United States Patent [19]

Garzonio

[11] **3,764,086**

[45] **Oct. 9, 1973**

[54] **YARN HOLDER**

[76] Inventor: **Henry L. Garzonio,** 449 Bucklin St., La Salle, Ill. 61301

[22] Filed: **June 15, 1972**

[21] Appl. No.: **263,253**

[52] **U.S. Cl.** **242/130,** 242/141

[51] **Int. Cl.** **B65h 49/02,** D03j 5/08

[58] **Field of Search** 242/130, 130.1, 129.7, 242/141, 129.5, 129.6

[56] **References Cited**

UNITED STATES PATENTS

2,491,585	12/1949	Sammons	242/141
2,209,428	7/1940	Taylor et al.	242/129.7
2,253,238	8/1941	Jackson	242/130

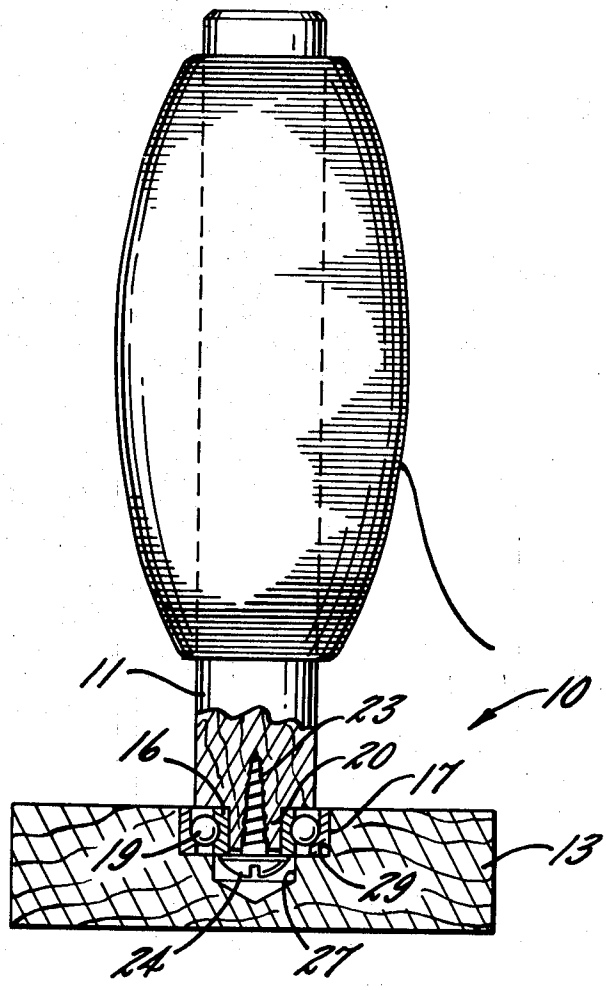
Primary Examiner—Leonard D. Christian

Attorney—C. Frederick Leydig et al.

[57] **ABSTRACT**

An anti-friction bearing is captivated on the lower end of a roller and is telescoped removably into a hole in a supporting base in order to permit the roller to be pulled endwise away from the base when it is desired to wind yarn around the roller.

2 Claims, 2 Drawing Figures



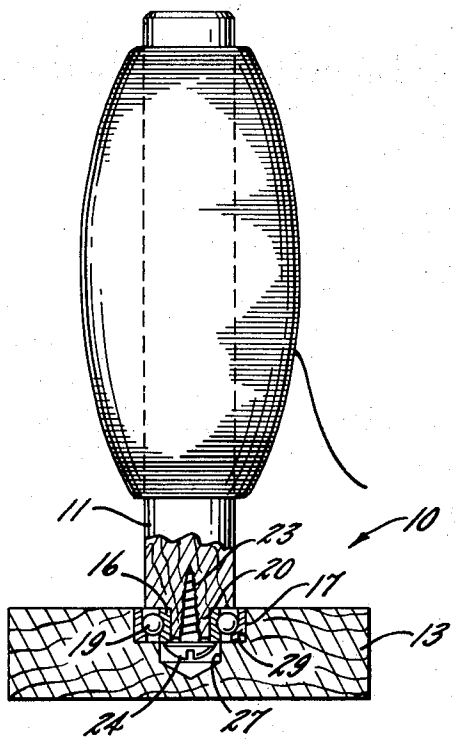


Fig. 1.

