April 19, 1932. H. C. HERR 1,854,470

FLYER FOR SPINNING MACHINES AND THE LIKE

Filed Feb. 21, 1931

Fig. 1.

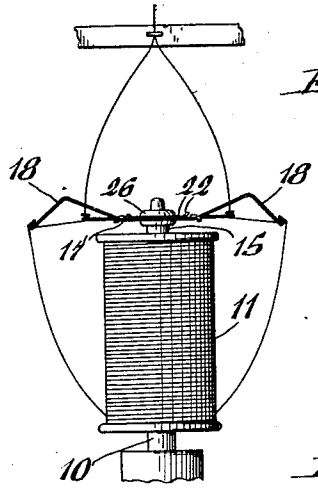


Fig. 2.

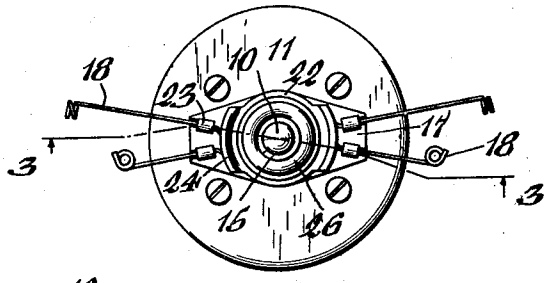


Fig. 3.

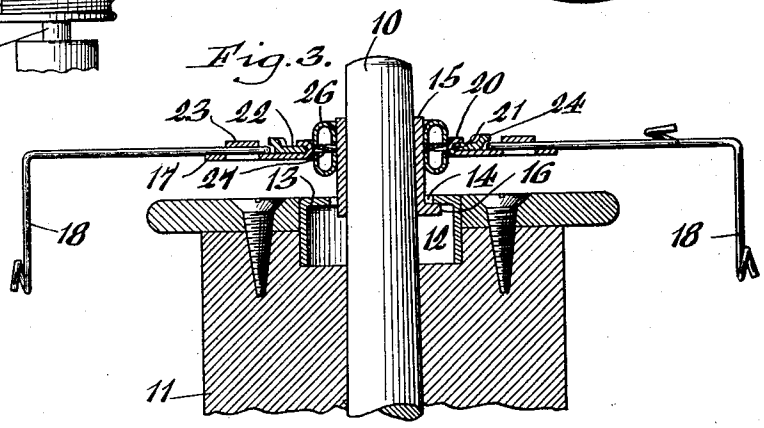


Fig. 4.

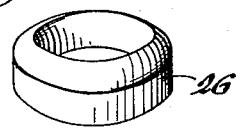


Fig. 7.

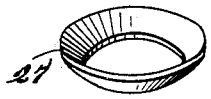


Fig. 5.

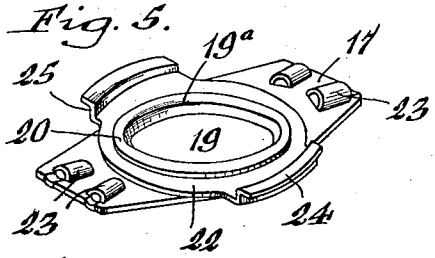


Fig. 8.

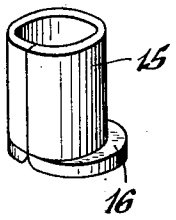
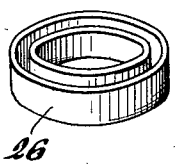


Fig. 6.



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UNITED STATES PATENT OFFICE

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FLYER FOR SPINNING MACHINES AND THE LIKE

Application filed February 21, 1931. Serial No. 517,462.

This invention relates generally to improvements in the flyers employed in connection with spinning machines, but more particularly to flyers of the eccentric type.

Its object is to provide an eccentric type of flyer which is simple, compact and inexpensive in construction, efficient in operation, and which is so designed that it can be readily applied to the bobbin-spindle.

Another object is the provision of a flyer of this character having a straight barrel or sleeve and simple and effective means for attaching the wire-base thereto.

In the accompanying drawings:—

Figure 1 is a side elevation of the improved flyer in position on the spindle. Figure 2 is a top plan view thereof. Figure 3 is an enlarged vertical longitudinal section taken on line 3—3, Figure 1. Figures 4, 5 and 6 are disconnected perspective views of those members which constitute the body or base of the flyer. Figure 7 is a perspective of the central guide member or washer employed in the base-assembly of the flyer. Figure 8 is a perspective view of the attaching sleeve of the flyer.

Similar characters of reference indicate corresponding parts throughout the several views.

Referring now to the drawings, 10 indicates a spindle of the usual tapered form and 11 a bobbin mounted thereon and having a recess 12 in its top containing an inverted cup-like member 13 having an opening 14 therein arranged eccentric to the axis of the bobbin-spindle.

