Sept. 8, 1953 L. H. MORIN 2,651,476

PLASTIC SHROUDED SPOOL

Filed July 12, 1951

Fig. 1.

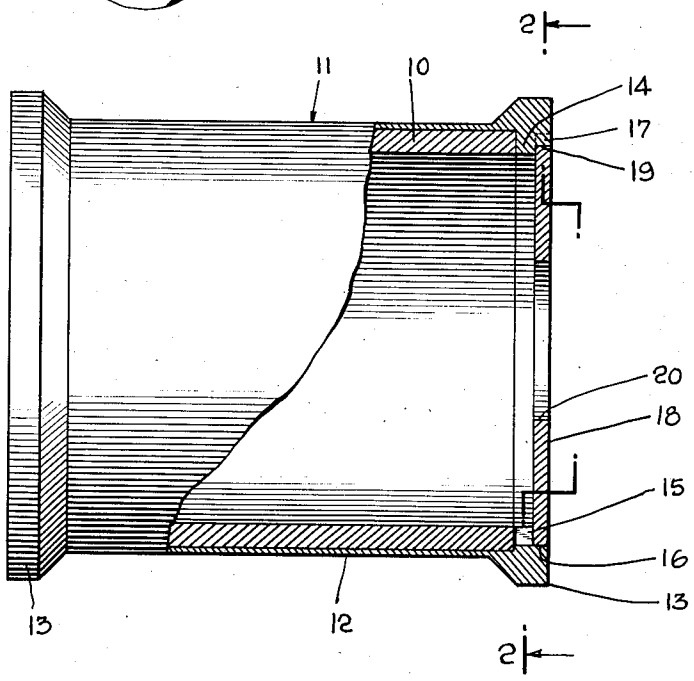
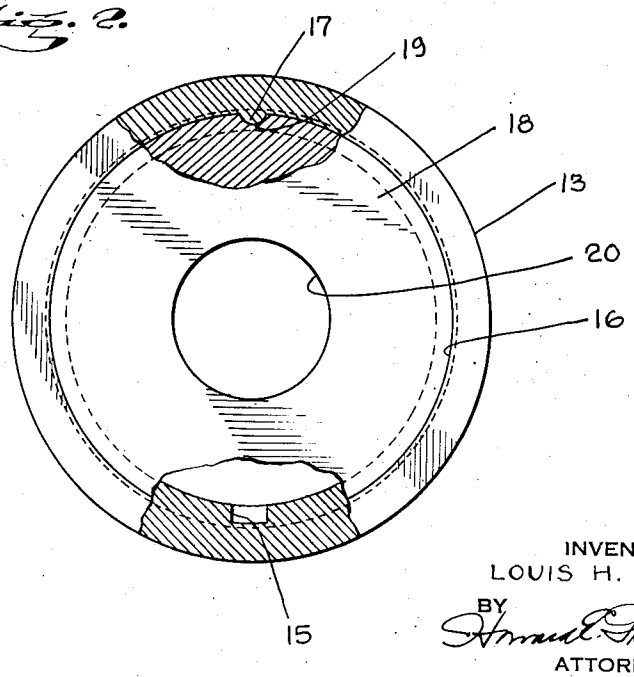


Fig. 2.



INVENTOR
LOUIS H. MORIN
BY
Howard C. Thompson
ATTORNEY

Patented Sept. 8, 1953

2,651,476

UNITED STATES PATENT OFFICE

2,651,476

PLASTIC SHROUDED SPOOL

Louis H. Morin, Bronx, N. Y., assignor to Coats & Clark Inc., a corporation of Delaware

Application July 12, 1951, Serial No. 236,359

7 Claims. (Cl. 242—118)

1

This invention relates to spools for the support of threads or other strands. More particularly, the invention deals with a spool incorporating a relatively thin walled tubular core of any suitable material, upon which is formed a moulded plastic shroud, which substantially completely envelops the periphery and ends of the tubular core. Still more particularly, the invention deals with a spool structure of the character described, including end wall members, or discs, recessed in rim portions of the spool and forming the apertured end walls of the resulting spool body.

The novel features of the invention will be best understood from the following description, when taken together with the accompanying drawing, in which certain embodiments of the invention are disclosed and, in which, the separate parts are designated by suitable reference characters in each of the views and, in which:

Fig. 1 is a side and sectional view of a spool made according to my invention; and

Fig. 2 is a broken section on the line 2—2 of Fig. 1.

In the drawing, 10 represents a relatively thin walled core, which may be composed of paper, fibrous compositions, wood or other material and arranged upon and enveloping the core 10 is a shroud 11, which is employed directly upon the core 10. The shroud 11 comprises a thin walled casing or jacket 12, which terminates at its ends in outwardly extending comparatively thick rim or flange portions 13. As both rim portions are of the same construction, the brief description of one will apply to both. As indicated, the casing or shell 11, including the rim portions, is made of plastic and is die cast about the core or barrel 10. Each rim 13 includes an inwardly extending annular projection or rib 14, which lies over the end or end edge of core 10, except at one position, where a recess 15 is formed in the projection 14, the recess 15 being formed by a suitable part in the cavity of the casting die, not shown, which part is utilized to centralize the core member or tube 10 within the die, so as to prevent longitudinal shifting and to properly position the rims 13 at the ends of the core in the manner defined. It will be noted that the internal diameter of the annular projection 14 corresponds to the internal diameter of the core 10.

