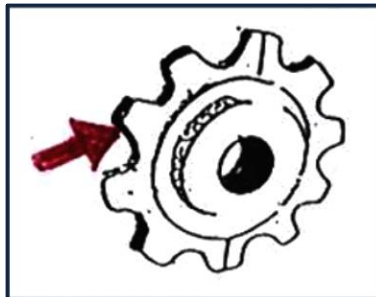


- ◆ Application of special welding for repairs and maintenance of parts and equipment.
- ◆ Manufacture, installation and maintenance of metal structures in warehouses, industrial equipment.
- ◆ Installation and welding of carbon steel and stainless steel pipes for steam, water, cane sugar, chemical products.
- ◆ Alignment of industrial equipment with precision instruments.
- ◆ Specialized Predictive Sugar Maintenance Program.



## **CHAINS AND TRACKS:**

- Repair / Replacement / Alignment with precision instruments.
- Welding and machining technology for the repair of all components,
- 1+ mile of repaired chain.



## **SPROCKETS**

- Repair of wear with special welds / Alignment with precision instruments.
- Machining and repair technology with special welds under the design of Chain-Belt.
- 1,500+ repaired units. Polished finish.



## **SUGAR CANE REED JOGGER**

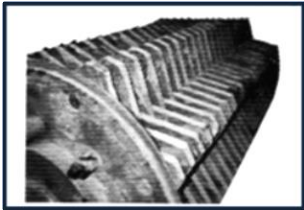
- Design, Construction and installation.
- General maintenance welding.
- Alignment with precision instruments of guides and tracks.



## **MACHETES OF BLADES TO CHOP CANE**

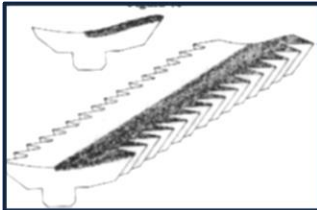
- UNIQUE design according to the characteristics and grounding capacities of each mill.
- Design, manufacture and installation

→ 700+ units achieving high level of Preparation.



## **HAMMERS AND ELEMENTS IN SHREDDERS**

- Coating with special solders for hard reloading of worn elements.
- Welding procedures based on advanced input materials



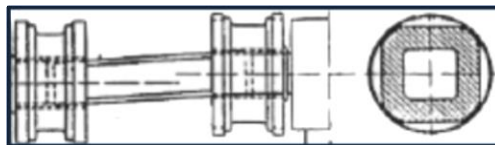
## **CENTRAL BLADE**

- Coating with special hard-solder welds.
  - Repair of worn teeth.
- 1500+ units  
→ Extends the useful life 4+ sugar cane harvests.



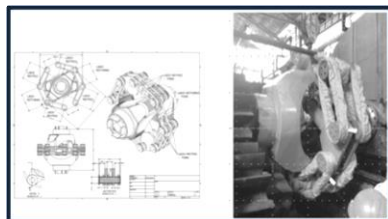
## **MILL CROWN**

- Coating with special welding of the wear of the rolling face of the tooth.
- Automated welding.
- Polished finish.
- The crowns installed are repaired.
- The discarded crowns are taken advantage of by lifting them to the tooth profile required.
- 4,200+ units repaired.



## **MILL COUPLING (CAST IRON - CAST STEEL / STEEL CARDAN BARS)**

- Repair with special welds of wear on both parts.
- Repair of fractured areas in the bars w/ polished finish.
- 700+ repaired kits.



## **COUPLING FLEXIBLE**

- Customized design of flexible coupling to replace traditional coupling
  - 95% efficiency in power transmission.
  - Supports up to 6 "of misalignment
  - Eliminates the break in the square of the axle and in the axis of the low transmission.
- Increase the service life of the speed reducers,
  - Does not require lubrication or maintenance.



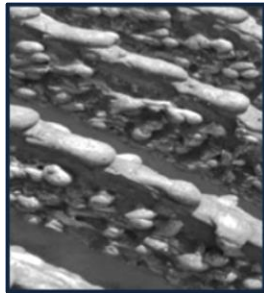
## **MILL ROLL AXES**

- Repair of worn collars / Repair of the square / Repair cracks / Conicity repair.
- Welding procedure based on scientific grade metallographic studies that link special welds with computation and induction for preheating and subsequent relief of residual stresses.
- 50+ cracked Axes repaired. / 100+ repaired collars.



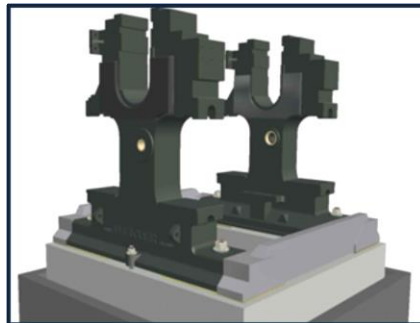
## **SPLIT TEETH MILL ROLLERS**

- Mechanized welding procedure.
- It allows to obtain the initial diameter of the hub.
- It is not necessary to machine the Mill rollers.
- 2000+ Mill rollers repaired.



