

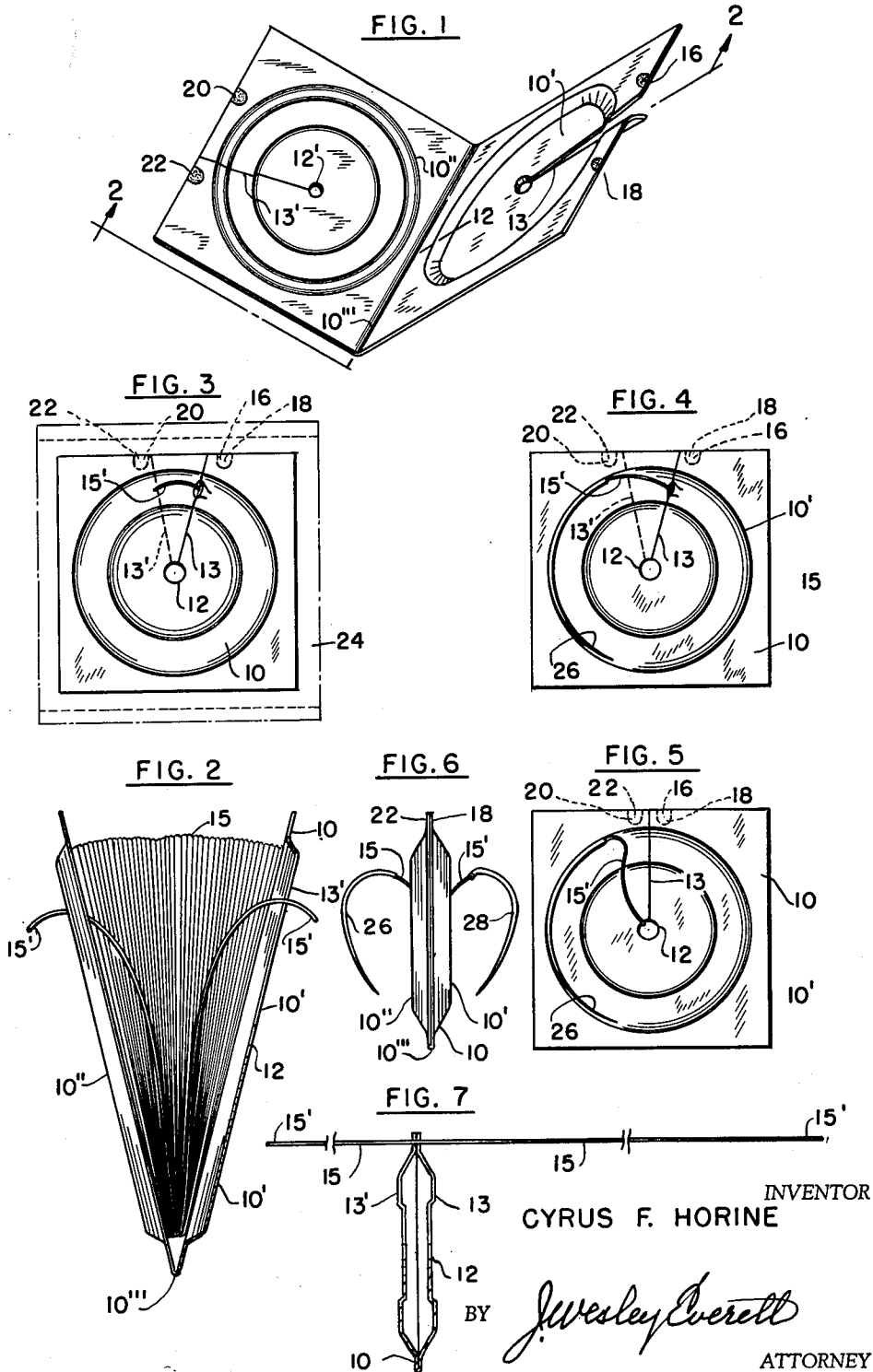
April 7, 1964

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3,127,992

SUTURE PACKAGE

Filed Jan. 19, 1962



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3,127,992

SUTURE PACKAGE

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Filed Jan. 19, 1962, Ser. No. 167,364

2 Claims. (Cl. 206—63.3)

The present invention relates to a suture package and is suitable for sutures made from any kind of materials.

