(No Model.)

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BOBBIN HOLDER FOR SPOOLING YARNS.

No. 510,309. Patented Dec. 5, 1893.

Fig. 1.

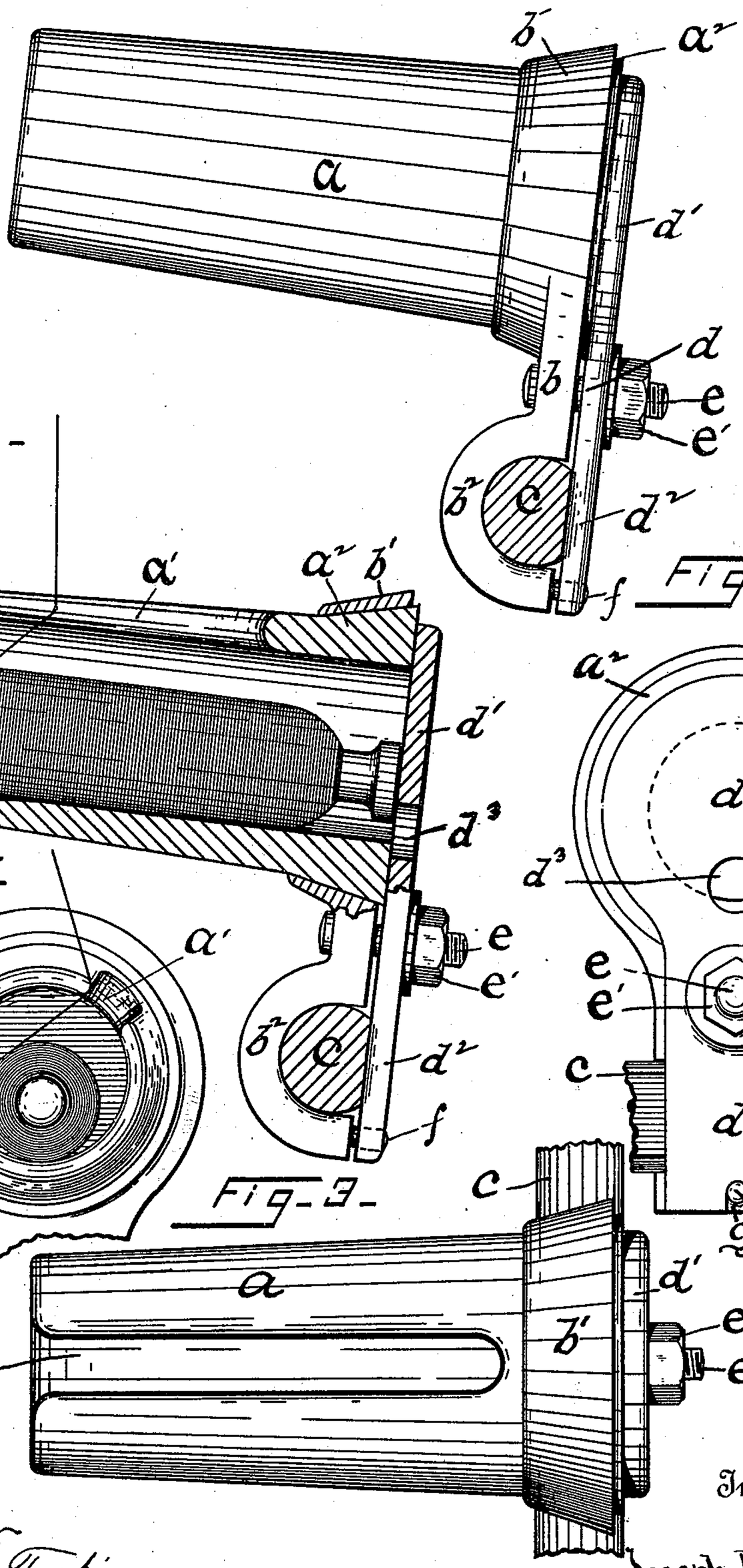

Fig. 2.

