Feb. 22, 1944. N. KNAUS 2,342,285

THREAD-CUTTER FOR SEWING MACHINES

Filed May 22, 1942

Fig. 1.

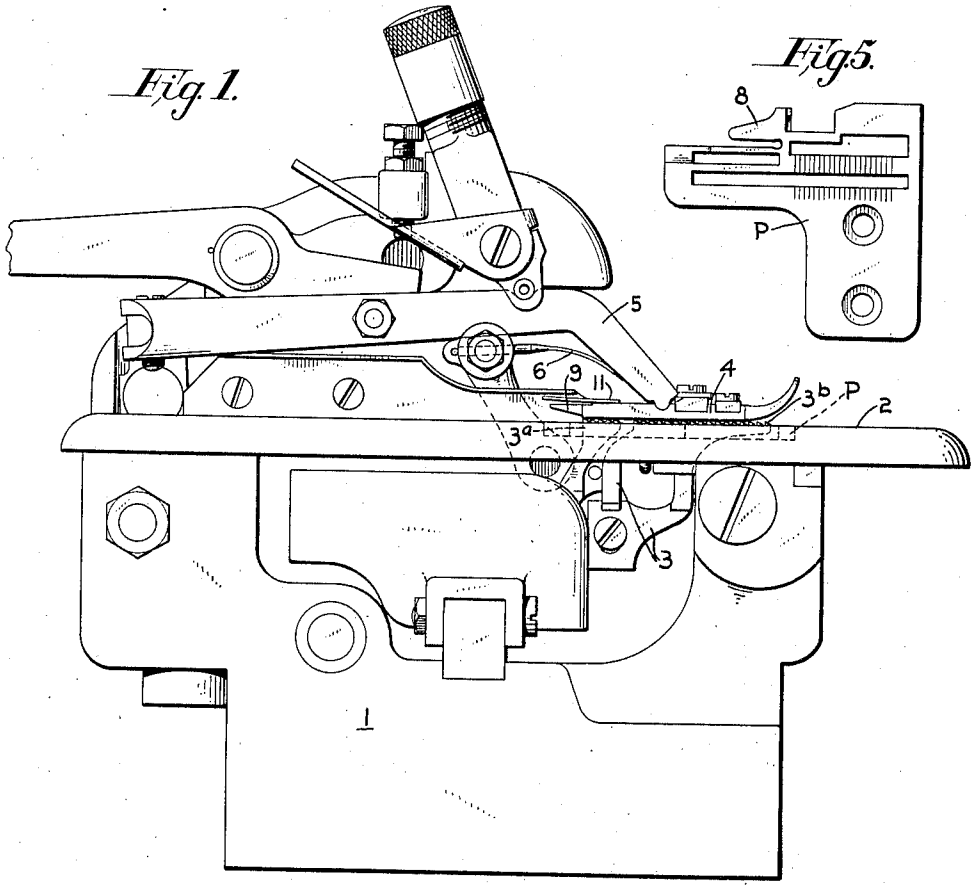


Fig. 5.

Fig. 2.

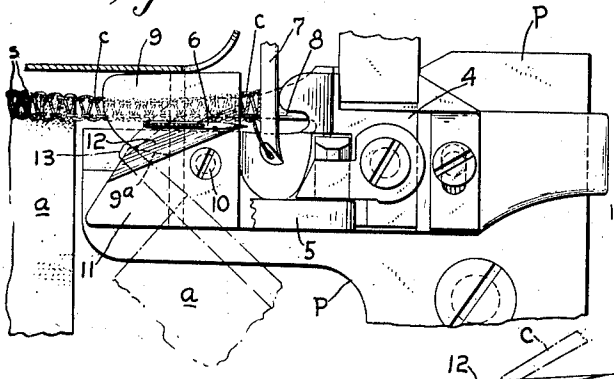


Fig. 3.

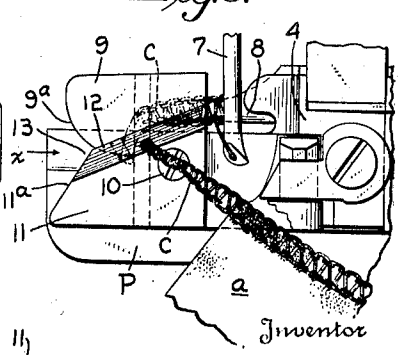
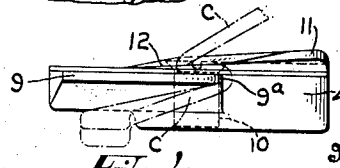


Fig. 4.



