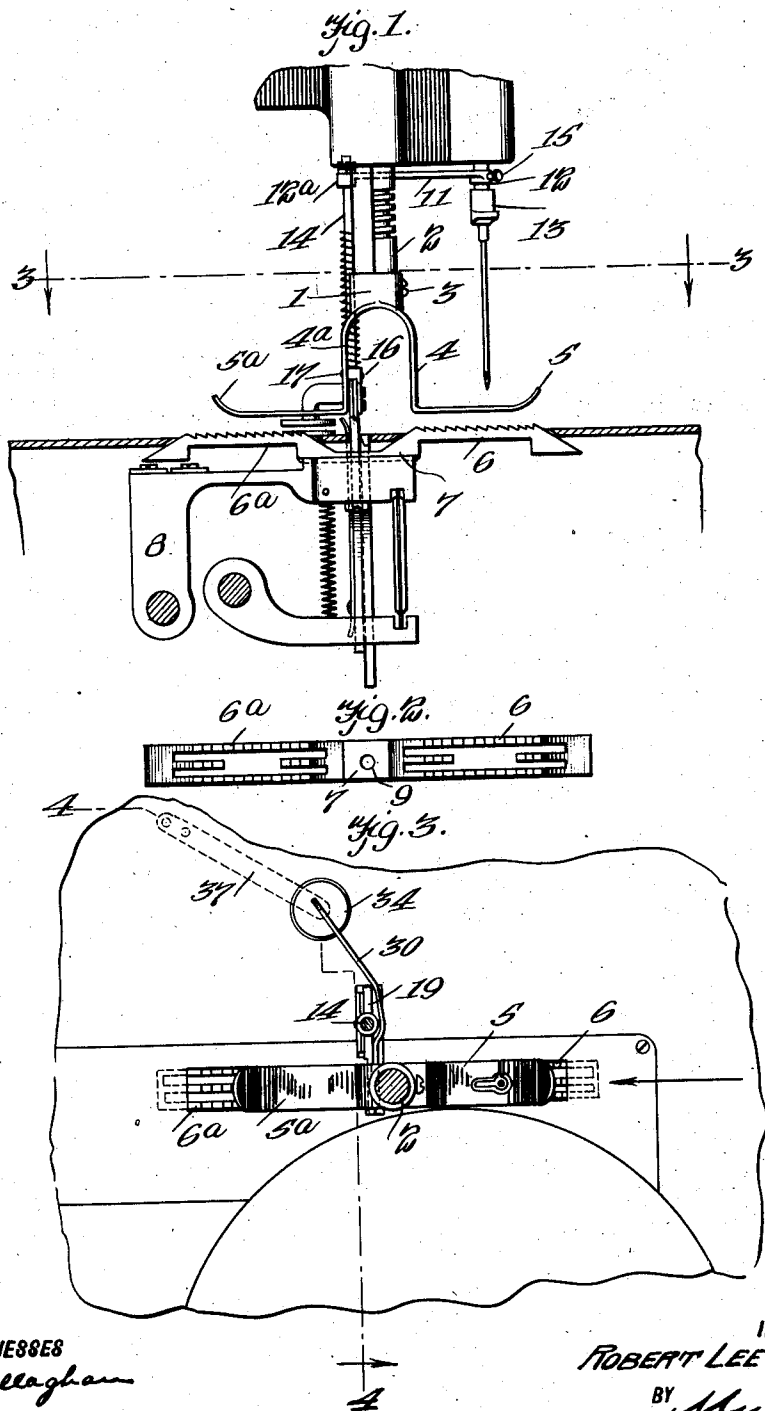


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 THREAD CUTTING ATTACHMENT FOR SEWING MACHINES.
 APPLICATION FILED JUNE 15, 1912.

Patented Dec. 17, 1912.

2 SHEETS—SHEET 1.

1,047,887.