Fig. 4.

Fig. 5.

Fig. 3.

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BOBBIN-HOLDER FOR SPOOLING YARNS.

SPECIFICATION forming part of Letters Patent No. 510,309, dated December 5, 1893.

Application filed June 15, 1893. Serial No. 477,622. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH D. AIKEN, a citizen of the United States, residing at Taftville, New London county, State of Connecticut, have invented certain new and useful Improvements in Bobbin-Holders for Spooling Yarns, which improvements are fully set forth and described in the following specification, reference being had to the accompanying sheet of drawings.

In the drawings, Figure 1 is a side elevation of a bobbin-holder of my improved form and of the support by means of which it is adjustably secured to the spooler frame. Fig. 2 is a central, sectional, view of the same and shows in place therein a bobbin of ordinary form from which the yarn is delivered to the large upper spool, on which it is wound. Fig. 3 is a top view of said bobbin holder. Fig. 4 is a rear elevation of the same, and Fig. 5 a front end view of the holder, partially rotated, to illustrate the manner in which suitable tension is provided (when desired) on the yarn being spooled.

The object of this invention is to provide a bobbin-holder of cheap construction and of durability, by means of which yarns of different weights may be successfully spooled.

My bobbin-holder proper may be formed of glass, metal, or any other suitable material, in a single piece, and supported, when in use, by a socket secured to the spooler frame in a manner hereinafter fully described.

In the drawings the letter *a* indicates the holder proper, the same being cylindrical in shape and open at each end. An open slot *a'* is provided on the upper side of the same throughout the greater portion of its length through which the yarn renders when the device is in use.

The holder *a* is provided upon its circumferential surface at one end (the right hand end as shown) with a conical head a^2.

b indicates a portion of the device used in securing the holder in proper position upon the spooler frame. This portion *b* may be formed as a casting of metal or of any other suitable material, the upper portion of the same being formed as a collar *b'* the inner wall of which perfectly coincides with the circumferential surface of the conical head a^2 of holder *a*. This piece *b* is also provided with a downwardly extending portion b^2 which is suitably formed to partially encircle a rod *c*, which latter extends the entire length of the spooler frame and serves to support the complete series of bobbin holders.

When the complete bobbin holder is assembled it will be seen by reference to Fig. 2 that the conical head a^2 fits snugly within the collar *b'*. To prevent said head from leaving its seat in the collar, a piece *d* is provided, corresponding in general outline to the outline of the piece *b*, the upper portion of the same being formed as a disk *d'* and the lower portion as a tail piece d^2. (See Fig. 4.) The piece *d* is secured to the section *b* by means of a bolt *e*, and it will be seen that when the sections *b* and *d* are forced toward each other, by screwing down the nut *e'* of bolt *e*, the disk portion *d'* of section *d* will bear against the head a^2 of holder *a*, thus closing the opening at the rear end of holder *a* and forcing the same into its seat in the collar *b'*, retaining the holder firmly therein; while at the same time the tail portion d^2 will serve to clamp the rod *c* firmly between sections *b* and *d*. That portion of rod *c* bearing against tail portion d^2 is flattened somewhat to prevent the complete holder from rocking, or becoming displaced upon rod *c*, when said holder is clamped thereon. To prevent section *d* from rocking on bolt *e* and thus becoming out of alignment with section *b*, the latter is provided with a stud *f* which, when the parts are properly assembled enters a corresponding notch *g* in section *d* thus preventing any liability on the part of section *d* to rock upon its pivotal bolt *e*.

In assembling a complete holder of the described construction, the section *a* is first introduced into the collar *b'* until the head a^2 enters the collar and is seated therein. The section *b* is then so placed upon the supporting rod *c* that its portion b^2 partially encircles said rod, as described. The section *d* is next secured firmly to section *b* by bolt *e*, thus forcing the holder *a* firmly into its seat in collar *b'* and at the same time clamping the rod *c* firmly between the portion b^2 of section *b* and portion d^2 of section *d*. When the parts are thus assembled it will be seen that the

complete holder is firmly secured to and supported by rod *c*. Said rod *c* is preferably rocked slightly to tilt the complete holder as shown for a purpose to be explained.

