No. 624,148. Patented May 2, 1899.

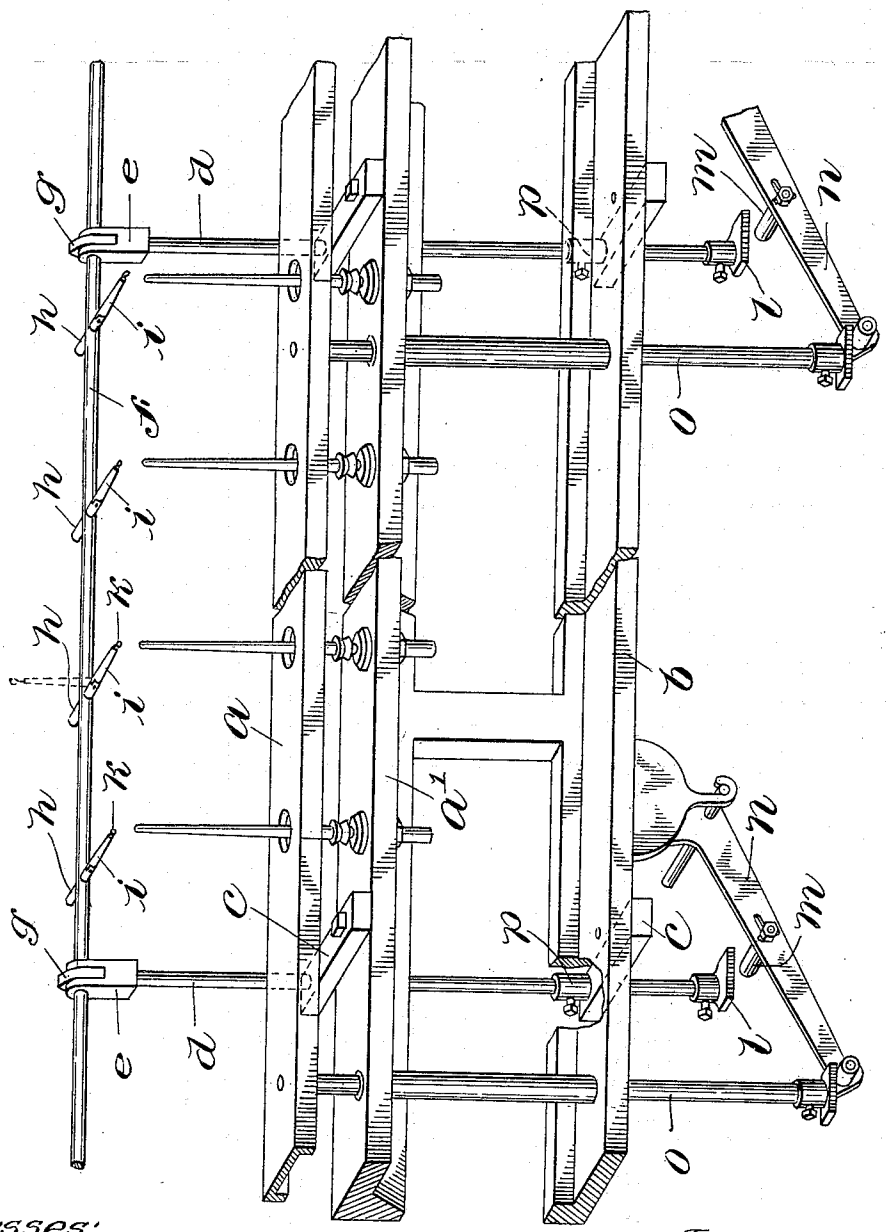
A. C. ALLGOOD.

SPINNING FRAME ATTACHMENT.

(Application filed May 9, 1898.)

(No Model.) 2 Sheets—Sheet 1.

FIG. 1.



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Inventor:
A. C. Allgood
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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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(No Model.) 2 Sheets—Sheet 2.

FIG. 4.

