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LOOPER THREAD TAKE UP FOR DOUBLE CHAIN STITCH SEWING MACHINES

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FIG. 1

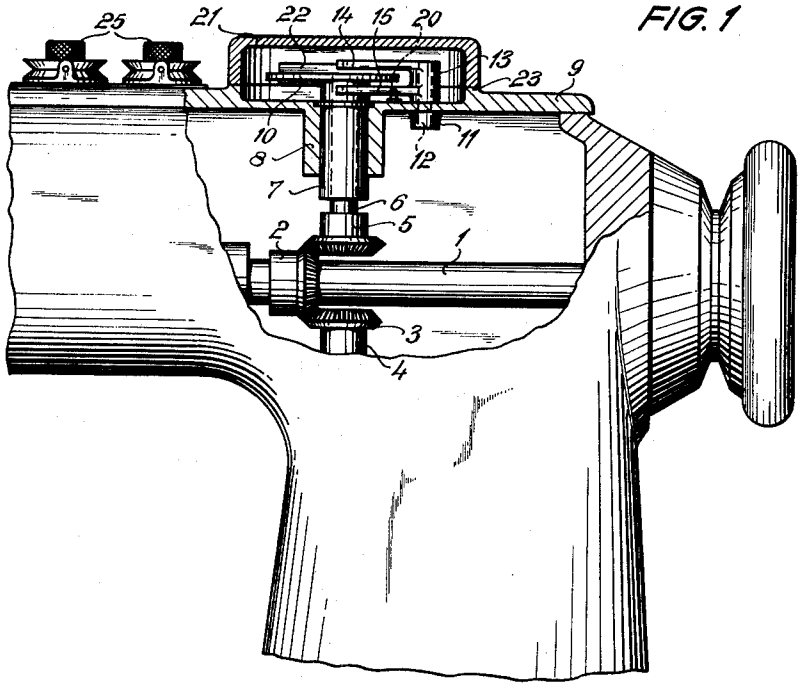
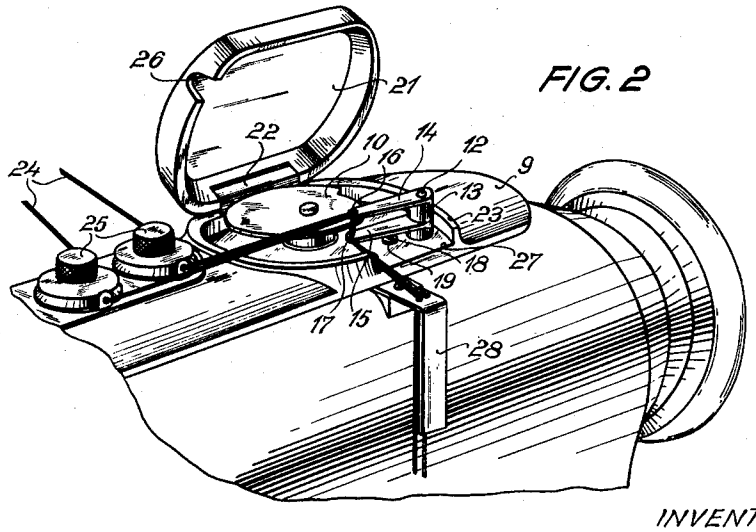


FIG. 2



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LOOPER THREAD TAKE UP FOR DOUBLE CHAIN STITCH SEWING MACHINES

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2 Claims. (Cl. 112—242)

The invention relates to a looper thread take up for double chain stitch sewing machines, which is provided with a rotatable templet for guiding the thread.

Sewing machines are known having a looper thread take up which consists essentially of one or more control disks for the thread having a curved circumference and having guiding grooves on both sides. The thread take up is either in the immediate proximity of loopers or below the standard or also inside the standard at arm level in the interior of the machine. If the thread take up is disposed completely within the housing of the machine the thread must be protected against soiling by oil spray, especially in rapidly operating machines. If the thread control disk projects from the housing it is necessary to provide the housing with a special slot which makes it readily possible for impurities to enter the side of the machine housing.

In all known machines the disks which control and guide the thread rotate in vertical planes around horizontal shafts. If the disks are arranged in the proximity of the loopers, these limit the choice of suitable diameters for the disks. If the disks are located in the rearward end of the base plate it is necessary to enlarge the plate in that area. If the disks are secured to the crank shaft or arm shaft it is necessary to provide a slot in the housing.

It is, therefore, an object of the invention to provide a looper thread take up which is disposed externally of the housing, which is readily accessible and which can be threaded conveniently.

It is another object of the invention to provide a looper thread take up having a thread guiding disk or templet which rotates in a horizontal or substantially horizontal plane externally of the housing of the machine and on the top surface thereof, and which is accessible by way of a simple closure flap.

