

Dynamic and Mathematical Models of Motion "Legs", Upper Rack of the Mechanism Fabric Transportation of Sewing Machines

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ABSTRACT

The article provides a constructive scheme and principles of operation of a self adjusting foot for manufacturing high-quality garments in sewing machines.

Key words: sewing machine, thread, needle, material, plate, foot design, 22 A class, 97 class machines.

Introduction

The problems of the quality of garments, the ratio of quality and price are among the most acute problems at the enterprises of the light industry. Increasing competition requires garment enterprises to move to a new technological level. At most domestic sewing enterprises, there is an acute issue of replacing an outdated sewing machine park, while new sewing equipment must meet modern quality, productivity, and labor protection requirements. An important task is to reduce the level of noise and vibration activity.

1. Presser feet.

The advancement of the fabric by the toothed rack, on a sewing machine with a rack and pinion mechanism for transporting the fabric, can only occur if the fabric is firmly pressed against the toothed rack by the presser foot. The presser feet of sewing machines are directly involved in the process of sewing materials and have a significant effect on the quality of the stitching. The designs of the presser feet of sewing machines are very

diverse [1-3, 5]. Many classes of sewing machines have their own type of presser foot. All designs of presser feet can be conventionally divided into three groups.

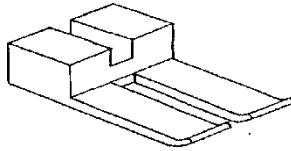
The first group includes presser feet (Fig. 1.2), which have a slot in which the needle moves. The slot width should be slightly larger than the needle deflection. This type of foot is found on almost all universal sewing machines. (1022 cells, 97-A cells, 852 cells, 26 cells, 245 cells, 31 cells, etc.). The second type of presser foot is used on overlock sewing machines. Such machines perform simultaneously the operations: stitching and overcasting the edge of the seam, protecting it from shedding and breaking the seam itself. The stitches made on the overcasting machines, in addition to the threads located along the seam, have threads that overcast the edge of the seam. That is, slotted presser feet are not applicable on these machines. Therefore, in this. \ R case, cut-off legs are used (Fig. 1.3). Such presser feet are used in machines 51 cl, 208 cl, etc.

The third type of presser foot (fig. 1.4) is used in machines for sewing a stitch with a fabric fit.

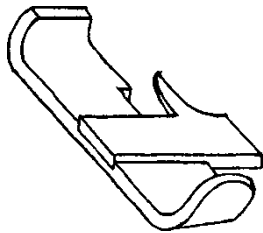
Main part

These machines are used in the industry mainly in the operations of turning sides, lapels, collars, in the manufacture of coats and suits, where a fit of the bottom fabric is required. The sole of these feet is a toothed bar. Landing is achieved by

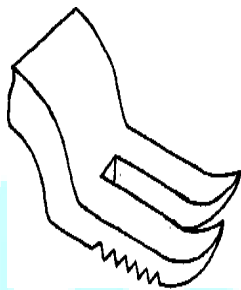
Types of presser feet of sewing machines



picture 1



picture 2



picture 3

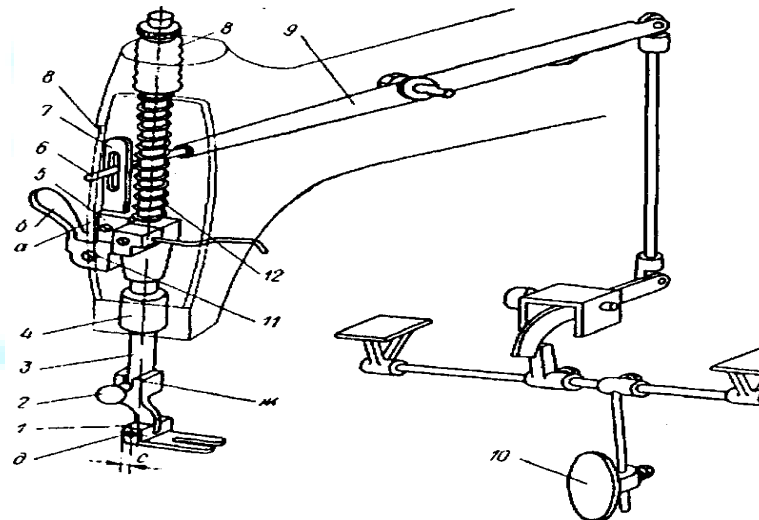
difference of movements in the direction of transportation of the materials to be sewn between the toothed presser foot (see Fig. 1.4) and the lower toothed rack. In the garment industry, special presser feet are also used - devices that increase labor productivity and improve the quality of processing of garments. Let's list some of them:

- a presser foot with two folding guides (this device is used for sewing seams on outerwear and light clothing made of dense materials);
- a presser foot for tying the cord (used when finishing children's and women's products; when performing this operation, the cord should not be attached to the material
- a presser foot for sewing an edge or braid (used for sewing an edge along the bead line when sewing upper products, as well as when adjusting trimming braids on women's, children's dresses and other products);

- a presser foot - a seamstress (used when stitching cuts and sewing sewing seams in underwear, men's shirts and overalls);

Conclusion

Regardless of the design of the presser foot, some pressure must be created between it and the stitch plate, and therefore between it and the lower toothed rack, during the transport of the materials to be grinded. To do this, a certain knot is created on sewing machines, to which the presser foot is most often attached with screws. This node is below is called "foot".



The device of the presser foot of the sewing machine 22-A class.

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