

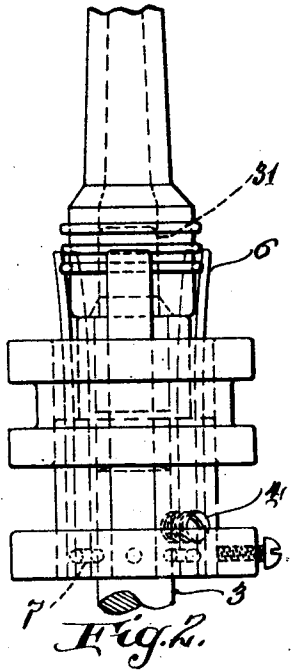
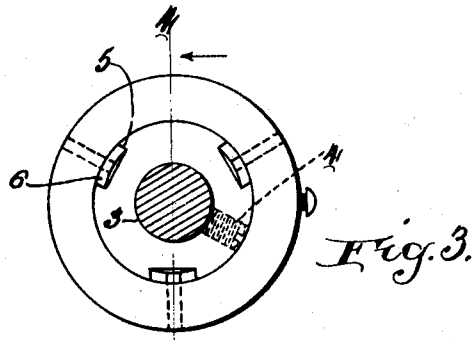
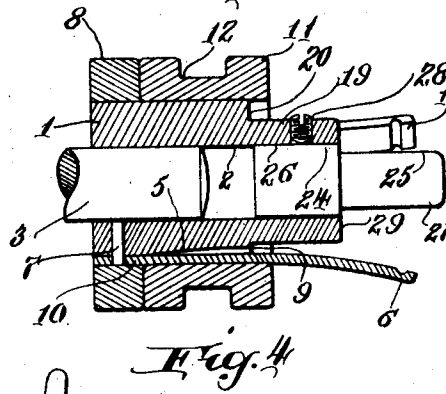
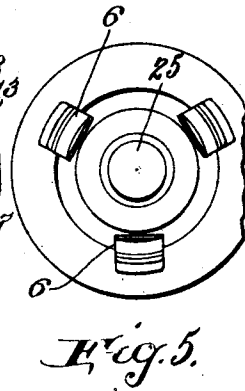
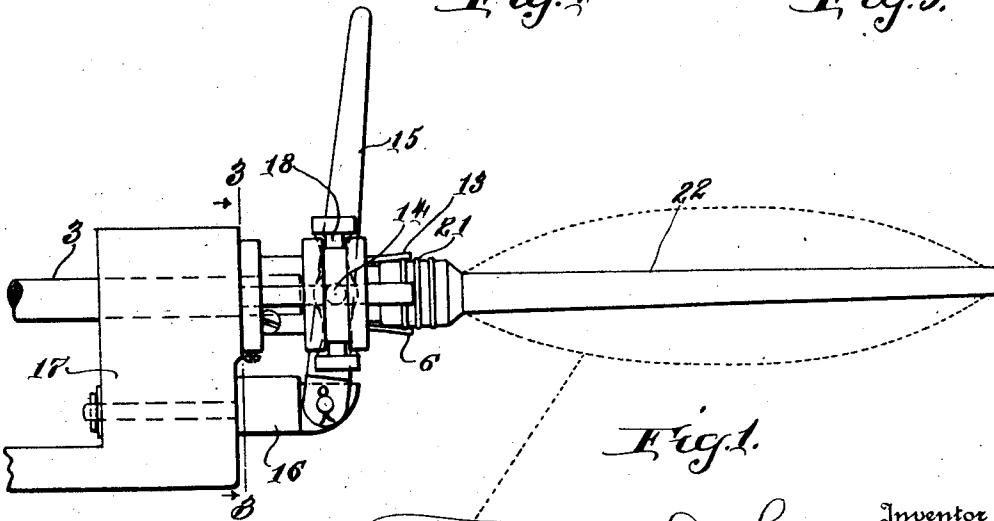
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1,702,906

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BOBBIN HOLDER

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WITNESSES
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BOBBIN HOLDER.

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The invention relates to means for securing a bobbin to a spindle, the device being particularly adapted for use in winding, but capable of more general use. In the previous practice the tendency to wear has so reduced the life of the various bobbin holding devices that replacement is necessary every few weeks.

The object of the present invention is to overcome the tendency to wear, thereby increasing the life of the bobbin holder, and at the same time to produce a bobbin holder or bobbin clamp for securing the bobbin to the spindle which can be quickly and easily operated, i. e., clamped and unclamped and at the same time so tightly secured as to avoid slipping, holding the bobbin tightly during the winding operation.

The present device grips the bobbin so tightly that slippage in winding is prevented and a more closely and uniformly wound bobbin results, also elimination of slippage reduces wear and prevents the consequent loss of power. The improved holder is of such long life as to be practically indestructible. It can be used with any of the present types of bobbin.

