

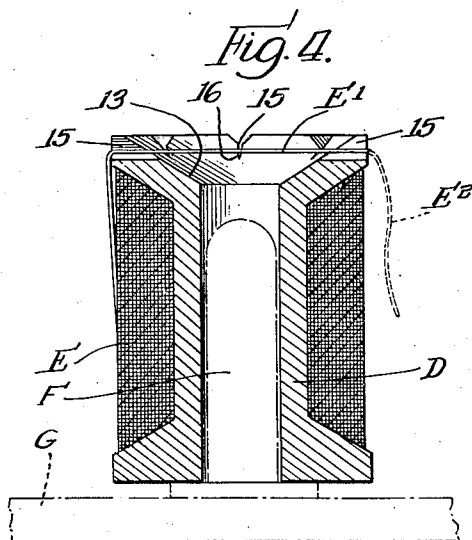
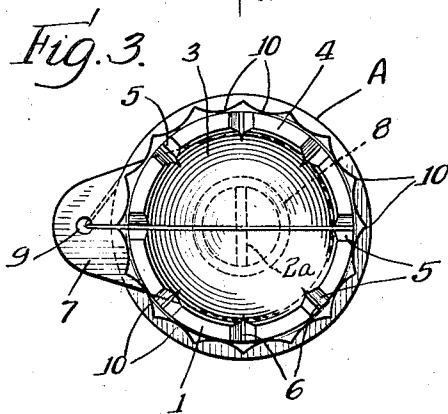
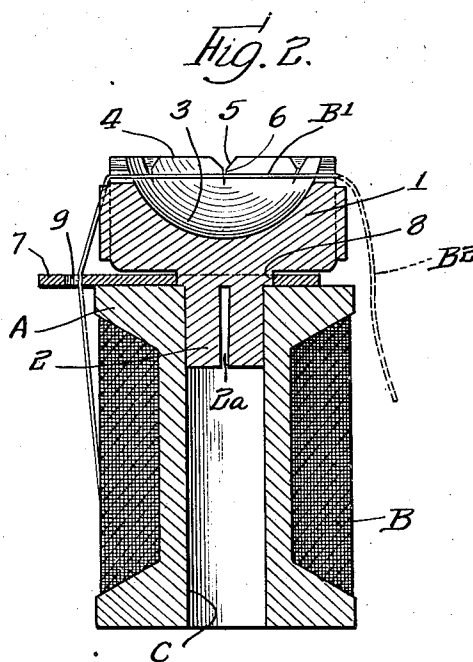
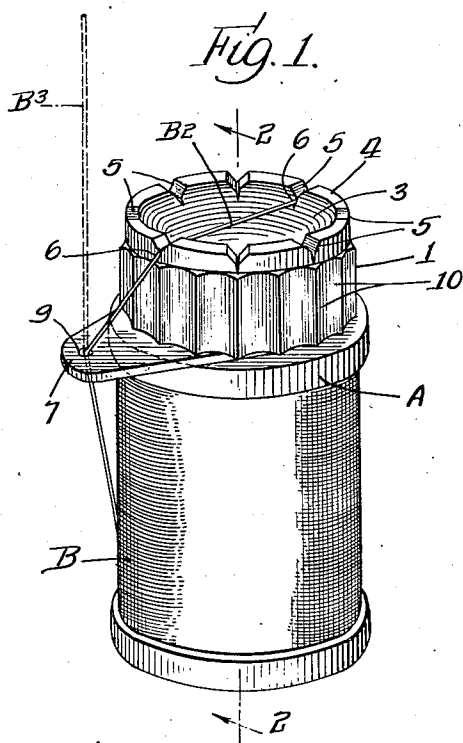
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THREAD DISPENSING DEVICE

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THREAD DISPENSING DEVICE

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This invention relates to thread dispensers, and is illustrated both as embodied in the structure of a spool and as an attachment to be applied to a standard spool of thread.

One object of the invention is to provide a new and improved thread dispensing device.

Another object of the invention is to provide a spool having at one end an outwardly open cupped structure formed with spaced slits in its rim, adapted to frictionally grip a thread extended between them so as to present said portion of the thread in convenient position to be grasped.

It is also an object of the invention to provide an attachment to be secured to one end of a spool, said attachment having an outwardly open, cupped end structure with at least two slits in its rim portion, spaced apart to frictionally support a length of thread extended between them over the bottom of the cupped structure.

More specifically, it is an object of the invention to provide such an attachment to be secured to the end of a spool of thread, with a thread guide rotatably carried by the attachment, having a radially extending arm with an aperture therein, the attachment including a cupped outer end with spaced slits in its rim to frictionally grip a length of thread extended between them in spaced relation to the bottom of the cupped structure.

