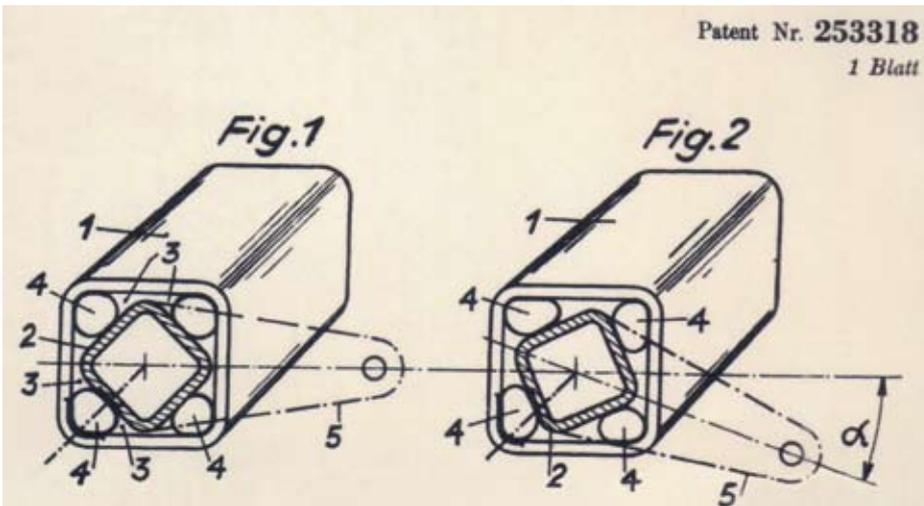




Integration of an Important Manufacturing Capability at the „Blue Ones from ROSTA“



Abstract of the original patent

The ROSTA AG company from CH-5502 Hunzenschwil is a globally-known manufacturer of rubber suspension units for the general machine and equipment construction sector. The spring system with four rubber elements mounted between two steel tube squares, which was patented for the first time in 1942, was originally designed as a resilient and absorbent wheel suspension for vehicle trailers. From its founding year of 1944 onwards, the ROSTA AG company, the owner of the patent, also almost exclusively manufactured vehicle axles on the basis of this very compact rubber suspension.

Having no „automotive“ industry of its own, Switzerland did not offer the basis for the economically successful marketing of this unique vehicle suspension in any way however, which caused the company founder to issue corresponding manufacturing licences to axle manufacturers in Germany, France and Italy.

At the end of the Sixties, ROSTA AG was concentrating on the manufacture of rubber suspension components for the machine industry – naturally on the

basis of this unique suspension. ROSTA achieved its first “great success” on the international scene with the marketing of an elastic chain and belt tensioner that automatically compensated for the elongation that occurs in these drive systems and thereby effectively prevented any belt slip or any jumping over chain links. Even today, ROSTA and its licensees still manufacture more than 450,000 of these components every year, as they have become indispensable in the machine industry.

Today’s core business for ROSTA AG lies in the manufacture of rubber suspension systems for the suspension of oscillating machines such as ore screeners, gravel screeners, foodstuff sorters, oscillating grain conveyors, conveyor troughs, gyratory screening machines and vibration compactors etc.



Elastic chain tensioners on an infeed section



Resilient ROSTA suspensions on mining screens

With their high elastic forces, these suspensions for the vibration processing of very different bulk materials support the rapid transportation or efficient screening of the product on the one hand, while preventing the undesirable transmission of oscillations and vibrations to the machine base and into the substance of the building on the other.

ROSTA AG has earned itself an excellent name worldwide with these machine components, of which 92% are exported, for example, to the centres of the mining industry. In South Africa, Australia and in North and South America, ROSTA suspensions guide ore screeners with hourly throughputs of more than 1,000 tons of bulk material. And wherever grain is processed throughout the world, ROSTA oscillating mountings can be found underneath the corn cleaning screens and flour sifters. Fish and mussels also have to be sorted and cleaned, with the help of ROSTA oscillating suspensions made from stainless steel.

