

1,038,282.

FIG. I.

This technical drawing shows a cross-section of a mechanical assembly. At the top, a spool of thread (2) is mounted on a horizontal support. A thread (1) extends from the spool down into the main body of the device. The main body is a complex housing with various internal parts. On the left side, there is a vertical assembly including a spool (3), a series of gears or levers (31, 32, 33, 34, 35, 36), and a vertical rod (12). At the bottom left, a needle (15) is attached to a vertical shaft (16). On the right side, there is a large, curved component (51) and a hand-crank (30) with a handle. The entire device is shown in a cross-sectional view, with hatching used to indicate different materials or sections.

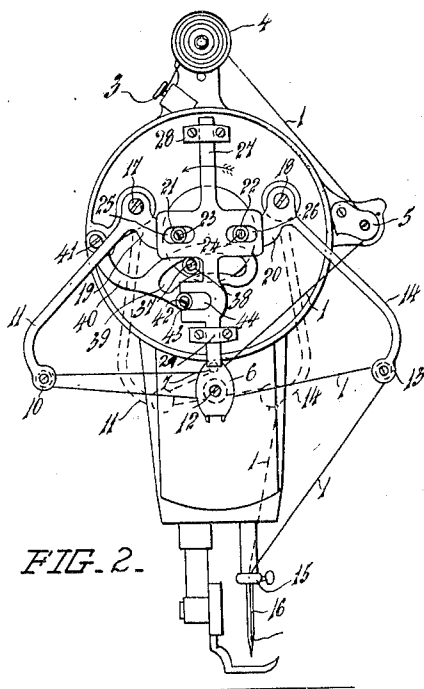


FIG. 2.

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UNITED STATES PATENT OFFICE.

WILLIAM JOSEPH BUTLER, OF AUCKLAND, NEW ZEALAND.

TAKE-UP FOR SEWING-MACHINES.

1,038,282.

Specification of Letters Patent.

Patented Sept. 10, 1912.

Application filed September 29, 1909. Serial No. 520,137.

To all whom it may concern:

Be it known that I, WILLIAM JOSEPH BUTLER, a subject of His Majesty the King of Great Britain and Ireland, residing at 5 Wellesley street, Auckland, in the Provincial District of Auckland, in the Dominion of New Zealand, have invented certain new and useful Improvements in Take-Ups for Sewing-Machines, of which the following is

10 a specification.

This invention relates to sewing machines and has for its object to provide a novel form of take up of simple construction which will operate rapidly to take up the 15 large loop necessarily formed in sewing machines in which the bobbin or reel carrier is arranged for the reception of an ordinary spool of thread.

The invention is illustrated in the accompanying drawing.

Figure 1, is a longitudinal sectional elevation of a sewing machine, and Fig. 2, an end elevation of the end of a sewing machine, partly in section.

25 The thread 1 from the upper spool 2 passes through check nippers 3 and around a tension 4, and through a guide 5, all these said parts being of ordinary construction. The thread then passes through a guide 6 30 below a pin 7, the said guide being located centrally upon the end of the machine. From the guide 6 the thread passes around a grooved pulley 10 pivoted in the end of a lever 11, thence below a grooved friction 35 pulley 12 pivoted in the guide 6, around a grooved friction pulley 13 pivoted in a lever 14, through a needle clamp guide 15 and finally through the eye of the needle 16. The levers 11 and 14 adapted to be reciprocated in one and the same vertical plane, are 40 pivoted upon studs 17 and 18, screwed into the head of the machine, and provided with integral arms 19 and 20, upon the ends of which friction rollers 21 and 22 are mounted upon studs 23 and 24. The rollers 21 and 22 engage horizontal slots 25 and 26 formed in a vertically reciprocating bar 27 mounted in guides 28 and 29 and receiving its movement from the driving wheel 30 by means 50 of a shaft 31 connected to a disk 32 by a crank 33 and pin 34 of usual construction. The disk 32 is secured to a shaft 35 provided at its other end with a second disk 36 having a pin 37 and a friction roller 38 engaging a curved slot 39 formed in a lever 40 55 pivoted to the end of the machine upon a

stud 41. A friction roller 42 mounted upon a stud 43 projecting from the lever 40 engages a fork 44 formed upon the bar 27. The rotation of the pin 37 reciprocates the 60 lever 40, the pin 43 of which reciprocates the bar 27, and at the same time oscillates the levers 11 and 14. The bar carrying the needle 16 is also connected with the disk 32 or shaft 35, in the usual manner. A loop 65 must be made in the upper thread, as usual, to pass around the bobbin or reel carrier containing the lower thread; and as such loop must necessarily be large when an ordinary spool of thread is in the carrier, special means are necessary to tighten the upper 70 thread so as to take up or gather in such large loop. The parts of the mechanism are so arranged that the rollers 10, 13, at the ends of the levers 11, 14, are rapidly separated or spread apart to the position shown in Fig. 2, so that the loop is free 75 to escape from the spool carrier mechanism in the ordinary way. During the paying out of the thread to form another large loop, 80 the levers 11 and 14 slowly approach the guide 6 until they arrive at the positions shown in dotted lines in Fig. 2. This slow approach is effected by curving the slot 39 of the lever 40, as shown in Fig. 2, to counteract somewhat the circular motion of the 85 pin 37 which travels in the direction shown by the arrow, also by the raising of the lever 40 being effected while the pin 37 is remote from the pivot 41. The rapid spreading 90 apart of the levers 11 and 14 is effected by the pin 37 depressing the lever 40 when the said pin is at or near the end of the slot 39 adjacent to the pivot 41.

What I do claim and desire to secure by 95 Letters Patent of the United States is:—

1. In a sewing machine, the combination with a needle, and thread guides on the machine head, of two levers fulcrumed on the head and adapted to engage a thread extending through said guides to the needle, a reciprocating bar mounted on the head and 100 having a pin and slot connection with each of said levers, whereby the latter will be simultaneously rocked in opposite directions 105 as the bar is reciprocated, and means for reciprocating said bar.

2. In a sewing machine the combination with a needle, and thread guides on the machine head, of a reciprocating bar engaging 110 guides on the head, a pair of levers fulcrumed on the head on opposite sides of

said reciprocating bar and adapted to engage a thread extending through the thread guides on the machine head to the needle, connections between said bar and levers whereby the latter will be rocked in opposite directions as the bar is reciprocated, and means for reciprocating the bar.

3. In a sewing machine, the combination with a needle, and thread guides on the machine head, of a reciprocating bar engaging guides on the head, a pair of levers fulcrumed on the head on opposite sides of said reciprocating bar and adapted to engage a

thread extending through the thread guides on the machine head to the needle, each of said levers having a stud or pin extending into a slot in said bar, and means for reciprocating the bar.

In testimony whereof I have signed my name to this specification in the presence of two witnesses.

WILLIAM JOSEPH BUTLER.

Witnesses:

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