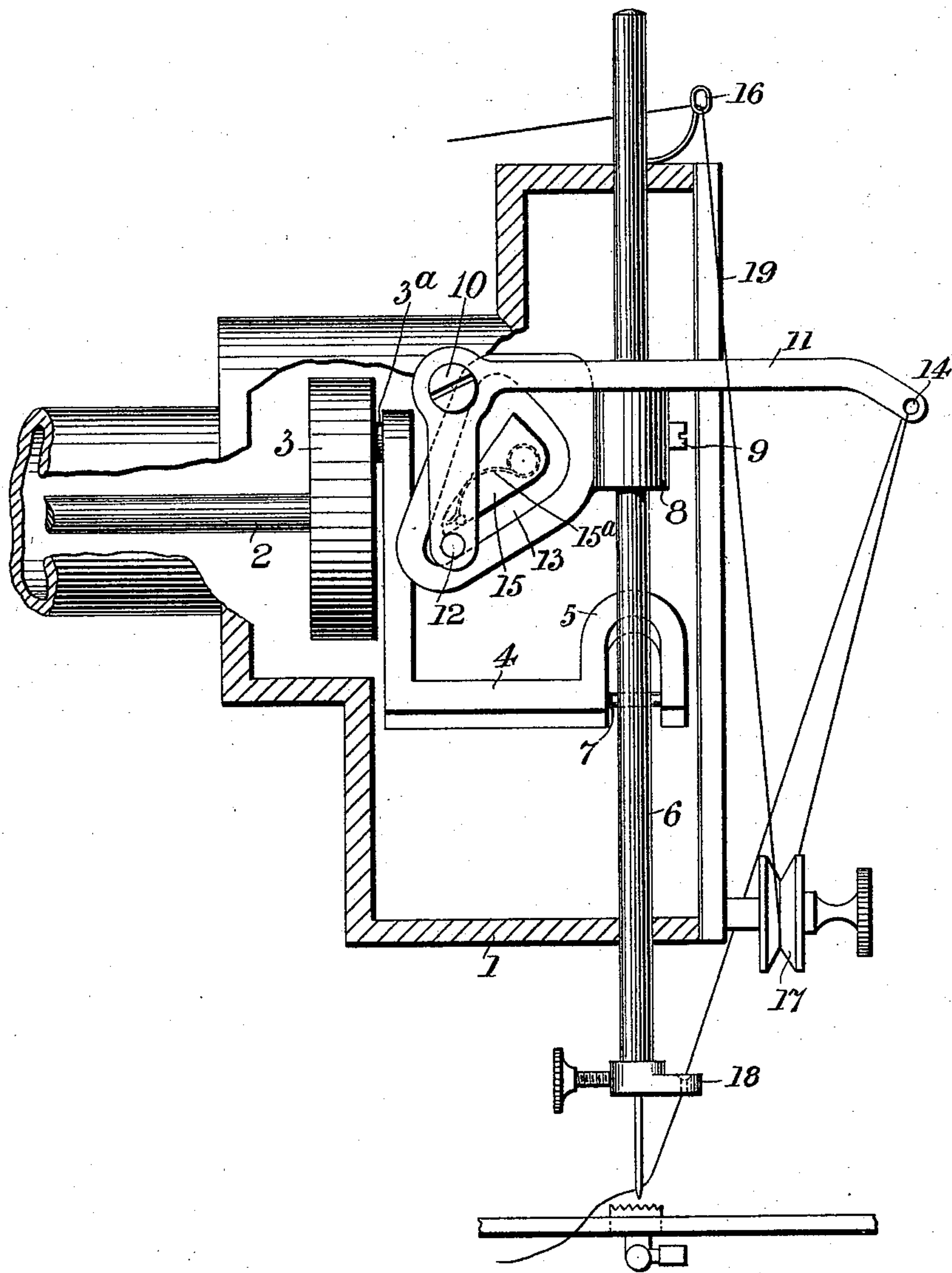


(No Model.)

D. FLANAGAN.
TAKE-UP FOR SEWING MACHINES.

No. 497,646.

