May 24, 1932. G. S. RADFORD 1,859,842

SPOOL FOR THREAD

Filed May 25, 1929

Fig. 1

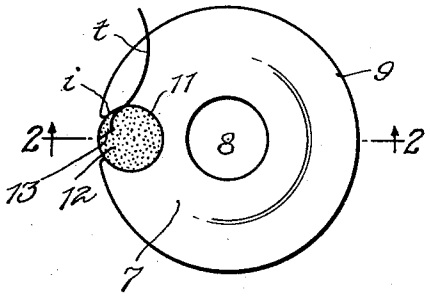


Fig. 2

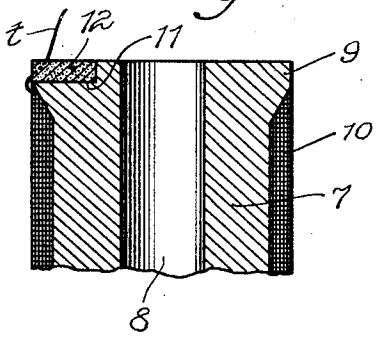


Fig. 3

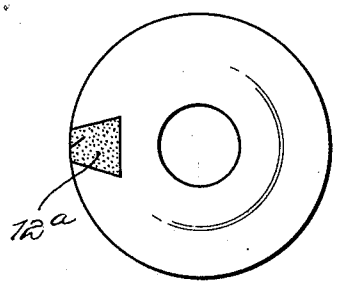


Fig. 4

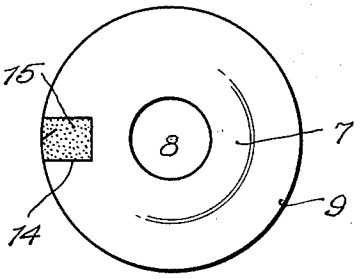


Fig. 5

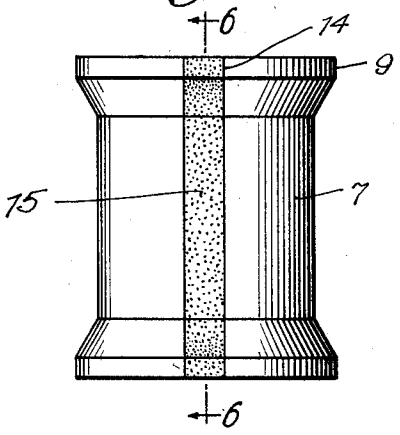
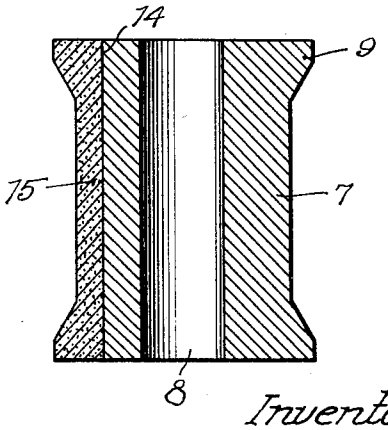


Fig. 6



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Patented May 24, 1932 1,859,842

UNITED STATES PATENT OFFICE

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SPOOL FOR THREAD

Application filed May 25, 1929. Serial No. 365,850.

My invention relates to spools for thread and is concerned particularly with means for securing the free end of the thread to the spool in order to prevent unintentional unwinding.

While numerous appurtenances have been devised for the purpose, none of them has proven practicable, and for years it has been the prevailing practice to cut a sharp notch in the flange of the spool and to insert the end of the thread therein. That has been adopted and adhered to in the industry as the best means thus far available, notwithstanding certain defects. If the notch is sharp enough to hold the thread, it is difficult to enter the thread and, once in, the thread is held so tightly that it is difficult, if not impossible, to release it, alone with one's fingers when the free end is short. If the notch is sharp, as it must be to be useful at all, it is difficult to locate. And, depending upon the direction of the grain of the wood of the spool, the flange frequently breaks away at the notch, defeating its purpose entirely.

