

May 10, 1932.

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BOBBIN PROTECTOR

Filed Nov. 1, 1929

Fig. 1.

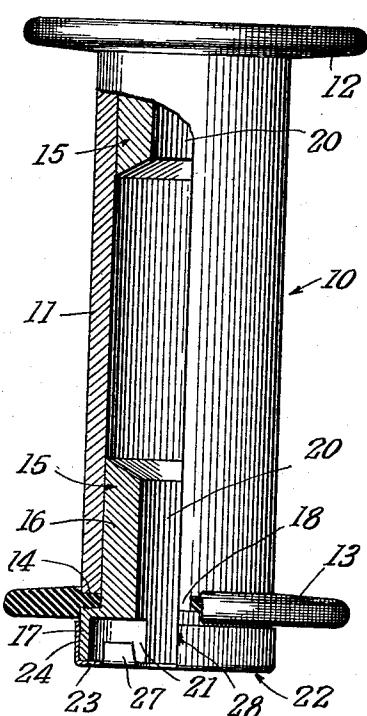


Fig. 3.

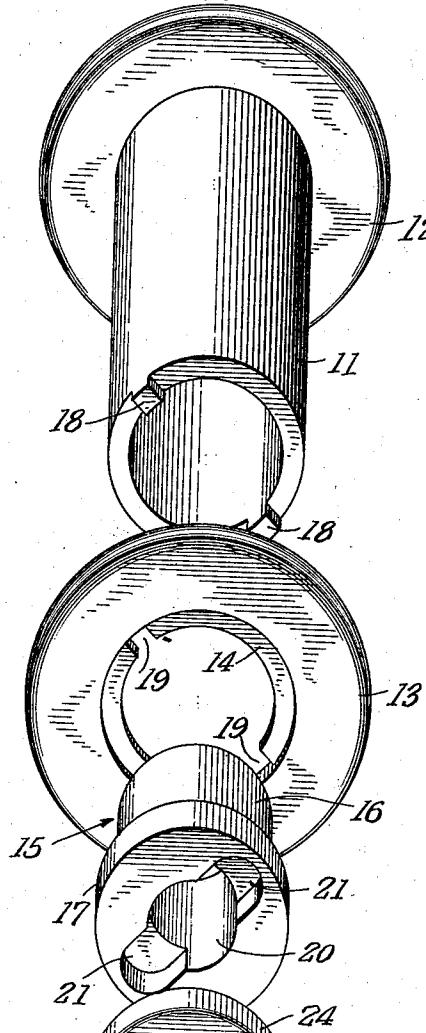
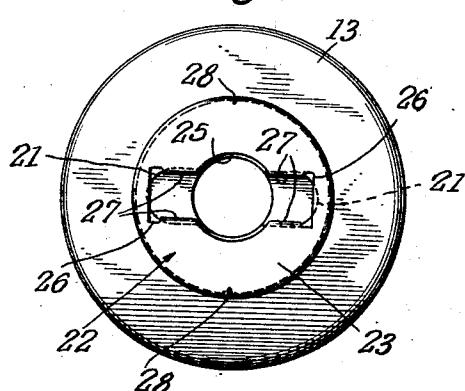


Fig. 2.



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BOBBIN PROTECTOR

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This invention relates to a bobbin protector or guard and more particularly to a protector applied to a bobbin at one end considered as the base and adapted to cooperate with a suitable driving spindle in effecting a suitable driving connection between the bobbin and the spindle.

An important object of the invention is to provide a novel bobbin protector which will be especially effective to protect the bobbin end, and will also be conducive to an effective driving connection between the bobbin and a driving spindle. Another object is to provide a device of this character which will be simple in structure and economical to manufacture.

Other objects and advantages will be apparent upon consideration of the following description and of the accompanying drawings in which:

Fig. 1 is a front elevation, partly in section, illustrating a bobbin embodying my invention;

Fig. 2 is a bottom view of the bobbin shown in Fig. 1; and

Fig. 3 is a perspective view showing the parts in exploded or separated relation.

The objects of the invention may be attained in a preferred manner by applying a bobbin protector or guard, such as illustrated in the drawings, to a central cylindrical projection extending outwardly beyond the outer surface of the adjacent spool end. Preferably this central projection is the outer end of a bush or bushing used to attach the adjacent head or bobbin to the barrel of the bobbin. This bush at the base of the bobbin has a central bore to receive the straight portion or shaft of a driving spindle and is recessed at its outer end to receive driving projections on the spindle adjacent to the base thereof. (This spindle structure is not shown but may be of a usual form.)

Preferably such recessed end is formed with recesses communicating with the central bore at opposite sides thereof so that in connection with the outer end of said central bore they form a single slot which preferably does not extend to the periphery of the cylindrical central projection.

The protector is preferably in the form of a circular portion or plate of suitable diameter to cover the end of the central projection of the spool and has at its periphery an inwardly extending flange fitting around the lateral surface of said projection and serving both to center the protector on the projection but also to prevent separation of parts at the outer end of the bushing.

