

J. C. RINGE.
TAKE-UP FOR SEWING MACHINES.
APPLICATION FILED OCT. 4, 1911.

1,058,905.

Patented Apr. 15, 1913.

2 SHEETS—SHEET 1.

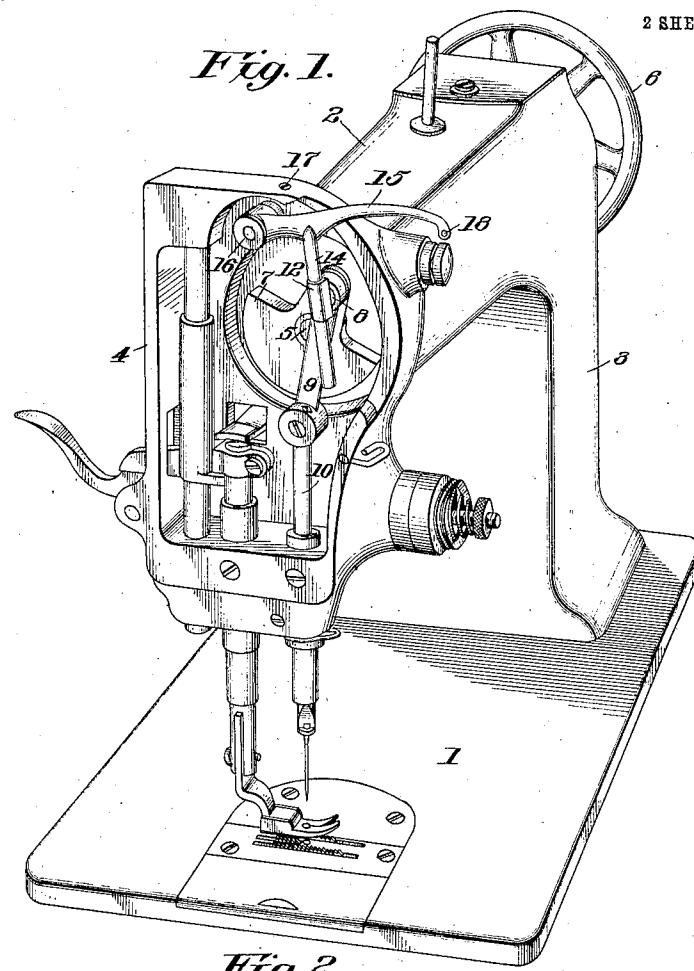
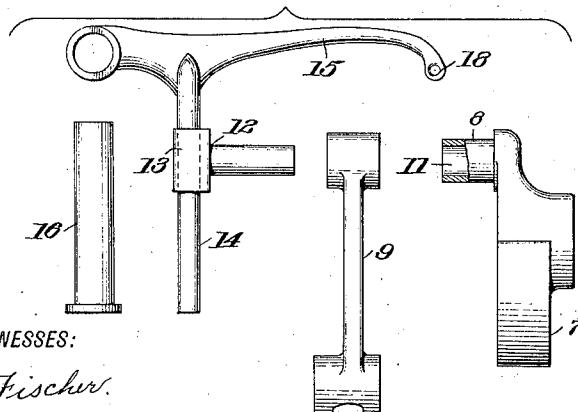


Fig. 2.



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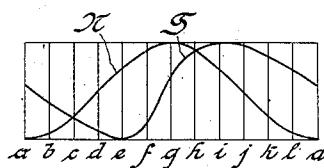
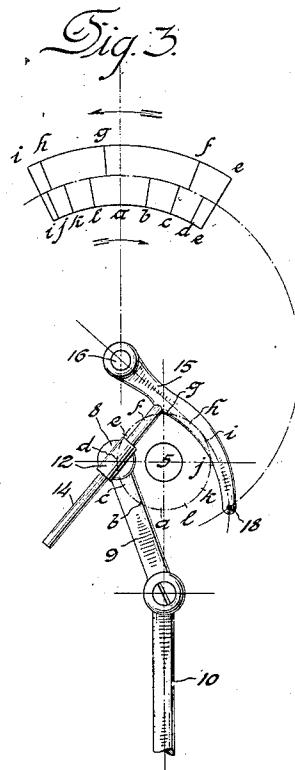


Fig. 4.

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UNITED STATES PATENT OFFICE.

JOHN C. RINGE, OF BRIDGEPORT, CONNECTICUT, ASSIGNOR TO THE SINGER
MANUFACTURING COMPANY, A CORPORATION OF NEW JERSEY.

TAKE-UP FOR SEWING-MACHINES.

1,058,905.

Specification of Letters Patent.

Patented Apr. 15, 1913.

Application filed October 4, 1911. Serial No. 652,811.