Patented May 16, 1893.



Witnesses.
Walter Brierley
J. Brierley Howard

Inventor.
Dennis Flanagan

UNITED STATES PATENT OFFICE.

DENIS FLANAGAN, OF CLAYTON-LE-MOORS, ENGLAND.

TAKE-UP FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 497,646, dated May 16, 1893.

Application filed March 6, 1893. Serial No. 464,860. (No model.)

To all whom it may concern:

Be it known that I, DENIS FLANAGAN, a subject of Her Majesty the Queen of Great Britain, residing at Clayton-le-Moors, in the county of Lancaster, England, have invented a certain new and useful Improvement in Take-Ups for Sewing-Machines, of which the following is a specification.

My invention relates to an improvement in take up devices for sewing machines.

In the accompanying drawing is illustrated my improved device as employed in connection with a sewing machine, which is shown in an application for Letters Patent of the United States, filed October 1, 1892, serially numbered 447,531.

To clearly illustrate my invention I will describe it with reference to the accompanying drawing which is a side elevation of a part of a sewing machine showing the take up bar and operating mechanism.

At 1 is the casing or framing of the machine in which is carried the shaft 2 one end of which is provided with suitable operating mechanism while the other carries a disk 3. To this disk is attached a bent arm or link 4 such link being hung on an eccentric pin 3^a. The outer end of the link is cranked and forms a clip 5 which partly incloses the needle bar 6 and is attached thereto by a pin 7. Attached to the needle bar 6 is a lug 8, the holding means being a set screw 9.

Mounted on the fulcrum pin 10 secured to the frame or casing 1 is the take up bar 11 which consists of a bell crank lever to the short arm of which is fixed the pin 12 the end of which extends into the cam race or groove 13 secured to or forming part of the lug 8. The other or long arm of the take up bar 11 is provided with an eye 14.

In the cam race 13 is pivoted a switch 15 held in the position shown by a spring 15^a (illustrated in dotted lines).

Secured to the top of the casing is a guide eye 16 and at the lower part is an ordinary tension device 17 while affixed to the needle bar is a further guide 18. It will be seen that the rotation of the shaft 2 will through the link 4 impart a reciprocating motion to the needle bar 6. As the latter rises and falls it will through the lug 8 and cam race 13 impart a rocking motion to the take up bar 11 the switch 15 causing the pin 12 to travel always in the same (or working) di-

rection irrespective of the way the shaft 2 is rotated.

The machine is provided with some suitable form of spool carrying a thread and may also be provided with an arm for carrying a loop of the upper thread, though other arrangements may be employed which are well known in this class of mechanism.

The operation is briefly as follows it being supposed that the take up arrangement is being employed in connection with a machine having the loop carrier previously mentioned. The upper thread 19 passes from its reel through the guide eye 16 to and round the tension device 17 up to the guide eye 14 in the long arm of the take up bar 11 down to the guide eye 18 and from thence to the needle. When the needle has passed the thread 19 through the material, the loop carrier before referred to lays hold of the thread between the eye of the needle and the material, the take up bar 11 being then in its lowest position so that the thread between the eye of the needle and the take up bar is consequently slack. The loop carrier takes the thread 19 around the spool or device carrying the lower thread until the thread 19 slips off such carrier when the take up bar 11 ascends through the action of the cam race 13 and draws up the slack thread and loop, the latter being then under the lower thread.

It will be understood that though the take up device has been described as operating in connection with a loop carrier its use is not limited to such connection.

What I claim is—

In a sewing machine the combination with a needle bar and needle of a bell crank take up bar 11 pivoted at its angle to the frame of the machine and having an eye in its long arm, a lug secured to the needle bar, a cam race 13 on said lug, a pin 12 upon the short arm of the take up bar to travel in the race and a spring actuated switch 15 to guide the pin 12 in the cam race as the needle bar reciprocates substantially as and for the purpose described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

DENIS FLANAGAN.

Witnesses:

WALTER BRIERLEY,
J. BRIERLEY HOWARD.