My invention overcomes these difficulties primarily by lodging an insert at the end or ends and periphery of the spool. This insert is a thread engaging member and, as a separate member, it may be of characteristics especially adapted to the purposes it is to serve. These and the more specific aspects of my invention will be made clear by reference to the accompanying drawings, in which:

Figure 1 is an end view of a spool embodying my invention;

Figure 2 is an axial sectional view of that half thereof, taken on the plane of the line 2—2 of Figure 1 and looking in the direction indicated by the arrows;

Figure 3 is similar to Figure 1, except that it shows a modification of my invention;

Figure 4 is another view similar to Figure 1, except that it shows another modification of my invention;

Figure 5 is an elevational view of a spool embodying another modified form of my invention; and

Figure 6 is an axial sectional view of the spool shown in Figure 5, taken on the plane of the line 6—6 of Figure 5 and looking in the direction indicated by the arrows.

The spool itself is of wood or other material and, except for features presently to be pointed out, is of conventional form comprising a cylindrical barrel 7, having the axial bore 8, and the flange 9 at each end. The thread wound upon the spool is indicated at 10.

The end of the spool is mortised, open at its periphery, as indicated at 11, this mortise, in the form shown in Figures 1 and 2, being shallow, of the depth of the straight portion of the flange 9, and circular in form. It is thus located beyond that portion of the spool which takes the wound thread.

An insert, in the form of a disc 12, is lodged in the mortise 11 and, preferably, it fits and fills the mortise exactly so as to preserve the conventional contour of the spool.

The inlay 12 is preferably of readily compressible or resilient material, such as rubber or cork, although it will be seen that in the broader aspects of my invention it may be of materials such as celluloid, pyroxylin, wood or other material not compressible in its use here contemplated. In either event, however, it is one of the claimed features of my invention that it is of a color or shade to contrast with the color or shade of the spool itself, which is usually in the natural wood.

The disc 12 is held in the mortise 11 by being compressed in the process of insertion therein, that is it is held therein by its own tendency to expand, or it may be held therein by simple friction, or by cement or other means.

The free end of the thread wound upon the spool is indicated at *t* and it is held, to prevent unintentional unwinding, by insertion between the disc 12 and the surrounding wood of the spool, as at *i*. As an alternative, the disc 12 may be provided with a peripheral cut 13 positioned oblique to a line radially of the spool at that point and toward the direction of the wind of the thread. The free end of the thread may be inserted in this cut 13 to prevent unintentional unwinding, this form being particularly apt where

the insert is of readily compressible material as hereinbefore pointed out.

An inlay of soft red rubber is an example of effective material, from the standpoints both of physical character and color.

The spool may be mortised and provided with an insert, as has been described, at one or both ends, and in the latter event the free end of the thread is held at that end to which it is nearest at the point of unwinding.

The form of my invention illustrated in Figure 3 differs from that which has been described in that the insert is of dovetail, instead of circular, shape. The dovetail insert is indicated at 12*a* and no further reference characters have been placed on this figure since the description of Figures 1 and 2 applies here in all other respects.

Figure 4 serves a double purpose. It illustrates another, a substantially rectangular, form of insert as an alternative to the insert 12 of Figures 1 and 2. It is also an end view of that form of my invention illustrated in Figures 5 and 6. In this form the spool is rabbeted its entire length, as indicated at 14, and an insert 15 fits and fills the slot thus formed, thus preserving the conventional contour of the spool. The inlay or insert 15 is of the material or one of the materials referred to in the description of the disc 12 of Figures 1 and 2. This form of my invention is capable of manufacture by simple and inexpensive methods and at once provides the thread holding means at each end of the spool.

I have described my invention, and various forms thereof, with particularity so that those skilled in the art may be advised of the points of refinement as well as of its broader aspects. The broader of the appended claims, as will be seen, are not dependent upon these points of refinements. My invention in its broader aspects, may be variously embodied in a spool and the broader of the appended claims are drawn accordingly, other claims being directed to the more specific features.

I claim:

1. A spool for thread comprising a cylindrical body with end flanges, and an insert of resilient material lodged in the end of said body and exposed at the periphery of the respective flange, said insert having a cut inward from the periphery to receive the free end of the thread.

2. A spool having an external slot extending from end to end thereof, and a thread engaging member lodged in said slot.

3. A spool of conventional form having an external slot extending from end to end thereof, and a thread engaging member fitting and filling said slot and completing the conventional contour of the spool.

4. A spool of conventional form having an external slot extending parallel to the axis of the spool and from end to end thereof, and a resilient member compressed into said slot filling the same.

In witness whereof, I hereunto subscribe my name this 16th day of May, 1929.

GEORGE S. RADFORD.