

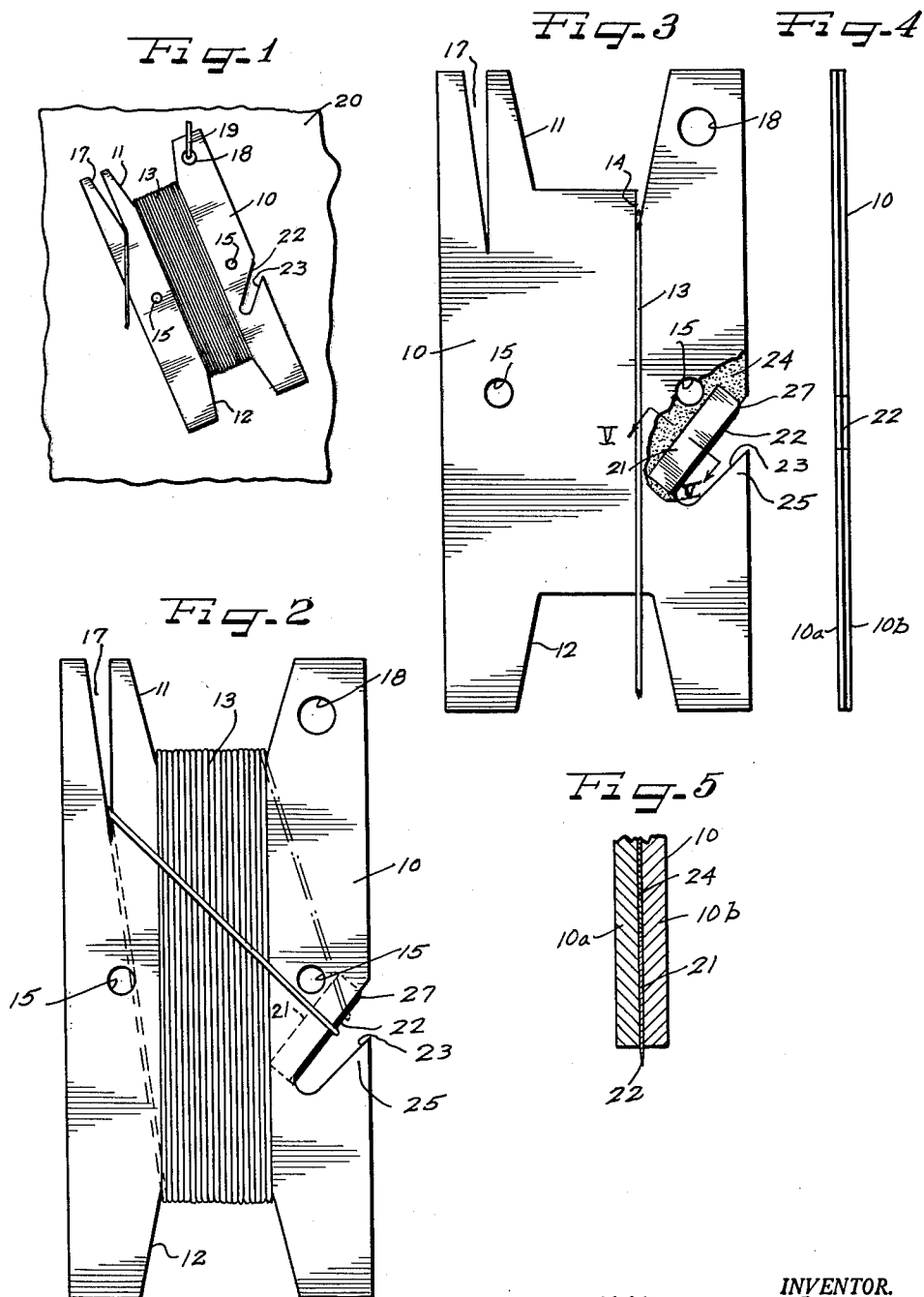
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W. H. DEACON, SR

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HOLDER WITH SEVERING DEVICE FOR STRAND MATERIALS

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INVENTOR.

William H. Deacon,
Sr.

BY

Hill, Sherman, Merani, Chad & Simpson

ATTORNEYS

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HOLDER WITH SEVERING DEVICE FOR STRAND MATERIALS

William H. Deacon, Sr., 1041 Marengo Ave.,
Forest Park, Ill.

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The present invention relates to improvements in holders of the reel type for supporting wound thereon a quantity of strand material and more particularly concerns a holder of this type which is especially suitable for portable manual use.

Strand materials are commonly supplied on spools, in skeins, hanks, balls and the like which are often inconvenient to use and most generally require a separate severing device for cutting off desired lengths.

It is a principal aim of the present invention to provide a holder for strand materials especially adapted for manual portable use, suitable for supporting a satisfactory quantity of the strand material and equipped with means for retaining the strand material conveniently against undesirable unwinding or escape from the holder, and also means for conveniently and efficiently severing desired length of the strand material after unwinding from the holder.

Another object of the invention is to provide a new and improved flat plate or panel type of reel structure for strand materials.

