United States Patent

[11] 3,612,427

[72] Inventors **John M. Bishop**
Orange;
Emmet F. Simon, Garden Grove, both of Calif.

[21] Appl. No. **15,451**
[22] Filed **Mar. 2, 1970**
[45] Patented **Oct. 12, 1971**
[73] Assignee **The Conolon Corporation**

[54] **FILAMENT DISPENSER**
4 Claims, 4 Drawing Figs.

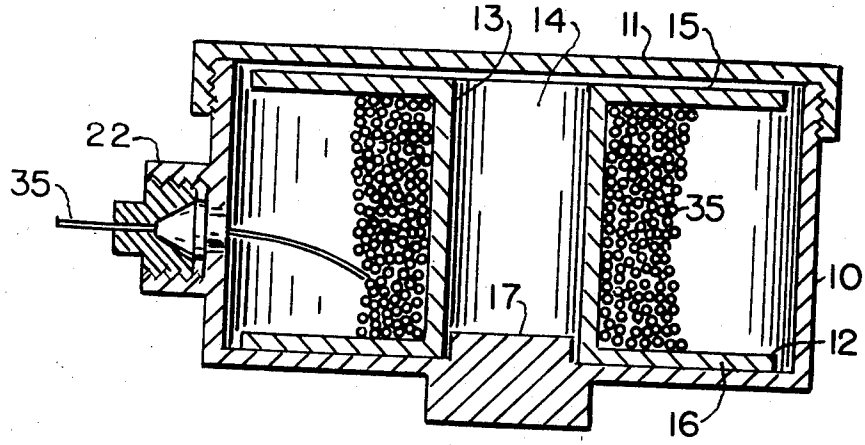
[52] **U.S. Cl.** **242/137.1,** 242/172
[51] **Int. Cl.** **B65h 49/18**
[50] **Field of Search** ..... 242/54 R, 128, 129, 129.62, 129.8, 129.71, 137.1, 138, 141, 146, 172; 1 18/78, 420

[56] **References Cited**
UNITED STATES PATENTS

3,018,975	1/1962	Kulicke, Jr.	242/54 R
3,232,557	2/1966	Winn, Jr.	242/146
3,462,098	8/1969	Sommo	242/129.8
3,521,834	7/1970	Kauffman	242/129.72

Primary Examiner—Leonard D. Christian
Attorney—J. Bradley Cohn

ABSTRACT: A filament is disposed in a liquidtight container wrapped about a spool which is free to rotate therein, the filament passing through a dispensing nozzle fixed in the side of the container, the dispensing nozzle having an outward-facing conical block of deformable plastic containing a filament passage and the dispensing nozzle also having a pressure plug turned inward about the conical block compressing it about a filament passing therethrough.