The package is constructed of any suitable material, such as paper, plastic, etc. The package may be of any circumferential form, square, V shaped, round, etc. In use the suture is rolled into a coil like shape and of such size as to fit easily into recessed portions formed into the sides of the package.

The suture may be provided with a needle at one end, or at both ends. When a needle is provided at both ends, the suture is normally of such length as to make up into two standard lengths and is usually used by cutting the suture in half.

One of the objects of the invention is to provide a suture package that is more adaptable to machine winding and packaging.

Another object of the invention is to provide an improved method of removing the suture from the package.

A further object of the invention is to provide a package in which both ends of the suture may be exposed beyond the outer surface thereof so that the suture may be easily removed from the package.

While several objects of the invention have been pointed out, other objects, uses and advantages will be more apparent as the nature of the invention is more fully disclosed which consists of its novel construction, the combination and arrangement of its several parts as shown in the accompanying drawing and described and claimed in the specification to follow:

FIGURE 1 is a isometric view of one form of the package.

FIGURE 2 is an enlarged sectional view taken on line 2—2 of FIGURE 1.

FIGURE 3 is a view in elevation of the package shown in FIGURE 1, in which the package is enclosed in a germ proof transparent cover.

FIGURE 4 is a view in elevation of the package shown in FIGURE 1, showing a needle attached to one end of the suture and the position of the needle in relation to the package when the suture is packaged and ready to be placed into the germ proof cover.

FIGURE 5 is a view in elevation of a modified form of package, also showing a needle position on the outer surface of the package.

FIGURE 6 is an end view of a package showing a needle attached to each end of the suture and extending outwardly from the package for illustrating their position relative to the package.

FIGURE 7 is a view partly in section and partly in elevation of the suture package, showing the method of removing the suture from the package.

The suture package 10 is constructed of any suitable material, such as paper, plastic, etc. The package is shown in square form, but may be of any convenient shape. It may have a number of sides, such as a polygon, or it may be of circular or V-shaped form. The handling and packaging usually determines this choice. The package is formed substantially of two parts from a flat sheet of material which is folded along a center line 10''' to form a hinge for the two parts. However, the sides may be formed separately and glued together or provided with some other type of hinge means other than the fold. Each side of the package is substantially flat and is provided with a circular recessed area 10' and 10''. This area extends outwardly from the adjacent surfaces of the side portions and is to receive the coiled

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suture of a predetermined size and length. Preferably there are holes 12 and 12' located centrally, one in each side of the recessed portion. Extending inwardly from the edge of the package to the holes 12 and 12' are slits 13 and 13'. These slits preferably do not coincide when the sides are folded parallel to form the sides of the package, as shown in FIGURES 1, 3 and 4, which gives the package added rigidity. However, if desirable and extra rigidity is not a primary factor, the slits may be in the same plane, as shown in FIGURE 5. While the slits 13 and 13' are shown extending from the edge of the package to the holes 12 and 12' they may only extend inwardly from the edge of the package far enough to receive and hold the ends of the suture.

The suture 15 is wound in coil form and is of such size as to be deposited within the recessed portions 10' and 10'' of the package, when the sheet is folded and the sides are in contact with each other as shown in FIGURES 6 and 7. The ends of the side portions of the package opposite the fold 10''' or the hinge area, as the case may be, are provided with small areas of pressure sensitive adhesive, as shown at 16, 18, 20 and 22. When the suture is placed within the recessed portions 10' and 10'' of the package the open ends of the package opposite the fold, or hinged area are pressed together, the adhesive area 16 will contact the adhesive area 20, and adhesive area 18 will contact adhesive area 22, holding the open ends of the flat sides of the package together. The adhesive contact areas are located on each side of the slits 13 and 13' in order that the suture may be removed entirely from the package without any tearing or ripping of the package.

