

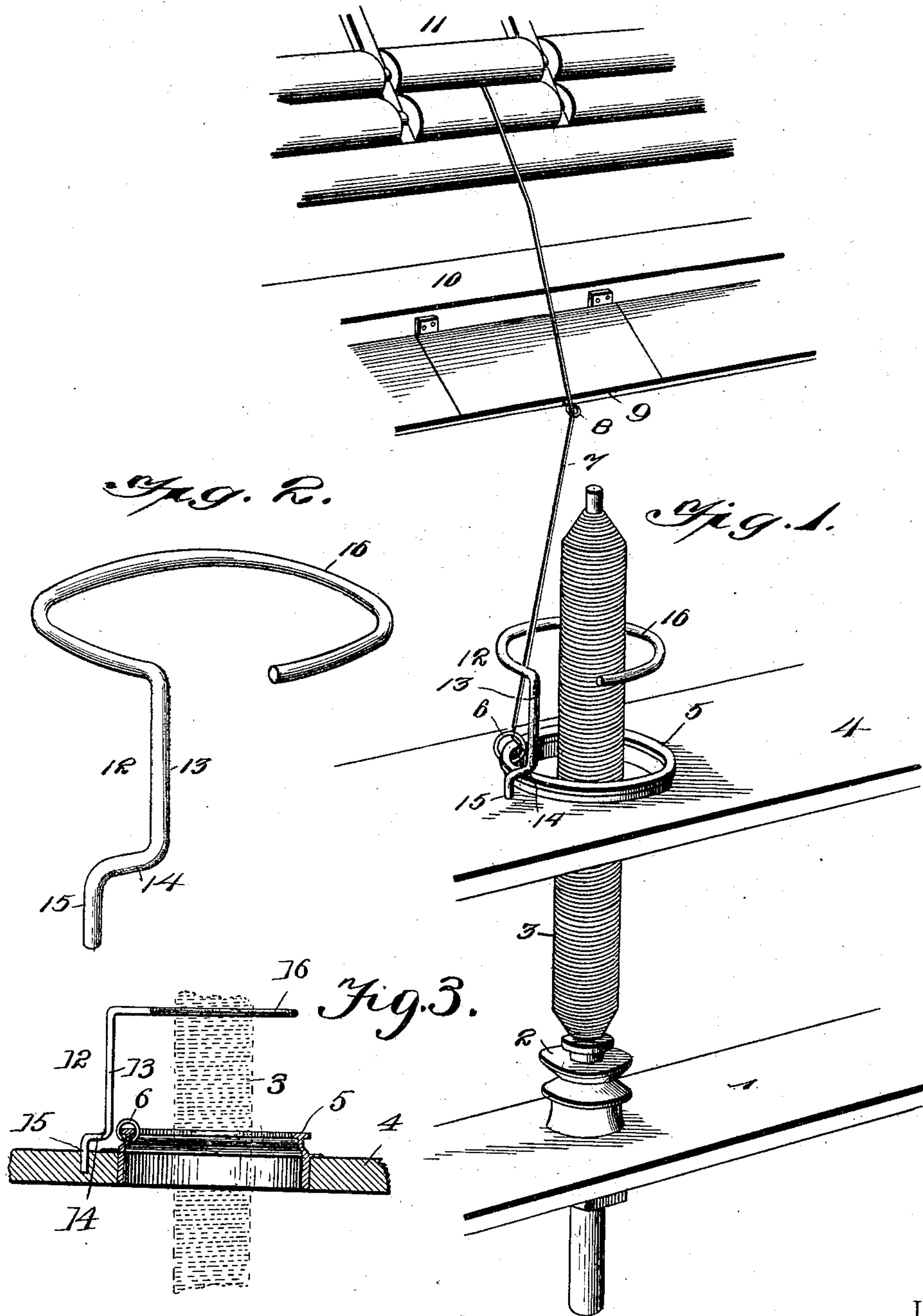
No. 628,875.

Patented July 11, 1899.

J. C. WALL & M. E. SCHEDLBAUER, JR.
YARN PROTECTOR ATTACHMENT FOR SPINNING FRAMES.

(Application filed Nov. 6, 1896.)

(No Model.)



Witnesses

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UNITED STATES PATENT OFFICE.

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YARN-PROTECTOR ATTACHMENT FOR SPINNING-FRAMES.

SPECIFICATION forming part of Letters Patent No. 628,875, dated July 11, 1899.

Application filed November 6, 1896. Serial No. 611,236. (No model.)

