

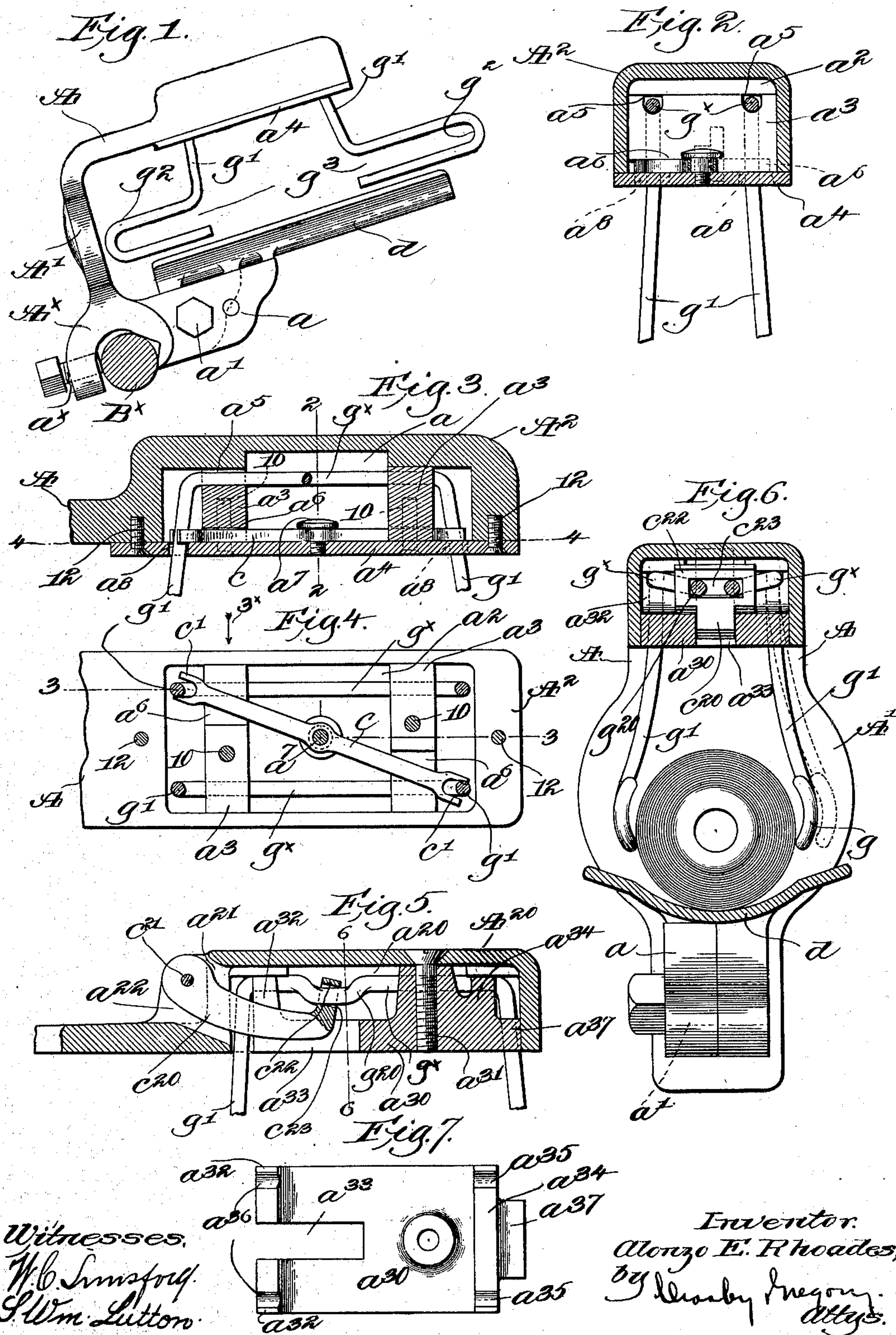
No. 731,618.

PATENTED JUNE 23, 1903.

A. E. RHOADES.
BOBBIN HOLDER.

APPLICATION FILED NOV. 19, 1902.

NO MODEL.



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UNITED STATES PATENT OFFICE.

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BOBBIN-HOLDER.

SPECIFICATION forming part of Letters Patent No. 731,618, dated June 23, 1903.