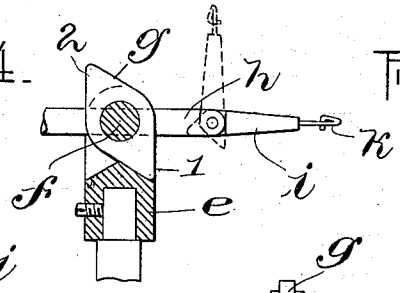


FIG. 5.

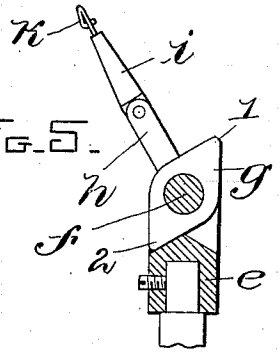


FIG. 3.

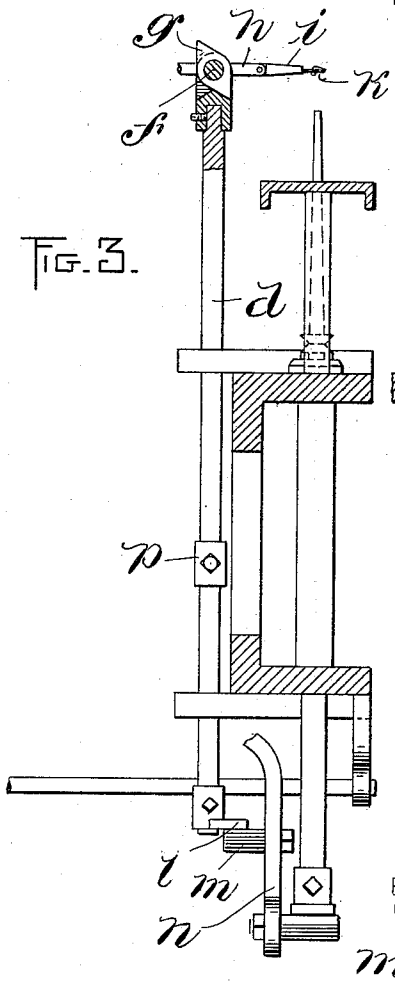
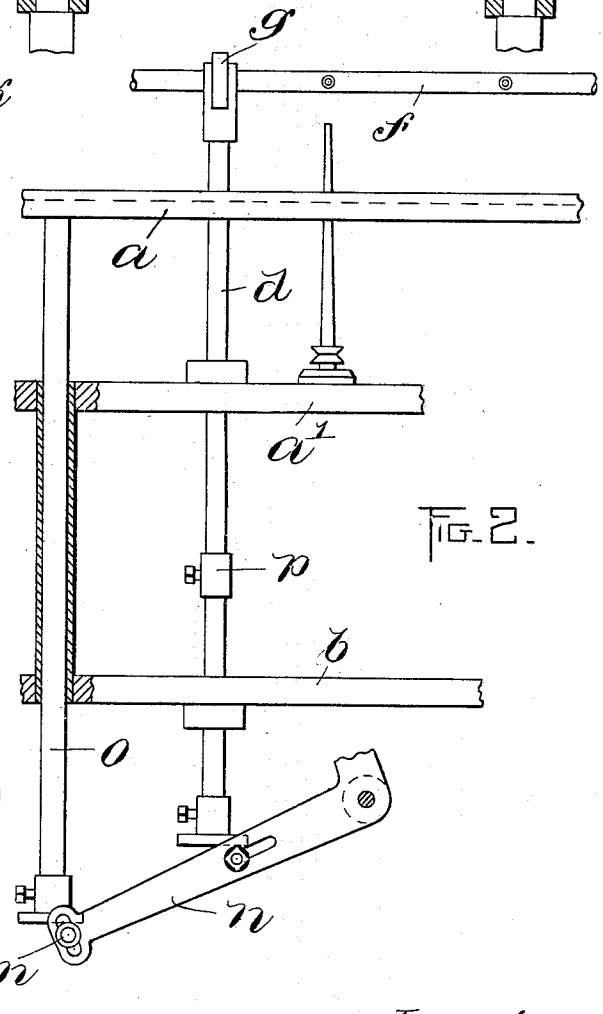


FIG. 2.



