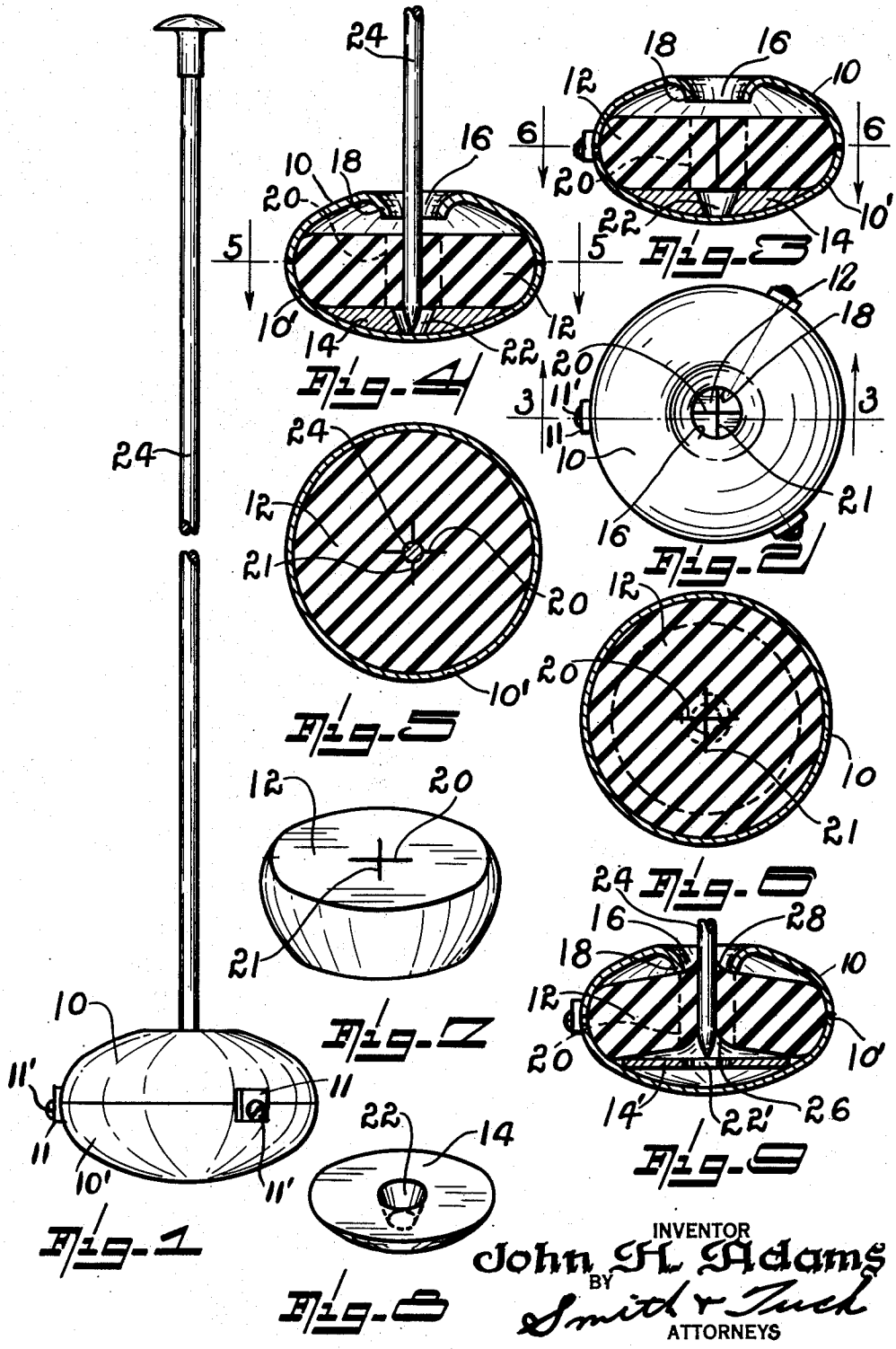
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NEEDLE PROTECTOR

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NEEDLE PROTECTOR

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4 Claims. (Cl. 66—117)

My present invention relates to that type of devices that are normally considered as knitting accessories and more particularly to a needle protector.

The revival of knitting has created a demand for devices that can be placed on the pointed end of the knitting needle for the purpose of protecting the points of the needles and preventing them sticking out through knitting bags and the like and more particularly to prevent the stitches of knitting work sliding off the needles when the work is laid aside or being carried from place to place as is now so common. My present device fulfills this purpose. It can be easily applied to a pointed needle, and when applied resists slight effort to remove it yet when an earnest effort is made it can be removed quite easily. Further, it is relatively simple in construction, is of a shape that will not roll and is not easily lost and due to the weight in the housing opposite the needle entrance, the protector, if dropped, will always stand with the needle in an upright position, making its recovery a simple task. Further, because of its shape, the protector will not become entangled with loose yarn which is a fault of many devices at present supplied for this purpose.

