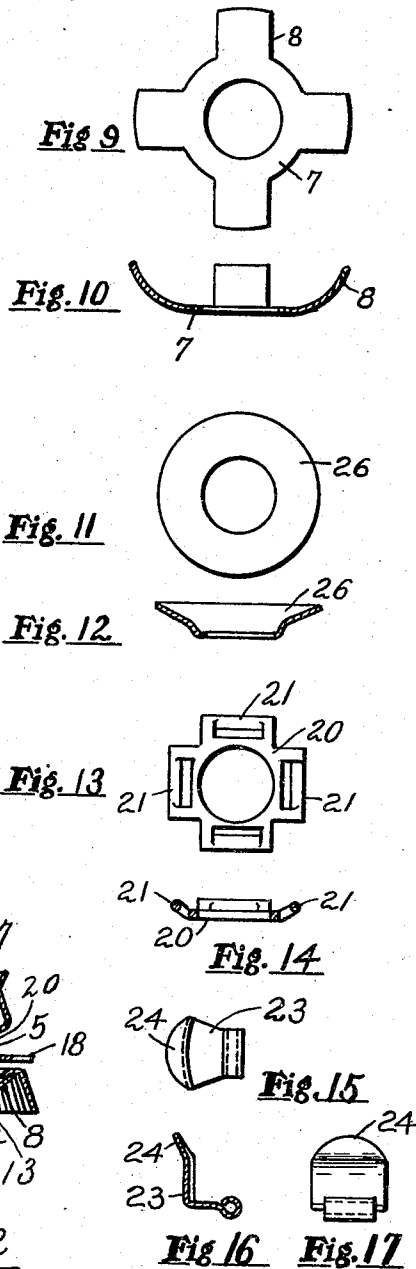
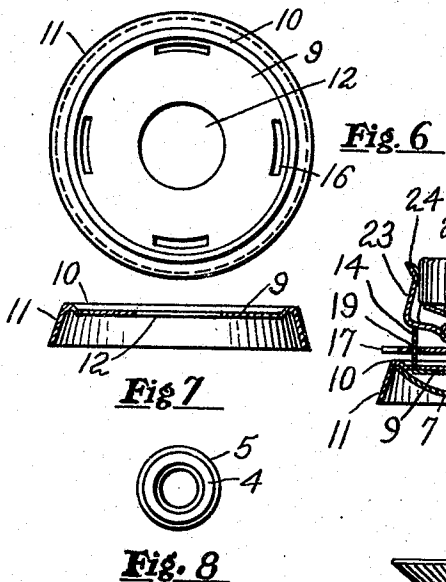
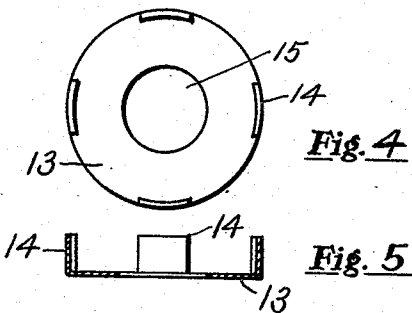


937,468.

Fig. 2

Fig. 3



Witnesses.
Alfred H. Chatley
Joseph E. Burns

Inventor.
Thomas F. Roney
By *Herbert E. Bellows*
Attorney.

UNITED STATES PATENT OFFICE.

THOMAS F. RONEY, OF PROVIDENCE, RHODE ISLAND, ASSIGNOR TO ECLIPSE HOLDING COMPANY, A CORPORATION OF RHODE ISLAND.

BOBBIN-HOLDER.

937,468.

Specification of Letters Patent.

Patented Oct. 19, 1909.

Application filed October 23, 1908. Serial No. 459,226.

To all whom it may concern:

Be it known that I, THOMAS F. RONEY, a citizen of the United States, residing at Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Bobbin-Holders, of which the following is a specification.

My invention relates to bobbin-holders for spinning spindles adapted to prevent waste in doffing, to avoid the labor and expense incident to packing and stripping the spindle, and to prevent splitting of the bobbin occasioned by spindle packings of varying diameters and by non uniform wear upon the bobbin bores. Besides the enumerated advantageous functions sought in structures of this type, the objects of my invention, which is an improvement upon the structures set forth in my former patent No. 619,506, issued February 14, 1899, are particularly to provide a convenient and efficient guiding means for the thread toward the engaging plate; to prevent clogging by dirt or other accumulations between the engaging and guide plates whereby the clamping action of these plates upon the thread is destroyed; and to provide means for maintaining the bobbins at a uniform height and protect them from interference with the wings; and, finally, to simplify and strengthen the entire structure.

To the above ends essentially my invention consists in the novel construction and combination of parts hereinafter described, and illustrated in the accompanying drawings, wherein—

Figure 1 is a vertical central section of my holder showing portions of the spindle broken away, and a bobbin in side elevation seated in the holder, Figs. 2 and 3, plan and diametrical sectional views respectively of the engaging plate, Figs. 4 and 5, like views respectively of the arm supporting member, Figs. 6 and 7, similar views of the guide member, Fig. 8, a plan of the spindle sleeve, Figs. 9 and 10, plan and central sectional views respectively of the spring, Figs. 11 and 12, similar views respectively of the bobbin support, Figs. 13 and 14, like views of the clamping finger mounting, and Figs. 15, 16 and 17, detail views of one of the clamping fingers.