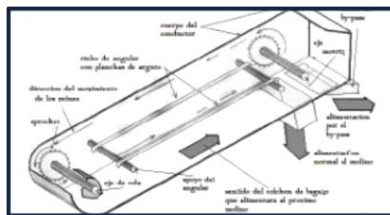
## **MILL ROLL WELDING HARDFACING**

- Application in 156 mills managing to extend the useful life of the maces to more than 8 harvests in the same position.
  - Pol in bagasse less than 2%.
  - Humidity less than 50%.



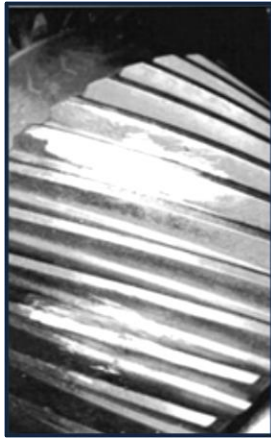
## **VIRGINS - FOOTING AND TRAYS OF MILLS**

- Repairs of Virgins of mills
- Repair of footing of mills and train of gears
  - More than 200 repaired units.
  - 2018 tied a virgin totally fractured by the support area of the upper Roller
  - Welding with corrosion-resistant alloy to cane juice.



## **INTERMEDIATE CONDUCTOR / HOPPERS DONNELLI**

- General welded repair



## **GEAR BOX UNITS OF MILLS**

- Filling with special solders to eliminate pitting corrosion.
- Repair of fractured teeth.
- Polished finish
- More than 30 gears repaired in gearboxes SKODA, FARREL, FALK.



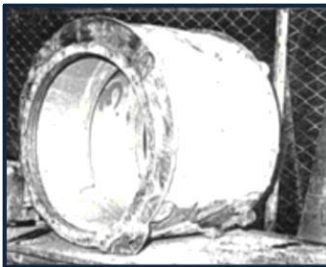
## **O-RING CHAIN + PINION TRAIN OF GEARS**

- Filling with special welds to eliminate pitting corrosion and wear.
- Polished finish.
- 10+ repaired kits.



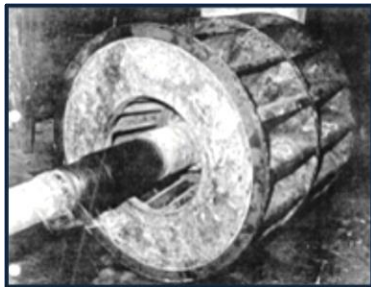
## **PUMPS**

- Repair with special welds of the body, cover, impeller and shaft.
  - More than 300 units.
  - Extends the shelf life to 5+ Sugar Cane harvests production.



## **LID AND BODY OF THE NASH PUMP**

- Repair of pump body (nodular cast iron) with special electrodes.
- Body construction in carbon steel.
  - 100+ repaired units.
  - The body and cover are shielded against wear caused by water erosion.



## **ROTOR OF THE NASH PUMP**

- Pump rotor repair (nodular cast iron) with special electrodes.
  - 100+ repaired units.
  - The rotor is shielded against wear caused by water erosion.





## **INJECTION PUMP TO CAPACITORS**

- Repair with special welds of the body, cover, impeller and shaft.
- More than 300 units.
- Extends the shelf life to 5+ Sugar Cane harvests production.



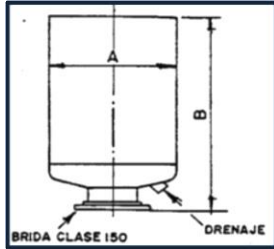
## **BAGASSE CONVEYOR**

- Change of funds, laterals, tracks, splints.
- Assembly, disassembly.
- Alignment with precision instruments.



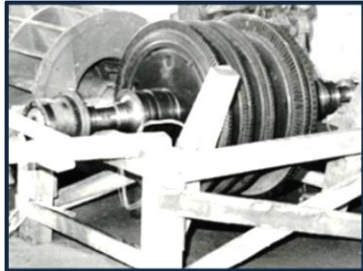
## **CARBON STEEL PIPES AND STAINLESS STEEL**

- General welding in direct steam or exhaust pipes, guarapo lines, water, air, chemical products.
- Welding with SMAW process, GTIG, MIG-RMD manually, semiautomatically or orbitally.



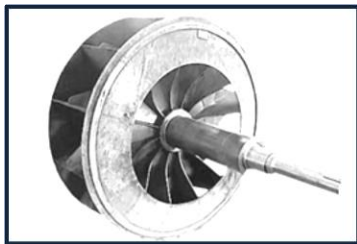
## **TRAWL COLLECTOR IN DIRECT STEAM LINES**

- Design, construction and installation Avoid internal equipment incrustations.
- 20+ units.
- It decreases the entrance of solids and sediments of steam in equipment that uses steam for its operation.



## **SHAFT TURBINE ROTOR**

- Repair with special welds.
- 12 Skoda brand steam turbine rotors
- 1 Skoda steam turbine rotor tied in the area of the keyway.
- 1 axis Steam turbine brand Peter Brother



## **INDUCED DRAFT FANS**

- Welded repair of blades, sides, hard reload welding.
- 200+ repaired.