Oct. 14, 1941. A. C. KIMBIRL ET AL 2,258,768

BOBBIN

Filed April 6, 1939

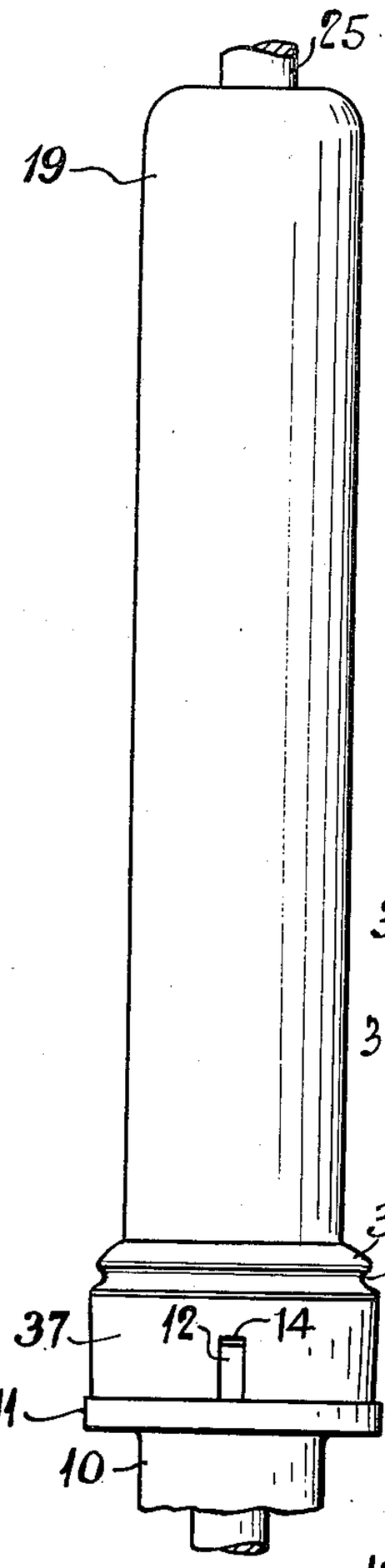

Fig. 1.

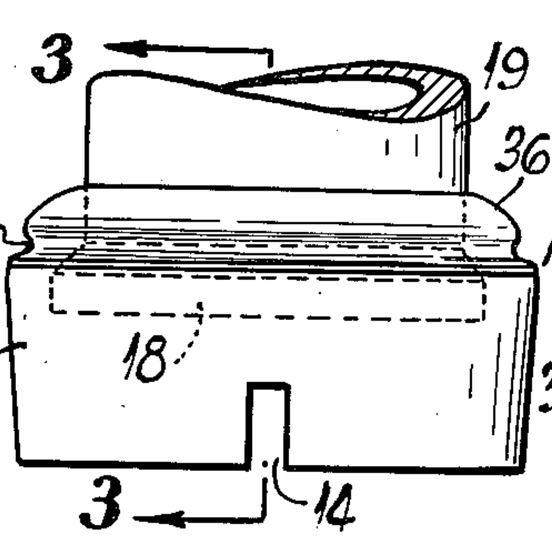

Fig. 2.

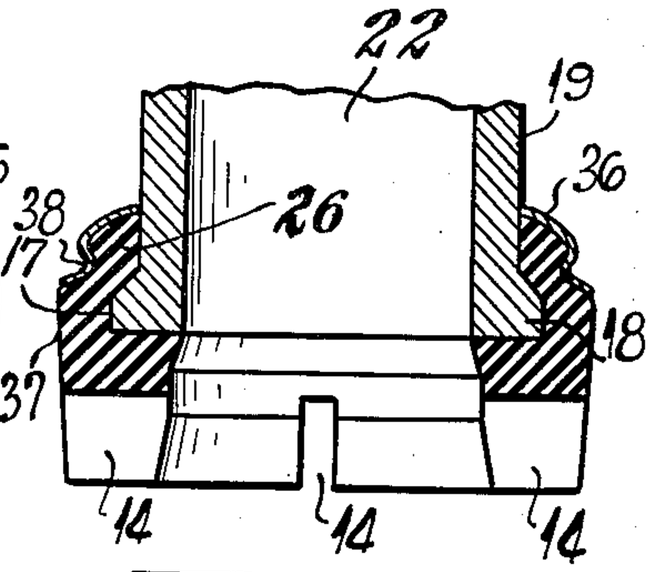

Fig. 3.

