

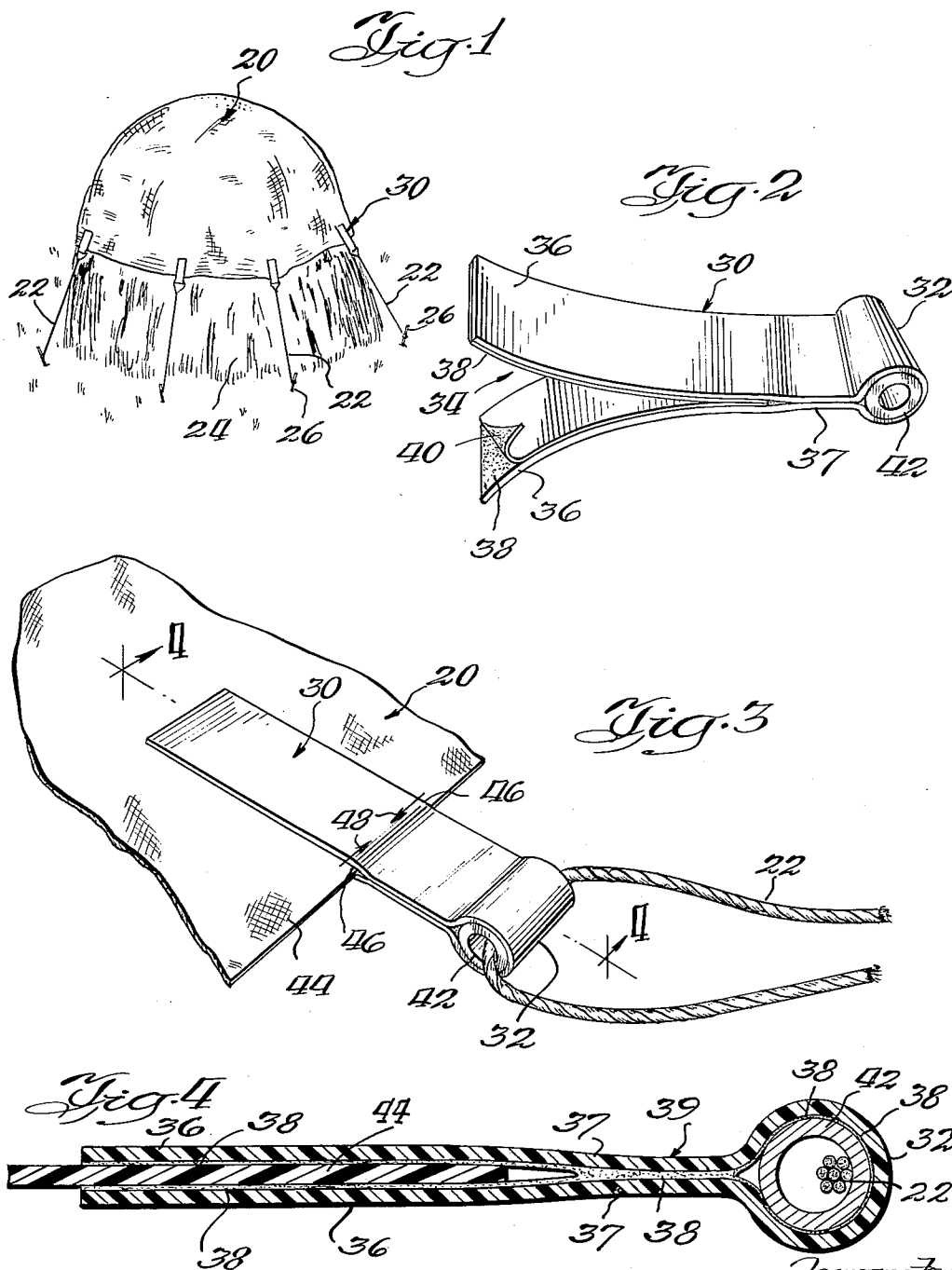
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REMOVABLE ANCHOR ATTACHMENT DEVICE FOR SHEET COVERS

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REMOVABLE ANCHOR ATTACHMENT DEVICE FOR SHEET COVERS

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This invention relates to improvements in an attachment device adapted to be removably secured to tarpaulin-like covers at selected locations spaced along the marginal edges of the cover for anchoring to stakes, hooks or the like.