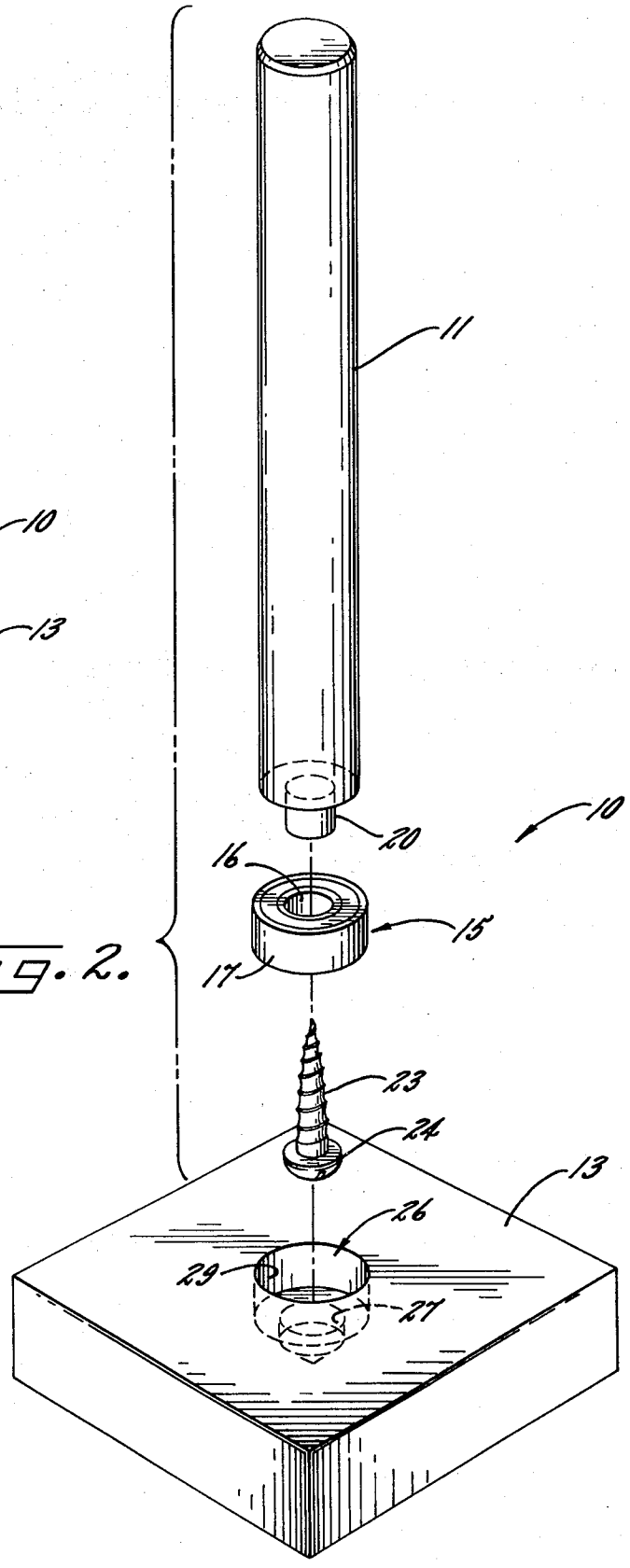


Fig. 2.

YARN HOLDER

BACKGROUND OF THE INVENTION

This invention relates to a yarn holder and, more particularly, to a yarn holder of the type in which the yarn is adapted to be wound around and then pulled from a generally cylindrical roller which is rotatably journaled on a supporting base by means of an anti-friction bearing. A yarn holder of this general type is disclosed in Sammons U.S. Pat. No. 2,491,585.

SUMMARY OF THE INVENTION

The general aim of the present invention is to provide a new and improved yarn holder of the above general character in which the roller may be more easily disassembled from the base to facilitate fast and easy winding of the yarn on the roller.

A more detailed object is to achieve the foregoing through the provision of a yarn holder in which the anti-friction bearing is captivated on the roller in such a manner as to enable the two to be detached from the base simply by pulling the roller endwise away from the base.

The invention also resides in the unique manner of captivating the bearing on the roller and of seating the bearing in the base.

These and other objects and advantages of the invention will become more apparent from the following detailed description when taken in conjunction with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a side elevational view of a new and improved yarn holder embodying the novel features of the present invention, parts being broken away and shown in section.

