Oct. 6, 1964 S. A. SCHATZ 3,151,789

COMBINED SPOOL RACK AND THREAD DISPENSER FOR SEWING MACHINES

Filed May 11, 1962

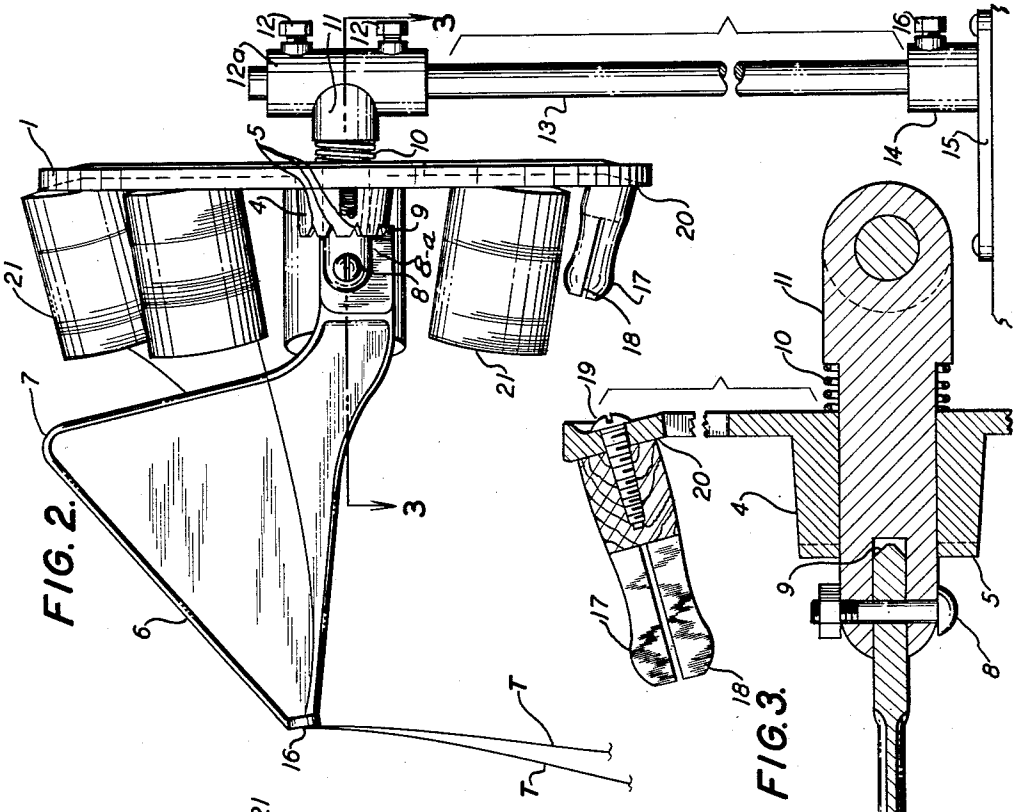


FIG. 2.

FIG. 3.