In reference to the herein invention, tarpaulin-like covers can be made of plastic, canvas or other waterproof fabric material and can be made in various configurations and sizes. The covers are widely used in many different ways, too numerous to enumerate profitably. Heretofore, meal grommets or eyelets were secured at spaced locations along marginal edges of the cover by means of special eyelet machines which pierced the cover to anchor the eyelet. The eyelet or grommet so secured was stationary and guy lines, such as ropes, cables, or the like were passed through the eyelet and tied to a peg, hook, stake or the like in a well-known way. This invention is concerned with providing an attachment or anchoring device adapted to be removably secured to the cover which does not employ the conventional eyelet or grommet with attendant unexpected advantages.

Accordingly, it is a primary object of the invention to provide a removable attachment device for flexible sheet covers which does not utilize an eyelet or grommet for a guy line.

Another important object of the invention is to provide a device of the character described which comprises a strip of waterproof, flexible sheet material having a transverse loop at one end thereof and a bifurcated end opposite said loop, an elongate relatively rigid sleeve secured in said loop for reinforcing and rigidifying the loop, said bifurcated end having means on interior surface portions thereof for removably securing the anchor device to a marginal edge of a cover sheet with said reinforced loop spaced outwardly of said edge.

Other objects of the invention are to provide an anchor device of the character described which is comprised of a relatively wide strip of waterproof, flexible sheet material, said strip being folded medially and transversely across the length thereof to provide a loop at one extremity and a pair of free end portions at the opposite extremity of the folded strip, said free end portions each having a pressure sensitive adhesive surface of high adhesive strength for attaching the anchor device to the sheet cover and said loop being reinforced across substantially the entire width of the strip for passing and holding a guy line therein and distributing pull forces of a guy line uniformly across the width of the strip.

Other objects of the invention reside in providing a device of the character described which is economical to manufacture, which is very strong and durable, which can be attached at selected locations and subsequently removed for attachment again at different locations on the cover, which is compact and which can be compactly packaged in convenient multiples thereof.

The foregoing as well as other objects of the invention will become apparent as the description of the invention evolves. Recourse is had to a preferred embodiment described in detail and illustrated in the accompanying drawings, however, it is contemplated that minor variations in the structure and components thereof may occur to the skilled artisan without departing from the scope or sacrificing any of the advantages thereof.

In the drawings:

FIG. 1 is a perspective view showing a cover installed to protect a mound of grain, this being representative of one size and configuration of cover with which the attachment device embodying the invention is usable.

FIG. 2 is a perspective view of said attachment device with portions of the protective strips covering adhesive surfaces partially peeled away.

FIG. 3 is a perspective view showing the attachment device embodying the invention secured along a marginal edge of the cover of FIG. 1.

FIG. 4 is an enlarged fragmentary sectional view taken along the line 4-4 of FIG. 3 and in the general direction indicated.

Referring now to the drawing, in FIG. 1, a representative cover is identified by the reference character 20 and is made from a suitable waterproof material such as plastic, treated canvas, or other waterproof material. The cover 20 is exemplary of one configuration and size of tarpaulin-like cover. In this instance, it is a circular cover and it has a plurality of attachment or anchor devices embodying the invention attached along the marginal edge thereof at spaced locations so that guy lines 22 can be used to tie the cover down on a mound of grain 24. The guy lines 22 are secured to stakes 26 driven into the ground at suitable locations for tying the cover 20 tautly on the mound of grain 24. The attachment or anchor device embodying the invention is designated generally by the reference character 30.

Referring to FIGS. 2 and 4, the device 30 is comprised of a single length of a relatively wide strip of suitable flexible material folded transversely and approximately midway between the extremities thereof to provide a loop end 32 and a bifurcated end 34 opposite said end 32. The end 34 is provided by a pair of free end segments 36 of the resulting pair of superimposed plies 37. The plies 37 are adhesively secured together by a strong adhesive 38 as indicated generally at 39. The segments 36 may be characterized as elongate wings which can be separated or spread one relative to the other because of the flexible material from which they originate.