Application filed November 19, 1902. Serial No. 131,980. (No model.)

To all whom it may concern:

Be it known that I, ALONZO E. RHOADES, a citizen of the United States, and a resident of Hopedale, county of Worcester, State of Massachusetts, have invented an Improvement in Bobbin-Holders, of which the following description, in connection with the accompanying drawings, is a specification, like characters on the drawings representing like parts.

This invention has for its object the production of a bobbin-holder embodying certain novel features of construction and operation to be hereinafter fully described in the subjoined specification, and particularly pointed out in the following claims.

One of the novel features of my present invention provides for augmenting automatically the resistance of either guard to undue outward movement, due to improper lateral movement of the bobbin on its rest as the yarn is unwound.

Another novel feature resides in the construction of the side guard whereby the yarn may be drawn off from the bobbin more easily and with less strain.

Figure 1 is a side elevation of a bobbin-holder embodying one form of my invention. Fig. 2 is an enlarged cross-sectional detail thereof on the line 2 2, Fig. 3, looking toward the left. Fig. 3 is a longitudinal section of the head of the overhanging arm on the line 3 3, Fig. 4, viewed in the direction of arrow 3^x. Fig. 4 is an under side view of the head of the arm on the line 4 4, Fig. 2. Fig. 5 is a longitudinal central section of a modified form of head with a different device for augmenting the resistance of the guards. Fig. 6 is a transverse section, also enlarged, on the line 6 6, Fig. 5, looking toward the left, the rest for the bobbin, the guards, and the upturned part of the arm being also shown; and Fig. 7 is a top or plan view of the guard-support shown in Figs. 5 and 6.

Referring to Fig. 1, the clamp A^x, having a set-screw a^x to retain the bobbin-holder in place on the supporting-bar B^x of a spooler or the like, the bracket a, to which the pan or rest d is attached by a bolt a', and the upturned overhanging arm A, having a lateral enlargement or back-stop A' for the bobbin, may be and are all substantially of well-

known or usual construction. The overhanging head A² of the arm is enlarged and cored out or chambered, as at a², Figs. 2, 3, and 4, to receive two upright transverse partitions a³, herein shown as secured by screws 10 to a bottom plate a⁴, attached to the under face of the head by screws 12. The partitions are notched in their tops, as at a⁵, Fig. 2, to form seats in which the side guards are pivotally supported, and each partition is cut away or recessed in its bottom, as at a⁶, (see Fig. 4,) the recesses of the partitions being diagonally opposite each other. A connecting device, shown as a lever c, having forked or bifurcated ends c', is fulcrumed at its center on a headed stud a⁷ on the bottom plate a⁴, the lever resting on the upper face of the plate and extending diagonally across it, the bifurcated ends of the lever passing through and beyond the recesses a⁶ of the partitions a³.

The guards in my present invention are made of stout wire, as usual, but bent to present a straight top portion g^x and depending slightly-divergent ends g', which are bent at their lower extremities to present elongated opposite loops g², open at their inner ends at g³, Fig. 1, the open ends of the loops being separated from each other, as shown. The straight top g^x of each guard is seated in the opposite notches or recesses a⁵ of the partitions a³, the ends g' passing downward at the outer faces of the partitions through transverse slots a⁸ in the bottom plate a⁴, permitting the requisite lateral movement of the guards. As shown in Fig. 4, the rear end of one guard is loosely embraced by the adjacent forked end of the lever c and the other end of the latter embraces in like manner the front end g' of the other guard. If either guard is swung outward unduly, as by an improper movement of the bobbin toward the side of the rest d, the end of the lever c engaged by such guard will be moved outward and the opposite end of the lever will be oppositely swung to thereby swing outward the other guard in engagement therewith. The resistance of the guard against which the bobbin presses will thus be augmented or increased by the force required to swing outward the other guard and the lateral movement of the bobbin will be stopped.

Referring to the peculiar shape of the guard herein described, the yarn is led under the lower edge of one of the loops g^2 , and it will run under such edge until in unwinding the yarn runs off the inner extremity of such edge. The yarn thereupon runs into the open end of the loop and will draw very directly from the bobbin, and as the unwinding progresses the yarn will pass from one to the other loop, according to the traverse of the yarn as it was laid upon the bobbin. The guide is made alike at each end, so that it is immaterial from which end the yarn draws at the beginning.