Witness:

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THREAD CUTTER FOR SEWING MACHINES

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4 Claims. (Cl. 112—252)

This invention relates to thread-cutters for sewing machines and more particularly to thread-cutters for overedge sewing machines which "chain-off" between successive articles, whereby the successive articles are connected together by an elastic thread-chain comprising concatenated loops of two or more sewing threads.

The invention has as its primary object to provide a thread-cutter which will facilitate the manual severing of the thread-chain, and which will prevent the pulling of the thread-chain off the chaining-off finger on the throat-plate and distortion of the thread-loops thereof.

These and other objects have been attained by the provision, on the rear end of the presser-foot of an overedge sewing machine, of a thread-cutter including a V-shaped throat into which the thread-chain readily may be pulled by merely drawing the sewed article toward the operator, a snubbing plate, forming one side of the V-shaped throat, about the edge of which the thread-chain is drawn by the forward movement of the sewed article, and a chain-severing blade, forming the other side of said V-shaped throat, which engages and severs the snubbed thread-chain. The snubbing-plate and the chain-severing blade are so constructed and arranged that although the thread-chain is restrained between them during the severing action it may readily be pulled therefrom by the forward movement of the next succeeding article to be sewed.

With the above and other objects in view as will hereinafter appear, the invention comprises the devices, combinations, and arrangements of parts hereinafter set forth and illustrated in the accompanying drawing of a preferred embodiment of the invention, from which the several features of the invention and the advantages attained thereby will be readily understood by those skilled in the art.

In the drawing,

Fig. 1 is an end elevation of an overedge sewing machine having a presser-foot embodying the present invention.

Fig. 2 is an enlarged plan view of the presser-foot shown in Fig. 1, together with portions of the sewing machine which cooperate therewith during the sewing operation, and a sewed article connected with the stitch forming mechanism by the usual thread-chain.

Fig. 3 is a fragmentary plan view similar to Fig. 2 but showing the sewed article as moved forwardly sufficiently to sever the thread-chain.

Fig. 4 is a further enlarged rear end view of a portion of the presser-foot, looking in the direction of the arrow x in Fig. 3, showing more clearly the arrangement of the chain-snubbing plate and the cooperating chain-severing blade.

Fig. 5 is a plan view of the throat-plate of the machine, includinf the chaining-off finger about which the stitches are formed during the chaining-off operation.

Referring more specifically to the drawing, the invention is disclosed as embodied in an overedge sewing machine comprising a frame 1, work-supporting plate 2, throat-plate P, work-feeding mechanism 3, comprising main and auxiliary feed-dogs 3a and 3b, respectively, a presser-foot 4 supported upon a presser-bar 5 and overlying the feed-dogs and maintaining the work in contact therewith, and stitch-forming mechanism including a reciprocating curved eye-pointed needle 6 and a cooperating thread-carrying looper 7. Inasmuch as all of the above mentioned elements are common to overedge sewing machines and form no part of the present invention detailed illustration and description thereof is deemed unnecessary.

Secured to the throat-plate P and forming a part thereof is a chaining-off finger 8, common to overedge sewing machines, which underlies the edge of the work-piece and about which the stitches are formed. If desired, the chaining-off finger may be supported by the presser-foot instead of by the throat-plate, both constructions being common in overedge sewing machines. As is customary, the chaining-off finger 8 has a free and unsupported rear end which permits the stitches formed thereabout to be fed therefrom in the form of an elastic thread-chain. This chain is indicated in the drawing by the reference character c. In Fig. 2 an article a is shown as having passed beyond the stitching mechanism and as having one edge thereof covered by overedge stitches s. After passage of the article, the machine chains-off, thereby producing the chain c until the succeeding article is presented to the stitch forming mechanism. It is this connecting chain between the successive articles that is required to be severed.

Extending from the rear end of the presser-foot is a horizontally disposed chain-snubbing plate 9 which overlies the thread-chain c as it passes off the free end of the chaining-off finger. This plate has a curved and rounded edge 9a about which the thread-chain is passed, during the severing operation, as later will be described.

