

O. M. ROLFE.
BOBBIN HOLDER.

(Application filed Sept. 17, 1900.)

(No Model.)

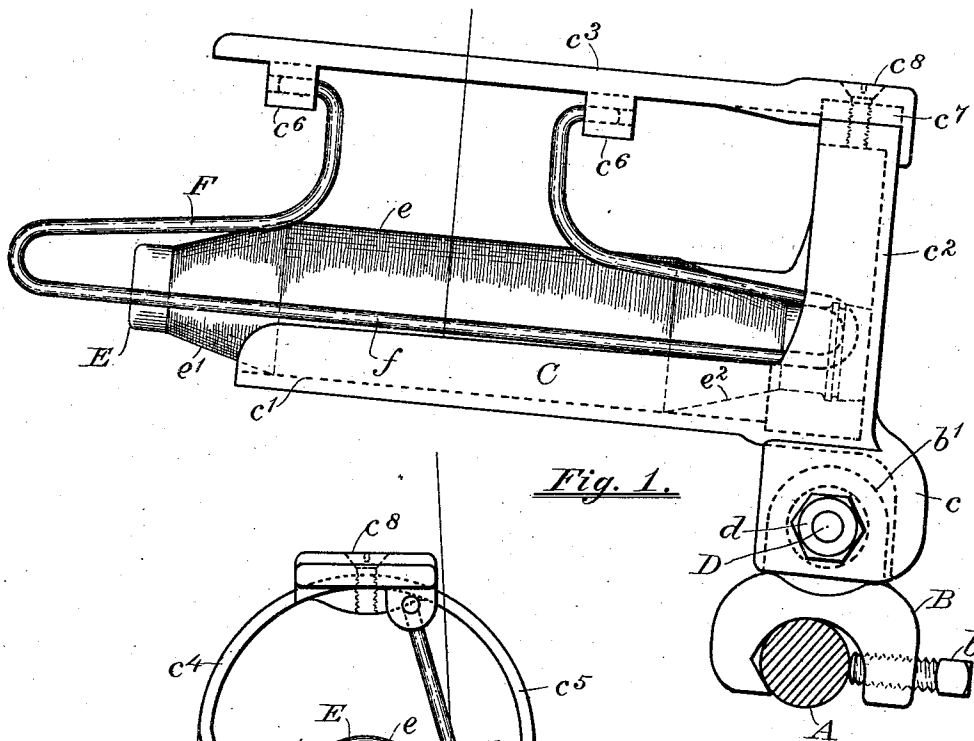


Fig. 1.

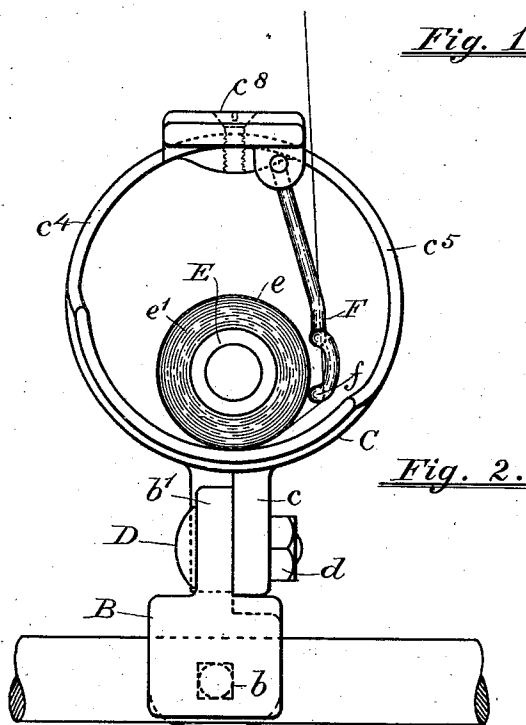


Fig. 2.



Fig. 3.

Witnesses.

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UNITED STATES PATENT OFFICE.

ORRIN M. ROLFE, OF LOWELL, MASSACHUSETTS.

BOBBIN-HOLDER.

SPECIFICATION forming part of Letters Patent No. 696,082, dated March 25, 1902.

Application filed September 17, 1900. Serial No. 30,242. (No model.)

To all whom it may concern:

Be it known that I, ORRIN M. ROLFE, a citizen of the United States, residing at Lowell, in the county of Middlesex and Commonwealth of Massachusetts, have invented a certain new and useful Improvement in Bobbin-Holders, of which the following is a specification.

My invention relates to bobbin-holders; and it consists of the devices and combinations hereinafter described and claimed.