WITNESSES
E. M. Callaghan
A. E. Traves

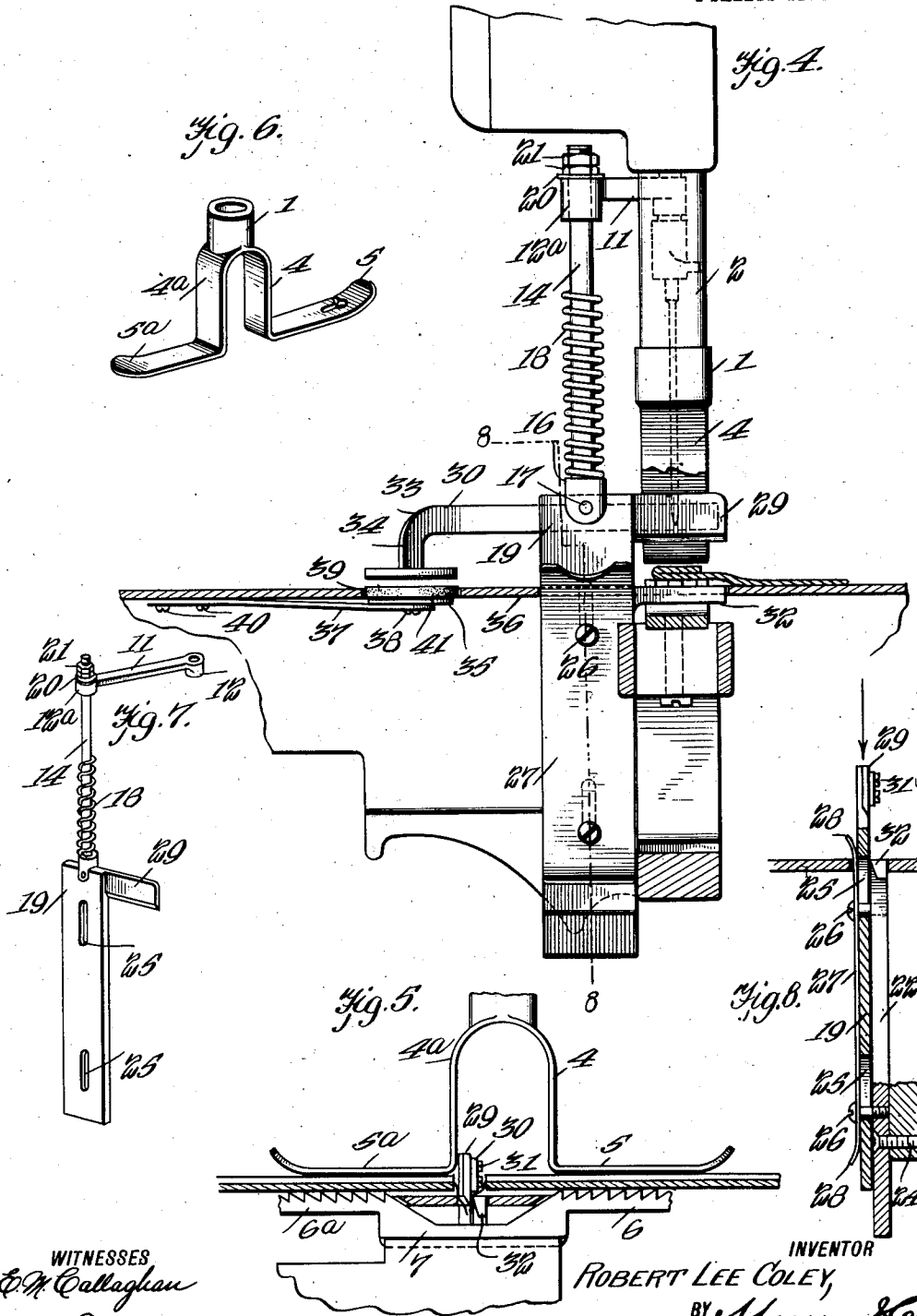
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WITNESSES
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THREAD-CUTTING ATTACHMENT FOR SEWING-MACHINES.

1,047,887.

Specification of Letters Patent.

Patented Dec. 17, 1912.

