

UDC 687.053

NEW TECHNOLOGICAL PROCESSES FOR THE STAPLING OF HIGH ELASTIC MATERIALS WITH A FLAT CHAIN

O.P. Manoilenko, Ph.D., Associate Professor

Kyiv National University of Technology and Design

V.A. Gorobets, Ph.D., Associate Professor

Kyiv National University of Technology and Design

A.A. Shepetko, master

Kyiv National University of Technology and Design

Keywords: highly elastic stitches, flat chain stitch, technological processes of stitch formation, chain stitch sewing machines.

The thread connections of the garment parts are characterized by a number of parameters, the main ones being the elasticity of the stitch, the minimum and maximum length and width of the stitch, the number of threads per stitch, and so on. Feature of multithreaded 600-class chain stitches is that they are formed on the basis of flat 400-class chain stitches. In two and multi-row chains where two or more needles are used to connect, the major drawback is that the width of the stitch depends on the processes of gripping the "loop" looper and inserting the needle into the "thread triangle", so the maximum width of the stitches of the class 400 and 600 [1] is not more than 6 mm (except for types 408 and 606, in which several loopers are used, which carry out "loop" grips along the stitch, which does not allow adjusting the width of the stitch). Adjusting the width of the sewing machine stitch can be done discretely, for example, by moving the needles into different openings [2], or by smooth adjustment in the needle holder [3]. The main reason is that there are a lot of types of lanterns and lounges do not expect to save the needs of technological processes for sewing new types of materials in the window that can be adjusted for the width of the page. Because of the wide range of problems, there are many new types that would be safe, as well as the need to protect materials, as well as the minimum number of items available, for real. Department of Applied Mechanics and Machines KNUTD works in direct problems of both problems. The main results are achieved in the creation of new types of many threads [4], a big deal, a little less time for breaking, and also a bigger value for the maximum width. At the department, the development of new technological processes and the possession for the development of lancing rooms can be promoted, so that up to 400 and 600 classes can be presented. When creating flat chain stitches (Fig. 1), many thread flat [5] and single-stranded multi-row [6] chain stitches were adopted as analogues, which first have the above advantages and can be performed on a minimal nomenclature of equipment whose design also performed at the department. Work is now underway to create a multifunctional sewing machine of a chain stitch, which can be used for technological processes of formation of several types of these stitches.

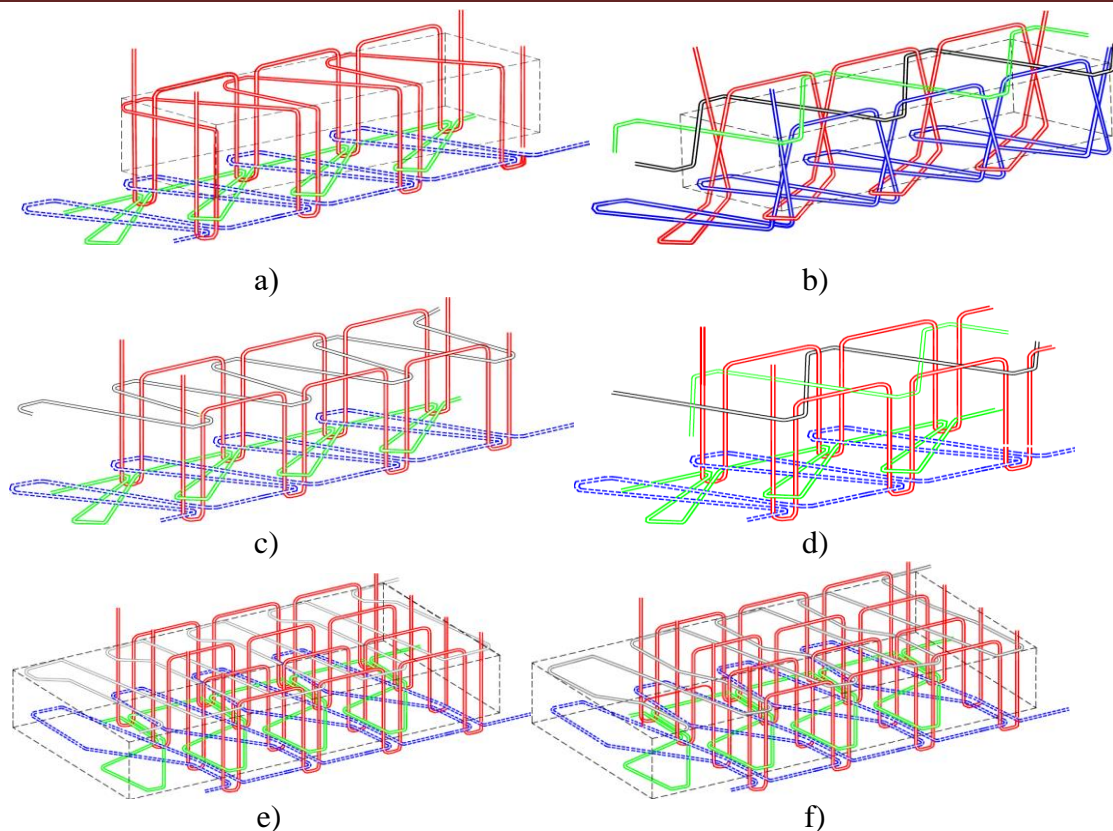


Figure 1 - Block diagram covering chainstitch class 600: a, b - four threads; c - five threads; d - six threads; e, f - seven threads.

References

1. Матеріали текстильні. Типи швів. Класифікація і термінологія : ДСТУ ISO 4916:2005 (ISO 4916-1991, IDT). – [Введ. в дію 01.07.2006]. – К. : Держстандарт України, 2006. – 70 с. – (Національний стандарт України).
2. Патент України на корисну модель UA 78454, D05B 57/00. Сточувальна швейна машина чотириниткового ланцюгового стібка / Горобець В.А., Манойленко О.П. – № u201208227; заявл. 05.07.2012; опубл. 25.03.2013. – Бюл. № 6/2013.
3. Патент України на корисну модель UA 78454, D05B 57/00. Сточувальна швейна машина чотириниткового ланцюгового стібка / Горобець В.А., Манойленко О.П. – № u201208227; заявл. 05.07.2012; опубл. 25.03.2013. – Бюл. № 6/2013.
4. Манойленко О. П. Нові технологічні процеси та обладнання для зшивання високоеластичних матеріалів / О. П. Манойленко, В. А. Горобець // Мехатронні системи: інновації та інжиніринг : тези доп. міжнар. наук.-практ. конф. (15 червня 2017 р., м. Київ) / відп. за вип. М. А. Зенкін. - К. : КНУТД, 2017. - С. 50-51.
5. Патент України на корисну модель UA 98419, D05B 55/00. Голкотримач швейної машини / Манойленко О.П., Горобець В.А. – № u201412400; заявл. 27.04.2015; опубл. 27.04.2015. – Бюл. № 8/2015.
6. Патент України на корисну модель UA 114319, D05B 1/00. Спосіб утворення двониткового плоского ланцюгового стібка / Горобець В.А., Манойленко О.П., Поповіченко С.А. та ін.. – № u201607976; заявл. 19.07.2016; опубл. 10.03.2017. – Бюл. № 5/2017.