Secured to the upper surface of the presser-foot 4, as by screw 10, and partially overlying the plate 9, and spaced therefrom, is a thin metal

blade 11 having a sharpened cutting edge 12 disposed at an inclination to the direction of travel of the work. The edge 9a of the plate 9 and the rear edge 11a of the blade 11 afford a substantially V-shaped throat 13 into which the thread-chain c may be drawn as hereinafter will be described.

The operation in severing the thread-chain is as follows: One article a having had its edge covered with overedge stitches s and the machine having continued to sew, thereby producing the thread-chain c, as illustrated in Fig. 2, the operator grasps the article and moves it forwardly to the position indicated in dot-dash lines in that figure. This movement of the article carries the thread-chain diagonally across beneath the snubbing plate 9 and into the throat 13 between that plate and the cutter blade 11. Further forward movement of the article into the position shown in Fig. 3 causes the thread-chain to be snubbed around the edge 9a of the plate 9, as illustrated in dot-dash lines in Fig. 4, and ultimately causes the sharpened edge 12 of the blade 11 to sever the thread-chain. This snubbing of the thread-chain about the edge of the plate 9 assists in the severing of the chain and prevents distortion of those thread-loops adjacent to and surrounding the chaining-off finger.

Having thus set forth the nature of the invention what I claim herein is:

1. In an overedge sewing machine having stitch-forming mechanism, work-feeding mechanism, a presser-foot and a chaining-off finger over which said stitch-forming mechanism forms a chain of concatenated thread-loops; the improvement which consists in the provision of a thread-chain cutter secured to and projecting rearwardly from said presser-foot and comprising a thread-snubbing element located above the lower surface of the presser-foot and having a portion about which said thread-chain may be passed, and a thread-chain cutting blade having a cutting edge overlapping and spaced above said snubbing element and into contact with which said thread-chain may be drawn as it is passed about said thread-snubbing element, the spacing of said cutting blade and snubbing element being sufficient to prevent gripping of the chain.

2. In an overedge sewing machine having stitch-forming mechanism, work-feeding mechanism, a presser-foot and a throat-plate formed with chaining-off finger over which said stitch-forming mechanism forms a chain of concatenated thread loops; a thread-chain cutter secured to and projecting rearwardly from the rear end of said presser-foot and comprising a horizontally disposed thread-snubbing plate having a curved and rounded edge about which said thread-chain may be passed, and a horizontally disposed thread-cutting blade having a sharpened edge overlying and spaced from said snubbing plate and into contact with which said thread-chain may be drawn after it has been passed about the edge of said snubbing plate.

3. In an overedge sewing machine having stitch-forming mechanism, work-feeding mechanism, a presser-foot and a chaining-off finger over which said stitch-forming mechanism forms a chain of concatenated thread loops; a thread-chain cutter secured to and projecting from the rear end of said presser-foot and comprising a thread-snubbing plate having a thread-snubbing edge about which said thread-chain may be passed, and a thread-cutting blade overlying and spaced above said snubbing plate and into contact with which said thread-chain may be drawn after it has been passed about the edge of said snubbing plate, said plate and blade having at their rear ends oppositely facing and oppositely inclined edge portions affording between them a throat into which said thread-chain may be drawn to carry the chain about said thread-snubbing edge and into contact with said thread-cutting blade, the spacing of said thread-chain cutter and thread-snubbing plate being sufficient to prevent gripping of the chain.

4. A thread-chain cutter for a sewing machine comprising a chain-snubbing plate having a snubbing edge about which the thread-chain to be severed may be passed, a thread-chain severing blade overlying a portion of said snubbing plate and having a cutting edge arranged above and at an inclination to said snubbing edge, said blade and plate having oppositely inclined opposed edges affording a substantially V-shaped throat into which said thread-chain may be drawn to bring it into contact with said snubbing and cutting edges, said blade being spaced above said snubbing plate to permit passage of said thread-chain therebetween and serving to sever said thread-chain which has been passed about the edge of said snubbing plate and drawn into contact with said cutting edge, the spacing of said severing blade and snubbing plate being sufficient to prevent gripping of the chain.

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