Nov. 12, 1940. R. F. LIST ET AL 2,220,969

SEWING MACHINE SPOOL HOLDING MEANS

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Fig. 1.

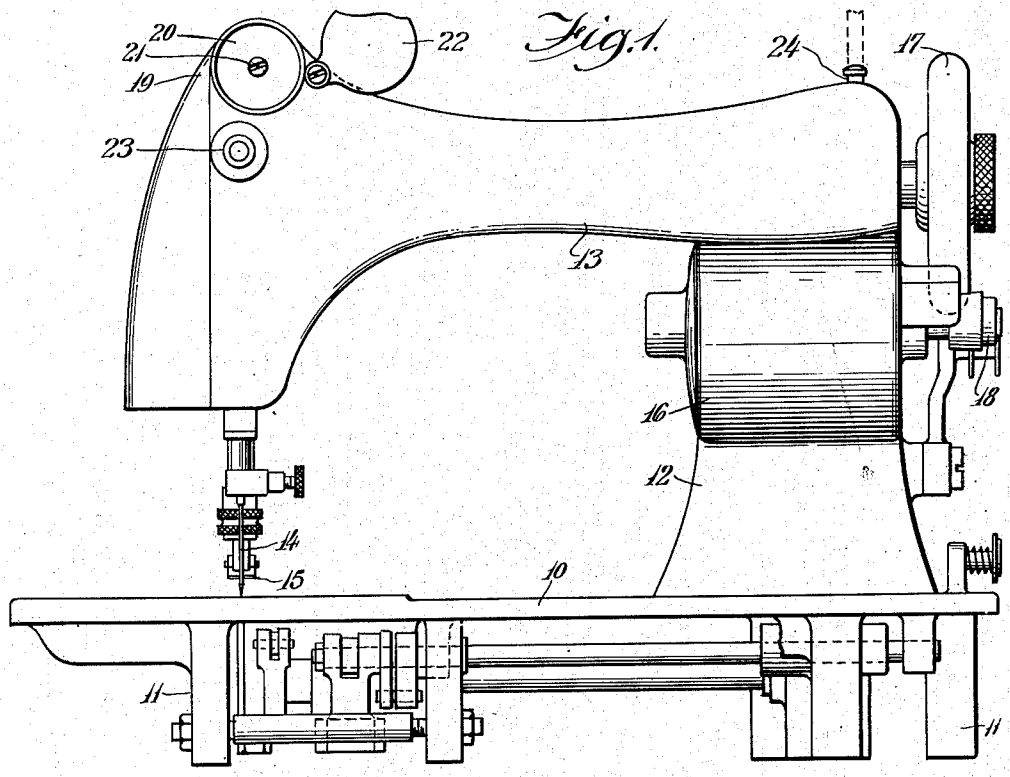


Fig. 4.

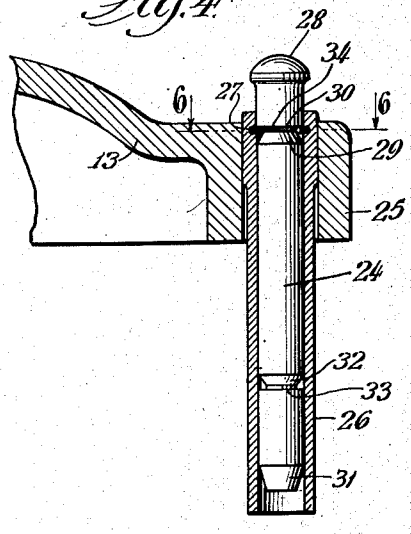


Fig. 5.

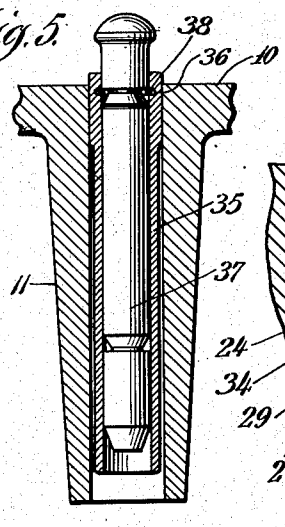
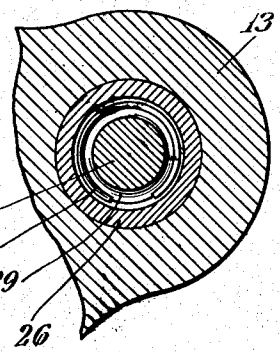


Fig. 6.



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Fig. 2.

