

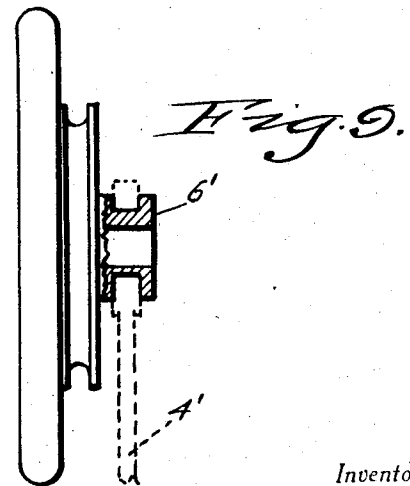
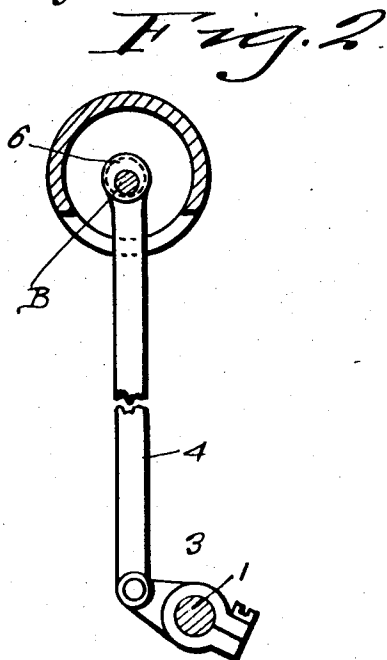
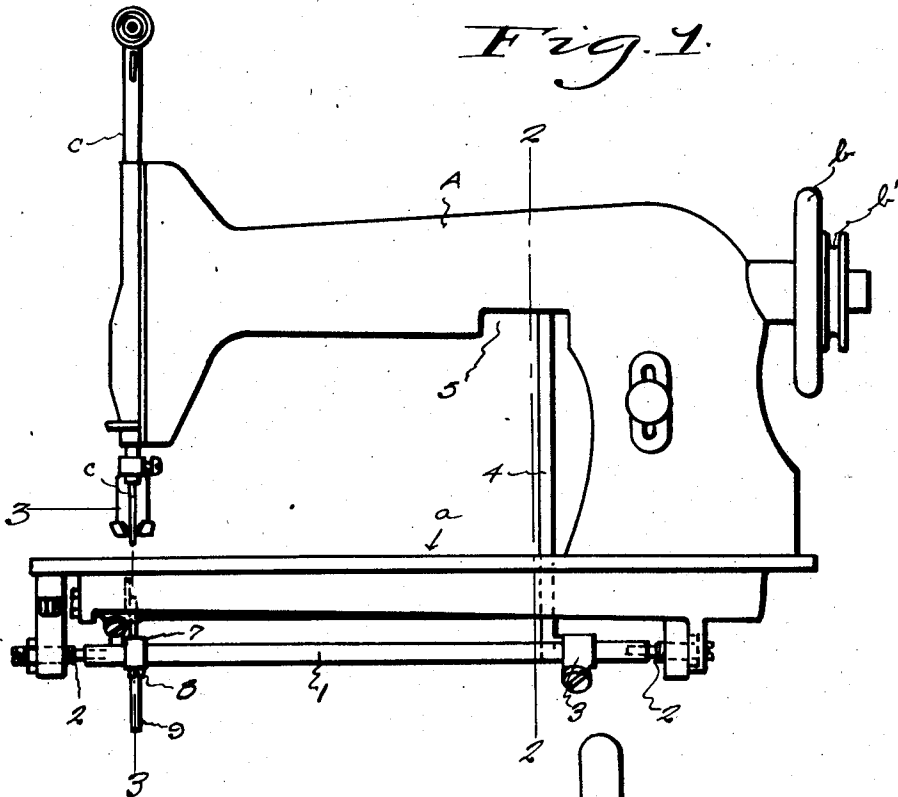
Sept. 17, 1940.

