My invention relates to wrapped skeins or hanks of strand material, for example, rope, cord, tape, fine wire, and the like, and more particularly to a novel and efficient tubular wrapper easily applied which will not only hold the full skein or hank, but will hold it while and after portions of the strand material are removed.

In the standard practice of preparing hanks of cord and other strand material for retail sale a fixed length of strand material is arranged in a skein or hank made by forming a plurality of loops between two hooks which hold the respectively opposite looped ends. When the desired number of loops have been placed between the hooks it is customary to secure the hank in one of two ways. In the first method, the operator makes a tight half-hitch about the hank a short distance from one of the hooks and then winds the free cord helically about the hank to a point equidistant from the opposite hook, where he makes a second half-hitch which holds the helical winding in place. Because of the necessity of making half-hitches at either end of the helical winding on each hank it is impracticable to prepare more than two connected hanks by this method. A second method is also in use in which instead of the helical winding a tubular paper wrapper is placed around the hank to hold it. By this method any number of connected hanks may be successively wrapped.

When a retailer or consumer wishes to sell or use less than the length of strand material contained in one hank the helical winding or the paper wrapper, as the case may be, must be undone to allow removal of the desired amount of material. In either case the remaining loops of strand material become confused and knitted with nothing to hold them in hank form. Thus unless it is desired to use the exact length of strand material in one hank, or a multiple thereof, the common methods of wrapping are unsatisfactory.

The principal object of my invention is to provide a tubular wrapper for hanks of strand material which allows the retailer or the consumer to withdraw from a permanently wrapped hank any desired quantity of the strand material without disturbing or releasing the remainder of the hank. A further object is to provide a quicker, less cumbersome and cheaper method of wrapping hanks of strand material. A further object is to provide a method whereby any desired continuous length of strand material may be wrapped for marketing in a connected series of hanks. A further object is to provide a method of wrapping whereby the exact desired length of cord may be placed in each hank thereby eliminating the waste of several feet which is prevalent in the old method of wrapping because of the helical winding. Other objects reside in the improved structural features of the device hereinafter described as pointed out in the appended claims.

A recommended embodiment of the invention is illustrated in the accompanying drawing in which:

Fig. 1 is a diagrammatic illustration of several connected hanks each of which is equipped with the improved tubular wrapper;

Fig. 2 is a front elevation on a larger scale of one of the hanks of Fig. 1;

Fig. 3 is an enlarged section taken on the line 3–3 of Fig. 2;

Fig. 4 is a section taken on line 4–4 of Fig. 3;

Fig. 5 is a plan view of an improved wrapper before application of the hank; and

Fig. 6 is an enlarged fragmentary section taken on line 6–6 of Fig. 5.

The particular embodiment of the invention chosen for the purpose of illustration comprises a strip or sheet of paper or other suitable material 1 having its opposite edges 3 reinforced by a piece of twine, string or other material 4, and a gummed tongue 2 for securing the wrapper in its tubular position about the hank of strand material. The string or other reinforcing material 4 may be secured along the edges 3 by a fold or hem or otherwise secured as shown in Fig. 5.

In arranging the strand material in hanks, it is recommended that the elongate loops of each hank be arranged in successive layers.
substantially as shown in Fig. 3, the initial or innermost layer comprising loops $a-a$ to $e-e$, the second layer comprising loops $d-d$ to $e-e$, the third layer comprising loops $g-g$ to $f-f$ and the fourth layer comprising loops $h-h$ to $k-k$, successive loops progressing in opposite directions in succeeding layers. The final loop $k-k$ will thus be in the outer layer of each hank, and in forming the next succeeding hank the connecting strand 12 will extend from the outer layer of loops of the first hank to the inner layer of loops of the following hank, as shown in Fig. 1. It should be understood that each layer of loops need not contain the same number of loops as the preceding layer, as will be noted by the variance between the layers in Figs. 3 and 4. The number of layers is also optional, and may be varied according to the length of strand material desired to be placed in each hank.

In one method of applying the improved wrapper to a skein or hank of strand material, the end 7 is inserted transversely through the inner loops of the hank from point 9 to point 8 in Fig. 3 and thence wound partially around the hank (for example to the position shown in Fig. 3), the remainder of the wrapper is then wound beginning at the point 9 around the hank over the end 7, preferably winding in the same direction as the end 7, and then the tongue 2 is glued in place, completing the operation.