FIG. 2 is an enlarged exploded perspective view of the yarn holder shown in FIG. 1.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

As shown in the drawings for purposes of illustration, the invention is embodied in a yarn holder **10** having an elongated cylindrical roller **11** which is rotatably journaled on a generally flat supporting base **13**, both the roller and the base herein being made of wood. Yarn or the like is wound in a ball around the roller and, as the yarn is drawn off of the ball during knitting, the roller rotates on the base to allow the yarn to unwind freely without need of tugging or jerking on the yarn and without danger of the yarn becoming tangled. To enable free rotation of the roller, the latter is mounted on the base by means of an anti-friction bearing **15**.

In accordance with the present invention, the bearing **15** is uniquely captivated on the roller **11** and is adapted to be seated snugly but removably in the base **13** so that the roller can be easily disassembled from the base for the purpose of facilitating initial winding of the yarn on the roller. With the present arrangement, the roller and the bearing may be detached from the base simply by pulling the roller endwise away from the base and then, after the yarn has been wound around the detached roller, the latter may be quickly reassembled in its operative position on the base.

More specifically, the anti-friction bearing **15** which is used herein comprises ring-like inner and outer races

16 and **17** which are separated by a train of balls **19** serving to support the inner race for substantially friction-free rotation relative to the outer race. The inner race is telescoped over and press-fitted onto a reduced diameter spindle **20** which is rigid with the lower end of the main body of the roller **11**. By virtue of the press fit, the inner race rotates within the outer race when the roller is turned and thus the roller is supported for free rotation by the bearing balls **19**. To captivate the bearing axially on the roller, a wood screw **23** extends through the inner race **16** and is threaded into the spindle **20**, the screw including a lower head **24** which engages the inner race and holds the latter against the shoulder defined at the junction of the spindle with the main body of the roller.

In carrying out the invention, an upwardly opening recess **26** (FIG. 2) is formed in the upper side of the base **13** for removably receiving the bearing **15** and the screw **23**. Herein, the recess includes a lower hole **27** which is sufficiently large to receive the head **24** of the screw with free rotatable clearance and thus avoid binding of the head against the walls of the hole when the roller **11** is rotated. Located immediately above the hole **27** is an enlarged cylindrical hole **29** whose bottom is substantially flat and whose depth is approximately equal to the height of the bearing. The diameter of the hole **29** is just slightly greater than the diameter of the outer race **17** and thus the latter may be seated snugly in the hole to hold the roller securely in an upright position on the base. In spite of such secure holding, the fit between the outer race and the hole **29** is such that the bearing is telescoped removably into the hole and may be pulled out of the hole by pulling the roller endwise away from the base.

From the foregoing, it will be apparent that the present invention brings to the art a new and improved yarn holder **10** with a roller **11** which may be easily detached from the base **13** without need of loosening any parts and without need of separating the roller from its supporting bearing **15**. With the roller detached from the base, the yarn can be wound around the roller quickly and easily without the winding action being obstructed or encumbered by the base and, after the winding has been completed, the roller can be re-assembled to the base simply by inserting the bearing into the hole **29**.

I claim as my invention:

1. In a yarn holder, the combination of, a cylindrical roller having a main body and having a reduced diameter lower end portion, an anti-friction bearing having an inner race and having an outer race spaced radially outwardly from and rotatable relative to said inner race, said lower end portion of said roller being telescoped into said inner race with a press fit so as to turn with the inner race, a headed screw extending axially through the inner race of the bearing and threaded into the lower end portion of the roller to hold said bearing on said roller, a generally flat base, and a recess opening upwardly out of the upper side of said base for removably receiving said bearing and said screw to hold said roller on said base while permitting disassembly of the two by pulling the roller endwise away from the base, said recess being defined by a lower hole sized to receive the head of said screw with free running clearance and by an enlarged upper hole sized to telescopically receive said outer race with a snug fit.

2. In a yarn holder, the combination of, an elongated roller of circular cross-section having a main body and

having a reduced diameter lower end portion, an anti-friction bearing having an inner race and having an outer race spaced radially outwardly from and rotatable relative to said inner race, the inner race of said bearing being telescoped non-rotatably over and captivated on the lower end portion of said roller, a generally flat base, and a generally flat bottomed hole opening out of the upper side of said base and sized to snugly but releasably receive and seat the outer race of said bearing thereby to hold said roller on said base while permitting disassembly of the two by pulling the roller endwise away from the base.

* * * * *