Assuming now that a holder of the described construction is provided and that it is desired to use the same, a properly wound bobbin is introduced into the open end of the holder with its thread delivering through opening *a'*. The bobbin (which revolves freely in the holder) is prevented from working out of the front open end of the holder by reason of the fact that the latter is slightly tilted, as illustrated and as above mentioned, said bobbin being thus caused to travel by gravity downward toward the right hand (as shown in the drawings) where the head of the bobbin rests against disk *d'*. Should no great tension be required upon the yarn the same is allowed to deliver freely and directly from the bobbin through the slot *a'* as seen in Fig. 1. Should it however be required to provide a tension for said yarn, as the same leaves the bobbin, it will be seen that this may be easily accomplished by simply rotating somewhat the holder *a*, thus compelling the yarn to draw from said bobbin over the edge of slot *a'* thus producing frictional resistance which is increased proportionately with the degree of rotation of the holder, as will be easily understood.

The holder may be readily rotated by simply easing up the nut *e'* and when the holder has been thus adjusted to the desired position the same is again firmly clamped in its seat by screwing the nut home. The holder being tilted, as above explained, it will be seen that any dirt collecting therein will travel by gravity to the lowest part of the same and to allow such dirt to leave the bobbin and prevent it from clogging therein, I have cut in disk *d'* a small hole d^3 so located in said disk that the dirt may pass freely therethrough (Figs. 2 and 4) and thus leave the holder clean at all times.

My device is of very simple construction and by reason of its easy manner of adjustment to produce any desired amount of tension upon the yarn the operative has perfect control of the yarn as the same is delivered thus assuring better results (particularly with fine yarns) than it has been possible to attain heretofore.

Having described my invention, I claim—

1. A bobbin holder consisting of a cylinder, each end of which is open, a disk for supporting the cylinder, said disk also closing one end thereof, and means for clamping said end of the cylinder against the disk, substantially as set forth.

2. In a bobbin holder, in combination, a slotted shell with conical end as set forth, a supporting ring with correspondingly cone shaped inner wall and means as specified for clamping said shell and ring together.

3. A bobbin holder consisting of an open-ended cylinder having an opening for the escape of the yarn when in use, clamping sections for engaging with the cylinder and with the frame, and means for causing the sections to simultaneously engage with the frame and with the cylinder, substantially as set forth.

4. A bobbin holder consisting of an inclined open-ended cylinder longitudinally slotted nearly its entire length, a clamp composed of two sections, one end of the said clamp engaging with the cylinder and the other end adapted to engage with the frame, and means intermediate the frame and the cylinder for drawing the sections toward each other substantially as set forth.

5. A bobbin holder consisting of an open-ended cylinder having a longitudinal slot nearly its entire length, a clamp composed of two sections, one of which has a disk at one end and a notch at the opposite end, and the other section has a pin at one end to engage with the notch, and a ring at the other end for engaging with the cylinder, and means for securing the clamps together, whereby one end of the clamp is adapted to engage with the frame and the other end to engage with the cylinder, substantially as set forth.

6. A bobbin holder consisting of an open-ended cylinder having one end tapered and having a hole in its side, a flat sided rod, a clamp composed of two sections, one end of which bears against the flat portion of the rod and the other end is provided with a disk for supporting the cylinder, and the other section has a curved portion at one end to engage with the rod and a tapered ring at the other end to engage with the cylinder, and a tightening nut between the rod and the cylinder, substantially as set forth.

7. A bobbin holder consisting of an inclined open-ended cylinder having a longitudinal slot nearly its entire length, a disk at one end of the cylinder having a hole registering with the lowest point of the cylinder, and means for securing the cylinder to the disk, substantially as set forth.

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