W. T. KENNER, SR., ET AL
TUFTING ATTACHMENT FOR SEWING MACHINES

2,214,767

Filed Aug. 3, 1937

2 Sheets-Sheet 1



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2 Sheets-Sheet 2

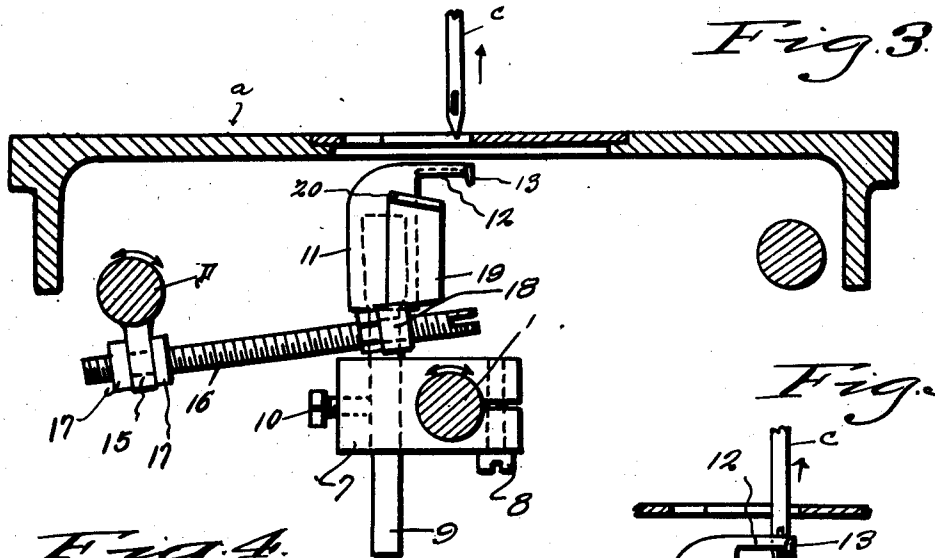


Fig. 3.

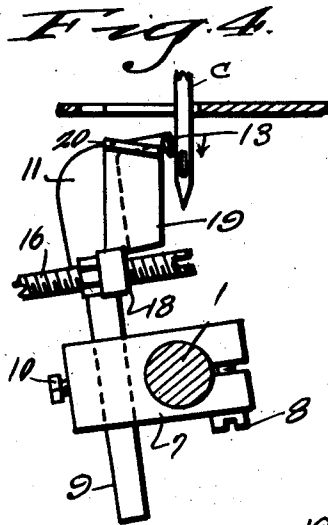


Fig. 4.

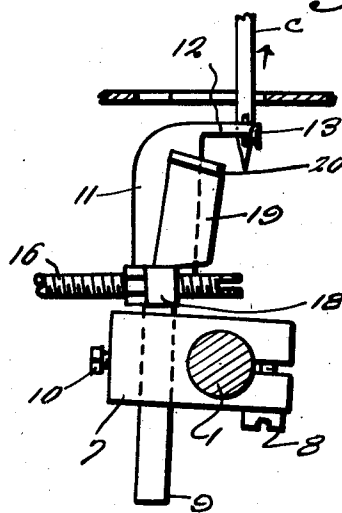


Fig. 5.

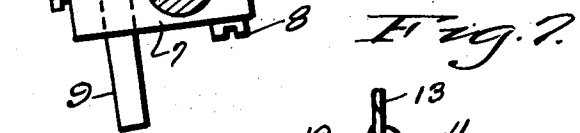


Fig. 6.

Fig. 7.

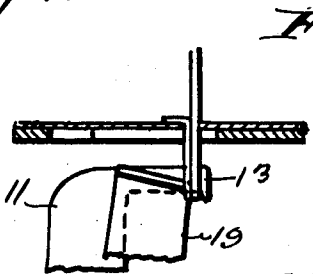
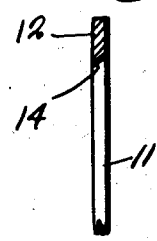
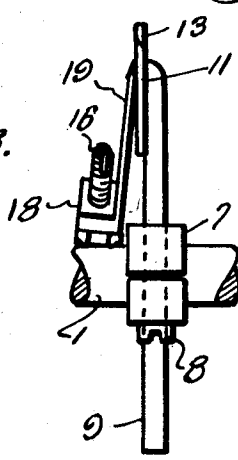


Fig. 8.

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UNITED STATES PATENT OFFICE

2,214,767

TUFTING ATTACHMENT FOR SEWING MACHINES

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Application August 3, 1937, Serial No. 157,182

1 Claim. (Cl. 112—79)

This invention relates to a tufting attachment for sewing machines, the general object of the invention being to provide means for forming loops in the stitches made by the sewing machine and means for cutting the loops to form the tufts, the cutting means being actuated from the cloth feeding mechanism of the machine and the loop forming means being actuated from an additional shaft attached to and driven from the machine.

This invention also consists in certain other features of construction and in the combination and arrangement of several parts, to be hereinafter fully described, illustrated in the accompanying drawings and specifically pointed out in the appended claim.

In describing the invention in detail, reference will be had to the accompanying drawings wherein like characters denote like or corresponding parts throughout the several views, and in which:

Figure 1 is an elevation of the head part of a sewing machine showing the invention applied thereto.

Figure 2 is a section on the line 2—2 of Figure 1.

Figure 3 is a section on the line 3—3 of Figure 1.

Figures 4, 5 and 6 are views showing the needle and the loop forming device and the knife in different positions.