Other and more specific objects will be apparent from the following description taken in connection with the accompanying drawing, wherein

Figure 1 is an elevation showing my device as applied to a knitting needle.

Figure 2 is a top plan view of my protecting device.

Figure 3 is a cross sectional view taken along the line 3—3 of Figure 2.

Figure 4 is a cross sectional view similar to Figure 3 excepting that a knitting needle is shown, in its secured position.

Figure 5 is a cross sectional view taken along the lines of 5—5, of Figure 4.

Figure 6 is a cross sectional view taken along the line 6—6 of Figure 3.

Figure 7 shows in perspective the yieldable securing disc used in my device.

Figure 8 illustrates a perspective view of the backing washer used in my device.

Figure 9 illustrates a modified form of backing device and shows the needle as it is being removed from the same.

Referring to the drawing, throughout which like reference characters indicate like parts, 10—10' designate the two portions of the housing of my needle protector. These two portions 10 and 10' may be secured together in any suitable manner as by the use of the ears 11 on the upper portion 10 of the housing and the screws 11' threadedly engaging the ears 11 and the lower portion 10' of the housing. This may be made of any suitable material, although I have found light weight metal, either spun or pressed, to be very satisfactory. Secured within housing 10—10' is a disc 12 of resilient material, preferably rubber of the pure gum type. This disc may be secured in place by forming housing 10—10' so as to secure it after the teachings of Figures 3 and 4 or it may be cemented or vulcanized thereto. The form shown has proven very satisfactory and consists of a sphere-like housing 10—10' which is flattened at its opposite sides so as to produce substantially an oval cross section when viewed as in Figures 3, 4, and 9. Disposed in a manner to support disc 12 is a washer 14. This washer may be of any suitable material, metal, bakelite or the harder cures of rubber.

Housing 10 is pierced as at 16 so as to provide a needle entrance. This I prefer to form after the teachings of Figures 3, 4 and 9 so that an inwardly extending lip 18 is provided, spaced somewhat away from disc 12 and arranged to provide a stop for disc 12 when the needle is withdrawn, after the teachings of Figure 9. Disc 12 is pierced as by the cross slits 20 and 21. The most satisfactory method of piercing appears to be, two slits which intersect at a right angle as shown. The junction of the slits should be at the center of disc 12 so that the needle directing opening 16 in housing 10, the opening formed by slits 20 and 21, and the opening 22 in washer 14 will be coaxially aligned.

In using my needle protector a knitting needle as 24 is inserted through opening 16 until it engages the cross slits 20 and 21 and then pressed on through disc 12 substantially as is shown in Figure 4. During this action washer 14 tends to form an abutment for the resilient disc 12, preventing serious distortion, so that the needle can be forced through the disc without undue pressure. In this position the rubber of disc 12 which has been slightly distorted is pressed tightly against the tip of the needle.

When it is desired to remove the needle protector the needle is pulled outwardly and it carries with it the resilient disc 12 after the showing of Figure 9. This causes a decided distortion of the disc at 26 and 28. The rubber because of this distortion grips the needle very securely due to the fact that the rubber disc tends to turn inside out on the tip of the needle, it is prevented in this however by abutting stop lip 18. The

action then becomes somewhat similar to that of washer 14 when the needle is being inserted. However considerably more effort is required to remove the needle protector from the tip of the needle than is required to put the same in place. This action is the result of the distortion of disc 12 after the showing of Figure 9 wherein a flat washer 14' having an opening 22' is employed.

The foregoing description and the accompanying drawing are believed to clearly disclose a preferred embodiment of my invention but it will be understood that this disclosure is merely illustrative and that such changes in the invention may be made as are fairly within the scope and spirit of the following claims.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. In a needle protector, the combination with a housing having an opening in one wall thereof, and an interior washer adjacent the opposite wall of said housing and having a central opening therein alined with said first mentioned opening, of a resilient disk located between said openings within the housing and having a pair of intersecting slits, said slits being centrally alined with said openings for the reception of a needle.

2. In a needle protector, the combination with a housing having an opening in its top wall, and an interior washer adjacent the bottom wall, said washer having a central opening alined with said first mentioned opening, of a resilient disk within the housing having a pair of intersecting slits, said slits being centrally alined with said openings for receiving the point of a needle, and an annular retaining abutment surrounding said first mentioned opening for retaining said disk when said needle is withdrawn.

3. In a needle protector, the combination with a housing having a rounded bottom, an opening in its top wall and an interior washer adjacent the bottom wall and forming a weight in the housing, said washer having a tapered central opening alined with said first mentioned opening, of a resilient disk within the housing and having intersecting slits therethrough, said slits being centrally alined with said openings for receiving a needle.

4. In a needle protector, the combination with a housing having a rounded bottom, an opening in its top wall and an interior washer having a flat upper face, and a convex lower face for coaction with the bottom wall, said washer having a central opening alined with said first mentioned opening, of a resilient disk within the housing adjacent said washer and having a pair of intersecting slits, said slits being centrally alined with said openings for receiving the point of a needle.

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