

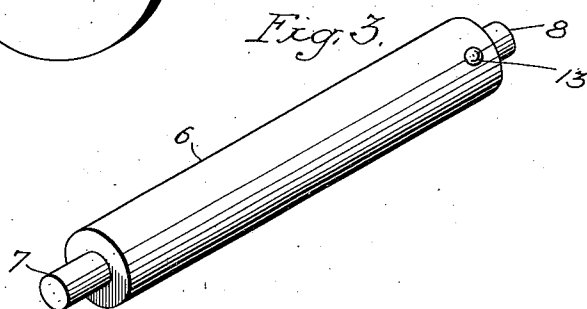
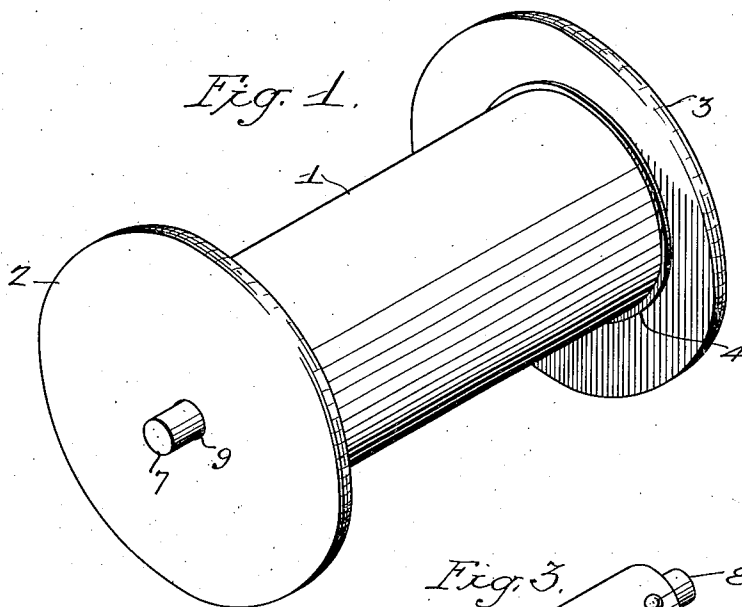
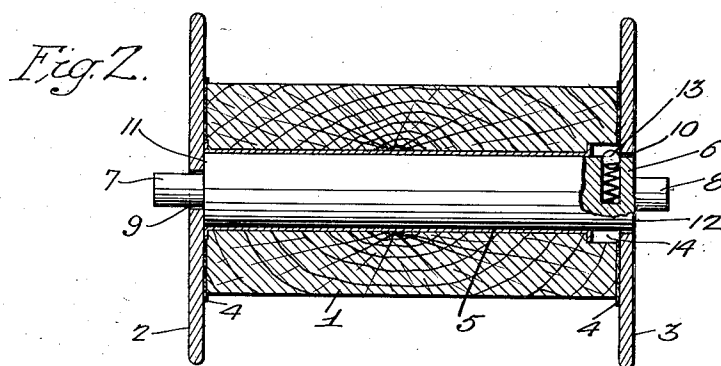
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1,994,612

VARIABLE WEIGHT TAKE-UP BOBBIN

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1,994,612

VARIABLE WEIGHT TAKE-UP BOBBIN

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1 Claim. (Cl. 242—118)

This invention relates to improvements in bobbins, and has for its principal object the provision of a bobbin of generally improved form and characteristics wherein the gudgeon pin is detachable.

Another object of the invention is to provide a bobbin of the stated character wherein the gudgeon pin is readily detachable by means avoiding the necessity for handling the pin.

Still another object of the invention is to provide a bobbin of the character set forth wherein the gudgeon pin is normally tightly held in the bobbin by means providing for quick and easy detachment of the pin from the bobbin.

The invention further resides in certain structural details hereinafter set forth and illustrated in the attached drawing, in which:

Figure 1 is a view in perspective of a bobbin made in accordance with our invention;

Fig. 2 is a longitudinal sectional view of the bobbin, and

Fig. 3 is a view in perspective of the gudgeon pin.

With reference to the drawing, a bobbin made in accordance with our invention may comprise the usual cylindrical barrel or body portion 1 having secured to or formed at each end flanges 2 and 3 respectively. When the flanges 2 and 3 are formed separately from the barrel, as in the illustrated embodiment of our invention, a felt or like washer 4 is preferably confined between the head flanges and the ends of the barrel to close the joint between these elements.