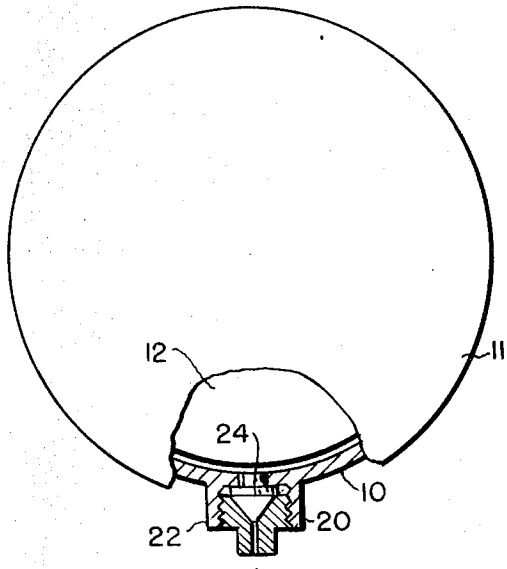


FIG. 1

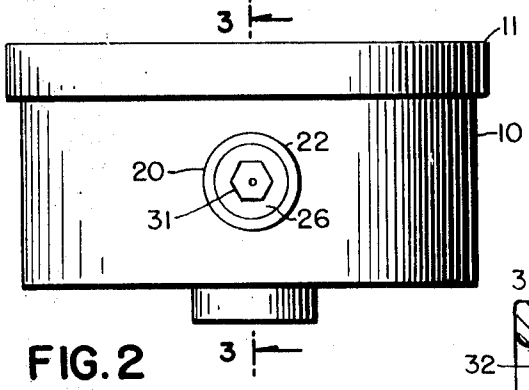


FIG. 2

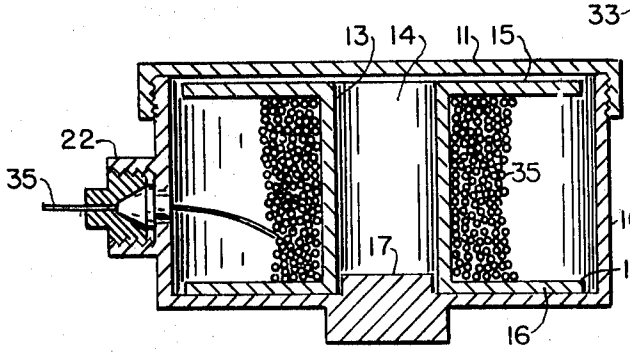


FIG. 3

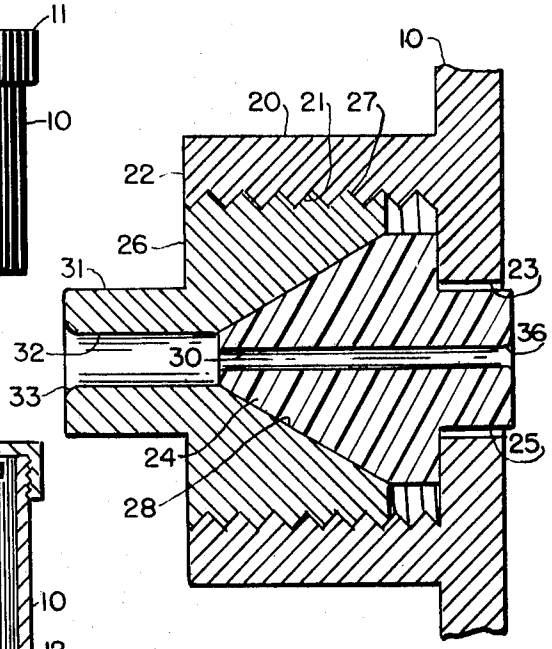


FIG. 4

INVENTORS:
JOHN M. BISHOP
EMMETT F. SIMON
BY
ATTORNEY

FILAMENT DISPENSER

BACKGROUND OF THE INVENTION

In a rod-wrapping machine such as that shown in our U.S. Pat. No. 3,448,506, a filament or yarn **110** is shown drawn from a bobbin **109** in FIG. **15**. The bobbin and the yarn wound thereon are usually presoaked in an air-drying liquid such as lacquer so that the wound yarn will be firmly fixed in place on a fishing rod or the like. Exposed yarn on bobbins tends to dry out and otherwise proves difficult to handle.

SUMMARY OF THE INVENTION

A cylindrical container with a liquidtight screw top contains a spool about which is wound a filament which is dispensed through a dispensing nozzle in the side of the container. The dispensing nozzle contains an outward facing conical block of deformable plastic containing a filament passage through which the filament passes. A pressure plug is screwed down over the conical block to compress it about a filament passing therethrough.

This construction allows the tightening of the pressure plug to compress the conical block to maintain an exact desired tension on a yarn of filament being dispensed. Further, this construction allows the container to be filled with a lacquer or an air-curing fluid with complete control of the amount of fluid coating the yarn being dispensed. Loosening of the pressure plug allows a more moistened yarn to be wound; tightening of the pressure plug squeezes fluid from the yarn.

BRIEF DESCRIPTION OF THE DRAWING

FIG. **1** is a top view of a filament dispenser according to this invention with a fragment of the container broken away in horizontal section to show interior construction of the dispenser nozzle;

FIG. **2** is a front view of the filament dispenser;

FIG. **3** is a section taken on line **3—3** of FIG. **2**; and

FIG. **4** is an enlarged section through a fragment of the wall of the filament dispenser containing the dispensing nozzle.

DESCRIPTION OF THE PREFERRED EMBODIMENT

A cylindrical bobbin container **10** has a lid **11** which is screwed or otherwise secured in place with a fluidtight seal. A spool or bobbin **12** has a cylindrical center **13** containing a hollow **14** and two flanges **15** and **16**. A central projection **17** of container **10** extends into hollow **14** of bobbin **12** to rotatively center it in container **10**. An outward projection **18** is used to locate container **10** when it is installed in the sector gear of a rod-wrapping machine.

Projecting from the wall of container **10** is a circular wall **20** containing internal threads **21**. Wall **20** extends about a smaller aperture **23** formed in container **10**. A conical compression block **24** of plastic is disposed within wall **20** and has a rear shank **25** which extends into aperture **23**. A pressure plug **26** having external threads **27** is screwed into wall **20**. Plug **26** contains a conical cavity **28** which seats over the conical front surface of block **24**. Block **24** contains a through passage **30** slightly larger than the filament or yarn to be dispensed. Plug **26** has a hexagonal protruding center portion **31** by which it is turned into wall **20** and it contains a larger longitudinal passage **32** to accommodate a filament with a moderate clearance. Wall **20**, block **24**, and plug **26** comprise the dispensing nozzle **22**.

When a filament **35** is wound on a spool **12** to be dispensed through nozzle **22** as shown in FIG. **3**, the tightening of plug **26** compresses block **24** to constrict the front portion of passage **30** to set the tension of filament **35** and to regulate the amount of lacquer or fluid dispensed with filament or yarn **35**. Lacquer or other fluid (not shown) may be placed in container **10** to treat the yarn disposed therein. Block **24** may be made of nylon or any other compressible plastic or the like. The inner end of passage **30** is rounded at **36** to facilitate the smooth passage of a filament as is the outer end of passage **32** at **33**.

The filament dispenser of this invention allows yarn **35** soaked in lacquer or the like to be stored for long periods of time. It also allows the exact control of fluid being dispensed on a yarn **35** to enable rods to be more neatly and securely wound without drippings from excess fluid or winding with too dry a yarn.

What is claimed is:

1. A filament dispenser for use with a rod-wrapping machine having a sector gear on which said filament dispenser is mounted, said sector gear moving said filament dispenser about a rod to be wrapped, said filament dispenser comprising, in combination, a fluidtight container containing an aperture, a spool rotatably disposed within said container having filament wound thereon, and a filament-dispensing nozzle on said container disposed about said aperture, said nozzle having a compression block of deformable plastic disposed over said aperture in said container, said block containing a longitudinal passage larger than said filament extending therethrough, and a pressure plug containing a longitudinal passage aligned with the passage in said block accommodating said filament, said plug being adapted to be screwed inward against said block compressing said block and said passage therein about said filament.

2. The combination according to claim **1** wherein said compression block has an outward-facing conical portion and said pressure plug contains an inward-facing conical portion receiving said outward-facing conical portion of said block therein.

3. The combination according to claim **2** wherein said block has a rear shank extending into said aperture in said container, said conical portion of said block being larger than said aperture.

4. The combination according to claim **3** with the addition of a circular wall disposed about said aperture in said container, said plug being screwed into said circular wall against said compression block, said plug having a center portion extending beyond said circular wall.