To all whom it may concern:

Be it known that we, JOHN C. WALL and MICHAEL E. SCHEDLBAUER, Jr., citizens of the United States, residing at Amsterdam, in the county of Montgomery and State of New York, have invented a new and useful Yarn-Protector Attachment for Spinning-Frames, of which the following is a specification.

Our invention relates to an improved attachment for spinning-frames; and it is designed for use on that class of frames employing a movable ring-rail and a series of rings which furnish the supports for loose travelers that follow the threads as they wind on the bobbins.

The object that we have in view is to provide an attachment which serves as an anti-ballooning device to take the "balloon" out of the yarn and to afford means which operates to assist in cleaning the traveler-ring from accumulations of lint and dust that may tend to clog the traveler-ring and interfere with the free passage of the yarn through the same.

Our improved attachment is designed to be fastened to a ring-rail adjacent to the traveler-ring thereon, but entirely independent of said traveler-ring, whereby the attachment serves as a fixture on the ring-rail and enables the traveler-ring to be removed from the ring-rail.

In the art to which our invention relates it is frequently necessary to change the traveler-ring and use different sizes of ring-travelers when a different class or size of yarn or cotton is to be wound on the bobbin. Our invention is applied to the ring-rail so as to be entirely independent of the ring-traveler, and thus the latter may be removed and another ring applied thereto, so as to provide for the use of traveler-rings of different sizes to suit the kind and class of yarn to be wound on the bobbin.

Our improved attachment is simple and durable in construction, readily applied to the ring-rail of an ordinary spinning-frame without interfering with the traveler-ring or the traveler adapted to said ring, and the attachment is so applied to the ring-rail that a part thereof lies in juxtaposition to the traveler

for the purpose of assisting in removing accumulations of lint in the traveler.

To the accomplishment of the object of our invention we provide an attachment entirely independent of the traveler-ring and consisting of a single piece of wire bent to form a circular guard, an upright shank, an angular arm, and a fastening-prong. This attachment is applied to a ring-rail by having its fastening-prong thrust into the ring-rail at a point adjacent to the traveler-ring, and the angular arm of the attachment is turned to bring the upright shank in a position adjacent to, but out of contact with, the traveler-ring, so that said upright shank lies close to the path of the traveler, and the circular guard is maintained in the position parallel to the traveler-ring and substantially in vertical alinement therewith.

To enable others to understand our invention, we have illustrated the same in the accompanying drawings, forming a part of this specification, and in which—

Figure 1 is a perspective view of a portion of an ordinary spinning-frame with our improved yarn-protector attachment applied thereto in operative relation to a bobbin, a ring-traveler, and the ring on which said traveler is supported. Fig. 2 is a detail perspective view of the attachment removed from the ring-rail. Fig. 3 is a vertical sectional view of the ring-rail and adjacent parts, showing the precise relation of the antiballooning and traveler-cleaning attachment.

Like numerals of reference denote like parts in all the figures of the drawings.

Referring more particularly to Fig. 1, the numeral 1 designates the spindle-rail, and 2 the bobbin-spindle, on which is mounted an ordinary yarn-bobbin 3. 4 is the movable ring-rail. 5 is the ordinary flanged ring carried by the ring-rail and through which the bobbin extends loosely, and 6 is the traveler, loosely fitted on the ring 5 and adapted to fly rapidly thereon as the spinning of the yarn on the bobbin progresses. The loose traveler 6 receives the yarn or thread 7 in the usual way, and said thread passes through a guide-eye 8 on the outer edge of the hinged guide-block 9, arranged with a series of similar blocks at the

front edge of the ordinary thread or guide board 10 of the spinning-frame, above which guide-board is arranged the usual set of drawing-rolls 11. All of these parts are of the usual and well-known construction, and no novelty thereto is claimed in this application.

Our invention consists of the antiballooning attachment illustrated in detail by Fig. 2 of the drawings and as applied in operative relation to the ring-rail, the traveler-ring, and the traveler by Fig. 1. Our attachment 12 is made from a single piece of stout wire, which is bent at one end to provide a substantially circular guard 16, after which the wire is bent at right angles to the plane of the guard 16 in order to form the shank or standard 13, and then the wire is bent into the horizontal arm 14 and the attaching-prong 15. The arm 14 extends substantially at a right angle from the lower part of the upright shank 13, and the prong 15 is at a right angle to the arm 14 to occupy a position substantially parallel to the shank 13, but in a plane at one side of said shank 13. In our invention the guard 16 has its free end terminating at some distance from the shank or at the point where the shank and ring are joined together, and thus an enlarged throat or opening is provided in the guard at one side thereof. This construction of the guard overcomes the tendency of the thread to bulge out above or below the guard under the centrifugal force of a high-speed spindle and insures proper coiling of the thread uniformly on the bobbin without any tendency of the thread to balloon.