Each rim portion 13 includes an annular recess 16 on the exterior surface thereof, the rim having, at a position preferably opposed to the recess 15, an inwardly projecting key lug 17 for keying an end wall member or ring 18 against rotation or rotary shifting movement within the

2

rim. Wall 18 has a recess 19 for reception of the lug 17. This construction primarily is employed to resist torsional strains, to which the end walls 18 may be subjected in the use of the spool on machines of different types and kinds. The wall 18 may be composed of plastic, or a moulded composition, or paper, or other material, and it may be cemented in position against the annular projection 14. The wall 18 has a central aperture 20 for proper mounting of the spool body on spindles of sewing machines or the like.

It will be apparent that, for the most part, the spool body is of extremely hollow construction and, thus, will be light as compared to the construction of the average wooden spool. In addition, the plastic covered flanges 13 may be slitted to furnish nicks for holding the thread or strand end to prevent unravelling. These nicks have the advantage of being non-chippable, that is, they are not subject to being broken away to render them useless for their purpose, as frequently occurs with conventional wood spools.

Preferably, the barrel 10 is made of paper or cardboard, which provides a very tough and rigid construction. Rings 18 may be made of the same material, or of a cold-molded composition. It will also appear from a consideration of Fig. 1 that the end wall or ring 18 has its exterior surface flush with the adjacent exterior surface of the rim 13 and this ring-like wall member may be characterized with trade markings or the like to identify the producer of the thread or strand sold on the spool and to give other common markings or characteristics of the spool thread. Instead of marking the walls or rings 18 to identify the thread, conventional ticket labels may be adhered to these rings.

It will appear from the foregoing that, by reason of the simple construction employed, namely the moulding of the shroud directly upon a core 10 of one diameter throughout and, then, securing the end walls 18 in position, spool bodies of the type and kind under consideration can be quickly and economically produced. The shroud may have a color consistent with or in harmony with the thread or strand mounted on the spool body or may be made of a neutral color.

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

1. A spool of the class described, comprising a thin walled tubular core, a one-piece plastic shroud enveloping the outer surface and end edges of the core, said shroud having at the ends of the core outwardly projecting thick walled rims,

said rims including inwardly extending annular projections covering the end edges of said core, and said rims exteriorly of the projections having annular recesses.

2. A spool of the class described, comprising a thin walled tubular core, a one-piece plastic shroud enveloping the outer surface and ends of the core, said shroud having, at the ends of the core, outwardly projecting thick walled rims, said rims including inwardly extending annular projections covering substantially the major portion of the ends of said core, said rims exteriorly of the projections having annular recesses, and end walls secured in said recesses with the exterior surfaces of said walls being flush with the adjacent exterior surfaces of said rims.

3. A spool of the class described, comprising a thin walled tubular core, a one-piece plastic shroud enveloping the outer surface and ends of the core, said shroud having at the ends of the core outwardly projecting thick walled rims, said rims including inwardly extending annular projections covering the ends of said core, said rims exteriorly of the projections having annular recesses, end walls fitting in said recesses, said walls having recessed portions in the periphery thereof, and said rims having inwardly projecting key lugs engaging said recessed portions of said end walls.

4. A spool of the class described, comprising an outer unitary plastic body comprising circumferential end rims of thick walled construction, said rims being integrally joined and spaced by a thin walled shell, said rims including inwardly extending circumferential projections, a thin walled tubular member disposed within said body, the ends of said member abutting said projections, and a pair of end walls for said tubular member.

5. A spool of the class described, comprising an outer unitary plastic body comprising circumferential end rims of thick walled construction, said rims being integrally joined and spaced by a thin walled shell, said rims including inwardly extending circumferential projections, a thin walled tubular member disposed within said body, the ends of said member abutting said projections, said rims having exterior annular end recesses, end wall members mounted in said annular recesses, and means for keying said end walls against rotary movement within said recesses.

6. A thread spool comprising a paper tube, an integral plastic shell encasing said tube, said shell having an inwardly projecting annular rib extending onto each of the end edges of said tube, an outwardly projecting annular plastic flange at each end portion of said shell, each said flange extending exteriorly of said rib in an endwise direction to form an annular recess between the rib and flange, and a centrally apertured paper end wall mounted in each said recess.

7. A hollow, thin-walled, light weight thread spool comprising a cardboard tube, an integral plastic shell encasing said tube, said shell having at each end portion thereof an inwardly directed annular projection extending onto the end edge of said tube so that the tube is disposed between said projections, said tube and said projections having flush inner surfaces, an outwardly directed annular plastic flange at each end portion of said shell and integral therewith, said flange being slittable to provide a non-chippable thread-holding nick, an annular step at each end portion of the shell disposed between said projection and said flange, a centrally apertured end wall of molded composition arranged in each said annular step and keying means on each said shell end portion and the corresponding end wall comprising an interengaging projection and recess.

LOUIS H. MORIN.

References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
1,074,786	Glaset et al.	Oct. 7, 1913

FOREIGN PATENTS

Number	Country	Date
434,062	Great Britain	Aug. 26, 1935