The barrel 1 is provided in the present instance with a central longitudinal cylindrical bore provided with a sleeve 5, this bore being adapted for reception of a cylindrical gudgeon pin 6 of the form illustrated in Figs. 2 and 3. This pin is provided at each end with a reduced extension, 7 and 8 respectively, which in assembly project beyond the outer faces of the head flanges 2 and 3, as shown in Fig. 2, to afford the effective trunnions for mounting the bobbin.

The head flange 2 is provided with an opening 9 for passage of the extension 7, while the head flange 3 is provided with an opening 10 of sufficient diameter to admit the enlarged body portion of the pin 6 to the interior of the barrel. When fully inserted the shoulder 11 of the pin abuts the inner face of the head flange 2, while the corresponding shoulder 12 at the opposite end of the pin lies substantially flush with the outer face of the head flange 3. The shoulder 11 in effect constitutes a stop limiting the insertion movement of the pin and determining the fully-

inserted position of the pin in the bobbin. The pin extension 7 is longer than the extension 8 by the thickness of the head flange 2 so that the two extensions project equal distances from the outer faces of the head flanges.

Adjacent one end of the body of the pin 6 we provide a suitable detent 13 taking the form in the illustrated embodiment of a spring-pressed ball which projects beyond the cylindrical surface of the pin. When the gudgeon pin is fully inserted in the barrel of the bobbin, this detent occupies a recess 14 formed in the interior of the barrel at the end thereof and adjoining the head flange 3, and the detent 13 is so arranged that when the shoulder 11 at the opposite end of the gudgeon pin engages the inner face of the head flange 2, the detent lies immediately adjacent the inner face of the head flange 3, thereby preventing accidental retraction of the gudgeon pin and holding it tightly in place within the barrel.

When it is desired to remove the gudgeon pin, it is only necessary to hold the barrel with the head flange 2 uppermost, and thereafter to exert pressure upon the end of the projecting extension 7 to force the detent 13 past the head flange 3, it being noted that the length of that portion of the pin extension 7 which projects beyond the head flange 2 is greater than the distance between the detent and the outer face of the head flange 3. When thus released, the pin drops freely from the bobbin barrel. The operation is an extremely rapid one and avoids contamination of the fingers of the operator and possible subsequent soiling of the silk or yarn upon the bobbin by coming in contact with the body of the gudgeon pin which frequently carries grease or dirt. Thus we have provided a detachable gudgeon pin which while securely held in position in the bobbin may be readily removed from the bobbin by pressure on one end of the pin which may be exerted if desirable without the necessity of the operator touching the pin, all danger of possible soiling of the contents of the bobbin by grease or dirt transferred from the gudgeon pin being thereby eliminated.

It will be noted that with the gudgeon pin in place the bobbin is heavily weighted for spinning operations; and when the pin is removed the bobbin is light in weight and suitable for use as a shipping bobbin and for quilling. The variable weight feature is an extremely desirable one and affords a bobbin of maximum utility having a wide field of application.

It will be understood that there may be con-

siderable modification in the form of the bobbin, of the pin, and of the detent means employed for retaining the pin in position, without departure from the invention.

5 We claim:

10 A bobbin comprising a cylindrical barrel and head flanges secured to the ends of said barrel, said bobbin having a cylindrical bore extending from the outer face of one of said head flanges to the inner face of the other of said flanges, the latter flange having an opening of reduced diameter coaxial with said bore, and said bore having in the wall thereof a recess adjoining the first-named of said head flanges, a gudgeon pin adapted for insertion in said bore, said pin having a body portion neatly fitting the bore and at each end a reduced extension one of which is of greater length than the other and adapted to project

through the reduced opening in the head flange, one end surface of the body portion of said pin when fully inserted in the bore abutting the inner face of the last-named head flange, and the opposite end surface of the said body portion lying substantially flush with the external face of the other of said head flanges, and a resilient detent carried by said pin adjacent one end of the body portion thereof and adapted when the pin is fully inserted to occupy the recess in said bore and to engage the inner face of the adjacent head flange, said detent being releasable to free the pin by axial displacement of the pin to an extent corresponding substantially to the thickness of the head flange engaged by said detent.

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