Described in general terms, the bobbin holder of the invention comprises a hub or body member which is centrally bored to receive the spindle and provided with bobbin holding arms actuated by a sliding ring.

In the preferred form of the invention the arms are flaring spring members, as shown, and the hub is grooved longitudinally at spaced points on the periphery to receive the arms, and has means shown as a collar and positioning pins for holding the arms, which are removable and interchangeable, and a sliding collar for closing the arms. The sliding collar is preferably grooved and engaged by a jaw or yoke carried by a hand lever by which the collar is reciprocated closing and releasing the arms and in turn locking and releasing the bobbin.

In the accompanying drawing I have illustrated a bobbin holder embodying the features of my invention in the preferred form.

In the drawings:

Figure 1 is an elevation of a bobbin holder and bobbin showing a fragment of spindle and a rail which also carries the actuating lever, the parts being in operative position.

Figure 2 is a fragmentary elevation of the holder on an enlarged scale, the bobbin and spindle being broken away.

Figure 3 is an end elevation, the spindle being sectioned on line 3—3, Figure 1.

Figure 4 is a central section on the line 4—4 in Figure 3 with the bobbin removed.

Figure 5 is an elevation looking from the right in Figure 4 showing the holder with the bobbin removed.

Referring to the drawings by numerals, each of which is used to indicate the same or similar parts in the different figures, the bobbin holder and cooperating members as shown comprise the body portion or hub 1 of the bobbin holder which is centrally bored at 2 to receive the end of the spindle 3 to which the hub is secured in any suitable manner as by means of set screw 4. The hub or body member 1, as shown, is grooved longitudinally at 5 at suitable points spaced about the periphery. In the present instance three grooves are shown spaced at an angle of 120 degrees. In these grooves are seated bobbin holding arms 6. These may be positioned at the base by means of radial pins 7 seated in the holder and extending through the bases of the arms. The arms as shown are locked in position by a removable collar 8 encircling the base of the hub and overlying the lower ends of the arms, and the arms are preferably of spring material flaring outwardly at the free ends 13 remote from the pins at which ends they extend well beyond the hub.

The grooves or slots 5 are preferably inclined inwardly at their ends at 9 beyond the pins and collar 8 to increase the play of the arms which are also flared outwardly from the base or lower end portions 10. The arms are closed by means of a sliding collar 11 which may be grooved about its circumference at 12 and engaged by jaws 18 pivotally mounted at 14 on a hand lever 15 swinging on and from a suitable bracket 16 on the rail 17.

The hub is also preferably reduced at its upper end at 19 forming a shoulder 20, the reduced portion permitting the arms to swing inwardly to grip the base 21 of the bobbin 22 and the central aperture 2 in the body or hub extends through the hub providing at its upper end at 24 for the seating of the centering member or pilot 25 having an enlarged

base portion 26 which fits in the opening 2, the upper end 27 being reduced and formed to fit the central bore of the bobbin. The centering member or pilot is held by a set
 5 screw 28 so that the pilot may be removed and exchanged to fit any bobbin. The entire holder may be made of any size to fit any size and type of bobbin. The parts are preferably all removable and interchangeable.
 10 The manner of operation is obvious, the base of the bobbin being placed in contact with the top end 29 of the hub, the upper end 27 of centering member 25 entering the bobbin at 31, the closing collar 11 is advanced closing
 15 the arms and gripping the bobbin. The winding operation may then be performed without slippage. The bobbin can obviously be instantly removed.

The advantages of the holder have been outlined in the statement of the object of the invention. They are principally, increased
 20 length of life, efficiency, i. e., secure gripping of the bobbin preventing slipping, quick and easy interchangeability, ease of operation and
 25 simplicity.

I have thus described specifically and in detail a bobbin holder embodying my invention in the preferred form in order that the
 30 nature and operation of the same may be clearly understood, however, the specific

terms herein are used descriptively rather than in a limiting sense, the scope of the invention being defined in the claims.

What I claim as new and desire to secure by Letters Patent is:

1. In a bobbin holder, a hub, bobbin holding arms and a sliding member enclosing and operating the arms, the hub being grooved to receive the arms.
2. In a bobbin holder, a hub, bobbin holding arms and a sliding member enclosing and operating the arms and a pilot pin for centering the bobbin.
3. In a bobbin holder, a hub, bobbin holding arms and a sliding member enclosing and operating the arms, the hub being grooved to receive the arms, the grooves being deepest toward the flaring ends of the arms.
4. In a bobbin holder, a hub, bobbin holding arms and a sliding member enclosing and operating the arms, the hub being grooved to receive the arms, pins positioning the lower ends of the arms and a collar locking them.
5. In a bobbin holder, a body member, flaring arms and a sliding collar enclosing and operating the arms, and a swinging forked lever to move the collar.

Signed by me at Baltimore, Maryland, this 26th day of February, 1927.

FRANCIS A. LAZENBY.