FIGURE 3 shows the package 10 completely enclosed in a hermetically sealed cellophane cover 24.

In FIGURES 2, 4, 5 and 6 the package is illustrated with an attached needle to either one or both ends of the suture, FIGURE 6 shows an end view of the package with needles 26 and 28 attached one to each end of the suture, the needles being extended outwardly from the package to illustrate their relative location with the package.

When the suture is placed in the package, the ends may be extended through the slits 13 and 13' as shown in FIGURES 3 and 4, or the end may be extended through the holes 12 and 12', if the slits extend to the holes.

This type package is very adaptable to machine packaging of a machine wound suture. The suture being wound on a machine, is automatically deposited within the angled flat sides 10 and 10' and, held closed by the adhesive at its opposite edge, with the end of the suture extending preferably through the holes 13 and 13' as shown in FIGURE 4. The adhesive areas will be brought in contact and the package retains the coiled suture within the recess portions 10' and 10'', which prevents it from unwinding. The package 10 is then normally sterilized and inserted into a sterilized cellophane cover 24 and hermetically sealed.

When the time comes to use the suture, the package 10 is first removed from the cover 24. The suture is removed from the package by pulling the ends 15 and 15' of the suture sidewise as shown in FIGURE 7. When the suture is extended, it will move along the slits 13 and 13' from the center holes 12 and 12' to the outer edge of the cover and in doing so will be extracted completely from the package through the slits. This is advantageous, in that, doctors' attendants, etc., usually wear rubber-like gloves during their work and any tearing operation is usually very difficult and besides the present package saves time in getting the suture in position to being used.

If the suture is provided with attached needles the suture is still extracted from the package in the same manner.

While the invention has been illustrated and described in a specific form other forms would be apparent to those skilled in the art and therefore the present disclosure is not intended as a limitation, the scope of the invention being best deferred in the appending claims.

I claim:

1. A coiled suture and package therefor comprising:

(a) a single pliable sheet folded along a line forming two flat adjacent side portions of substantially uniform size in which the flat sides are in substantially parallel planes, and having means holding the edges of said folded sheet opposite the folded edge in adjacent relationship;

(b) each flat side portion having a circular recess, the recesses in one side portion being opposite the recess in the other side portion, and each recess extending toward the outside of the respective flat side in which each is formed for receiving the coiled suture therebetween;

(c) each flat side having a slit extending inwardly from its outer edge opposite the fold lines from spaced adjacent points, the slits extending into the recessed area in the respective side portions containing the suture having opposite ends of the suture retained, one in each of the two slits formed in the two side portions;

(d) said holding means comprising an adhesive being at the edge of the package adjacent the outer end of the slits and positioned outside the area lying between the two slits;

whereby, the edge of the package between the slits is open to allow the package to be removed from the suture by moving the suture through the slits toward and through the outer ends thereof when the suture is extended in a straight and taut line.

2. A sterilized coiled suture and package comprising in combination:

(a) a single pliable sheet folded along a line forming two flat adjacent side portions of substantially uniform size in which the flat sides are in substantially

parallel planes, and having means holding the edges of said folded sheet opposite the folded edge in adjacent relationship;

(b) each flat side portion having a circular recess, the recesses in one side portion being opposite the recess in the other side portion, and each recess extending toward the outside of the respective flat side in which each is formed for receiving the coiled suture therebetween;

(c) each flat side having a slit extending inwardly from its outer edge opposite the fold line from spaced adjacent points, the slits extending into the recessed area in the respective side portions containing the suture having opposite ends of the suture retained, one in each of the two slits formed in the two side portions;

(d) said holding means comprising an adhesive being at the edge of the package adjacent the outer end of the slits and positioned outside the area lying between the two slits;

(e) an hermetically sealed transparent closure envelope extending about the suture and package for maintaining the same in a sanitary and sterilized state;

whereby, the suture may be removed from the suture package after its removal from the envelope by extending the suture in a straight and taut line allowing the suture to move through the slits and out through the outer ends thereof.

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