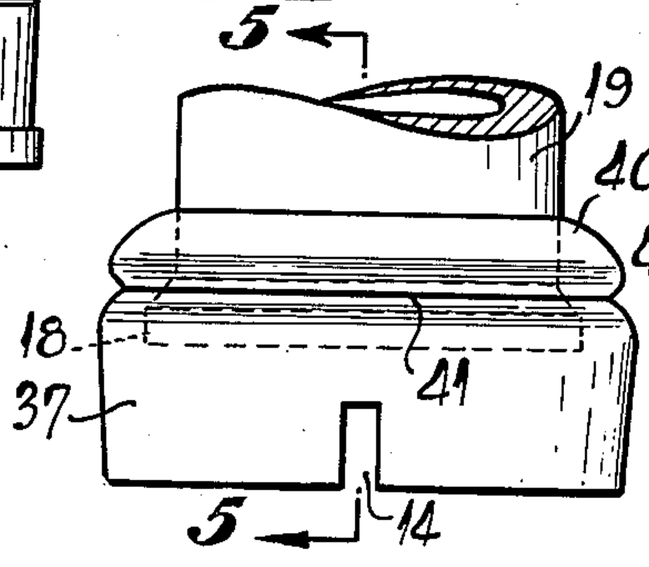

Fig. 4.

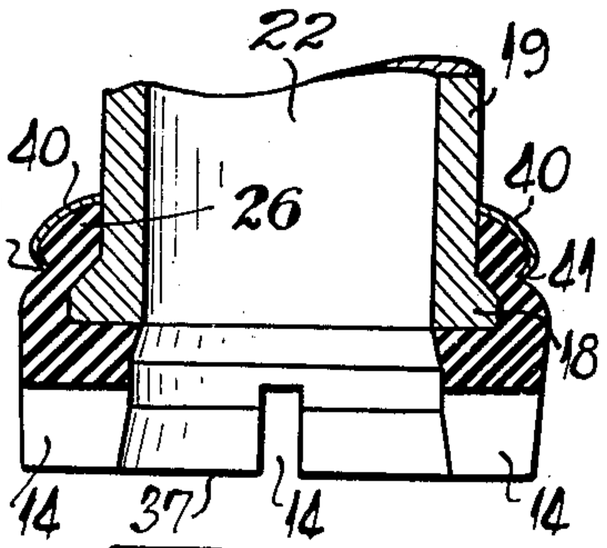

Fig. 5.

Inventors:
AVERY C. KIMBIRL
AND EDGAR A. TERRELL

By Paul B. Eaton
Attorney

Patented Oct. 14, 1941 2,258,768

UNITED STATES PATENT OFFICE

2,258,768

BOBBIN

Avery C. Kimbirl and Edgar A. Terrell, Charlotte, N. C., assignors to The Terrell Machine Company, Incorporated, a corporation of North Carolina

Application April 6, 1939, Serial No. 266,355

3 Claims. (Cl. 242—46.2)

This invention relates to new and useful improvements in a bobbin for textile machinery. More specifically it relates to a bobbin, used on fly-frames having a replaceable resilient base secured to the lower portion of the bobbin barrel.

It comprises also, improvements of the structure disclosed in United States Letters Patent Number 1,958,126 to G. W. Bowen dated May 8, 1934, in that simpler and more easily applied means are provided for attaching the base to the barrel and for removing it therefrom for replacement by a new base, thus extending indefinitely the life of the barrel.

The construction set forth herein may be adapted to the manufacture of new bobbins or the reclamation and repair of old bobbins having sound barrels but worn or damaged bases, capable of being formed to receive new bases of the kind described in this application.

The bobbins in common use are made of wood without protection at the base which is subjected to greater wear than other parts of the bobbin. The bases soon become worn or damaged which makes it necessary to discard the entire bobbin.

It is, therefore, an object of this invention to provide a bobbin for textile machines comprising a barrel portion made of one material, usually wood, and a base made of another material, preferably resilient, said base being removably attached to the lower portion of the barrel. By providing a construction of this kind, smaller blanks can be used for turning the barrel because the larger diameter required to form the base of a wooden bobbin is not needed. There is thus a saving in the cost of material required for the barrel. Moreover, the reason for using certain kinds of hardwood in bobbins is to provide extra strength for the base. Since the base described herein is a separate replacement part; it is obvious that the barrels may well be made of less expensive woods to effect a further saving.

