W. J. SPENCER
SEWING NEEDLE HOLDER
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INVENTOR.
WILLARD J. SPENCER
BY
Samuel J. Steele
ATTORNEY
This invention relates to a sewing needle holder.

The principal object of this invention is the provision of a sewing needle holder which may be mounted in the hole of a conventional spool of thread. Although the principal application of this holder is to sewing needles, it will be fully appreciated that it is equally well adapted to receive and hold pins of the type used in pinning up hems and the like.

The needle holder herein claimed is a tubular device whose shape and dimensions are such as to enable it to enter the hole of a sewing thread spool. It is provided with means for frictionally engaging the spool to prevent it from falling out of the hole. It is also provided with means for preventing it from being pushed too deeply into the hole.

An important feature of the present device is its closed end portion which prevents the needles from passing completely through the hole of the spool. This closed end portion is made of a relatively soft material, namely, thermoplastic plastics, or any other relatively soft material, to prevent injury to the points of the needles. Another important feature is the use of acetone-treated felt to hold the needles in place in said device until they are needed. Acetone-treated felt has been found to be an ideal material for the purposes of this invention. The needles readily penetrate this material, but once they are inserted therein, the material tends to grip the sides of the needles and to prevent their accidental dislodgement. Furthermore, the material tends to close up the holes that the needles form therein, after the needles are withdrawn therefrom, to readapt itself for re-insertion of said needles. The present device also possesses other features and advantages which will become apparent from a reading of the specification.

Preferred forms of this invention are shown in the accompanying drawing in which:

Fig. 1 is a perspective view of a conventional sewing thread spool, showing a needle holder made in accordance with one form of this invention, mounted in the hole of said spool, and also showing a plurality of needles mounted in said needle holder.

Fig. 2 is an enlarged side view of said spool, showing it partly broken away to expose the needle holder which is mounted in its hole, the upper portion of said needle holder, including the felt, being shown in vertical section.

Fig. 3 is a side view of the needle holder looking in the direction of arrows 3, 3 of Fig. 2.

Fig. 4 is a transverse section on the line 4-4 of Fig. 2.

Fig. 5 is a side view of a needle holder made in accordance with a second form of this invention.

Fig. 6 is a side view of a needle holder made in accordance with a third form of this invention.

Needle holder 10, made in accordance with this invention, comprises the following component parts:

A tubular housing 12, a plug 14 serving as a shelf for said tubular housing, a felt cap 16 secured to the top end of said tubular housing, and a ring 18 which serves as a retaining ring or collar to assist in securing the felt cap to the tubular housing and also to serve as a stop member to prevent the tubular housing from being inserted too deeply into said hole 20 of conventional sewing thread spool 22. It is clearly shown in Fig. 2 that the tubular housing 12 is dimensionally adapted for insertion into said hole 20 and that it is pinched intermediate its ends to provide protruberances 24 to frictionally engage the spool and thereby prevent accidental dislodgment of said tubular housing from said hole in the spool.

Tubular housing 12, plug 14 and ring 18 may be made of any suitable material, preferably thermoplastic plastics, especially cellulose acetate. Acetone is a good solvent for such material and the application of acetone to plug 14 and the lower end of tubular housing 12 will plasticize their respective surfaces sufficiently to cause them to adhere to each other when they finally set. Felt cap 16 may also be treated with acetone to plasticize the upper, outer and end portion of the tubular housing and thereby to cause adherence between the felt and the tubular housing upon setting of the plasticized portion. By the same token, the inner surface of ring 18 plasticizes when said ring is slipped over the felt cap to hold it in place on the tubular housing. When the plasticized inner surface of the ring sets, it adheres to the felt cap. The felt is thereby secured affixed to the top of the tubular housing and the ring is thereby securely affixed to the felt.

When needles 26 are inserted through the felt cap 16 into tubular housing 12, their depth of penetration, so to speak, is limited by plug 14. In other words, plug 14 serves as a floor which stops the downward movement of the needles. Since the plug is made of relatively soft plastics, engagement between the needles and said plug will not dull the points of the needles.

The foregoing is illustrative of a preferred form of this invention. It will be clearly under-
stood that modifications may be incorporated into this preferred form of the invention and other forms thereof may be provided within the broad spirit of the invention and the broad scope of the claims. For example, the materials above specified may be varied within the limitations herein imposed. Frictional engagement between the tubular housing and the spool may also be provided in ways and by means other than that shown in the drawing and above described. Means other than acetone may be employed to secure the several component parts of the device together. For example, a suitable cement or adhesive may be employed for this purpose.

Referring now to Fig. 5 of the drawing, it will be seen that needle holder 30 made in accordance with the second form of this invention constitutes but two component parts; a tubular housing 32 and a cap 34 for said housing. The tubular housing 32 is molded of plastics, such as thermoplastic plastics, and lateral projection 36 may be provided thereon by means of the same molding operation by which the housing is itself made. This lateral projection frictionally engages the side wall of the hole of the spool of thread so as to prevent accidental dislodgement of said housing relative to said spool. Cap 34 may be made of felt or any other material which a needle will readily penetrate and yieldingly hold the needle after it is inserted therein. The cap is secured to the open top end of tubular housing 32 by means of a cement or a solvent or by any other suitable means. If a solvent is used, it should be of a type which will dissolve or plasticize the material of which the housing is made. The bottom end of the housing is closed as the drawing will clearly show and said bottom end is integral with the main body of the tubular housing.

Fig. 6 illustrates a third form of this invention, this form being similar to that shown in Fig. 5 with the sole exception that a plug 38 is substituted as a closure for tubular housing 32 in place of cap 34. This plug is inserted into the open top end of the tubular housing and it is held in place therein by means of a cement or a solvent or by any other suitable means. Plug 38 may also be made of felt or of any other material which a needle will readily penetrate and which will hold the needle in place once penetration has taken place.

I claim:

1. A needle holder which is adapted to be inserted into the hole of a spool of thread, said needle holder comprising a thermoplastic tubular housing which is closed at its lower end, a felt cap mounted on the upper end of said tubular housing, a thermoplastic ring encircling said felt cap and securing it to said tubular housing, and at least one laterally projecting prominence formed on said tubular housing to engage the spool in order to frictionally retain said needle holder in said spool against accidental dislodgment of said needle holder from said spool.

2. A needle holder in accordance with claim 1, wherein the outer surface of the tubular housing and the inner surface of the retaining ring are partly plasticized for adhesion with said felt cap to secure said felt cap to the tubular housing and to secure said ring to said felt cap, said ring being of a diameter which exceeds the diameter of the hole of the spool into which the needle holder is inserted to enable said ring to serve as a stop member against the spool to prevent insertion of the entire needle holder into the spool and to facilitate removal of the needle holder from the spool.

3. A needle holder in accordance with claim 1, wherein the laterally projecting prominence which frictionally engages the spool to prevent accidental dislodgment of the needle holder is a pinched portion formed in said tubular housing intermediate its ends.

WILLARD J. SPENCER.

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