Application filed June 15, 1912. Serial No. 703,856.

To all whom it may concern:

Be it known that I, ROBERT LEE COLEY, a citizen of the United States, and a resident of Kannapolis, in the county of Cabarrus, State of North Carolina, have invented a new and useful Improvement in Thread-Cutting Attachments for Sewing-Machines, of which the following is a specification.

My invention is an improvement in thread cutting attachments for sewing machines, and has for its object the provision of a simple attachment of the character specified, capable of attachment to any form of machine with but little change, and for automatically cutting the thread between articles without stopping the machine and without injuring the article.

In the drawings: Figure 1 is a side view of a portion of a sewing machine provided with the attachment; Fig. 2 is a top plan view of the double feed plate; Fig. 3 is a section on the line 3—3 of Fig. 1; Fig. 4 is a section on the line 4—4 of Fig. 3; Fig. 5 is an enlarged detail end view of the presser feet and the feed plates; Fig. 6 is a perspective view of the presser feet; Fig. 7 is a perspective view of the supporting mechanism for the blade, and Fig. 8 is a section on the line 8—8 of Fig. 4.

With power machines, as also with hand operated machines, the articles are passed through the machine in close succession, a second article being fed as the first is finished, so that there will be no stoppage of the machine and no cessation in the attention of the operator. After the articles are sewed they must be separated by clipping the connecting thread. The present invention is designed to cut the thread between the articles automatically and as they are finished.

The present embodiment of the invention is shown in place on a sewing machine, and comprises a double foot, consisting of a socket 1, which is slipped over the end of the presser bar 2 of the machine in the usual manner and held in place by a set-screw 3. Two arms 4 and 4^a depend from the socket, and a foot 5 and 5^a, respectively, is connected to each arm. The foot 5 is the ordinary foot having the needle opening, while foot 5^a is not necessarily provided with such opening. A double feed is also provided, the usual feed plate 6 having a shank 7 for connection to the feeding mechanism of the

machine, and another feed plate 6^a extends from the shank in the opposite direction from plate 6. The shank 7 has an opening 9 for receiving a screw (not shown) to hold the plates in place, and the double feed is operated in exactly the same manner as the ordinary feed. The plate 6 coöperates with presser foot 5, while plate 6^a coöperates with presser foot 5^a. An arm 11 is provided at its ends with bearings 12 and 12^a, the former engaging the needle bar 13 and the latter receiving one end of a rod 14. A set-screw 15 is passed through bearing 12 and engages the needle bar to hold the arm in position, and a head 16 is pinned to the lower end of the rod, as indicated at 17. A spring 18 encircles the rod above the head for a purpose to be described, and the head has spaced lugs on its under face engaging opposite sides of a plate 19. A washer 20 encircles the rod above the bearing 12^a, and nuts 21 are threaded onto the rod above the washer. The plate 19 is mounted to slide vertically on a holding plate 22, secured to the frame 23 of the machine by a screw 24. The plate 19 has alined longitudinal slots 25, one near each end, and screws 26 are passed through the slots and engage the plate 22. A plate spring 27 is arranged on the opposite face of plate 19 from the plate 22, and the screws 26 pass through the spring and hold it against plate 19. The ends of the spring are curved outwardly, as shown at 28, to prevent cutting of plate 19. A blade 29 extends laterally from the upper end of plate 19, and a bar 30 is secured to the blade and plate by screws 31. The lugs of the head embrace both the bar and the upper end of plate 19 and the blade 29 moves vertically with the plate 19, the said plate sliding between plate 22 and spring 27. The movable blade coöperates with a ledger or fixed blade 32 extending laterally from the upper end of plate 22, and the said blades 29 and 32 extend transversely of the stitch as it is formed by the needle. The bar 30 extends on the opposite side of the plate 19 from the blades, and the opposite end from the blades is bent laterally downward, as shown at 33, and provided with a button or circular plate or head 34. A second button plate or head 35 is arranged below the table 36 in register with head 34, and the table has a circular opening 39 between the heads or plates. The plate or head 35 is secured to one end of

a plate spring 37 by means of a screw 38, and the opposite end of the spring 37 is secured to the under face of the table by screws 40. A disk 41 of rubber or the like is placed on the upper face of head 35 in the opening 39, the heads and disk forming a protecting device for the cloth.