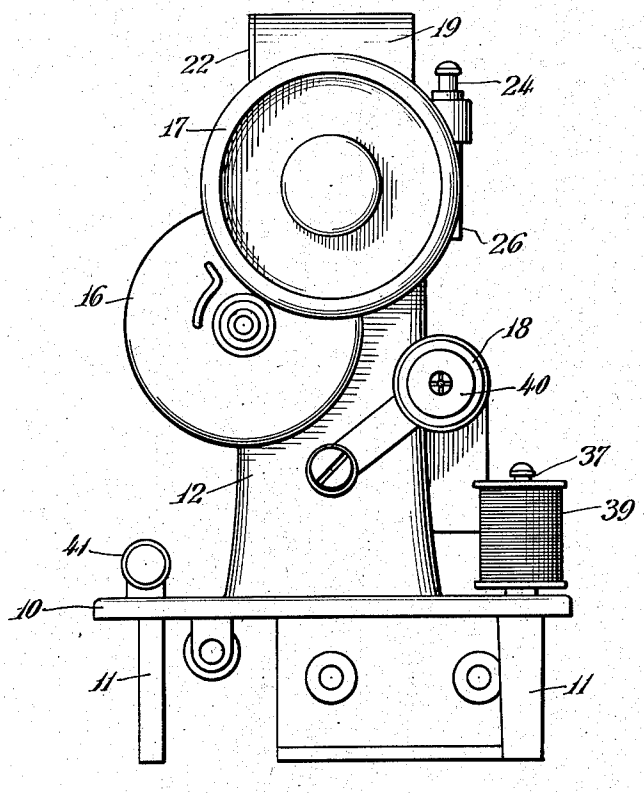
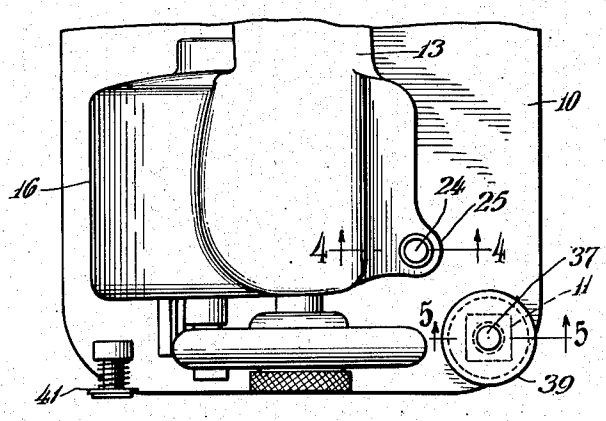


Fig. 3.



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SEWING MACHINE SPOOL HOLDING MEANS

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Application May 15, 1939, Serial No. 273,602

6 Claims. (Cl. 112—218)

This invention relates to sewing machines provided with telescopically mounted means for holding spools of sewing thread for use in sewing and spooling operations.

The main object of the invention is to provide means for efficiently holding spools of thread during the sewing and spooling operations, which means are movable, relatively to the sewing machine head, to substantially non-protruding positions when not required for holding spools.

Another object of the invention is to provide, in concealed position, means for holding a spool of thread for threading the sewing needle, and to provide an additional, movable holder for a spool of thread also adapted for threading the needle, which holder may be used for holding spools which cannot be held on said concealed holder due to their size.

Another object is to provide spool holding means telescopically mounted in the bed plate and especially adapted for use with spooling mechanism located on the upright standard of the sewing head.

In the drawings:

Fig. 1 is a front elevation of a sewing machine head embodying our invention.

Fig. 2 is an end elevation of the same.

Fig. 3 is a top plan view of that end of the machine shown in Fig. 2.

Figs. 4 and 5 are vertical sectional views, on an enlarged scale, taken in the plane of the lines 4—4 and 5—5 of Fig. 3.

Fig. 6 is an enlarged horizontal sectional view, taken in the plane of the line 6—6 of Fig. 4.

In that embodiment of the invention shown in the drawings, the bed plate of the sewing head is indicated at 10, supporting legs at 11, the upright standard at 12, overhanging arm at 13, sewing needle at 14, and presser foot at 15. A motor 16, fly wheel 17 and spooling device 18 are mounted on the upright standard 12.

In the upper portion 19 of the arm 13 is formed a cylindrical recess 20, its axis being horizontally disposed. A spool holding pin 21 extends axially from the rear wall of the recess, which is sufficiently large to hold a spool of thread of standard size. A cover 22 is pivotally connected to the arm 13 adjacent the recess 21 to close the open front of the recess. This spool holding recess is located conveniently adjacent the thread take-up mechanism 23 located on the front of the arm 13 (not fully shown herein).

