(No Model.)

J. C. GOODWIN.

TRIMMER FOR SEWING MACHINES.

No. 517,140. Patented Mar. 27, 1894.

Fig. 1.

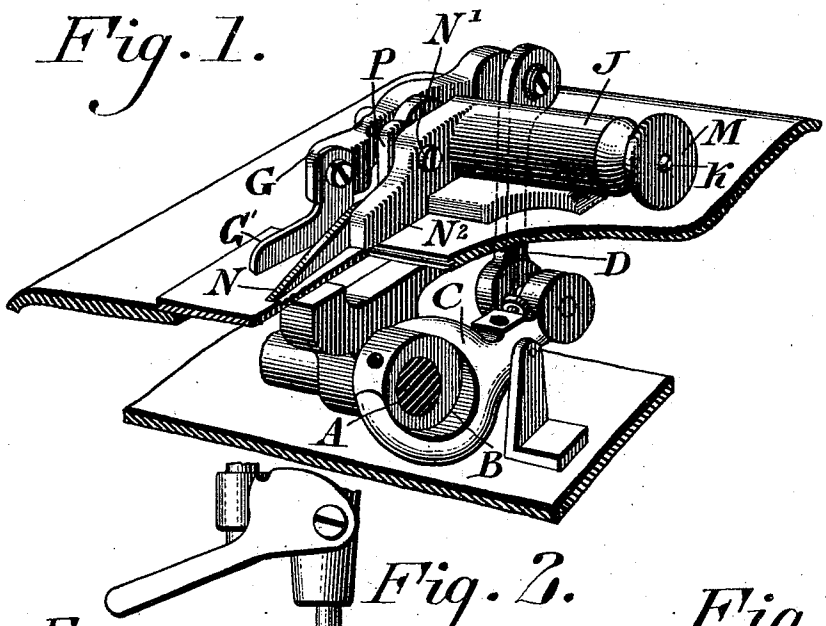


Fig. 2.

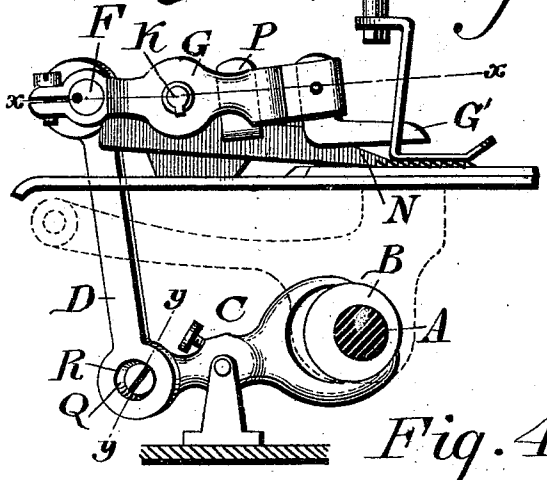


Fig. 3.

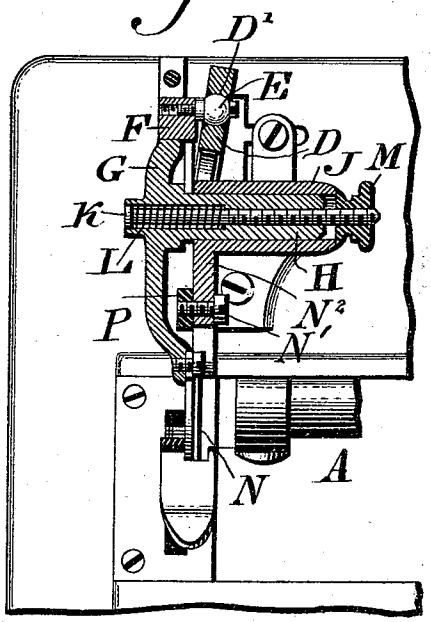
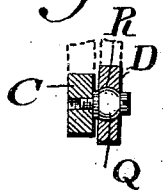


Fig. 4.



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TRIMMER FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 517,140, dated March 27, 1894.