It is a still further object of the invention to provide a loop thread take up which is driven by the arm shaft of the machine, preferably by means of the bevel gear which serves for driving the shaft for the lower stitch forming tools.

Further objects and advantages of the invention will become apparent from the following description of the embodiment illustrated in the drawings and in which

Fig. 1 is a partial view of a sewing machine with a section of the housing cut away to expose the looper thread take up in accordance with the invention; and

Fig. 2 is a perspective view of a portion of the machine housing showing the looper thread take up exposed by the opened lid.

The arm shaft **1** is provided with a bevel gear **2** which drives the vertical shaft **4** by means of a bevel gear **3**. A further bevel gear **5** meshes with bevel gear **2** and is secured to a shaft **6** which is journalled in a sleeve **7** which, in turn, is disposed in a collar **8** formed in the cover **9** of the machine housing. A disk or templet **10** is secured to the upper end of the shaft **6**.

A forked level **13** is journalled in a collar **11** of the

housing cover **9** by means of a pin **12** and is provided at the ends of its two arms **14** and **15** with eyelets **16** and **17** for guiding the thread. The lever **13** is locked in operative position by means of a spring biased pin **18** which is mounted in an enlarged portion **19** of the housing cover **9** and which engages a recess **20** in the lever arm **15**.

With the lever in this position the threads through eyelets **16** and **17** are held in the path of rotation of the templet **10** in such a manner that they are touched during rotation by the portion of the templet **10**, the radial distance of which from shaft **6** is greater than the distance of the eyelets **16** and **17** from the shaft **6**, and are pushed outwardly between the eyelets. In this manner the threads **24** which are held by tension controls **25** are subjected to the control effect of the cam.

The components of the looper thread take up which are disposed over the housing cover **9** are enclosed by a cover **21** which is pivotally mounted on the housing cover **9** by means of hinge **22** and which normally rests on a ledge **23** provided on the housing cover **9**.

The looper threads **24** are supplied from a rack normally disposed proximate the machine, which is not illustrated in the drawing, and run through the tension controls **25** mounted on the machine. A notch **26** is provided in the cover **21** for the entrance of the threads. A recess **27** is provided in the ledge **23** at the front part of the machine for the exit of the threads and to permit outward swinging of the forked lever **13** for threading the eyelets **16** and **17** whence the threads reach a thread guide **28**.

The new looper thread take up can be used for arm machines as well as for flat machines and for one, two or more looper threads. The plane of rotation of the thread guiding disk or templet may, if desired, be slightly inclined with respect to the horizontal position toward the front side of the machine.

Having now described my invention with reference to the embodiment illustrated in the drawing, I do not wish to be limited thereto but what I desire to protect by Letters Patent is set forth in the appended claims.

I claim:

1. Looper thread take up mechanism for guiding the thread for a double chain stitch sewing machine of the type having a main shaft carrying a first bevel gear, said mechanism comprising a templet disposed externally of the housing of the machine substantially horizontally above the upper side thereof, a vertical shaft extending through the upper side of the housing operatively supporting said templet at its upper end in horizonal position and having a second bevel gear at its lower end in driving engagement with said first bevel gear, a forked lever having a pair of parallel arms mounted proximate the forward end of the housing and provided at their free ends with registering thread guiding aperatures disposed when in operative position proximate the circumference of said templet and joined at their other ends to form a pivot member, a pin secured to the upper side of the machine housing supporting said lever at said pivot member for horizontal movement relative to said templet, a detent aperture in the lower of said arms proximate said upper side of said housing intermediate the thread guiding aperture in said lower arm and said pivot member and a spring biased detent pin mounted in said upper side extending perpendicularly of said lower arm for engagement with said detent aperture.

2. Looper thread take up mechanism for guiding the thread for a double chain stitch sewing machine of the type having a main shaft carrying a first bevel gear, said mechanism comprising a templet disposed externally of the housing of the machine substantially horizontally above the upper side thereof, a vertical shaft extending

through the upper side of the housing operatively supporting said templet at its upper end in horizontal position and having a second bevel gear at its lower end in driving engagement with said first bevel gear, a forked lever having a pair of parallel arms mounted proximate the forward end of the housing and provided at their free ends with registering thread guiding apertures disposed when in operative position proximate the circumference of said templet and joined at their other ends to form a pivot member, a pin secured to the upper side of the machine housing supporting said lever at said pivot member for horizontal movement relative to said templet, a detent aperture in the lower of said arms proximate

said upper side of said housing, a spring biased detent pin mounted in said upper side for engagement with said detent aperture and a ledge extending partly around said templet and said forked lever and defining an opening adjacent the front end of the machine proximate said forked lever.

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