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UNITED STATES PATENT OFFICE.

ANDREW C. ALLGOOD, OF HENDERSON, NORTH CAROLINA.

SPINNING-FRAME ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 624,148, dated May 2, 1899.

Application filed May 9, 1898. Serial No. 680,137. (No model.)

To all whom it may concern:

Be it known that I, ANDREW C. ALLGOOD, of Henderson, in the county of Vance and State of North Carolina, have invented certain new and useful Improvements in Spinning-Frame Attachments, of which the following is a specification.

This invention relates to that class of spinning and twisting frames in which a vertical movement in relation to the spindles is imparted to the ring-rail carrying the travelers; and the invention particularly relates to that type in which the thread-guides follow the motions of the ring-rail.

The object of this invention is to produce a simple and inexpensive attachment for spinning-frames to take the place of the thread-board in common use, said attachment providing for the automatic raising and lowering of the thread-guides to any distance from the end of the spindle or bobbin at each "waive" of the traverse or ring-rail.

By means of this invention the separators can be entirely done away with, for the reason that when the ring-rail is at the lower or bottom part of the bobbin the guide-eyes can be adjusted so as to come as near the end of the spindle or quill as desired and remain until the quill is filled to any desired point and then automatically rise with the ring-rail until the quill is full. This traverse motion prevents the yarn from "ballooning" or whipping together and breaking the ends down when the ring-rail is at the bottom or lowest point, and the upward waive of the guide-eyes when the quill is being filled allows the yarn more space between the guide-eyes and spindles, which gives less tension on the yarn. The same applies to both warp and filling frames. This traverse motion of the guide-eyes makes it possible to use a traveler of much less weight, because the guide-eyes, being brought nearer to the end of the bobbin when the ring-rail is at the bottom and raised when the ring-rail is at the top, give less and a more even tension on the yarn and will give a more even twist and prevent a large percentage of the ends from breaking down, thus reducing the scavenger waste and reducing the cost of labor and production. Moreover, by means of this invention yarns can be spun much softer on account of less tension and the more even twist, and finally the attachment can be applied to spinning-frames now in use and in place of the wooden thread-boards now on such old machines.

To these ends the invention consists in the construction and combination of parts, substantially as hereinafter described and claimed.

In the accompanying drawings, Figure 1 represents a perspective view of so much of a spinning-frame as is necessary to illustrate this invention, the present improved attachment being shown as connected therewith. Fig. 2 represents a detail view showing the parts in a different position. Fig. 3 represents a detail section, on a vertical plane, through the cam and the upper end of the lifting-rod shown in Fig. 1. Fig. 4 represents an enlarged detail view of the upper end of one of the thread-eye-lifting rods and the parts carried thereby. Fig. 5 is a view similar to Fig. 4, but showing some of the parts in different position.

Similar reference characters indicate similar parts throughout the several views.

The spindle-rail of the frame is represented at a' and the bottom rail at b, these rails being of the conventional or any preferred type. Secured to said rails are brackets c, which form guides for the lifting-rods d, of which there may be any number to properly support the thread-eyes and their rod presently described.

The upper end of each rod d is provided with a slotted head e, which forms a bearing for the guide-wire rod f, extending over the ring-rail a from end to end of the machine. Secured to the said rod f and located in the slot of each head e is a cam g, having two shoulders 1 and 2, adapted to alternately engage the bottom of the slot in the head e, according to which direction the rod f may be turned. These shoulders 1 and 2 are so spaced as to permit of a rotation of the rod f slightly more than one-fourth of a circle. At suitable points, according to the space between the spindles, the rod f is perforated to receive the guide-wire studs h, each of said studs being jointed to provide an outer arm i, which may be turned upward and backward, as indicated in the drawings, each of said arms i being provided with a thread-eye k.