It will thus be seen that we have provided a very simple yarn-protector attachment, which is bent from a single continuous piece of wire, and this method of making the attachment provides for rapid and economical manufacture of the contrivance.

To apply our attachment to a spinning-frame, it is only necessary to bore or otherwise produce a vertical aperture in the ring-rail adjacent to the traveler-ring, and into this aperture is driven the vertical prong 15 of the attachment. This prong 15 may be turned in the ring-rail to cause the arm 14 to occupy a position tangentially to the traveler-ring 5, and thus the arm serves to position the upright shank 13 adjacent to the traveler 6, so that said shank occupies a position close to the path of the traveler sufficient to intercept any lint or dust which may be thrown by centrifugal force beyond the periphery of the traveler, whereby the shank serves to assist the centrifugal action of the traveler in removing accumulations of lint from said traveler, and thus keep the latter in a free clean condition for the easy passage of the yarn-threads therethrough. The angular arm 14 at the lower part of the attachment also forms a driving-head to be struck for forcing the prong 15 into the ring-rail and still further serves to stiffen or strengthen

the device by reason of its position between and angular relation to the terminal prong and the upright shank of the attachment, and thus the arm 14 serves as a means for reinforcing the device and as means for properly positioning the shank 13 with relation to the traveler. The guard 16 is sustained by the shank at a proper elevation above the traveler-ring 5, and said guard is arranged in a plane parallel to that of the traveler-ring 5, so that the opening in the guard 16 is in substantially vertical alinement with the opening in the traveler-ring. Said horizontal guard forms nearly a complete circle around the bobbin which passes through the traveler-ring 5, and said guard serves to restrict the play of the yarn as it is carried with the traveler around the ring 5 for winding on the bobbin to such an extent as to entirely overcome "ballooning" of the yarn and to cause the yarn to be wound under uniform tension and reduce the breakage thereof to a minimum.

Our attachment serves important purposes in connection with a bobbin, a traveler, and a ring-rail, because the device serves to take all of the balloon out of the yarn in its passage from the drawing-rollers to the bobbin and to assist in keeping the traveler in a clean condition for the free passage of the yarn through the same. The device when attached does not require attention on the part of the operator either to adjust it in proper relation to the traveler-ring or to the traveler or to clean the traveler from time to time, as is found necessary with ordinary spinning-frames. One of the important features of our invention resides in the fact that the attachment is applied or fastened directly to the ring-rail entirely independent of the traveler-ring thereon, and hence the traveler-ring may be disconnected from the ring-rail without interfering in any way with the yarn-protector attachment and without hindrance therefrom, thus enabling the ring and the traveler to be removed or replaced, as may be required, without disturbing the attachment.

In this connection it is to be observed that the provision of the circular guard 16 with an enlarged side opening or throat next to the vertical shank 13 is an essential part of the device, as such enlarged side opening or throat permits the traveler-ring to be removed there-through, so that the traveler-ring can be slipped off of the spindle without disturbing the position of the attachment.

We are aware that it is not new, broadly, to provide a yarn-protector which is applied to a traveler-ring; but so far as we are aware such prior device requires a special construction of the traveler-ring for the reception of the protector attachment and any adjustment or removal of the traveler-ring disturbs the relation of the protector attachment to the ring-rail and the bobbin. Our improved attachment, constructed as described, avoids

these objections and enables it to be used on spinning-frames without requiring a special construction of the traveler-ring.

5 Having thus described the invention, what we claim is—

10 In an attachment for spinning-frames, the combination with the ring-rail, the traveler-ring carried thereby, and the traveler, of a combined antiballooning device, and a traveler-ring consisting of a wire body provided with a vertical shank having at its upper end a horizontal circular guard-ring adapted to be disposed above and concentric with the traveler-ring, one end of the guard-ring terminating a distance short of the horizontal shank to provide an enlarged side opening or throat directly at one side of the said shank,

said vertical shank terminating at its lower portion in a horizontal offset which merges into a vertical seating-terminal which is fitted 20 in the ring-rail, the said horizontal offset of the attachment standing over a portion of the traveler-ring, and sufficiently close to the latter to remove accumulations of lint and dust.

25 In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

JOHN C. WALL,
MICHAEL E. SCHEDLBAUER, JR.

Witnesses:

FRANK S. SWAN,
CHAS. J. SPAMBAUER.