In Figs. 5 and 6 I have shown a modification of the means for increasing or augmenting the resistance of either guard to undue lateral movement of the bobbin. The head A^{20} of the overhanging arm is recessed or chambered, as before, as at a^{20} , and at its rear end it is provided with an upright slot a^{21} and an adjacent external ear a^{22} . An arm c^{20} is fulcrumed at c^{21} on the ear and extends into the chamber of the head, the inner end of the arm being turned up and widened laterally, as at c^{22} , and provided with a transverse slot c^{23} . A guard-support a^{30} is inserted in the head from beneath and held in place by a screw a^{31} , Fig. 5, said support having at its rear end upright lugs a^{32} , separated at their bases by a slot or opening a^{33} , in which the arm c^{20} is free to move. At its front end the support has a transverse upright projection a^{34} , provided in its top with notches a^{35} in alinement with similar notches a^{36} in the lugs a^{32} , (see Fig. 7,) the front end of the support extending beyond the projection to form a tongue a^{37} . The guards may be made substantially as hereinbefore described; but the upper portion g^x of each is provided with a crank portion g^{20} , which coöperates with the lateral end c^{22} of the arm c^{20} . The guards are inserted in the slot c^{23} before the parts are assembled, and then the arm is mounted on the ear a^{22} . After this the guard-support a^{30} is put in position, the parts g^x of the guards resting in the notches a^{35} a^{36} and being pivotally supported thereby. Referring to Fig. 6, the cranks g^{20} are shown as intumed, and if a guard is swung outward unduly its crank will act to depress the arm c^{20} , and by the connection of the latter with the crank of the other guard said crank will be pulled downward to thereby swing its guard outward, augmenting the resistance of the first-named guard to outward movement. The tongue a^{37} permits the requisite swing of the front ends of the two guards.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a bobbin-holder, a rest for the bobbin, laterally-swinging side guards to retain the bobbin on the rest, and means to automatically augment the resistance of either guard to improper lateral movement of the bobbin.

2. In a bobbin-holder, a rest for the bobbin, laterally-movable side guards pivotally supported at their upper ends, and means controlled by undue outward movement of either guard to augment its resistance to such undue movement.

3. In a bobbin-holder, a rest for the bobbin, laterally-swinging side guards to retain the bobbin on the rest, and means to cause the guards to move laterally and oppositely in unison.

4. In a bobbin-holder, a rest for the bobbin, laterally-swinging side guards to retain the bobbin on the rest, and connections between the guards, whereby undue lateral outward movement of either causes and is resisted by corresponding outward movement of the other guard.

5. In a bobbin-holder, a rest for the bobbin, laterally-swinging side guards to retain the bobbin on the rest, and connecting means between the guards near their upper, pivotally-supported ends, whereby undue outward movement of either guard due to lateral movement of the bobbin on the rest is transmitted to the other guard, to swing the same oppositely and thereby augment the resistance of the guard engaged by the bobbin.

6. In a bobbin-holder, a rest for the bobbin, an upturned, overhanging arm, laterally-movable side guards for the bobbin, pivotally mounted on the overhanging arm and depending therefrom, and means mounted on the arm and connecting the guards, whereby outward movement of either guard causes a corresponding outward, opposite movement of the other guard.

7. In a bobbin-holder, a rest for the bobbin, and laterally-swinging guards at the sides of the bobbin, one of said guards having its lower ends bent to present opposite, elongated loops open at their inner, separated ends, to permit the yarn in unwinding to pass into one or the other loop, through the open space between the inner ends of the loops.

8. In a bobbin-holder, a rest for the bobbin, and laterally-swinging guards at the sides of the bobbin, said guards having their lower ends bent to present opposite, elongated loops open at their inner ends, the lower edges of the loops being separated from each other to admit the yarn to a loop.

9. In a bobbin-holder, a rest for the bobbin, laterally-swinging guards at the sides of the bobbin, each guard having its lower end bent to present opposed, elongated loops open at their inner, separated ends, and means to augment automatically the resistance of either guard to undue outward movement.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

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Witnesses:

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