Other objects and advantages of the invention will appear from the following description taken in connection with the accompanying drawing in which:

Figure 1 is a perspective view showing a spool of thread with a thread dispensing attachment secured thereto in accordance with this invention;

Figure 2 is a vertical sectional view taken substantially at the line 2—2 on Figure 1;

Figure 3 is a top plan view of the device shown in Figures 1 and 2; and

Figure 4 is an axial sectional view of a spool having one end formed as a cupped thread dispensing device in accordance with this invention.

While there are shown in the drawing and described herein two forms of the invention as embodied respectively in an attachment for a spool and in a special form of spool, it is to be understood that the invention is not limited to the specific forms or applications disclosed, but includes all modifications and alternative constructions falling within the scope of the invention as expressed in the appended claims.

The form of the invention shown in Figures 1, 2 and 3 is intended to be applied to a standard thread spool such as that illustrated at A, upon

which the thread B is wound in the usual manner. The thread dispensing attachment comprises a head portion 1 having a stem 2 preferably split at 2^a so as to render it slightly resilient for snug insertion in the axial bore C of the spool A. The head portion 1 is outwardly concave or cupped, as seen at 3, and the lip or rim 4 of the cup 3 is formed with a plurality of notches 5, peripherally spaced at intervals therein and preferably arranged in pairs, with the two notches of each pair diametrically opposite. The notches 5 are of V-shaped form, with their side walls converging downwardly and leading to more acutely formed slits 6 which may be substantially knife cuts in the material so that a thread drawn into the notch 5 may be wedged downwardly into frictional engagement with the side walls of the slits 6, and will be held thereby. Said slits 6 terminate downwardly at a substantial distance above the bottom of the cup form 3.

Thus, when a length of the thread B is unwound from the spool, the portion of the length next to the spool will be laid across a pair of diametrically opposed notches 5, 5 and forced downwardly into their associated slits 6, 6 with a short section of the thread extending at B¹ between the slits and across the upwardly open cupped portion 3, in spaced relation to the bottom of the cup. The length of thread beyond the section B¹, dotted at B² in Figure 2, is broken by a sharp pull against one edge of the slit 6, leaving the portion B¹ stretched across the cupped form 3 and readily accessible to be picked up between the fingers when another length of thread is wanted from the spool A.

To facilitate the unreeling of the thread B from the spool A a guide member 7 is rotatably mounted upon a shoulder 8 disposed between the upper end of the spool A and the under surface of the head portion 1. The member 7 is shown as a flat arm, having a guide aperture or eye 9 through which the end portion of the thread is lead upwardly as at B³ in Figure 1. If the spool A is held fixed, and the thread is pulled upwardly at B³, the thread will unwind from the spool and will cause the guide arm 7 to rotate about the annular shoulder 8 until the desired length of thread has been withdrawn. Then it may be swung into the nearest of the notches 5 and thus across to the opposite notch 5 so as to be forced downwardly into frictional engagement with the slits 6, 6 preparatory to breaking off the length of thread which is to be used. As already indicated, this leaves a short section of thread at B¹ stretched between the

diametrically opposite slits 6, 6 and in spaced relation to the bottom of the cupped structure 3 so as to be accessible when more thread is wanted.

For the sake of ornamental appearance, and also as a matter of mechanical convenience, the head or body portion 1 of the attachment is externally fluted or corrugated, as shown at 10. This permits it to be readily grasped and twisted rotatively for loosening the stem 2 from the bore C of the spool, or for turning the stem in forcing it into the bore of another spool to which the attachment is to be transferred. Preferably, the fluted portion terminates below the upper rim of the head 1 just below the lower ends of the slits 6 so as not to interfere with insertion of the thread in said slits.

As a modification of the invention, Figure 4 shows a spool D, having its upper end flange outwardly cupped at 13 and formed with notches 15 at intervals in its periphery, each notch leading to a slit 16 in which a thread may be wedged and held in the same manner as in the slits 6 of the attachment already described. In this form of the invention the guide member may be omitted, but as the thread E is unwound from the spool to the desired length, a short section of the thread E¹ is lead into a pair of diametrically opposed notches 15, 15 and their associated slits 16, 16, as shown in Figure 4, so that the desired length of thread extending at E² may be broken off, leaving the short section E¹ available to be grasped the next time a length of thread is wanted from the spool D. If desired, as a matter of convenience, such a spool may be mounted loosely on a spindle F, secured to any convenient form of base G, so that the spool will rotate readily as the thread is unreeled therefrom. In this connection it may be noted that if the spool A is similarly mounted for rotation on a fixed spindle, the thread may be withdrawn therefrom through the guide aperture 9 of the arm 7 by a pull in a lateral or radial direction, in which case the spool itself will rotate, and the guide arm 7 will remain extended in the direction of the pull.