The interior surfaces of the wing portions 36 are coated with the pressure sensitive adhesive 38 and as seen in FIGS. 2 and 4, a protective strip or cover 40 is secured overlying said adhesive. The strips 40 are shorter than the plies 37 and can be peeled away from the adhesive so as to permit the device 30 to be mounted on a cover.

Adhesively secured in the loop of 32 is an elongate, hollow sleeve 42. The sleeve 42 is cylindrical in configuration and has approximately the same axial length as the width of the loop 32. The sleeve 42 preferably is made of a relatively rigid plastic material such as polystyrene. In a commercial embodiment of the invention, the strip material preferably was polyethylene of .020 inch. The sleeve 42 had an interior diameter of $\frac{3}{8}$ - $\frac{1}{2}$ inch with an outside diameter of $\frac{1}{2}$ - $\frac{3}{4}$ inch. The sleeve 42 may be installed at the time the strip is folded transversely. Note that the loop 32 is clear of secured plies 37 at 39.

To install the device 30 on the cover 20, the protective strips 40 are peeled away and the location for installing the device is selected. The marginal edge 44 of the cover sheet is inserted between the wings or segments 36 to reach approximately adjacent the plies 37 which are adhesively secured together at 39. The wings 36 are pressed together to adhesively attach them to the cover 20 with the loop 32 and the sleeve 42 spaced outwardly of the edge 44. As mentioned, the sleeve 42 is secured in the loop 32 by means of the adhesive 38 so that it will not fall out of the loop.

Since the device 30 is relatively wide and the wings 36 are relatively long as compared to the portion of the de-

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vice protruding beyond edge 44, the wings 36 obtain an excellent purchase upon the cover sheet 44. The device 30 is anchored firmly and a strain on the loop 32 by a guy line 22 can be taken up in substantial measure by the sleeve 42. The sleeve 42 being considerably more rigid than the loop 32 will prevent collapse of the loop 32 and thereby prevent the device from being laterally stripped from the cover 44. This would occur if the strain of the guy line 22 were taken up by the loop 32 alone causing the material of the device to collapse and wrinkle inwardly. This would tear the edge portions designated 46 from the marginal edge 44 in the direction of the arrows 48. Further, the rigid character of sleeve 42 in the axial length thereof serves to distribute the strain on the loop 32 uniformly across the width of the strip thereby preventing lateral tearing away of the strip from the edge 44.

Obviously, if the device 30 is torn or otherwise damaged, it can be removed from the cover 20 and a new one replaced. This is possible because the adhesive 38 preferably is a pressure sensitive type.

The device 30 is formed from a water resistant material which does have some slight give or elasticity along the length thereof although this is quite small. The preference for such slight elasticity is that upon taking up on the guy line 22, some of the strain will also be relieved by slight stretching of the device 30 in the direction of the pull. Such a suitable material is a polyethylene plastic, for instance, although other materials may be suitable. The device 30 is conveniently packaged in multiple numbers.

What is desired to secure by Letters Patent of the United States is:

1. A removable attachment device for use with flexible sheet covers comprising at least one relatively wide, elongate length of water-proof, flexible material, said material having a pair of ply portions of equal length and width forming a pair of matching free ends defining a bifurcated end portion and an opposite end portion having a loop formation, said bifurcated end portion having a coating of pressure sensitive adhesive formed upon inner working

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surfaces of said ply portions to allow removable securement of the marginal edge of a sheet cover between said inner facing working surfaces in a sandwich with the loop formation spaced outwardly from said edge, wherein the area of purchase of the ply portions upon the sheet cover is greater than the area of that portion of the device which extends outwardly from the marginal edge of the sheet cover, and said inner facing surfaces are normally separated by a covering strip which has end portions adapted to be peeled away therefrom to expose the said coating there underlying for securement thereof to the said marginal edge, the invention which comprises reinforcing means for said loop formation, said reinforcing means comprising a substantially rigid sleeve secured within said loop for the major portion of the coaxial length of said loop.

2. The attachment device of claim 1 wherein said length of material consists of a single band of plastic material folded transversely to form said pair of ply portions.

3. The attachment device of claim 1 wherein said sleeve is formed of a length of cylindrical plastic tubing and the interior wall of said loop formation has a coating of adhesive thereon to securely hold said rigid sleeve in position.

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