The recess 21 is necessarily limited in size and is adapted to hold, in concealed position, spools of conventional size. Some operators prefer to use large sized spools of thread, and for this reason we have designed a holder which can be used when desired and be moved to substantially non-protruding position when not needed. This holder pin is indicated at 24 in Figs. 1 to 4, inclusive. The arm 13 is provided with a rearwardly extending projection 25 (Figs. 3 and 4) in which the holder pin 24 is mounted. Said projection 25 is bored verticallly to receive a tubular housing 26 which fits snugly in the part 25 and is held rigidly therein by any suitable means. Near its upper inner end the housing 26 is provided with an annular groove 27.

The pin 24 is of uniform diameter throughout the major portion of its length and it fits slidably within the housing 26. A short distance beneath its head 28, the pin 24 has a beveled surface 29, sloping inwardly and upwardly, thereby forming a flat shoulder 30. A short distance above its bottom end 31, the pin 24 has another beveled surface 32, sloping inwardly and downwardly, thereby forming a flat shoulder 33. A split spring metal ring 34 is located in the groove 27 of the housing 26 and when the pin 24 is in its lower position, as in Fig. 4, the ring engages the shoulder 30 and prevents the pin from falling below its intended position. When the operator desires to use the pin 24 for holding a spool, the head 28 may be grasped and the pin raised until the ring 34 is opposite the beveled surface 32, whereupon the upward movement of the pin will be stopped by the shoulder 33 and the pin 24 will be held in the raised position indicated in dotted lines in Fig. 1, for spool holding purposes.

In Figs. 2, 3 and 5 is shown a spool holding device similar to the one described, but it is telescopically located in the rear right hand leg 11 of the sewing head. Said leg 11 is vertically bored to receive a tubular housing 35, provided with a groove 36, and adapted to receive the pin 37 and split ring 38. Since the construction of the pin 37 is identical with that of the pin 24 heretofore described in detail, it need not be further described.

As shown in Figs. 2 and 3, the spool holder pin 37 is in raised position and a spool of thread 39 is held on the pin for use in spooling onto the small spool 40 on the spooler 18. It will be understood, of course, that the spooler 18 must be moved upwardly to engage the fly wheel 17 for spooling purposes. The thread 39 passes from the spool on pin 37 to the tension device 41 on bed plate 10 and then to the small spool 40.

The elimination of rigidly mounted, obtrusive spool holding pins adds greatly to the symmetry

and pleasing appearance of the machine, and the provision of the depressible pins herein shown and described enhances its efficiency.

Changes may be made in details of construction without departing from the scope of our invention.

We claim:

1. Sewing machine spool holding means comprising a tubular housing having an annular groove formed in its inner surface, a pin having sliding engagement with the housing walls, said pin having annular grooves formed in its surface near its upper and lower ends, and resilient means located in said housing groove for engaging the pin and limiting the movement of the pin relatively to the housing.

2. Sewing machine spool holding means comprising a tubular housing having an annular groove formed in its inner surface, a pin having sliding engagement with the housing walls, said pin having annular beveled surfaces and flat shoulders formed in its surface near its upper and lower ends, and resilient means located in said housing groove for engaging the pin and limiting the movement of the pin relatively to the housing.

3. Sewing machine spool holding means comprising a tubular housing having an annular groove formed in its inner surface, a pin having sliding engagement with the housing walls, said pin having annular grooves formed in its surface near its upper and lower ends, and a split, spring metal ring located in said housing groove for engaging the pin and limiting the movement of the pin relatively to the housing.

4. A sewing machine head having an overhanging arm and spool holding means on the arm, said means comprising an apertured projection formed on the upper rearward portion of the arm, a tubular housing rigidly mounted in said projection and depending below the upper surface of said arm, the open upper end of said housing being substantially flush with the adjacent upper surface of the projection and arm, a pin slidably mounted in the housing, and means for limiting the movement of the pin relatively to the housing.

5. A sewing machine head having a bed plate, supporting legs beneath the plate, an upright arm near one end of the plate, and spool holding means on the bed plate between one end of the plate and said standard, said means comprising a cylindrical housing extending vertically through the bed plate and into one of said legs, a pin slidably mounted in said bore, and means for limiting the movement of the pin relatively to said bed plate.

6. A sewing machine head having a laterally extending member at one side thereof and a spool holding means retractably mounted in said member to form a substantially non-protruding portion thereof, comprising a tubular housing depending below the upper surface of said member, a pin slidable within said housing to a position with its upper end closing the upper end of said housing, and resilient means in a wall of said housing and engaging said pin to limit the sliding movement thereof.

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