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(54) **Bobbin with inserts**

(57) Bobbin with inserts which it comprises a cylinder (3), a cavity (1) in the inner part of said cylinder, which it crosses the bobbin from one end to the other, flanges (2) and means (4) for their fixation in a bobbin

hand, located in the same flange, and that moreover includes in the mentioned cavity (1) at least a protector element (5), protecting said cylinder (3) in at least a part of its inner cavity (1).

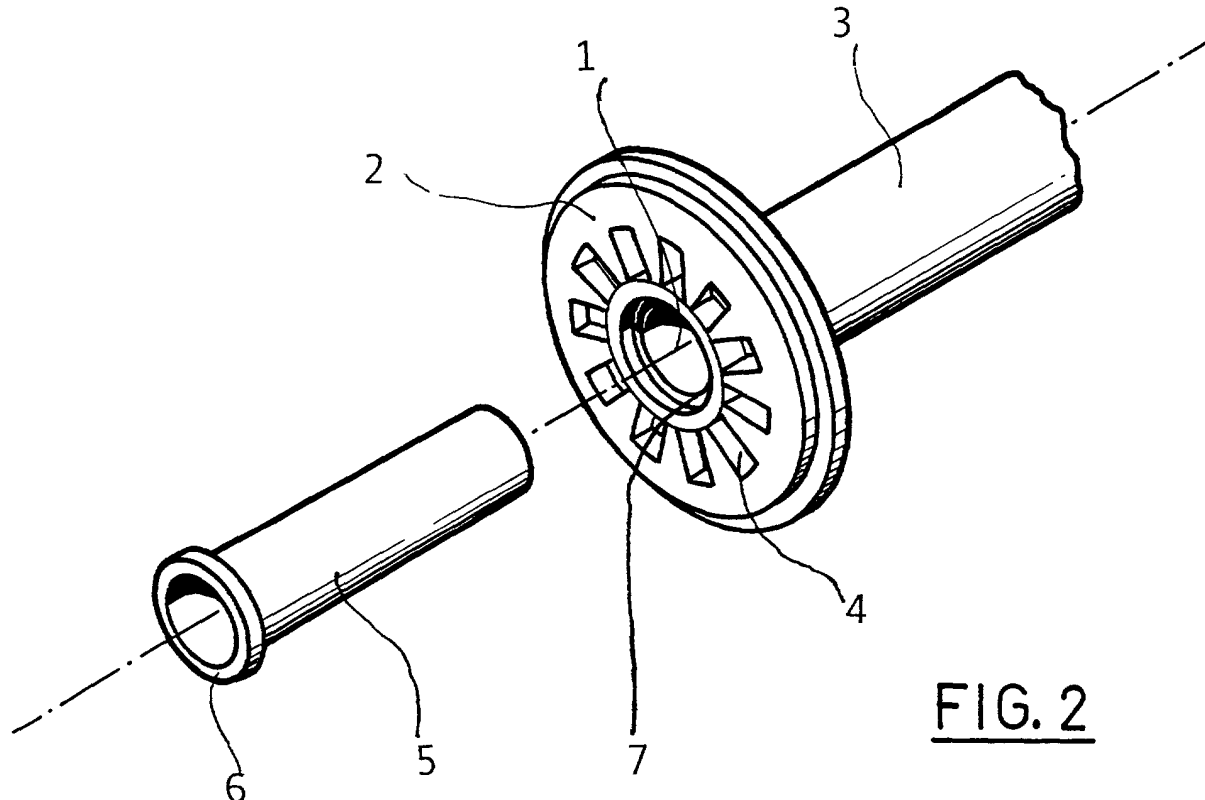


FIG. 2

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Description

[0001] Bobbin with inserts which it comprises a cylinder, a cavity in the inner part of said cylinder, which it crosses the bobbin from one end to the other, flanges and means for their fixation in a bobbin hand, located in the same flange, and that moreover includes in the mentioned cavity at least a protector element, protecting said cylinder in at least a part of its inner cavity.

BACKGROUND OF THE INVENTION

[0002] The present invention refers to a bobbin with inserts, which it supports essential characteristics of novelty and great advantages in respect to the known and used means for the same purposes in the actual prior art.

[0003] Common used bobbins have the inconvenient that after to spin around the bobbin hand during a lot of time, as a consequence of the friction of the bobbin hand with the cylinder, the last one erodes and starts to peel in the bobbin hand mismatching all the device, making useless the fix function of the fixing means to the bobbin hand.

[0004] In the other hand if a more resistant material against the erasure is used in the bobbin, this one at the end, erases the bobbin hand.

BRIEF SUMMARY OF THE PATENT APPLICATION

[0005] The present invention is a solution of the great problems above mentioned in the background of the invention.