From this description it will be readily understood that the rod *f* may be rotated to throw all of the eyes back and hold them in position for doffing and may be returned so that the guide-wire studs will be in a horizontal position for spinning. Owing to the joints in the studs *h i* in the outer ends thereof, the arms *i* may be turned upward to enable individual bobbins to be removed for piecing up ends, &c.

The lower end of each rod *d* is provided with a foot *l*, adapted to be engaged by a stud *m*, secured to the lever or arm *n*, which lever *n* may be of the ordinary type employed for lifting the ring-rail through the medium of the usual rods *o*. Preferably the stud *m* is adjustably secured in a slot formed in the lever *n* in order that the amount of elevation imparted to the guide-eye rod may be adjusted. This also provides for adjusting the speed of movement of the rod by varying the distance of the stud *m* from the pivot or fulcrum of the lever *n*.

Each rod *d* is provided with an adjusting-collar *p*, adapted to contact with the upper surface of one of the brackets *c* to limit the downward movement of the rod, and thus limit the lower position of the thread-eyes.

The rods *d* are of such length that their lower ends (the feet *l*) will not rest upon the studs *m* during the lower portion of the movement of the levers *n*, the downward movement of the rods *d* being limited, as above stated, by the contact of the collars *p* with the brackets, this resting of the collars on the brackets continuing until the studs *m* make their lowest point and return and come in contact with the feet of the lifting-rods. Each foot *l* may be adjustably secured to the rod *d* by means of a set-screw, as indicated, to aid in the adjustment of the limit of the highest point to which the guide-eyes may be moved.

It is to be understood that the operation of the spinning-machine will be as usual and that the upper traverse of the levers *n* will, through the medium of the lifting-rods, elevate the guide-wire rod and prevent the yarn from ballooning or whipping together and preserving the uniformity of tension, as above described. My attachment provides for dispensing with all woodwork connected with thread-board and guide-wires, thereby leaving the space between the steel rolls and the ends of the spindles or bobbins almost entirely open, thus allowing all dirt, leaf, naps, &c., to drop directly to the floor and doing away with the wiping and cleaning common to wooden thread-boards now in use. Besides saving the labor of cleaning the thread-board, cleaner yarn is produced, because of the dirt, leaf, &c., being allowed to drop directly to the floor instead of being caught by the thread-board, where heretofore a certain percentage of it would be wiped off or blown off and catch on the yarn, causing lumps and dirty places and occasionally making a break in some future process of manufacture and leaving imperfections in the goods.

I claim—

1. A spinning-machine attachment comprising in its construction a plurality of rods adapted to reciprocate vertically and having adjustable stops for limiting their downward movement, a guide-wire rod supported by said vertically-movable rods and carrying a plurality of guide-wire studs, means for reciprocating the vertical rods simultaneously with and during the upper portion of the waive of the ring-rail, and means for adjusting the amount of elevation and speed of movement of the said vertical rods.

2. A spinning-machine attachment comprising in its construction a plurality of rods adapted to reciprocate vertically and having adjustable stops for limiting their downward movement, a guide-wire rod supported by said vertically-movable rods and carrying a plurality of guide-wire studs, each of said vertically-movable rods having a foot at its lower end, means including levers for vertically reciprocating the ring-rail, said levers being provided with slots, and projections adjustable in the slots of said levers for engaging the feet carried at the lower ends of the said vertically-movable rods.

3. The combination with the rods *d* having slotted bearings at their upper ends, of the guide-wire rod *f* fitted to said bearings, a cam located in one of the slots of the bearings and secured to said rod *f*, said cam having stop-shoulders 1 and 2, and a plurality of jointed guide-wire studs *h* passing through said rod *f*, substantially as and for the purpose specified.

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

ANDREW C. ALLGOOD.

Witnesses:
W. O. MCFARLAND,
JAMES TOMAS CHANCE.