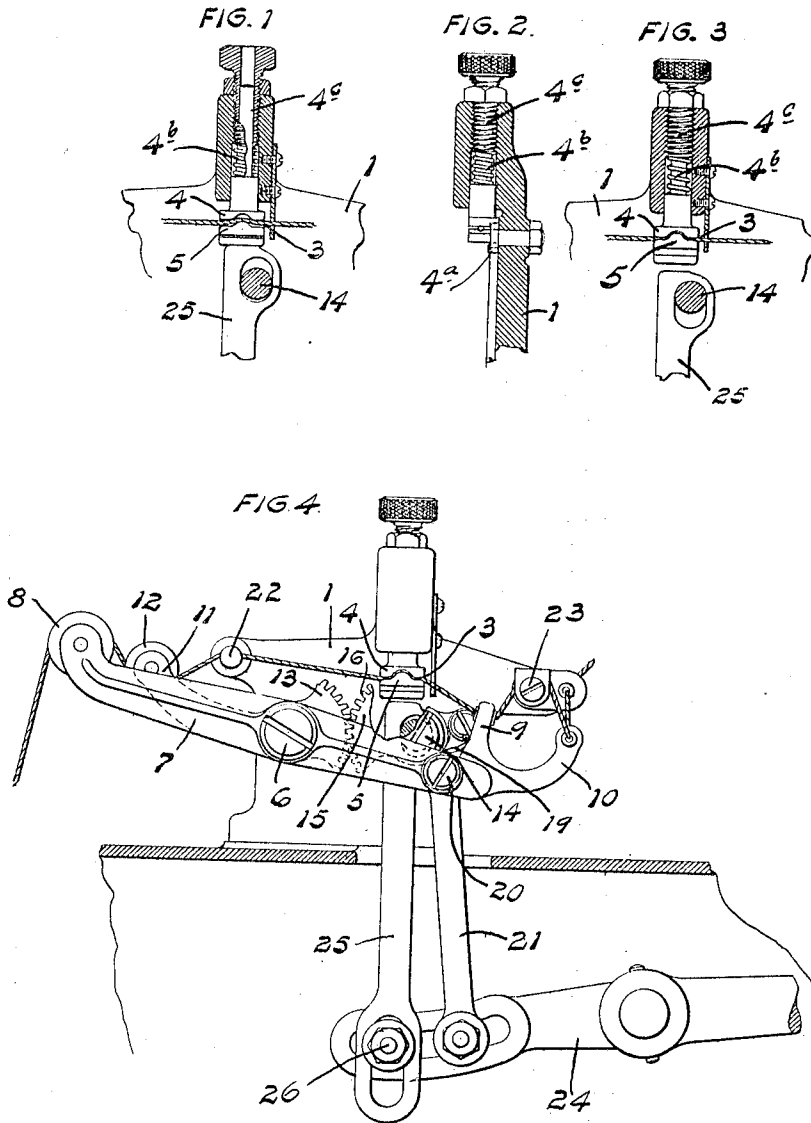


W. R. BLAIR.  
THREAD LOCK.

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1,048,441.

Patented Dec. 24, 1912.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

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## THREAD-LOCK.

1,048,441.

Specification of Letters Patent.

Patented Dec. 24, 1912.

Application filed June 19, 1911. Serial No. 634,077.

*To all whom it may concern:*

Be it known that I, WILLIAM R. BLAIR, a citizen of the United States, residing at St. Louis, Missouri, have invented a certain new and useful Improvement in Thread-Locks, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a detail view of my improved thread lock showing the same open; Fig. 2 is a similar view showing the parts in edge elevation; Fig. 3 is a view similar to Fig. 1, showing the thread lock closed, and Fig. 4 is a side elevational view of the thread lock and associate parts.

This invention relates to new and useful improvements in thread locks for sewing machines, being designed particularly as an improvement upon the structure shown and described in United States Letters Patent No. 978,832, granted to me on December 20, 1910.

In the aforesaid invention the thread locking member was operated by a cam which wiped under the movable jaw of the thread lock and consequently was subject to considerable wear.

My present improvement consists in operating the movable jaw of the thread lock by the end thrust of a link having a lost motion connection with the main lever of the machine.

In the accompanying drawings 1 indicates a bracket to be mounted on the overhanging arm of the ordinary wax thread type of sewing machine. On this bracket is a recessed boss within which is mounted the thread clamping device 3 consisting of two jaws 4 and 5, which are operated to clamp the thread therebetween. On a stud 6 is pivotally mounted the thread lever 7 having a thread engaging roll 8 at one end and thread engaging arms 9 and 10 at the other. Pivoted on this same stud 6 is the take-up lever 11 with thread roll 12 at one end, and a segmental gear 13 at the opposite end. On an adjacent stud 14 is mounted a combined

segmental gear and cam 15 having teeth 16 which intermesh with the teeth on the gear 13. The member 15 is connected by means of a link 19 to a pivot stud 20 on the thread lever 7. Connected with this same stud 20 is an operating link 21 operatively connected to the main lever 24 of the machine in a well known manner. The thread leads over the roll 8 and under the roll 12 through an eye 22 on the bracket 1 between the jaws 4 and 5 of the thread clamp through the arm 9 and over the guide roll 23 fastened on the bracket 1, through the arm 10 to the wax pot.

The above parts are fully described in my aforesaid Patent No. 978,832.

My present improvement comprises a link 25 having a slot in its lower end which passes over a bolt 26 adjustably mounted in the slot of the main lever 24 so as to regulate the throw thereof. The upper end of this link is slotted as shown in Fig. 1, said slot cooperating with the stud 14 so as to be guided thereby, the upper end of the slot lying immediately under the extension 4<sup>a</sup> of the upper clamping jaw. This upper clamping jaw is held against the lower clamping jaw 5, the latter being fixed, by means of a spring 4<sup>b</sup> tensioned by a screw 4<sup>c</sup>. When the main lever 24 rises, it will pass through a considerable arc of its movement before the adjustable bolt 26 engages the upper wall of the slot in the end of the link 25. When such engagement occurs, however, the upper spring pressed clamping jaw 4 will be raised so as to release the thread. When the lever descends the spring-pressed jaw 4 will close on the thread to lock the same, the thread remaining locked during the balance of the excursion of the main lever 24 until said main lever, nearing the end of its upper stroke, again lifts the said clamping jaw.

I claim:

1. In a take-up mechanism including a main lever and thread handling levers, a thread lock, and a link connected to said main lever, and independent of said lock and thread handling levers, for operating said lock.

2. In a take-up mechanism a main lever, 100

thread handling levers, a thread lock including a clamping jaw, and a link mounted on said main lever and operating independently of said thread levers and said thread lock  
5 and coöperating with said clamping jaw to operate the same.

In testimony whereof I hereunto affix my

signature in the presence of two witnesses, this 16th day of June, 1911.

WILLIAM R. BLAIR.

Witnesses:

M. P. SMITH.

B. S. REID.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."