The operation of the improvement is as follows: The articles are fed through the machine in succession, each article following the preceding closely, and the stitch or threads connect the articles. The thread between the articles is held taut by the auxiliary feed plate and presser foot. The rod 14 is reciprocated continuously by the needle bar, and the movable blade moves toward the fixed blade at every downward movement of the needle bar. As long as an article is between the blades the movable blade 29 merely strikes on the upper face of the seam. The spring 18 yields and permits the blade 29 to be held upwardly by the cloth. As soon as the article passes from between the blades the blade 29 moves past the blade 32 and clips the threads. The heads or plates 34 and 35 act as protectors for the cloth. When the needle bar moves down, the head or plate 34 strikes the cushion, that is, the disk 41, and the spring 37, which yields and prevents injury to the cloth from the blades. When the cloth is not between the blades they move past each other and shear the thread.

The device may be attached to any form of sewing machine. The auxiliary feed keeps the articles separated and the thread taut.

I claim:

1. The combination with a sewing machine provided with a presser foot, a feed plate and a needle bar, of a thread cutting attachment, comprising an auxiliary presser foot and an auxiliary feed plate cooperating therewith and arranged directly behind and in alinement with the presser foot and feed plate of the machine, a plate arranged vertically between the auxiliary presser foot and the presser foot of the machine and provided with a laterally extending ledger blade extending transversely of the stitch below the same, a plate mounted for sliding movement on the first plate and provided with a laterally extending blade cooperating with the ledger blade, an arm having a bearing at each end, one of the bearings engaging the needle bar, means for securing the arm in adjusted position on the bar, a rod in the other bearing, a nut on the rod above the arm, a head at the lower end of the rod, said head being connected to the sliding plate, a spring encircling the rod between the arm and the head, a bar extending laterally from the sliding plate, a resilient arm secured at one end to the machine and having its free end below the

free end of the bar, disks on the free ends of the arm and bar, and a cushion of rubber on the disk of the arm.

2. The combination with a sewing machine provided with a presser foot, a feed plate and a needle bar, of a thread cutting attachment, comprising an auxiliary presser foot and an auxiliary feed plate cooperating therewith and arranged directly behind and in alinement with the presser foot and feed plate of the machine, a plate arranged vertically between the auxiliary presser foot and the presser foot of the machine and provided with a laterally extending ledger blade extending transversely of the stitch below the same, a plate mounted for sliding movement on the first plate and provided with a laterally extending blade cooperating with the first blade, an arm having a bearing at each end, one of the bearings engaging the needle bar, means for securing the arm in adjusted position on the bar, a rod in the other bearing, a nut on the rod above the arm, a head at the lower end of the rod, said head being connected to the sliding plate, a spring encircling the rod between the arm and the head, and a cushion for engaging the sliding plate as it nears the end of its downward movement.

3. The combination with a sewing machine provided with a presser foot, a feed plate and a needle bar, of a thread cutting attachment, comprising an auxiliary presser foot and an auxiliary feed plate cooperating therewith and arranged directly behind and in alinement with the presser foot and feed plate of the machine, a plate arranged vertically between the auxiliary presser foot and the presser foot of the machine and provided with a laterally extending ledger blade extending transversely of the stitch below the same, a plate mounted for sliding movement on the first plate and provided with a laterally extending blade cooperating with the ledger blade, an arm having a bearing at each end, one of the bearings engaging the needle bar, means for securing the arm in adjusted position on the bar, a rod in the other bearing, a nut on the rod above the arm, a head at the lower end of the rod, said head being connected to the sliding plate, a spring encircling the rod between the arm and the head, and means for cushioning the downward movement of the sliding plate.