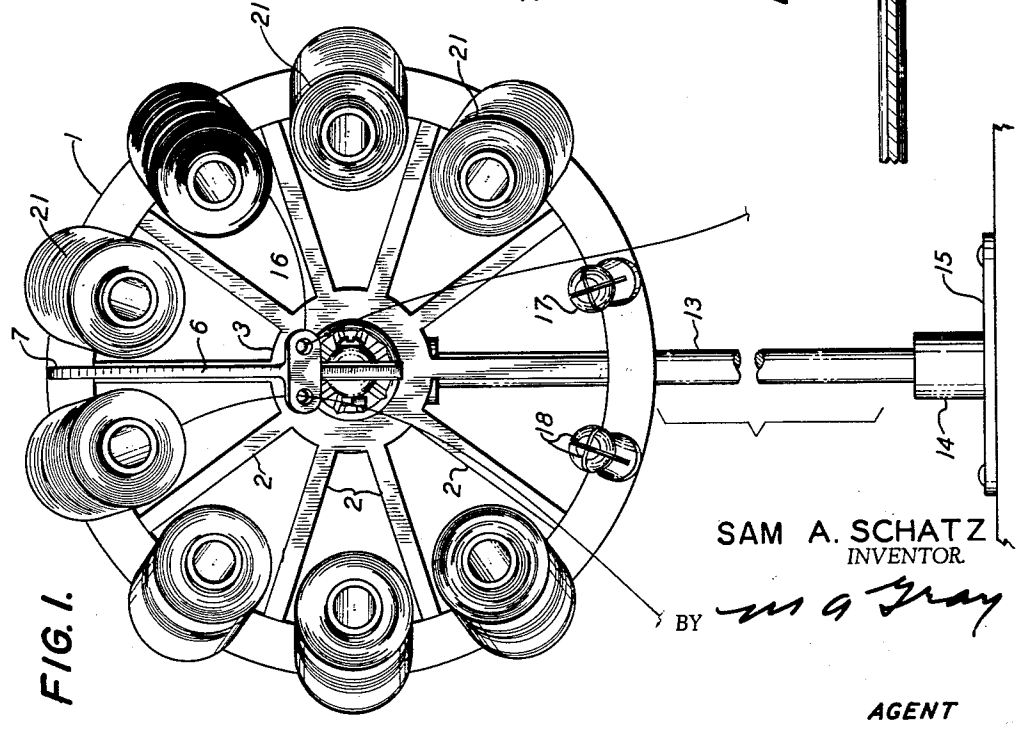


FIG. 1.

SAM A. SCHATZ
INVENTOR.

BY

AGENT

United States Patent Office 3,151,789 Patented Oct. 6, 1964

3,151,789

COMBINED SPOOL RACK AND THREAD DISPENSER FOR SEWING MACHINES

Sam A. Schatz, 1032 W. Richmond Drive, Claremont, Calif.

Filed May 11, 1962, Ser. No. 194,013
4 Claims. (Cl. 223—106)

This invention relates to a combined spool rack and thread dispenser for sewing machines, and particularly the high speed commercial type of machine, wherein the timesaving factor in rethreading, and a convenient storing of spools of thread is a very important factor.

The primary object of this invention is to provide a spool rack of the rotary type that is capable of being mounted on a sewing table in such a manner as to allow the machine operator to quickly rethread the machine without removing or disposing of the empty spool and replacing the same with a full spool of thread.

Another object is to provide a guide means for the thread that is being fed into the machine, as well as the starting end of the thread on the rethreading spool.

A still further object resides in the provision of a shield or deflector on the rack unit disposed in such a manner as to prevent entangling of the thread moving into the machine with the lead end of the thread that is held in position for rethreading.

Another object resides in combining the above mentioned shield or deflector with the thread guide in such a manner as to be in substantial alignment with the spool holders so as to result in smooth feeding of the thread to the machine.

Although the foregoing objects are regarded as primary in this invention, other features will become apparent as the specification proceeds and from the illustration in the drawings, in which:

FIG. 1 is a front elevational view of the combined spool rack and thread dispenser for sewing machines, a portion of the support member being broken away for convenience of illustration.

FIG. 2 is a side elevational view of FIG. 1 and

FIG. 3 is a sectional view taken on the line 3—3 of FIG. 2, a portion of the rack member being broken away, and shown to a somewhat enlarged scale.

Referring now to the accompanying drawings in detail, and more particularly to FIGS. 1 and 2, the wheel-like rack body is designated by the character 1, having spoke elements 2, and a hub 3, 4 which in turn is mounted on shaft 8–*a* which is integral with the T connector 11, 12–*a*, the said connector being secured to the vertical support 13 by set screws 12, said vertical support being seated in base 14, 15 and secured to the base fastening member 14 by set screw 16.

Extending outwardly from the hub 4 of the spool rack 1 and pivotally connected to the bifurcated end of shaft 8–*a* is a shield or deflector 6, 7 the end portion 9 being held in place by bolt 8. The hub 4 is provided at the forward end thereof with uniformly spaced notches 5 into which the deflector end 9 is forced by the compression spring 10, said spring being mounted on shaft 8–*a* between the rear of the rack hub and the outer end of the enlarged portion of the member 11. The rack 1 can be rotated so as to seat the end 9 of the deflector 6, 7 in successive notches, the hub 4 being pressed against the spring 10 during movement from any one notch 5 to another. This allows the positioning of the spools to the sewing or rethreading positions. At the extreme forward portion of the shield or deflector 6, 7 there is provided a thread guide 16 with pair of openings for directing the thread T to the machine.

The supply of spools 21 is mounted upon holders 17

which holders are provided with cross slots 18 to allow a yieldable engagement with the said spools. Other means such as spring members may be used instead of the split portions 18. The said spool holders 17 are secured to the slightly inwardly beveled outer face of the rim portion 1 of the spool holder so as to position the spools in substantially axial alignment with the thread guide members 16 thus providing for smooth delivery of the thread.

When in use the device of the present invention is adapted to be mounted upon a work table adjacent to the sewing machine and within reach of the sewing machine operator. Since the primary object of this invention is the time saving element involved in the threading and rethreading of high speed commercial sewing machines the method of use will be explained somewhat in detail.

The spool rack 1 is loaded with the spools 21 and the thread T from two spools is drawn through the openings in the thread guide 16, and one of the available threads is then threaded into the machine for the start of the sewing operation. At this point it is explained that heretofore it has been necessary to remove the spool when it is empty or nearly so, and replace the same with a full one, then proceed with the rethreading and sewing. This generally involves the necessity of the machine operator getting up from a seat in order to acquire the full spool, remove the empty one, position the full one on the holder, and finally rethread the machine.