[0006] So, the inventor has planned to place a bushing in the flange in order to avoid that the erasure produced in the inner part of the cylinder and in the same flange, wears out said elements as well as produces damages in the machinery used.

[0007] It is necessary to point out that there are great advantages with the use of the referred bushing. In one side it avoids the erasure of the axe of the bobbin hand, which it is often made of metal, and with this fact to avoid the grits or filings produced, which they place in all the elements, provoking a higher erosion.

[0008] Moreover it avoids the erasure in the same bobbin, in such a way that as there is not any erasures, this (bobbin) does not swing (as a consequence of the erasure) and neither the bobbin or reel or the bobbin hands do not damage.

[0009] For this reason the object of the present invention avoids damages in the same bobbin, which it is not necessary to throw away, as in the same bobbin hand device, which it is not erased and furthermore it is not damaged.

[0010] As it is easy to guess the cost of a bushing is infinitely lower in comparison to the cost of a bobbin hand rod or the same bobbin.

BRIEF DESCRIPTION OF THE DRAWINGS

[0011] In order to facilitate the explanation a sheet of drawings is attached to the present description, where there is represented a practical case, which it is showed as an example, non limitative to the scope of the present invention.

[0012] In said sheet of drawings:

- 10 - Figure 1 shows a section sight of the mentioned bobbin or reel.
- Figure 2 is a detail of the flange, bushing and cylinder.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENT

[0013] Figure 1 it is possible to observe the referred bobbin, where it is seen a cylinder (3), with two flanges, each one at the edge of it (bobbin), and means (4) for fixing the bobbin to a bobbin hand.

[0014] The reel or bobbin is crossed, from flange to flange (2) and for the inner part of the mentioned cylinder (3), by a cavity (1), where two bushings (5, 5') are inserted, one for each flange, that said bushings moreover have portions (6), to fit into a recess (7) which it is located in the flange (2) of the bobbin.

[0015] Figure 2 it is possible to observe the bushing (5) and its portion (6), completely out of the inner part of the cavity (1). It is observed the cylinder (3), the flange (2), the means (4) for fixing to the bobbin hand and the recess (7) of the flange too.

[0016] In this way it is introduced the bushing (5) in the cavity (3), through the hole existing in the flange (2), inserting the portion (6) of the mentioned bushing (5) (manufactured in a compound, which it contains acetal or polyamide) into the recess (7) located in the flange (2) of the bobbin, in such way that the referred bushing (5) remains completely inserted into the inner part of the bobbin.

[0017] Later it is put the bobbin in a bobbin hand (not shown in the drawings), in such way that the rod or stick of the bobbin hand goes through the inner part of the bushing (5) and for the cavity (1), and moreover said bobbin hand fixes to the means (4) of fixation located in the flange of the bobbin.

[0018] Once the bobbin is fixed in the bobbin hand, it (bobbin hand) starts to spin by a conventional device. In the case that after the continuous use of the mentioned bushing (5) it was erased, simply it is removed and inserted a new one, preserving the bobbin and the bobbin hand.

[0019] The present invention describes a new bobbin with inserts. The examples which they are mentioned here are not limitations of the present invention, for this reason it will be able to have different applications and/or adjustments, all of them included in the scope of the following claims.