Still another object of the invention is to provide novel cut off means for panel type reels for strand material.

A further object of the invention resides in the provision of a new and improved manual strand material reel having efficiently mounted and safely protected cut off means.

It is also an object of the invention to provide a new and improved strand material reel on which a cut off blade is mounted with its edge disposed across the longitudinal axis of an end portion of the strand when disposed with relation to the winding of the material on the reel when the end portion is held taut against further unwinding of the material.

It is also an object of the invention to provide a new and improved mounting for a cut off blade in a reel for supporting strand material.

Other objects, features and advantages of the present invention will be readily apparent from the following detailed description of a preferred embodiment thereof taken in conjunction with the accompanying drawing, in which:

FIGURE 1 is a face elevational view of a strand material holder showing the same hung on a support;

FIGURE 2 is an enlarged face elevational view of the reel disclosing how the cut off is employed in severing an end portion of the strand;

FIGURE 3 is a similar face elevational view of the holder reel minus the strand material and with a portion broken away to illustrate details of structure;

FIGURE 4 is an edge elevational view of the holder reel looking toward the right side of FIGURE 3; and

FIGURE 5 is a substantially large fragmentary sectional detail view taken substantially on the line V—V of FIGURE 3.

A holder reel 10 exemplary of the invention comprises a flat disk plate or panel of preferably as thin material as practicable in relation to size and desirable rigidity and durability. Any suitable material may be utilized for the holder panel, such, for example, as cardboard, paperboard, wood, wood veneer, sheet or molded plastic, sheet metal, die castings, and the like.

In the particular form shown, the holder 10 comprises an elongated panel of suitable length and width and pro-

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vided with aligned but oppositely opening respective flat bottom reel notches or recesses 11 and 12 in its respective opposite ends. These notches are of a depth to receive a desirable quantity or skein of strand material 13 wound onto the holder 10 serving as a reel for this purpose. While the material 13 shown is represented as string or twine such as is commonly used for tying packages, it is adapted to be utilized for other types of severable material in indefinite lengths and of filamentary, spun, twisted or woven nature, among which may be mentioned strip-type tying materials, cord, lightweight rope, binding tape, dressmaker's trimming strip or lace strip, fish line, filamentary fish line leader, thread, and the like. Any such materials are referred to herein generically as strand.

In order to facilitate starting of winding of the strand 13 onto the holder reel 10, a short, narrow V-shaped starter slit or notch 14 is provided in one side of the bottom of one of the reel notches 11 or 12, being shown as in the bottom base or root of the notch 11 in this instance. To start the strand 13, its free end portion is wedged into the starter notch 14. With the end of the strand 13 thus gripped the desired quantity of the strand material in length can then be wound onto the holder reel 10 within the reel notches 11 and 12 under desirable tension.

For the purpose of facilitating winding-on of the strand 13, the holder reel 10 is provided with means to facilitate retention in a winding machine, such means herein comprising a pair of transversely aligned holes 15 located midway the length of the member 10 and adjacent to the respective opposite longitudinal edges thereof. These holes 15 are receptive of retaining studs of a winding machine in which the holder reel 10 is spun about a transverse axis for rapidly winding the strand material thereon.

After the strand 13 has been wound on the holder reel 10, its free end portion is retained against unwinding from the reel by frictionally gripping it within a retainer notch 17 of narrow generally V-shape and substantial depth opening from one end of the reel member 10 alongside one of the reel notches 11 and 12, herein alongside the notch 11. In a preferred form, the retainer notch 17 is of greater depth than the adjacent reel notch 11 and has the edge defining the same which is nearest to the reel notch 11 and thus at the inner side of the notch 17 substantially parallel to the longitudinal axis of the holder reel 10, while the opposite or outer side edge defining the notch 17 slopes convergently toward and joins the inner end of the inner side edge. At their outer ends, the edges defining the retainer notch 17 provide an ample mouth opening receptive of the end portion of the strand 13 to be wedged toward the rapidly diminishing width root of the retainer notch. Not only does the described arrangement of the retainer notch 17 facilitate entry and reception of the end portion of the strand therein, but a substantial width of material of the holder reel 10 intervenes between the root of the retainer notch 17 and the adjacent longitudinal edge of the reel member for strength against being accidentally broken off.

To enable hanging the holder reel 10 on a display panel or in an out of the way convenient position when not in use, one of the bifurcation arms alongside one of the reel notches 11 and 12, and in this instance in the bifurcation arm defining the notch 11 opposite to the arm in which the retainer notch 17 is formed, is provided with a suitable hole 18. Thus, as shown in FIG. 1, the holder reel 10 is adapted to be supported on a hook 19 or other suitable retaining projection or arm mounted on a display panel, wall, stand or other convenient object or surface 20.

A salient feature of the present invention resides in the provision of an efficient, convenient, self-contained cut off

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on the holder reel 10. In a desirable form, this cut off comprises a thin blade 21 having a sharp knife edge 22 disposed to extend across the axis of the free end portion of the strand 13 extending away from its contiguous supported loop on the reel or from the retainer notch 17, as best shown in FIG. 2. To this end, the blade 21 is mounted with its edge 22 exposed in cutting relation along an edge defined within a safety notch or recess 23 in the panel of the holder 10.