4. The combination with a sewing machine provided with a presser foot, a feed plate and a needle bar, of a thread cutting attachment, comprising an auxiliary presser foot and an auxiliary feed plate cooperating therewith and arranged directly behind and in alinement with the presser foot and feed plate of the machine, a plate arranged vertically between the auxiliary presser foot and the presser foot of the machine and pro-

vided with a laterally extending ledger blade extending transversely of the stitch below the same, a plate mounted for sliding movement on the first plate and provided with a laterally extending blade cooperating with the ledger blade, a yielding connection between the sliding plate and the needle bar for reciprocating the plate with the needle bar, and means for cushioning the downward movement of the sliding plate.

5. The combination with a sewing machine provided with a presser foot, a feed plate and a needle bar, of a thread cutting attachment comprising an auxiliary presser foot and an auxiliary feed plate cooperating therewith and arranged directly behind and in alignment with the presser foot and feed plate of the machine, a plate arranged vertically between the auxiliary presser foot and the presser foot of the machine and provided with a laterally extending ledger blade extending transversely of the stitch at the level of the table of the machine, a plate mounted for sliding movement on the first plate and provided with a laterally extending blade cooperating with the ledger blade, and a yielding connection between the sliding plate and the needle bar for reciprocating the plate with the bar.

6. The combination with the sewing machine provided with a presser foot, a feed plate, a needle bar, and a needle, of a fixed blade extending transversely of the needle behind the same, a movable blade cooperating with the fixed blade for severing the thread behind the needle, an arm having means for adjustably engaging the needle bar, a rod connected at its lower end to the movable blade and slidably connected at its opposite end to the arm, a spring between the blade and the arm, means for cushioning the downward movement of the blade, said means comprising a laterally extending bar connected to the rod, a resilient arm connected at one end to the machine and having its free end in position for engagement by the arm as the blade moves downwardly, a cushion between the arm and the bar, and an auxiliary feeding device for the articles in rear of the needle.

7. The combination with the sewing machine provided with a presser foot, a feed plate, a needle bar, and a needle, of a fixed blade extending transversely of the needle behind the same, a movable blade cooperating with the fixed blade for severing the thread behind the needle, an arm having means for adjustably engaging the needle bar, a rod connected at its lower end to the movable blade and slidably connected at its

opposite end to the arm, a spring between the blade and the arm, means for cushioning the downward movement of the blade, said means comprising a laterally extending bar connected to the rod, a resilient arm connected at one end to the machine and having its free end in position for engagement by the arm as the blade moves downwardly, and an auxiliary feeding device for the articles in rear of the needle.

8. The combination with the sewing machine provided with a presser foot, a feed plate, a needle bar, and a needle, of a fixed blade extending transversely of the needle behind the same, a movable blade cooperating with the fixed blade for severing the thread behind the needle, an arm having means for adjustably engaging the needle bar, a rod connected at its lower end to the movable blade and slidably connected at its opposite end to the arm, a spring between the blade and the arm, means for cushioning the downward movement of the blade, and an auxiliary feeding device for the articles in rear of the needle.

9. The combination with the sewing machine provided with a presser foot, a feed plate, a needle bar, and a needle, of a fixed blade extending transversely of the needle behind the same, a movable blade cooperating with the fixed blade for severing the thread behind the needle, a yielding connection between the movable blade and the needle bar for reciprocating the blade with the bar, means for cushioning the downward movement of the blade, said means comprising a laterally extending bar connected to the rod, a resilient arm connected at one end to the machine and having its free end in position for engagement by the arm as the blade moves downwardly, a cushion between the arm and the bar, and an auxiliary feeding device for the articles in rear of the needle.

10. The combination with the sewing machine provided with a presser foot, a feed plate, a needle bar, and a needle, of a fixed blade extending transversely of the needle behind the same, a movable blade cooperating with the fixed blade for severing the thread behind the needle, a yielding connection between the movable blade and the needle bar for reciprocating the blade with the bar, and an auxiliary feeding device in rear of the needle.

ROBERT LEE COLEY.

Witnesses:

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O. E. SCARBORO.