Figure 7 is an edge view of the looper and the knife showing how they cooperate with each other.

Figure 8 is a sectional detail view through the looper.

Figure 9 is a view partly in section showing how the looper shaft can be driven from a part on the wheel of the machine.

In these drawings the letter A indicates the head of the sewing machine rising from the base α and which rotatably supports the shaft B having the wheel b and pulley b' attached to one end, this shaft operating the needle bar C which carries the needle c . A shaft D operates the cloth feeding means (not shown) and this shaft D is also driven from the shaft B in the usual manner. In carrying out the invention a shaft 1 is located under the base α and said shaft is rotatably supported by means of the adjustable bearings 2 and said shaft has an arm 3 clamped thereto. A connecting rod 4 has its lower end pivoted to the arm 3 and said rod passes through a hole in the base α and through a hole 5 in the under part of the head A and has an eccentric strap at its upper end engaging the eccentric 6 fastened to the shaft B as shown in Figure 2.

Thus the shaft 1 is rocked by the shaft B. Instead of driving the shaft 1 from an intermediate part of the shaft B said shaft 1 may be extended beyond the base and the arm placed on the extended part with the connecting rod 4' having its strap engaging the eccentric 6' connected with the pulley of the wheel as shown in Figure 9.

A block 7 has an opening therein and a slot extending from one end of the block to the opening for making said end resilient. The shaft 1 passes through the opening and a screw 8 passes through the slotted end of the block for clamping the block in adjusted position to the shaft 1. The block also has a hole therein for receiving the rod 9 which is held in adjusted position by the screw 10. The upper end of the rod has attached thereto the looper hook 11 which includes a narrow substantially straight shank 12 having a slightly curved and beveled beak 13 at its end and the inner edge of the shank is beveled as at 14 to form a cutting edge.

An arm 15 is connected with the shaft D and has a hole therein through which passes a screw shaft 16 which is held in adjusted position in the arm by means of the nuts 17, one on each side of the arm. A nut 18 is threaded on the shaft 16 and has the knife 19 connected therewith, the knife extending substantially vertical and having its upper end slightly inclined from one side edge to the other and said end is also beveled to provide a cutting edge 20 which cooperates with the edge 14 of the shank 12 for cutting the thread after the same has been looped.

The parts are so timed that as the needle moves downwardly and carries the thread through the cloth, the looper moves over alongside the needle and between the needle and a part of the thread so that when the needle moves upwardly the thread is held by the looper and a loop formed. The knife is so positioned that it will not cut the loop just formed but will cut a loop previously formed and as will be seen the beveled edge 14 of the shank of the looper cooperates with the knife in cutting the thread and the cutting action may be said to be a shirring one. The manner in which the looper and knife move relative to the needle is shown in Figures 4, 5 and 6, Figure 7 showing how the knife slides on the looper. These figures show that the beveled end of the knife has sliding engagement with the looper throughout the movements of the parts.

The parts are so formed and actuated that a second loop being formed on the looper will cause the first loop to move over on the shank so that

it will be cut by the knife, leaving the second loop uncut until the next operation.

Thus it will be seen that we utilize the feed operating shaft and one additional shaft for
5 operating the tufting means and that the invention is very simple and includes but a few parts. The rod 9 which carries the looper can be adjusted lengthwise in the block and can also be adjusted in a rotary manner which enables the
10 looper to be properly adjusted relative to the needle and the other parts and the block 7 can be adjusted lengthwise on the shaft 1 and also can be adjusted in a rotary manner on the shaft. The shaft 16 can be adjusted lengthwise and in
15 a rotary manner in the arm 15 and the knife can be adjusted on the shaft 16 so that it will properly cut the loops being formed by the looper and thus the thread or yarn stitched into the cloth will be formed into tufts.

20 It is thought from the foregoing description that the advantages and novel features of the invention will be readily apparent.

It is to be understood that changes may be
25 made in the construction and in the combination and arrangement of the several parts, provided

that such changes fall within the scope of the appended claim.

Having described the invention what is claimed as new is:

A tufting attachment for a sewing machine 5 which includes a pair of rock shafts located under the base of the head of the machine, comprising an arm adjustably connected to one rock shaft, a looper member adjustably carried by said arm and including a flat part, a hook extending at
10 substantially right angles from said flat part and terminating in a bead, the lower edge of the hook being beveled, a screw shaft adjustably connected with the other rock shaft and extending at right angles therefrom, a knife having a nut at its
15 lower end through which the screw shaft passes, the parts being constructed and arranged to hold the upper end of the knife in permanent sliding contact with the flat part of the looper member and said upper end of the knife being beveled
20 and sloping from one side edge to the other to provide a shearing action with the beveled edge of the hook of the looper member.

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