Bobbin-holders used in spoolers commonly comprise a trough in which a bobbin is laid and from which it is prevented from jumping by a pair of pivoted guard-wires arranged on opposite sides of the bobbin and having a limited swinging movement, the guard-wire at one side being held against the cop on the bobbin by the tension of the yarn which is drawn from the top of said cop and passes down under the lower straight portion or tension-bar of said guard-wire and is then drawn upward to the spool to which the yarn is to be transferred. The tension-bar or longer lower portion of the guard-wire is usually straight and parallel with the axis of the bobbin contained in the holder. Usually only one of the guard-wires has any appreciable effect on the tension of the yarn, the other guard-wire merely assisting to retain the bobbin in the holder, but the holder having as many lateral openings as there are guard-wires, the opening adjacent to the tension-causing guard-wire serving as a yarn-delivery opening. The body of the bobbin-holder is sometimes made with a single opening and is provided with a single guard-wire; but heretofore the bobbin has always been pushed endwise into the holder, because said guard-wire is prevented from swinging outside of the body of the holder and reaches so near the bottom of the trough that the bobbin cannot be passed under it.

The object of this invention is to enable the bobbin to be placed laterally in the holder through the side of the holder instead of being pushed lengthwise into the front of the holder, thus effecting a great saving of time; to dispense with one of the guard-wires and to enable the bobbin to be inserted without first pushing the guard-wire aside; to steady the bobbin in the holder by so shaping the tension-bar that only its end

will bear upon the cop, and generally to simplify, cheapen, and improve the construction of said holders and to increase their durability.

In the accompanying drawings, Figure 1 is a right-side elevation of a bobbin-holder containing a bobbin and cop and provided with my improvement, the holder-supporting rod being in vertical cross-section; Fig. 2, a front elevation of the same; Fig. 3, a plan of the guard-wire, showing the curvature of its tension-bar.

The horizontal supporting-rod A and the clamp B and clamp-screw *b*, by which the holder is secured to the rod A, are of any usual construction. The clamp B is provided with an ear *b'*, and the body C of the bobbin-holder is also provided with an ear *c*, said ears being adjustably secured to each other by a pivot-bolt D and nut *d*, which being loosened allows the holder to be set at the desired angle in a well-known manner.

The body C of the bobbin-holder consists of a trough *c'*, within which the bobbin E rests in the usual manner, a back *c''*, which extends upward from the rear of said trough, and an arm *c'''*, projecting forward from said back parallel with the bottom of said trough.

It will be seen that the body C is approximately a hollow cylinder having two lateral longitudinal openings *c⁴* and *c⁵* between the arm *c'''* and the sides of the trough *c'*, one, *c⁵*, of these openings being for the usual purpose of a yarn-delivery slot, and this slot is closed against the escape of the bobbin E by a guard-wire F of the usual form, except as hereinafter stated, which is pivoted in ears *c⁶*, cast or otherwise secured on the under side of the arm *c'''*. The outward-swinging movement of the guard-wire is limited in the usual manner, said wire striking against the inner face of the wall of the body C back of the opening *c⁵*. The slot *c⁴* is arranged on the opposite side of the bobbin-holder from the slot *c⁵*, the lower side of said slot *c⁴* being arranged to be above the axis of a full bobbin to prevent said bobbin from rolling out of said opening *c⁴*, said slot running lengthwise of the bobbin-holder and being of sufficient width to allow a full bobbin to be dropped sidewise into the trough. The tension-bar *f* or lower longer side of the guard-wire is concaved on

the face next to the bobbin, so as to bear only at its ends upon the cop *e*, and thus to insure the steadiness of the bobbin in the holder to a much greater degree than when the tension-bar is perfectly straight, as the portion of the cop between the tapering ends *e'* *e''* of said cop is not always perfectly straight, although intended to be so, the diameter of the cop sometimes varying between these points.

10 The arm *c*³ is the part of the bobbin-holder most likely to be broken, as the spools when filled weigh about two pounds each and sometimes in doffing are carelessly dropped a distance of about eighteen inches upon said arms. The arm *c*³ is therefore preferably made in a separate piece and is provided with a groove *c'* to receive the top of the back *c*² and is attached to said back by a vertical screw *c*⁴, driven through the top of said arm into said back. If the arm *c*³ is broken by accident, it may be removed by loosening said screw *c*⁴ and a new arm substituted without throwing away the body of the holder.

I claim as my invention—

25 1. The combination of a bobbin-holder hav-

ing an approximately hollow cylindrical body, provided at one side with an unobstructed longitudinal opening to receive a bobbin, the bottom of said opening being arranged to be above the axis of a full bobbin to be sustained in said holder, and provided on the opposite side with another longitudinal yarn-delivery opening, with a pivoted guard-wire to prevent the contained bobbin from passing through said last-named opening.

2. The combination with the body of a bobbin-holder, provided with a yarn-delivery opening, of a swinging guard provided with a tension-bar, concaved on its inner side to bear at its ends only upon the end portions of the cylindrical surface of the cop of a bobbin arranged in said holder to steady said bobbin in said holder.

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

ORRIN M. ROLFE.

Witnesses:

ALBERT M. MOORE,
ALEXIS F. FECTEAU.