The high quality demands made on the ROSTA suspension can only be guaranteed thanks to the outstanding quality of

the inserted rubber elements, **i.e. the quality of the ROSTA product stands or falls with the characteristics of the rubber that has been used in each case.** Ore screens of up to 50 tons weight should stand and work at exactly the same height during the complete service life of the elastic ROSTA suspension, which is 10 years on average. Any subsidence of the rubber suspensions as a result of age would lead to disturbances in the material flow, and would have a negative effect on the quality image of ROSTA.

For decades now, ROSTA AG has entrusted two Swiss manufacturers of elastomer products with the production of their very specific rubber elements. The ROSTA-specific rubber quality could only be found as a result of the many years of close cooperation between the laboratory workers of ROSTA and the rubber specialists of the two manufacturers, on the basis of precisely formulated requirement profiles.

Despite the very good collaboration over many years with these two manufacturers of the rubber elements, the uncertainty factor of long-term quality assurance due

to dependence on suppliers still remains for ROSTA AG. The company management has thereby made every effort over a long period to integrate this very important manufacturing capability into their own company. Together with Polygena AG, the holding company that owns ROSTA AG, discussions have been carried out with both manufacturers regarding the long-term assurance of the quality of the rubber supplies.

Due to the imminent realignments of their core productions towards elastomers for the low and high frequency technology on the one hand, and on the manufacture of medicinal products on the other, both suppliers were planning the medium-term sale of their production of technical rubber components, of which the manufacture of the ROSTA-specific rubber elements is a part. Following a long negotiation phase, Polygena AG succeeded in acquiring the rubber mixing factory from the **Huber &**



Torque testing machine in the ROSTA laboratory



Discharge masticator for rubber mixtures

Suhner AG company in CH-8330 Pfäffikon, as well as the extrusion and discontinuous vulcanisation facility from **Lonstroff AG** in CH-5000 Aarau. Both divisions have been merged within the newly founded Polygena subsidiary company **COMPOUNDS AG**, with head office in CH-8330 Pfäffikon.

defined recipes with the addition of fillers, stabilisers, sulphur, soot, etc. on a closed inner mixer (100 lt. per batch). This process is refined and intensified on the discharge masticator. The rubber mixtures pass through the tempered mixing rollers in order to further homogenise the component structure.

Once this process has been completed, the finished mixtures are stored for some time in the stacker for structure stabilisation, until they are ready for despatch or are transferred to the in-house extrusion and the subsequent vulcanisation processes.

COMPOUNDS AG has various extruders available, and very different versions can be extruded on their endless profiles (sealing profiles, cover profiles or round rubber cords for ROSTA AG).



The decades of experience in the production of the specific rubber production will be fully retained in COMPOUNDS AG, the new sister company of ROSTA AG, as all the former employees have transferred to the new company.

COMPOUNDS AG is divided into three production areas: the manufacture of the customer-specific rubber mixtures with their own mixer, the extrusion and vulcanisation of rubber profiles, and the manufacture of rubber foils for the industry.

The raw mixtures for the rubber profiles for ROSTA AG, which are mostly based on natural rubber, are created using precisely



Extrusion of the ROSTA rubber profiles



Vulcanisation in steam-heated autoclave

The vulcanisation is carried out in a steam-heated autoclave to ensure the optimal stabilisation of the shape of these endless profiles. The freshly extruded profiles are laid out in several rows on fifteen-metre long half-shell moulding plates. For the vulcanisation process, the moulding plates are transported into the horizontal furnace on rails. Depending on the loading and the

desired level of the interlacing of the rubber structure, the product-specific vulcanisation now takes place at various temperatures and under the influence of pressurised steam over a precisely defined time period.

It goes without saying that COMPOUNDS AG also has its own laboratory with various trial mixers, extruders and vulcanisation furnaces for the customer-specific development of new elastomer mixtures and profiled semi-finished products. The corresponding measurement and test materials for finding the desired quality are also available.



Tensile-tester in laboratory

The long cherished wish of ROSTA AG for the integration of the complete manufacturing capability for the rubber elements has now been fulfilled following the merger with COMPOUNDS AG, and ensures that the proverbial high quality of the Blue Ones from ROSTA will be guaranteed for the future. **Furthermore, many new possibilities for the improvement of the quality and of developing rubbers for specific applications will arise from the close collaboration with the rubber manufacturer.**



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