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THREAD HOLDING MEANS FOR LAYING-ON A THREAD TO A SPOOL

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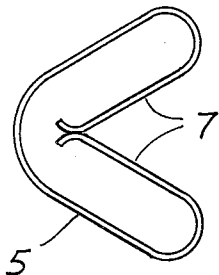
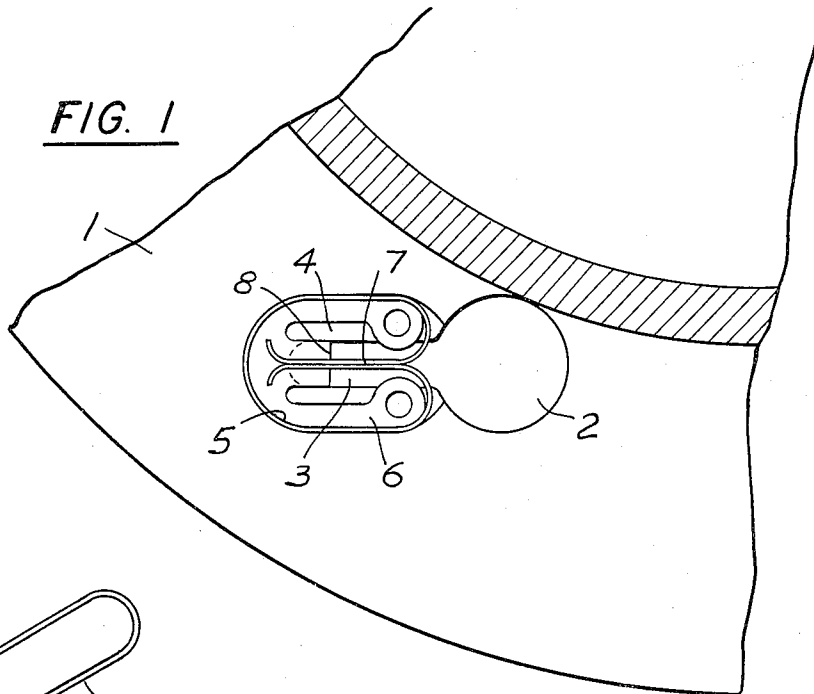


FIG. 2

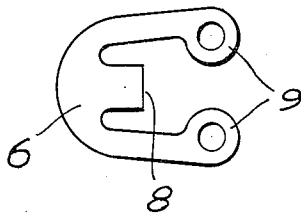


FIG. 3

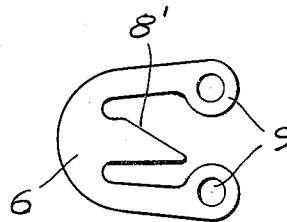


FIG. 4

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THREAD HOLDING MEANS FOR LAYING-ON A THREAD TO A SPOOL

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9 Claims. (Cl. 225—63)

The present invention relates to thread holding means for laying-on a thread to a flanged spool or bobbin.

A conventional method of laying-on a thread to a flanged spool or bobbin is to wrap the thread several times about the body of the spool. This method is quite inconvenient and unreliable as it does not assure that the thread is tightly held on the spool. In practice there is nearly always a certain slippage which may result in damage to the thread and the spool body. It has been proposed to use special thread holding means particularly when fine threads are worked. These holding means comprise wedge shaped slots formed in the wall of the spool, or rings with bent-off branches which serve to grip the end of the thread. Such auxiliary thread holding means are not suitable for heavier threads which have a substantial bending stiffness. It is also desirable to shorten the overhanging end of the thread so that the same does not extend beyond the holding means. When the threads are fine, one can simply tear off the protruding end of the thread, but for strong threads, for instance multiple cored, this is not practical.

Accordingly, one of the objects of the invention is to provide novel and improved thread holding means which safely retain the thread and permit to cut off the overhanging end of the thread.

Another object of the invention is to provide novel and improved thread holding means which firmly clamp the thread in position and include a cutting edge by means of which the protruding end of the clamped thread can be conveniently cut off.

Still another object of the invention is to provide novel and improved thread holding means which can be conveniently fitted in a recess provided for this purpose in the body of the spool, more specifically in the flanged part thereof and which are held in the recess in operative position by engagement with the wall of the recess.

Other and further objects, features and advantages of the invention will be pointed out hereinafter and set forth in the appended claims forming part of the application.

In the accompanying drawing several preferred embodiments of the invention are shown by way of illustration and not by way of limitation.

In the drawing:

Fig. 1 is a fragmentary plan view of a flanged spool or bobbin equipped with a thread holding means according to the invention.

Fig. 2 is a plan view of the clamping member of the holding means.

Fig. 3 is a plan view of the cutting member of the holding means, and

Fig. 4 is a plan view of a modification of the cutting member.