It is the further object of this invention to provide a resilient base for a bobbin provided with reinforcing means integral with the base and with external means on the base for securing the base to the bobbin.

It is the further object of this invention to provide a guard for the protection of the upper portion of the base to prevent the resilient material from coming into contact with external devices for cleaning waste yarn from bobbins.

Some of the objects of the invention having been stated, other objects will appear as the description proceeds when taken in connection with the accompanying drawing, showing a preferred embodiment of the invention, in which—

Figure 1 is an elevation of the invention showing the same mounted upon a driver;

Figure 2 is an elevation of the lower portion of the invention in which a metallic guard is employed for holding the resilient base to the lower end of the bobbin barrel, said guard being crimped into the rubber base to press the same against the periphery of the barrel;

Figure 3 is a sectional view taken along the line 3—3 in Figure 2;

Figure 4 is an elevation of the lower portion of a bobbin showing a modified form of the invention;

Figure 5 is a sectional view taken along the line 5—5 in Figure 4.

Referring more specifically to the drawing, the numeral 10 denotes a driver for a fly frame, said driver having an integral flange 11. A projection 12 extends upwardly from flange 11 and is adapted to fit into any one of a plurality of radially disposed notches 14 in the lower end of resilient base member 37. The member 37 has an annular groove 17 on its interior which fits flange 18 on the lower end of bobbin barrel 19. The barrel 19 has an enlarged bore 22 therein which is adapted to fit around a fixed bolster, not shown, and spindle 25. After the bobbin has been filled and it is desired to remove the same, it is only necessary to lift it and at that time the notch 14 will become disengaged from the projection 12.

It will be noted that the upper portion of the base member 37 (Figures 3 and 5) has an inturned annular lip 26. This lip presses tightly against the periphery of barrel 19, when the base is in an installed position as shown in Figures 3 and 5. Although the pressure of this lip against the periphery of the bobbin barrel is sufficient in many cases to hold the base in position, it has been found advantageous to provide an additional holding means upon the exterior of the base.

A metallic guard 36 is employed for holding the base 37 upon the lower end of the bobbin barrel 19. This metallic guard is annular and its upper rim fits snugly against the periphery of the barrel. This base is molded and subsequently placed upon the lower end of the bobbin barrel and then the guard 36 is inserted over the upper end of the bobbin and over the top of the base. When in this position, the lower periphery of the guard 36 is spun inwardly as at 38 so as to embed the metallic guard in

the resilient base portion. This spinning action will press the upper portion of the base against the periphery of the barrel thereby causing the flange 18 to be locked in position.

A metallic guard of this type not only serves as a clamping means but it also serves as a cover to prevent the yarn which is wound around the barrel from contacting the resilient base. It prevents bobbin stripping operations from marring the surface of the resilient base.

Figures 4 and 5 show a modified form of the invention which is similar to the form shown in Figures 1, 2 and 3. In this form the base 37 is secured to the lower end of the bobbin barrel 19 by means of another type of guard or ferrule 40. This guard is adapted to be spun as at 41 after it has been placed around the bobbin barrel and against the upper part of the base. It will be noted that this guard has its upper edge snugly fitting against the periphery of the barrel whereas its lower edge is spun or rolled inwardly so as to bite into the resilient material and thereby cause the upper portion of the base to be pressed against the periphery of the bobbin barrel at a point disposed above the flange 18.

In the drawing and specification there has been set forth a preferred embodiment of the invention, and although specific terms are employed, such terms are used in a generic and descriptive sense only, and not for the purpose of limitation, the scope of the invention being set forth in the appended claims.

We claim:

1. A bobbin comprising a barrel and a separable resilient base, the base having a cavity in its upper end for reception of the lower end of the barrel, and an annular ferrule disposed around the upper end of the base and having its lower edge embedded in the base for guarding the upper end of the base and also confining the base on the lower end of the barrel.

2. A bobbin comprising a barrel and a resilient base having its upper end recessed to fit over the lower end of the barrel, interlocking means between the barrel and the base and external means covering the upper portion of the base for retaining the base in position on the bobbin barrel and for guarding the upper portion of the base from contact with exterior objects.

3. A bobbin comprising a barrel and a separable base, the base having a cavity in its upper end for reception of the lower end of the barrel, and an annular ferrule disposed around the upper end of the base and having its lower edge embedded in the base for guarding the upper end of the base and also confining the base on the lower end of the barrel.

AVERY C. KIMBIRL.
EDGAR A. TERRELL.