To all whom it may concern:

Be it known that I, JOHN C. RINGE, a citizen of the United States, residing at Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Take-Ups for Sewing-Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

10 The present construction comprises a take-up lever pivoted at one end to the head of the sewing machine bracket arm, its opposite or free end being provided with the usual thread-eye as in the construction represented 15 by U. S. Patent No. 695,915, to W. F. Dial and G. H. Dimond, dated March 25, 1902, for take-up for sewing machines, in which the present construction is an improvement, and between said pivotal point and free end 20 there is provided an integrally formed operating arm which passes loosely through a swiveled connection carried by the main or needle-bar-actuating shaft crank, thus effecting a simple construction; and owing to the 25 operating arm located between the pivotal point and free end of the take-up lever, the latter is strengthened without any increase in its proportions, and lost motion is reduced to a minimum, resulting in positive and reliable action whether operated at a slow or 30 an extremely high rate of speed.

In the accompanying drawings illustrating the invention, in the several views of which like parts are similarly designated, 35 Figure 1 is a perspective view of a sewing machine equipped with the improvement, Fig. 2 represents details to be referred to hereinafter. Fig. 3 is a diagrammatic view illustrating the movements of the take-up, 40 and Fig. 4 is a development of the paths of movement of the needle point and take-up eye.

In describing the present improvement, only such limited reference will be made to 45 the usual well known parts of the sewing machine as is deemed essential for an understanding of the construction and application of the invention.

Referring to the figures, 1 represents the 50 bed-plate of the sewing machine upon which is mounted the bracket arm comprising the arm bracket 2, standard 3 and head 4, and 5 the main or needle-bar-actuating shaft carrying at its rear end the band wheel 6

and at its opposite end the shaft flange 7 55 provided with a crank pin 8, said flange and crank pin comprising the shaft crank. Journaled upon the crank pin 8 is one end of a pitman 9, the opposite end of said pitman being connected with the needle-bar 10, and 60 in a bearing 11 formed in said crank pin is mounted a swiveled connection 12 provided with a bearing 13 through which loosely passes the take-up operating arm 14 formed integral with the take-up lever 15, the latter 65 being fulcrumed on a stud 16 secured by screw 17 in the head 4 of the bracket arm. 18 represents the commonly employed thread-eye formed in the free end of said 70 take-up lever.

Referring to Fig. 3, the upward movement of the take-up commences practically at the point *e* and acts from that point to the point *f* to take up the thread gradually, from the point *f* to the point *g* rapidly, from 75 the point *g* to the point *h* still more rapidly, and from the point *h* to the point *i* very gradually. From the point *i* to the point *j* the take-up is acting very slowly while giving down the thread by reason of the path 80 of the connection 12 being so nearly in line with the operating arm 14. From the point *j* around to the point *d* the take-up acts slowly and practically uniformly, although with slightly increasing and decreasing 85 speed to and from about the middle (point *a*) of such movement. From the point *d* to the point *f*, as from the point *i* to the point *j*, the take-up has slight motion.

Referring to Fig. 4, the curve *N* represents the movements of the needle, and *T* that of the take-up, one complete cycle of movement being shown in each instance, and by a comparison of this figure with Fig. 6 of Patent No. 695,915 it will be seen that the 95 take-up of the application is actuated to effect the same control as that of the patented construction.

Claims:

1. In a sewing machine, the combination 100 with the needle-bar, the rotary needle-bar-actuating shaft with its attached crank and the pitman connecting said crank with said needle-bar, of a take-up lever pivoted on a stationary support and having an integrally 105 formed operating arm located between its pivotal point and free end, and means for actuating said take-up lever from said crank

comprising a swiveled connecting element carried by said crank and through which said operating arm loosely passes.

2. In a sewing machine, the combination 5 with the needle-bar, the rotary needle-bar-actuating shaft and its attached crank and the pitman connecting said crank with said needle-bar, of a take-up lever pivoted on a stationary support and having an integrally 10 formed operating arm located between its pivotal point and free end, and means for actuating said take-up lever from said main shaft comprising a swiveled connecting element operatively connected with said shaft 15 to rotate synchronously therewith and about the axis of the latter and through which said operating arm loosely passes.

3. In a sewing machine, the combination 20 with a rotary needle-bar-actuating shaft with its attached shaft flange and a needle-bar operatively connected with said flange, of a take-up lever pivoted on a stationary support and provided with an operating arm rigidly attached to said take-up lever 25 between its pivotal point and free end and

means for actuating said operating arm comprising a swiveled connecting element carried by said shaft flange and having rotary movements concentric with the axis of the latter.

4. In a sewing machine, the combination 30 with a rotary needle-bar-actuating shaft with its attached shaft flange and a needle-bar operatively connected with said flange, of a take-up lever pivoted on a stationary 35 support and provided with an operating arm attached to said take-up lever between its pivotal point and free end and means for actuating said operating arm comprising a swiveled connecting element carried by said shaft flange and having rotary movements 40 concentric with the axis of the latter.

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

JOHN C. RINGE.

Witnesses:

ABIE M. DONIHEE,
THOMAS CAMPBELL.