

UNITED STATES PATENT OFFICE.

JULIUS C. GOODWIN, OF PHILADELPHIA, PENNSYLVANIA.

TRIMMER FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 686,723, dated November 19, 1901.

Application filed November 21, 1900. Serial No. 37,210. (No model.)

To all whom it may concern:

Be it known that I, JULIUS C. GOODWIN, a citizen of the United States, residing at No. 3137 Euclid avenue, Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Trimmers for Sewing-Machines, of which the following is a specification.

My invention consists of improvements in trimmers for sewing-machines, and has for its object the means of operating the movable knife of the trimmer, so that it will receive a vertical and a longitudinal motion.

It is also a further object of my invention to form a suitable means of adjustment for the stationary knife.

Referring to the drawings, Figure 1 represents a perspective view of a portion of a sewing-machine embodying my invention. Fig. 2 is a perspective view of the parts shown in Fig. 1 looking at them from the opposite corner of the machine. Fig. 3 is a plan view of the clamp for holding one of the knives, the knife being removed. Fig. 4 shows a plan view of the knife. Fig. 5 is a vertical sectional view on line 5-5, Fig. 3, showing the knife clamped in position. Fig. 6 is a detail view showing the connection between the driving-shaft and the arm operating the knife. Fig. 7 is a view showing a modified form of my invention.

In the drawings, A represents the bed-plate of a sewing-machine, having at either end bearings B, only one of said bearings being shown in the drawings, in which bearings B is mounted the driving-shaft C. On the bed-plate A are also bearings b and b', in which is mounted the shaft D. Mounted on the shaft D is a rocking frame E, having at one end a projection e, to which is adjustably attached the end f of the connecting-rod f', as shown in Fig. 2. At the other end of said connecting-rod f' is formed an eccentric-strap f², which encircles the eccentric c on the driving-shaft C.

The rocking frame E is provided with bearings e', in which is mounted the shaft E'. A sleeve G is loosely mounted on said shaft and has projecting arms H and I. As shown in Fig. 6, the arm H is constructed in the

form of a sleeve or barrel and is adapted to receive the rod h, carried by the eccentric-strap h², which encircles the eccentric C' on the shaft C, the rod h being permitted to slide freely in the sleeve in the arm H.

The arm I is adapted to carry one of the trimmer-knives. A groove i is made in the end of the arm, in which is fitted the shank i' of the knife i² and is there held by means of the set-screw i³. The slot i⁴ in the shank i' permits of the adjustment of the knife.

On the work-plate J is secured a clamp K for holding the knife L. A groove is provided in the under side of the clamp K, which permits the said clamp to fit over a bar j, secured by means of screws to the plate J. The clamp K is held in position by means of the set-screw j', and the elongated opening k permits it to be adjusted to any desired position.

The knife L is clamped between the ridges on the projections k' k² of the clamp K, as clearly shown in Figs. 3 and 5. Said projections are made flexible by means of the slot k³, which terminates in the enlarged opening k⁴, and by means of the set-screw k⁵ the knife may readily be held in position.

The edge of the knife L bears against the face of the knife i², carried by the arm I, and forms a shear. A spring g on the shaft E acts against the arm I and tends to keep the knives tightly together.

The position of the knives in relation to the needle M may be varied by adjusting the clamp K on work-plate J. The spring g on the shaft E' permits the arm I, carrying the movable knife, to be adjusted. It will thus be seen that the trimmer can be set to cut the cloth at any desired distance from the row of stitching made by the needle. The feed mechanism carried by the bar N is operated by the rocking frame E and the cam n on the driving-shaft C.

The operation of my invention is as follows: Motion is imparted to the driving-shaft C, which imparts motion to the rocking frame E by means of the eccentric c and the connecting-rod f'. Said rocking frame carries the arms H and I and gives to the knife on the arm I a longitudinal motion, the arm H being allowed to reciprocate on the rod h of

the eccentric C'. By means of the eccentric C' on the shaft C a vertical motion is imparted to the knife on the arm I. The cam is timed so that the knife will be drawn
 5 down at the same time that the rocking frame E is drawing the knife back, thus giving the knife a double motion, which is very effective in its operation, cutting a clean straight edge and does not pull or draw the cloth.

10 In Fig. 7 is shown a modified form of operating the arm I, carrying the knife. The arm is pivoted to the shaft mounted in bearings on the bed-plate A.

The arm H engages with the rod on the eccentric on the driving-shaft C, the eccentric-rod *h* being permitted to slide loosely in the sleeve formed in the arm H, and as the shaft C is rotated the eccentric will impart a vertical reciprocating motion to the knife on the
 20 arm I. This is a very simple and effective method of operating the knife when only the vertical reciprocating motion is desired.

Having thus described my invention, I claim, and desire to secure by Letters Patent,
 25 the following:

1. In a trimmer for sewing-machines, the combination of a fixed knife, a driving-shaft, a rocking frame, a sleeve mounted on said rocking frame, an arm attached to said sleeve
 30 carrying a knife, a depending arm attached to said sleeve engaging with an eccentric on the driving-shaft, and means for imparting

motion to said rocking frame substantially as described.

2. In a trimmer for sewing-machines the 35 combination of a driving-shaft, a rocking frame, a sleeve mounted on said rocking frame, an arm attached to said sleeve carrying a knife, a depending arm attached to said sleeve, an eccentric, an eccentric-strap having a rod 40 projecting therefrom adapted to engage with said depending arm, a fixed knife on the cloth-plate, a spring on the rocking frame acting against the sleeve carrying the arms, tending to hold the knives together, and means 45 of imparting motion to said rocking frame substantially as described.

3. In a trimmer for sewing-machines the combination of a clamp for holding the fixed knife of the trimmer, a knife adapted to be 50 secured in said clamp, a set-screw *h*⁵ for holding the knife, the portion of the clamp that receives the knife made flexible by means of a slot *k*³ and the recess *k*⁴, a guide-plate *j* secured to the work-plate of the machine, a set- 55 screw *j*¹, and an elongated opening *k* in said clamp to permit the lateral adjustment of the same, substantially as described.

In testimony whereof I have affixed my signature in presence of two witnesses.

JULIUS C. GOODWIN.

Witnesses:

A. J. SHARPE,

WM. F. DONNELLY.