The circular portion of the protector is slotted to form an opening to register with the central bore of the bush and with recesses in the outer end of the bush at the side of the central bore; and may be provided with means to assist in placing the slot in the circular portion of the protector in register with the openings in the end of the bush, the means for determining such positioning consisting of tabs or tongues attached to the circular portion of the protector and engaging the side walls of the recesses in the end of the bush.

The protector may be held on the bush in any suitable manner as, for example, by forming in said flange a sufficient number of pin pricks projecting into said bush and cooperating with the material of said bush to hold the protector in position.

Referring to the drawings, 10 designates a bobbin or spool, having a barrel 11, preferably of wood, and heads 12 and 13 preferably secured thereto at its ends. As illustrated in Figs. 1 and 3, the head 13 is substantially flat and annular with the central opening of substantially the same diameter as the bore at the adjacent end of the barrel. The head 13 is also formed at its inner face with an annular recess to receive the adjacent end of the barrel and also with a corresponding recess at the outer face of the head, thus providing an internal flange 14 at the central opening of the head 13.

The head 13 may be held on the end of the barrel merely by use of a bush or bushing 15 having a tapered portion 16 forced through the central opening of the head and into the bore at the adjacent end of the spool, and a head 17 fitting into the recess at the outer side of the flange 14. Preferably glue is applied so that when the bushing is forced into

the end of the barrel it will be held in such position by the glue as well as by the pressure between the parts. To assist in positioning the parts and maintaining them in proper relative position the barrel 11 may be provided with longitudinal projections or tongues 18 adapted to enter corresponding recesses 19 in the flange 14.

The head 12 may be secured to the barrel 10 in substantially the same manner as the head 13 but as here shown the bush securing the head 12 is shown finished with its outer end flush with the outer face of the corresponding head of the bobbin, whereas the bush 15 15 at the base or driving end of the bobbin is finished so that its head constitutes a central cylindrical extension of the spool. The bushes 15 at the ends of the bobbin have aligned central bores 20 to receive the driving spindle and the head 17 of the bushing at base of the bobbin is provided at its outer end and at opposite sides of the central bore with countersunk recesses 21 preferably communicating with said bore and extending part way 25 from the central bore to the periphery of the outer end of said extension, such recesses 21 being provided to receive projections or parts (not shown) connected rigidly with said spindle (not shown) adjacent to its base and 30 serving to effect a driving connection between the spindle and a suitable spool placed thereon.

According to the preferred form of the invention, the bobbin protector 22 is made of sheet metal with a circular portion 23 extending across the end of the central cylindrical extension formed by the head 17 of the bush at the driving end of the bobbin, and with an annular flange 24 fitting around the head 17 40 and extending toward the head 13 of the bobbin. The circular portion 23 of the protector is cut out to form a slot 25 having a central spindle receiving portion and end portions 26 to register with said countersunk recesses 21.

In forming the end portions 26 of the slot 25, part of the metal extending across these portions may be formed into tabs or tongues 27 turned back from the plane of said central portion 23 to cooperate with the sides of said recesses 21 in the outer end of the bobbin extension and serve to position the protector on the projection of the bobbin and also to protect the sides of the recesses against wear which would result from direct contact between the wood and the driving portions of the spindle.

The protector may be secured to the extension in any suitable manner, for example, by means of a suitable number of projections 28 (which may be formed by pin pricks) extending from the flange 24 into the wood of the bobbin extension.

It will be seen that the flange 24 serves both for centering the protector 22 and for

retaining it in position on the bobbin extension, as well as for protecting the extension against splitting, and that the tongues 27 serve to position the protector on the bobbin extension so that the slot 25 of the protector 70 will be in register with the openings in the end of the bobbin extension.

It should be understood that changes may be made in the construction and arrangement of the parts and certain parts may be 75 used without others without departing from the true spirit and scope of the invention.

Having thus described my invention, I claim:

1. The combination with a bobbin having 80 a barrel, two ends and a central extension beyond one of said ends, said bobbin having a central longitudinal bore to receive a driving spindle having projections connected therewith and extending longitudinally 85 thereof at the sides and said central extension having recesses to receive said projections on said spindle and said recesses extending from said central longitudinal bore to points spaced inwardly from the lateral 90 surface of said extension, of a protector for said extension including an annular flange extending around the lateral surface of said central extension of the bobbin and a part attached to said flange and extending across 95 the end of said extension and provided with a central opening to receive the shaft of the spindle and laterally extending openings in register with said recesses in the outer end 100 of said central extension of the bobbin.

2. The combination with a bobbin having an axial bore and including a barrel and a central extension at one end provided with slots extending radially from the bore to points spaced inwardly from the lateral surface of said central extension, of a protector for said extension including an annular flange extending around the lateral surface of said central extension and a circular part attached to said flange and extending across the end 110 of said extension, said circular part having a central opening and radial openings to register with said slots in the central extension of the bobbin and tongues projecting into 115 said slots from the side edges of said radial openings.

In witness whereof, I affix my signature.

BERNARD FENTON MACK.

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125.

120.