Like reference characters indicate like parts throughout the views.

1, 2 and 3 are respectively the usual spindle, whirl, and bobbin. Frictionally held upon the tapering surface of the spindle is a sleeve, 4, provided with an external annular shoulder, 5, and recess, 6. Seated in this recess upon the lower end of the sleeve is a plate spring, 7, comprising upwardly curved radial arms, 8, whose upper extremities press against the under portion of a circular guide plate, 9, provided preferably upon its upper face with a marginal annular rib, 10, and provided also with a downwardly and outwardly flaring flange, 11. The plate, 9, is slidable upon the sleeve, 4, through a central opening, 12. Soldered or otherwise fixed to the bottom face of the plate, 9, is a plate, 13, provided with vertical lugs, 14, upon its periphery and a central opening, 15, to admit the sleeve, 4. The lugs pass through arcuate openings, 16, in the plate, 9. The lugs, 14, may, however, be integral with the plate, 9, and the base, 13, be omitted.

Tightly mounted upon the sleeve, 4, and resting upon the shoulder, 5, is an engaging plate, 17, with peripheral notches, 18, and arcuate slots, 19, through which loosely pass the lugs, 14. Resting upon the engaging plate, 17, is a pivot plate, 20, provided upon its margin with bearings, 21, upon which are pivoted broad, angular clamping fingers, 23, with flaring ends, 24, and against whose under faces abut the ends of the lugs, 14. A conical bobbin supporting plate, 26, is held upon the sleeve, 4, above the bearing plate, 20, by the beaded end, 27, of the sleeve.

The operation of the holder is as follows: When the faller wire or other thread guide depresses the strand, the latter is guided by the flange, 11, to the notches, 18, of the engaging plate and between the rib, 10, of the guide plate, 9, and the engaging plate, where it is clamped, while the bobbin is being removed, by the action of the spring, 8, permitted by the release of the bobbin by the clamping fingers, 23. By this means the end of the strand is secured pending the substitution of a new bobbin.

It will be observed that the lugs, 14, are so located relatively to the point of induction of the yarn between the guide plate and tooth plate that the yarn must contact with the surface of the lug or lugs which prevent the yarn from reaching and becoming entangled with the spindle sleeve, 4.

What I claim is,

1. In a bobbin holder, the combination with the spindle, of a sleeve fixed to the spindle, a supporting plate for a bobbin fixed to the sleeve, clamping fingers pivotally connected with the sleeve adjacent the supporting plate, an engaging plate fixed to the sleeve below the fingers, a guide plate slidably mounted upon the sleeve below the engaging plate, lugs upon the guide plate resting against the clamping fingers, and a spring upon the sleeve engaging the lower face of the guide plate.
2. In a bobbin holder, the combination with the spindle, holder sleeve, and clamping fingers, of an engaging plate fixed to the sleeve and provided with slots, a guide plate slidably mounted on the sleeve below the engaging plate and provided upon its top margin with an annular rib, lugs upon the guide plate passing through the slots and contacting with the fingers, and a spring upon the sleeve engaging the lower face of the guide plate.
3. In a bobbin holder, the combination with the spindle, holder sleeve, clamping fingers, and engaging plate, of a guide plate slidably mounted upon the sleeve below the engaging plate, lugs fixedly connected therewith, an inclined guide flange upon the margin of the guide plate, and a spring upon the sleeve upwardly pressing the guide plate.
4. In a bobbin holder, the combination with the spindle, holder sleeve, clamping fingers, and engaging plate, of a guide plate slidably mounted upon the sleeve below the engaging plate provided upon its upper mar-

ginal face with an annular rib, lugs upon the guide plate contacting with the fingers, an inclined annular guide flange upon the margin of the guide plate, and a spring upon the sleeve in contact with the lower face of the guide plate.

5. In a bobbin holder, the combination with the spindle, holding sleeve, clamping fingers, and engaging plate, of a guide plate slidably mounted upon the sleeve below the engaging plate, lugs upon the guide plate contacting with the fingers, and a plate spring provided with upwardly curved arms in contact with the guide plate fixed to the sleeve below the guide plate.

6. In a bobbin holder, the combination with the spindle, holder sleeve, clamping fingers, and engaging plate, of a guide plate slidably mounted upon the sleeve below the engaging plate, lugs fixedly connected therewith, a guide flange upon the guide plate, and a spring upon the sleeve upwardly pressing the guide plate.

7. In a bobbin holder, the combination with the spindle, holder sleeve, clamping fingers and engaging plate, of a guide plate slidably mounted upon the sleeve below the engaging plate, lugs fixedly connected therewith, and a spring upon the sleeve upwardly pressing the guide plate.

In testimony whereof I have affixed my signature in presence of two witnesses.

THOMAS F. RONEY.

Witnesses:

JOSEPH M. METCALF,
HORATIO E. BELLOWES.