One function of the transversely placed section of the wrapper as shown in Fig. 3 is to prevent the accidental or premature withdrawal of any of the loops of the strand material. Another purpose of said transverse portion is to facilitate drawing the wrapper snugly about the hank.

When the first loop of the strand material ($a-a$ in Figs. 2, 3 and 4) is withdrawn by pulling the free end 10 in the direction indicated by the arrow 5, this loop tears through the transverse portion of the wrapper at the point 8 (Fig. 4) at the same time usually withdrawing from each hank a short section 7-8 of the string 4. Other succeeding loops $b-b$, etc., may thereafter be withdrawn with ease until the desired length of strand material has been removed and cut off, leaving the improved wrapper still in place holding the remainder of the hank.

The elasticity of the strand material gives its end loops 11 a tendency to expand so that although a large part of the material may be withdrawn from the holding sleeve said end loops 11 engage the edges of the wrapper tube 8 and thus the remaining loops remain substantially in place within the wrapper.

A tubular wrapper constructed and applied in the manner described above provides an economical and easily applied wrapper for skeins or hanks of strand material and the like, which allows-segments of the skein or hank to be withdrawn without disturbing or kinking the remainder of the hank.

It should be understood that the present disclosure is for the purpose of illustration only and that this invention includes all modifications and equivalents which fall within the scope of the appended claims. For example, the reinforcing material 4 may be omitted from the edges of the transversely placed section of the wrapper so as to facilitate the withdrawal of the first loop $a-a$. The edges of the wrapper may be reinforced by the use of other materials and in other ways, for example by gluing strips of paper, cloth or other flexible material along the longitudinal edges of the wrapper 3 in place of the string 4 which is shown in the drawing.

1. An article of the character referred to comprising a length of strand material bent back and forth in the form of a hank and means for holding the material in position including a strip of sheet material extending diametrically through the hank.

2. An article of the character referred to comprising a length of strand material formed in a series of hanks each comprising a series of elongate loops wound in layers with succeeding loops progressing in opposite directions in successive layers, and means for holding the loops of each hank in said relation, the portion of the strand connecting one hank with the next succeeding hank extending from the outer layer of the first hank to the inner layer of the next hank.

3. An article of the character referred to comprising a length of strand material formed in a series of hanks each comprising a series of elongate loops arranged in successive layers, and a wrapper encircling the loops of each hank so that any number of loops may be withdrawn by pulling on one end of a loop of the inner layer of the hank without substantially disarranging the remaining loops of the hank.

4. A hank comprising a length of strand material wound in a series of elongate loops and a band of material having an intermediate portion extending through the individual loops and end portions wound around the loops.

5. A hank comprising a length of strand material wound in a series of elongate loops and a band wound transversely around the loops with a portion of the band extending through the individual loops, said portion comprising fibrous material which can be torn transversely of the band by pulling a loop endwise from the hank.

6. A package of the class described comprising a hank of strand material and a sheet of flexible material, the initial end of said sheet inserted transversely through the inner loops of the hank intermediate its ends.
and the remainder of said sheet circumposed about the hank, said sheet being reinforced at its opposite edges to prevent tearing of the circumferential parts when the strand material is withdrawn longitudinally from the hank.

7. A package of the class described comprising a hank of strand material and a sheet of flexible material, one end of said sheet being inserted transversely through the hank intermediate its ends and extended partially around the hank, and the remainder of said sheet circumposed about the hank, said sheet being reinforced at its opposite edges to prevent tearing of the circumferential parts when the strand material is withdrawn longitudinally from the hank.

8. A package of the class described comprising a hank of strand material and a sheet of flexible material, one end of said sheet being inserted transversely through the inner loops of the hank and extended partially around the hank intermediate its ends, the remainder of said sheet circumposed about the hank in the same direction as the initial end of said sheet.

9. A package of the class described comprising a hank of strand material and a sheet of flexible material, one end of said sheet being inserted transversely through certain loops of the hank intermediate its ends and extended partially around the hank, the remainder of said sheet circumposed about the hank in the same direction as the initial end of said sheet, the circumferential portion of said sheet being reinforced along its opposite edges to prevent tearing of the circumferential parts when the strand material is withdrawn longitudinally from the hank.

Signed by me at Chattahoochee, Georgia, this 18th day of February 1931.

ROGER K. WHITTIER.