Since the thread being fed into the high speed commercial type of machine moves at a relatively high rate of speed it is necessary to provide a means of avoiding entanglement of the sewing thread and the thread that is stretched from the full spool that is to be used for rethreading. To avoid the whipping action of the sewing thread from becoming entangled, a deflector or shield 6, 7 has been provided. This deflector is pivotally secured to the forward end of shaft 8–*a* with the end 9 being adapted to seat in the notches 5 of the portion 4 of the hub. Thus the rack 1 can be rotated to any position required.

The thread guide 16 is integrally formed at the forward end of deflector 6, 7 and so positioned as to properly feed thread into the machine; the spool holders 17 being substantially axially aligned with the thread guide 16 to allow smooth feeding of the sewing thread to the machine. The spool holders are provided with a resilient retaining means as the result of slitted portions 18, although any type of holder that will prevent the spool from slipping off of the said holder may be used.

At this point it is explained that the rethreading operation when using the device of this invention merely involves observing when the spool in use is at or near the end of the supply thereon; stopping the machine, breaking the sewing thread, tying the end leading into the machine to the end of the thread from the full spool that is hanging from the thread guide 16, and then starting the machine and continuing with the sewing operation with a minimum loss of time therein. The reserve supply of spools may be placed on the holders, and the end of the thread from a full spool passed through an opening in the thread 16 by an attendant in readiness for the next rethreading operation without interfering with the sewing machine operator.

Thus it will be seen that the present invention provides a considerable amount of time saving in threading and rethreading of the commercial type of sewing machine.

While certain specific forms of the invention have been shown and described, it is understood that various changes and modifications may be made, as deemed desirable within the scope of the appended claims.

What is claimed is:

1. In a vertically disposed rotatable spool rack, an upright support, said spool rack being mounted in offset relation to said upright support, the combination comprising a horizontally disposed bearing shaft projecting from said upright support, a bifurcated forward end in said bearing shaft, a rotatable spool rack mounted on said bearing shaft, a forwardly projecting vertically disposed flat deflector member pivotally connected to the said bifurcated forward end of said bearing shaft and having integrally formed thread guide openings in the extreme front end portion thereof.

2. In a vertically disposed rotatable spool rack, an upright support, said spool rack being mounted in offset relation to said upright support, the combination comprising a horizontally disposed bearing shaft projecting from said upright support, a bifurcated forward end in said bearing shaft, a rotatable spool rack mounted on said bearing shaft, a forwardly projecting vertically disposed substantially triangular flat deflector member pivotally connected to the said bifurcated forward end of said bearing shaft and having integrally formed thread guide openings in the extreme front end portion thereof.

3. In a vertically disposed rotatable spool rack, an upright support, said spool rack being mounted in offset relation to said upright support, the combination comprising a horizontally disposed bearing shaft projecting from said upright support, a bifurcated forward end in said bearing shaft, a rotatable spool rack mounted on said bearing shaft, a forwardly projecting vertically disposed substantially triangular flat deflector member pivotally connected to the said bifurcated forward end of said bearing shaft and having integrally formed thread guide openings in the extreme front end portion thereof, a forwardly projecting notched hub integral with the rotatable spool rack and held in engagement with the pivoted rear end of the said deflector by means of a compression spring on the said bearing shaft between the rear of the rotatable spool rack and the upright support mounting.

4. In a vertically disposed rotatable spool rack, an upright support, said spool rack being mounted in offset relation to said upright support, the combination comprising a horizontally disposed bearing shaft projecting from said upright support, a bifurcated forward end in said bearing shaft, a rotatable spool rack mounted on said bearing shaft, a forwardly projecting vertically disposed substantially triangular flat deflector member pivotally connected to the said bifurcated forward end of said bearing shaft and having integrally formed thread guide openings in the extreme front end portion thereof, a forwardly projecting notched hub integral with the rotatable spool rack and held in engagement with the pivoted rear end of the said deflector by means of a compression spring on the said bearing shaft between the rear of the rotatable spool rack and the upright support mounting, the said rotatable spool rack being provided with uniformly spaced spool holders extending forwardly from the outer edge thereof and in substantial axial alignment with the said thread guides.

References Cited in the file of this patent

UNITED STATES PATENTS

318,923	Morse	May 26, 1885
643,959	Greenspan	Feb. 20, 1900
807,857	Palmenberg	Dec. 19, 1905
997,898	Brunelle et al.	July 11, 1911
2,936,901	Siemantel	May 17, 1960
2,944,761	Best	July 12, 1960
3,055,510	Coates	Sept. 25, 1962