Referring to the figures in detail, the flange 1 of a spool or bobbin has a transverse bore 2 which is continued in a slot 3. The wall of slot 3 is laterally expanded for instance, by milling on the side of the flange facing the roll of thread. The slot and more specifically its enlarged part 4 serves to accommodate the thread holding means.

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The holding means comprise a clamping spring 5 and a cutting member 6. The clamping spring which can best be seen in Fig. 2, is of generally V-shaped configuration when in its relaxed condition. The ends of the spring are bent back to form two jaws 7. The cutting member is of generally U-shaped configuration and is made of springy material. The branches of the cutting member are biased so that they are slightly spread apart when then cutting member is relaxed. The cutting edge is formed at the end of a tongue extending from the bight of the member. It is shown in Fig. 3 as an edge 8 forming a right angle with the longitudinal axis of the member and in Fig. 4 as a cutting edge 8' forming an acute angle with the longitudinal axis of the member.

The holding means are assembled by fitting first the cutting member and then the clamping spring in the enlargement 4 of slot 3. Due to the springiness and the configuration of the clamping spring and the cutting member both these components are safely retained within the slot without special mounting or anchoring means. As is apparent, jaws 7 are forced toward each other into a substantially parallel position to clamp a thread therebetween.

A thread to the laid-on is threaded from the interior of the spool through the bore 2, then gripped from the outside and pulled into slot 3. As a result, cutting edge 8 or 8' cuts off the overhanging end of the thread whereas the thread to be spooled is held between the jaws 7 of spring 6 by reason of the spring lying on the side of the flange facing the roll of thread.

While the invention has been described in detail with respect to certain now preferred examples and embodiments of the invention it will be understood by those skilled in the art after understanding the invention, that various changes and modifications may be made without departing from the spirit and scope of the invention, and it is intended, therefore, to cover all such changes and modifications in the appended claims.

What is claimed as new and desired to be secured by Letters Patent, is:

1. A combined thread holder and cutter for mounting within an indent of a spool comprising, in combination, a cutting member, a spring having a pair of pre-stressed clamping jaws yieldably converging into yieldable contact with each other in a direction toward said cutting member, said cutting member having a cutting edge alongside said pair of jaws lying in a plane spaced apart from the clamping surfaces thereof, said jaws releasably gripping a length of thread therebetween with the end of the thread immediately adjacent to said cutting edge, said cutting member being of substantially U-shaped configuration having a bight part and a pair of spaced apart parallel resilient sides, said bight part of said U-shaped member defining said cutting edge.

2. A thread holding assembly according to claim 1, wherein said cutting edge forms a substantial right angle with the clamping jaws in the substantially parallel position thereof.

3. A thread holding assembly according to claim 1, wherein said cutting edge forms a substantial acute angle with the clamping jaws in the substantially parallel position thereof.

4. A combined thread holder and cutter for mounting within an indent of a spool comprising, in combination, a cutting member, a spring having a pair of pre-stressed clamping jaws yieldably converging toward said cutting member, said cutting member having a cutting edge alongside said pair of jaws lying in a plane spaced apart from the clamping surfaces of said jaws, said jaws releasably gripping a thread therebetween with the end of the thread adjacent to the cutting edge of said member, said spring including a pair of branches intersecting with each other

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to define a spring of substantially V-shaped configuration, the ends of said branches being inwardly bent back to form said gripping jaws, and the outside of said branches having portions in substantially parallel relationship.

5. A thread supporting spool comprising, in combination, a cylindrical core, a pair of spaced parallel walls secured to opposite ends of said core, each one of said walls having an outwardly disposed side and an inwardly facing side, both of said inwardly facing sides of said walls facing said core, one of said walls having an opening extending transversely therethrough, said one wall having a recess in the inwardly facing side thereof adjacent to said opening, a combined thread holder and cutter supported within said recess in communication with said opening for receiving a thread extending through said opening, said combined thread holder and cutter comprising a holding member for gripping thread extending through said opening and a cutting member for severing the end of the thread, said recess in said wall having a longitudinal slot extending therethrough and communicating at one end with said opening, said cutting member being supported within said recess adjacent to the opposite extremity of said slot, and said holding member extending between the opposite sides of said slot supporting a thread for longitudinal movement from said opening to said cutting member.

6. A spool as set forth in claim 5, wherein said cutting member is disposed between said holding member and between said outwardly disposed side of said one wall.

7. A spool as set forth in claim 6, wherein at least

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said holding member is engaged with the recess defining portions of said one wall and is resilient in a direction parallel to the plane of said one wall, whereby both said holding member and said cutting member are resiliently maintained in proper assembly with said spool.

8. A spool as set forth in claim 5, wherein said cutting member has a knife edge extending perpendicular to said slot.

9. A spool as set forth in claim 5, wherein said cutting member has a knife edge inclined at an obtuse angle to said slot.

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