The improved flyer consists of an attaching sleeve or barrel 15, which may be longitudinally split and which is adapted to be fitted over the spindle in the manner shown in Figure 3 to frictionally hold the flyer on the tapered end of the spindle. The exterior face of this sleeve is preferably straight and terminates at its lower end in an eccentrically-shaped flange 16. The latter is adapted to be passed through the cup-opening 14 during the application and removal of the flyer-barrel to and from the spindle and its flange is arranged to abut against the underside of the top side of the cup-like member 13 in the operative position of the parts, also seen in Figure 3. Mounted on this sleeve which constitutes a support for the flyer-body is a base plate or spider 17 to which the flyer-wires 18 are detachably connected, the base plate being firmly and securely anchored to the sleeve to produce a practically unitary structure.

The base plate 17 is provided centrally thereof with an opening 19 whose upper and lower edges are convexly curved, as indicated at 19a, and which terminates at its upper edge in an outwardly-facing annular bead or flange 20 spaced from the top side of said plate to provide an annular groove 21 in which is disposed a rotatable locking ring 22. Stamped from the base plate near its opposite ends are wire-retaining loops 23 which are adapted to receive the shanks of the flyer-wires 18 in the manner shown in Figures 2 and 3. At its diametrically opposite sides, the locking ring has vertically-offset flanges 24 which overlap the bent inner ends of the flyer-wires in the locked position thereof, the vertical webs 25 of said flanges serving to deflect or spring such bent ends of the wires laterally to hold them in their retaining loops 23. Renewal of the flyer-wires is readily effected by turning the locking ring 22 to the position shown in Figure 5, which permits the old wires to be removed and the new ones to be inserted.

Fitted firmly and solidly in the opening 19 of the base plate 17, and preferably by a pressed fit, are upper and lower hubs or collars 26 which in turn are firmly and solidly held on the sleeve 15 by a like pressed fit. These collars are, by preference, double-walled or of U-shape cross section with their inner or grooved portions facing inwardly or toward each other, while their outer faces are rounded or convexly curved. The outer walls of said collars are pressed snugly into the plate-opening and the rounded upper and lower edges of the latter formed by the flange 20 facilitate the admission of the collars thereto and in alining them axially with such opening. When the assembly of the collars 26 to the base plate has been effected, the same is applied to the sleeve 15 with the inner walls

of the collars being anchored firmly by a pressed fit with the straight outside wall of the sleeve, thereby producing a unitary flyer structure which can be readily applied to and removed from the bobbin spindle.

If desired, a frusto-conical or disk-shaped washer 27 may be interposed between the opposing inner edges of the collars 26, the top or outer edge of the same bearing against the opposing outer edge of the upper collar and the lower or inner edge of the washer bearing against the adjoining inner edge of the lower collar, as seen in Figure 3. This construction not only centralizes the two collars in axial alinement, but when the latter are pressed into the plate-opening 19 from opposite sides thereof, the washer is sprung into a more or less flattened condition so that it is enlarged in diameter and binds itself firmly in place.

I claim as my invention:

1. A flyer for spinning machines and the like, comprising a sleeve adapted for attachment to a bobbin-spindle and terminating at its lower end in an eccentric flange, the remaining portion of said sleeve being straight-sided and free from external projections, an independent wire-base applied to said sleeve above its flange and having a central opening therein, and a double-walled collar firmly fitted between the exterior wall of said sleeve and said base-opening.

2. A flyer for spinning machines and the like, comprising a sleeve adapted for attachment to a bobbin-spindle, a wire-base having a central opening therein, and an attaching hub fitted in said base-opening and about said sleeve, said hub consisting of opposing double-walled members fitted in the opposite ends of said base-opening and about said sleeve to form a united structure therewith.

3. A flyer for spinning machines and the like, comprising a sleeve adapted for attachment to a bobbin-spindle, a wire-base having a central opening therein having convexly-curved edges, and an attaching hub consisting of opposing collars fitted in the opposite ends of said base-opening, each collar having concentric inner and outer walls, the inner walls of said collars being firmly anchored to said sleeve and the outer walls thereof being fitted firmly in the opposite ends of said base opening.

4. A flyer for spinning machines and the like, comprising a sleeve adapted for attachment to a bobbin-spindle, a wire-base having a central opening therein having convexly-curved edges, and an attaching hub consisting of opposing collars of U-shape cross-section fitted in the opposite ends of said base-opening, the bores of said collars being firmly anchored to said sleeve.

5. A flyer for spinning machines and the like, comprising a sleeve adapted for attachment to a bobbin-spindle, a wire-base having a central opening therein having convexly-curved edges, and an attaching hub consisting of opposing double-walled collars fitted in the opposite ends of said base-opening and about said sleeve to form a united structure therewith, and a disked washer surrounding the sleeve and disposed between the opposing edges of said collars.

HENRY C. HERR.