Claims

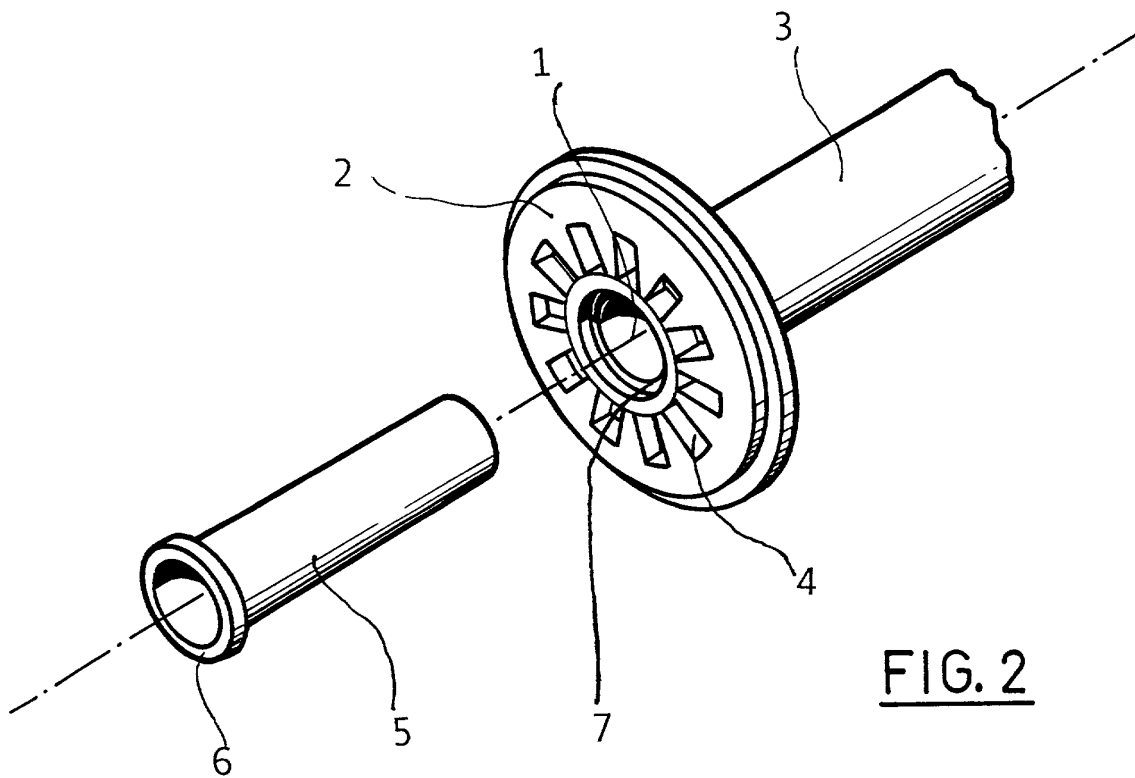
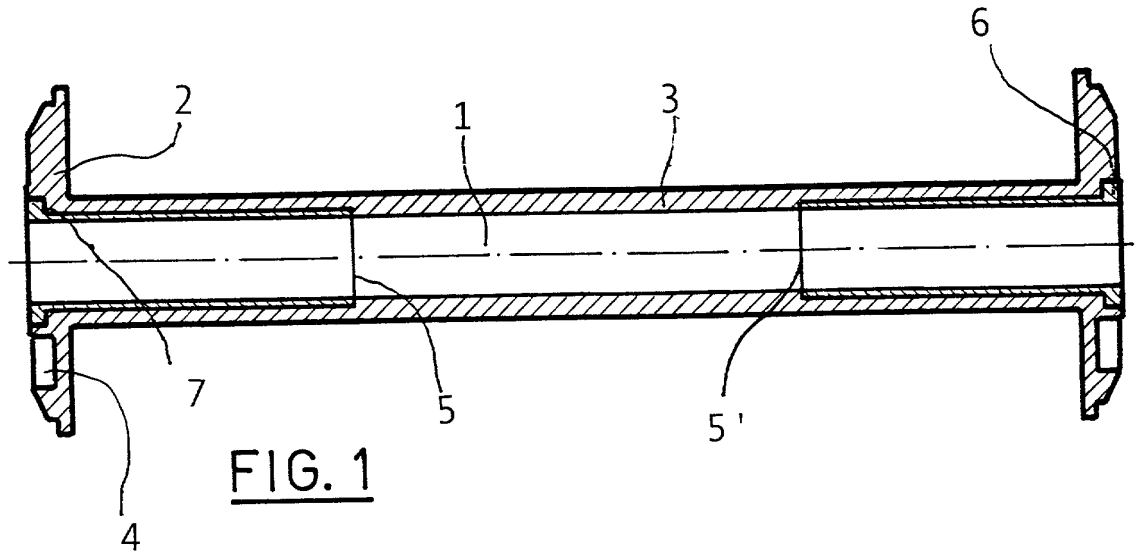
1. Bobbin with inserts which it comprises a cylinder (3), a cavity (1) through the inner part of said cylinder (3), which it crosses the bobbin from one end to the other, at least a flange (2) and means (4), in the referred flange (2), which it is at least one, for fixing the bobbin in the bobbin hand **characterized** because it includes in said cavity (1) at least a protector element (5), as a cylinder, protecting the referred cylinder (3) at least in a part of the inner part of its cavity (1). 5 10
2. Bobbin in accordance to claim 1 characterized because the referred protector element (5) is a bushing. 15
3. Bobbin in accordance to claim 2 characterized because the referred bushing (5) is removable. 20
4. Bobbin in accordance to claim 3 characterized because the bushing is located at the beginning of the flange (2), in one of the ends of the cavity (3). 25
5. Bobbin in accordance to the claim 4 characterized because the mentioned bushing (5) includes in at least one of its ends a portion (6) which it is adjusted in a recess (7) which it is located in the flange (2) of the bobbin, once the bushing (5) is introduced in the inner part of the cavity (3). 30
6. Bobbin in accordance to claim 5 characterized because it includes two bushings (5, 5'). 35
7. Bobbin in accordance to at least one of the previous claims characterized because the mentioned bushing (5) contents acetal or polyamide. 40

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EUROPEAN SEARCH REPORT

Application Number
EP 01 50 0027

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
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			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			B65H
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 4 July 2001	Examiner D'Hulster, E
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document I : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

EPO FORM 1503 03/82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 01 50 0027

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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04-07-2001

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