Application filed April 14, 1893. Serial No. 470,280. (No model.)

To all whom it may concern:

Be it known that I, JULIUS C. GOODWIN, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Trimmers for Sewing-Machines, which improvement is fully set forth in the following specification and accompanying drawings.

My invention consists of a trimmer for a sewing machine, having a vibrating knife which is connected with its operating mechanism by means of a flexible joint or joints, whereby there is no binding of the parts and novel means for adjusting the throw of said knife the construction and operation of the parts being hereinafter set forth.

Figure 1 represents a perspective view of a trimmer for a sewing machine, embodying my invention, said figure also showing the adjacent portions of said machine. Fig. 2 represents a partial end view, and partial transverse section. Fig. 3 represents a horizontal section on line *x*, *x*, Fig. 2. Fig. 4 represents a section on line *y*, *y*, Fig. 2.

Similar letters of reference indicate corresponding parts in the several figures.

Referring to the drawings: A designates the driving shaft of a sewing machine and B designates an eccentric on said shaft, the same engaging with a yoke or fork on a rocking arm C, whose bearings are on the frame of the machine. Connected with the end of the arm C opposite to the eccentric B, is a link D, whose upper end is provided with a socket D′ which receives a ball E, the latter having a stem which is screwed eccentrically into a stud F, the latter being located in an opening in the heel end of the arm G, which carries the upper vibrating knife G′, which has formed with it the shaft H, whose bearings are in a boss J, supported on the table of the machine.

The shaft H is tubular, and receives a bolt or pin K, one end of which has a spring L pressing against it, and the other end is provided with a nut M, which bears against the boss J, and adjusts the tension of said spring, and the position and pressure of the upper knife.

N designates the lower or bed knife, which is connected with a bracket or hanger N^3 on the table of the machine, said knife being retained in said bracket by means of a clamp P, which bears against the outside of the knife, and is held in place by means of a screw N′, which passes through the bracket into the clamp, it being evident that when said screw is loosened, the knife may be moved and adjusted according to requirements.

The joint of the arm C and link D consists of a ball Q, which is secured by a screw stem to said arm C, and enters a socket R in the lower end of the link D, it being seen that as the spring L constantly presses the vibrating knife G′ against the lower knife N and provides for the wear and lost motion of said vibrating knife, the ball and socket joints permit the link D to conform to the position of the vibrating knife, and produce a flexible joint for the operating parts, whereby there is no binding of the joints, nor of the vibrating knife on its axis. It is also evident that by properly turning the eccentric stud F, it may be set so as to increase or decrease the throw of the vibrating knife and adjust the same, and time the operations of trimming relatively to those of sewing.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A trimmer for a sewing machine consisting of a vibrating arm having a shaft journaled in a boss on the bed of the machine, a knife secured to said arm, a lower stationary knife, a driving shaft, a rocking arm connected with said driving shaft, a link having adjustable ball and socket connections with said vibrating and rocking arms, a headed bolt passing through said shaft of said vibrating arm and its bearing boss, a nut on one end of said bolt bearing against said boss, and a spring on said bolt bearing against said vibrating arm shaft and the head of said bolt, said parts being combined substantially as described.

2. A trimmer for a sewing machine having a rotatable shaft, a rocking arm eccentrically connected with said shaft, an arm carrying a knife and having a shaft journaled in bearings on the bed of the machine, a bolt passing through said arm shaft and its bearings, a spring bearing against said arm and shaft,

a nut on said bolt, a link connecting said rocking and knife arms, and a lower stationary knife secured to a bracket on the table of the machine said link having a ball and socket connection with said rocking arm, said parts being combined substantially as described.

3. A trimmer for a sewing machine having a rotatable shaft, a rocking arm eccentrically connected with said shaft, a knife-carrying arm journaled in bearings connected with the bed of the machine, and a link connecting said rocking and knife-carrying arms, said connection of link and knife arm being formed of a stud located in said arm, and a ball having a bearing in said link and eccentrically secured in said stud, said parts being combined substantially as described.

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