

HEAVY DOUBLE CHAIN STITCH AND OVERLOCK SEWING MACHINE

Project Manager: Dipl.-Ing. M. Märker Duration: 02/94 - 05/96
Authority responsible
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Initial situation

With the expansion of the market for technical textiles and the deduced assignments there especially the sales possibilities for efficient heavy sewing machines are developed. The heavy double chain stitch and overlock sewing machines offered at the moment by the enterprise SL Spezialnähmaschinenbau Limbach GmbH do not meet the latest developments in technology.

Research target

Basics for a new construction line of a machine should be created and basic variations of a new construction line of heavy double chain stitch and overlock sewing machines with a great using field, qualifying as far as possible and high technical-technological parameters should be developed.

To reach competitiveness are necessary

- high sewing results,
- a great field of using with perspective possibilities of extension basing on component parts an construction groups which can be built efficiently as far as modern design.

Research result

Basic variations of a new construction line of heavy double-chain-stitch, overlock stitch sewing and safety seam sewing machines with a great using field, qualifying as far as possible and witch meet the requirements of the world-wide level in high technical-technological parameters, were developed. The aimed degree of similarity of the machine classes was reached and the range of parts was held low. So the expected small number of pieces of the same kind of machines can be manufactured effectively. The specific requirements of the customers can be met fast and on easy terms of costs.

The development and construction was done with using of the most modern CAD-systems. For the researches external partners, especially of the Institut für Mechanik i. G., Technische Universität Chemnitz/Zwickau, were consulted.

With the development of the new machines an new design was planned which considers ergonomic and production technical aspects. At the same time the product unmistakable is shown as a new, modern product of the enterprise SL Spezialnähmaschinenbau Limbach GmbH. The function was proofed in designing and testing prototypes. As result of the work complete documentation was developed.

Application and economic advantages

With the development and the construction of the three basic variations of a modern construction line

- heavy double chain stitch sewing machine,
- heavy overlock stitch sewing machine and
- heavy safety seam sewing machine

an important base for the future of the enterprise SL Limbach GmbH was created and the concentration to modern special sewing machines in accordance to the tradition and experiences of the enterprise was forced. The realised conception considers the situation of the turnover which is to expect. Important manufacturing jobs can be met by the principle of the construction line. In this way a high variability with a simultaneous realisation of production lots in acceptable quantity is ensured.

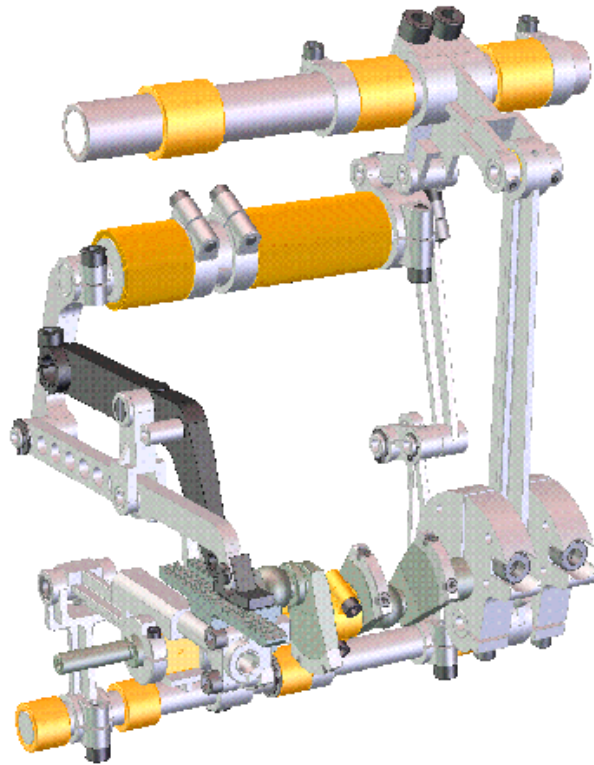


Fig. 1: Feed mechanism group with top feed

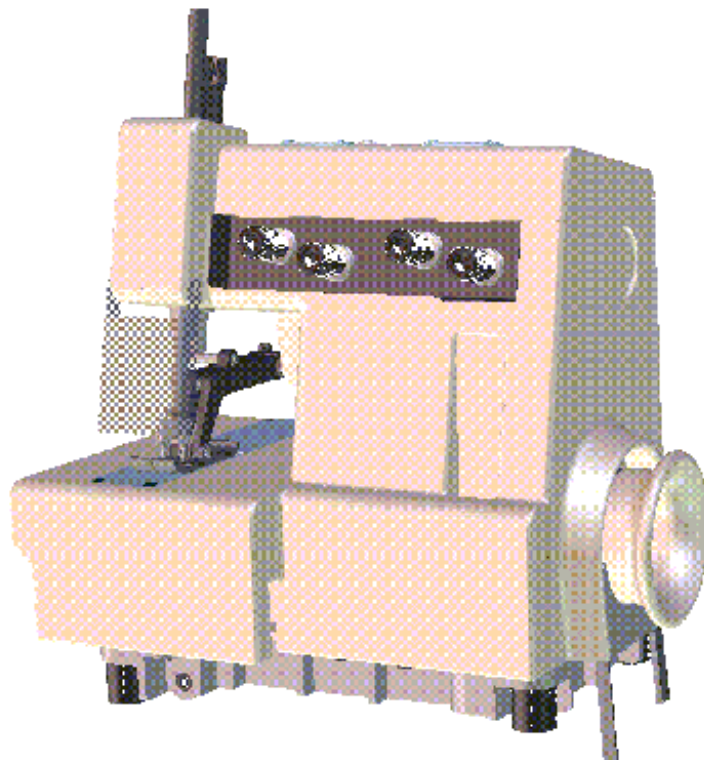


Fig. 2: Two-needle double chain stitch sewing machine variant