In a desirable arrangement, the blade 21 is substantially thinner than the holder reel panel, for example of safety razor blade thinness, and is embedded except for the edge 22 in a plane parallel to and midway between the opposite flat faces of the holder 10. Thus, where the holder 10 comprises a pair of equal laminations 10a and 10b (FIGS. 4 and 5) secured together by adhesive 24, the blade 21 will be hardly any thicker than the layer of adhesive and in any event will be held firmly by the adhesive and the pressed together and adhesively secured laminations 10a and 10b where that mode of securing the laminations is utilized. Similarly, of course, retention of the blade 21 can be effected by fusing the laminations where they are of a plastic or other substance enabling fused attachment. Where the holder is a molded or cast unit the blade can, of course, be secured in situ in the holder.

For the utmost convenience in use, the cut off blade 21 is mounted with its edge 22 disposed on a line which is normal to the axis of the end portion of the strand 13 extending from the gripper end of the retaining notch 17. As shown, this is effected by having the safety notch 23 opening from the longitudinal side of the holder 10 remote from the retainer notch 17 and located near and on a diagonal axis generally directed toward the reel notch 12. The cut off blade 21 is mounted so that its edge 22 projects from the longitudinal edge defining the safety notch which is directed away from the retainer notch 17, that is the edge of the notch 23 that faces generally outwardly and opposite to the opposing generally inwardly facing edge defining the notch 23 and located on a safety guard projection 25. At its end nearest the mouth of the safety notch 23, the blade edge 22 is chamfered off as shown at 27 so as to avoid any possibility of injury.

In using the holder reel 10, it is adapted to be grasped in one hand while with the other hand the exposed free end portion of the strand 13 is withdrawn from the retaining notch 17 and the desired length of the strand unwound from the reel. Then the unwound length of the strand may be severed immediately while maintaining it taut against further unwinding and by a swinging maneuver moving it into engagement with the cut off blade edge 22, substantially as indicated in dot dash outline in FIG. 2. On the other hand, before severing the strand, and especially if the holder is to be placed aside, the portion of the strand contiguous the last loop is moved into the retaining notch 17 and wedged against further unwinding, whereafter, and as a continuous motion the free portion of the strand is severed by holding it against the cutting blade edge 22 as shown in full outline in FIGURE 2. By having the cutter disposed to have its edge project in the same general direction as the strand must be pulled to maintain it taut, not only is the strand disposed for most efficient cut off maneuvering with respect to the blade edge, but unintentional further unwinding of the strand is precluded as an incident to the cut-off maneuver. In addition, where the strand has been disposed within the retaining notch 17, the pull on the strand toward the

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cut off blade edge tends further positively to wedge the strand into the gripping root of the retaining notch 17.

Because of the protected disposition of the cutting blade edge 22 within the safety notch 23 and by reason of the buffer provided by the safety projection 25, as well as the inset relation of the edge relative to the planes of the flat faces of the holder reel body, danger of a person cutting himself on the blade edge 22 is precluded except for gross carelessness. In fact, in a popular size for carrying string or twine, the holder can be safely carried in a person's pocket without danger of cutting the pocket fabric, or cutting the person's hand as he reaches into his pocket to extract the holder.

It will be understood that modifications and variations may be effected without departing from the scope of the novel concepts of the present invention.

I claim as my invention:

1. In a holder reel structure of the character described, a generally flat elongated panel holder body having opposite end reel recess notches receptive of the loops of a strand wound onto the body and defining bifurcation legs flanking said notches, one of said legs having a narrow generally V-shaped retainer notch opening therefrom and receptive of a free end portion of the strand wound onto the holder body for retaining said free end portion in wedged relation, a safety notch extending inwardly from one longitudinal edge of the holder body and substantially spaced from said retainer notch, the edge of the safety notch nearest the retainer notch having a cutting edge supported thereby and projecting into said safety notch and engageable with a free end portion of the strand retained in said retainer notch for severing a length of the strand from said free end portion when maneuvered across said body into said safety notch.

2. A structure as defined in claim 1, wherein said body comprises opposed laminations, and said cutting edge comprising a blade of substantial width clamped between the laminations.

3. A structure as defined in claim 1, wherein one of the reel recess notches has in the base thereof a starting notch opening thereinto into which the starting end portion of the strand is adapted to be wedged in winding the strand onto the body.

4. A holder as defined in claim 3, wherein the starter notch is in the reel recess notch adjacent to the leg which has the retainer notch so that the last portion of the strand can be drawn taut and severed by said edge in said safety notch where the starting end portion of the strand is wedged into said starter notch.

5. A holder as defined in claim 1, wherein said body has adjacent to its opposite sides and midway between said reel recess notches a pair of holes to facilitate securing the holder onto a winding machine in which the holder is adapted to be spun about a transverse axis for rapidly winding the strand thereon into said reel recess notches.

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