Either with the attachment shown in Figures 1, 2, and 3, or with the spool structure of Figure 4, the dispensing of thread from a spool is greatly facilitated, particularly in that a short length is always conveniently presented across the rim of the cupped formation, where it may be easily grasped between the fingers without the aid of a sharp instrument and without any hunting for the free end of the thread. This short section of the thread remains taut because it has been first drawn into the notch nearest the body of the thread and has become initially wedged into the slit of that notch; then it has been pressed down into the opposite notch and its slit while held under tension. Finally, the thread is broken off outside the second slit, either by a lateral pull against one edge of the slit or by downward pressure between its converging edges; but, in either case, after the break, the end of the thread is left fully engaged, frictionally, in the slit, so that the short section stretched across the cupped form will remain under tension and readily accessible.

Either the attachment of Figures 1, 2 and 3, or the unitary spool structure of Figure 4 may be constructed of any suitable material, including wood, metal or plastic composition.

I claim as my invention:

1. A thread dispenser comprising a spool hav-

ing an axial bore and provided at one end with an outwardly concave surface of substantially greater diameter than the bore of the spool and having at least two slits in its rim peripherally spaced apart and dimensioned to frictionally grip a thread drawn into them and positioned to support the thread between them in spaced relation to the said concave surface.

2. A thread dispenser comprising a spool, having an axial bore and provided at one end with an outwardly open cupped surface of substantially greater diameter than the bore of the spool and having a pair of slits disposed in substantially diametrically opposite portions of its rim and dimensioned to frictionally grip a thread drawn into them and positioned to support the thread between them in spaced relation to the cupped surface.

3. A thread dispenser comprising a spool having an axial bore and provided at one end with an outwardly open cupped formation of substantially greater diameter than said bore and having a plurality of slits at intervals in its rim and comprising pairs of substantially diametrically opposite slits, said slits being radially disposed and each dimensioned to frictionally grip a thread similarly gripped by the diametrically opposite slit, said slits being positioned to support the thread in spaced relation to the cupped surface.

4. A thread dispenser comprising, in combination, a spool, an outwardly open cupped member on one end of the spool provided with thread anchoring slits in its rim, and a guide mounted for rotation about the axis of the spool, intermediate the spool and said rim having an eye for the thread.

5. A thread dispenser comprising, in combination, a spool, an outwardly open cupped member on one end of the spool provided with thread anchoring slits in its rim, and a guide intermediate the spool and said rim having an eye for the thread, with means mounting said guide for movement of its eye peripherally adjacent one end of the spool.

6. A thread dispensing attachment for a spool comprising a stem dimensioned for insertion in the axial bore of a spool, and a head on said stem positioned adjacent one end of the spool, said head having an outwardly open cupped form with a pair of slits in its rim peripherally spaced apart and dimensioned to frictionally grip a thread drawn into said slits and extending between them across the cup form in spaced relation to the bottom of said cup.

7. In a thread dispensing attachment as defined in claim 6, an annular shoulder formed on said attachment, a thread guide rotatable on said shoulder and provided with an eye for the thread disposed radially beyond said head of the attachment at a plane intermediate the end of the spool and said rim of the cupped head.

8. In a thread dispensing attachment as defined in claim 6, a shoulder adjacent said stem engageable with the end of the spool when the stem is inserted therein, said shoulder being of annular form; and a thread guide rotatably mounted on said shoulder and formed with an eye for the thread disposed radially beyond said head at a plane intermediate the end of the spool and the rim of the cupped head.

9. A thread dispenser comprising a spool provided at one end with a head having a pair of slits in its rim peripherally spaced apart and dimensioned to frictionally grip a thread drawn

into said slits and extending between them across the outer end of said head, and a thread guide having an eye for the thread and rotatably mounted for movement of its eye around the head in a plane intermediate the plane of said rim and the body of the spool on which the thread is wound.

10. A thread dispenser comprising, in combination, a spool, a head member on one end of the spool provided with thread-anchoring slits in its rim, and a thread guide having an eye engaging a portion of the thread intermediate the spool and said slits and mounted for rotation about the axis of the spool.

11. A thread dispenser comprising, in combination, a spool member with an outwardly open cupped part at one end of the spool provided with thread-anchoring slits in its rim, and a guide member intermediate the spool and said rim having an eye for the thread, one of said mem-

bers being mounted for rotation relatively to the other about the axis of the spool.

12. A thread dispenser comprising a spool having an axial bore and provided at one end with structure having slits disposed respectively at opposite sides of the axis of the spool, with the adjacent ends of said slits at opposite sides of said axis spaced apart by a distance substantially greater than the diameter of said bore, said slits being dimensioned to frictionally grip a thread drawn into them and being of a depth to support between them a length of said thread longer than the diameter of the bore of the spool, the end surface of said structure being recessed, whereby said thread is supported at a substantial distance outwardly from the transaxial surface of the structure between its slit-
ted portions.

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