

No. 819,496.

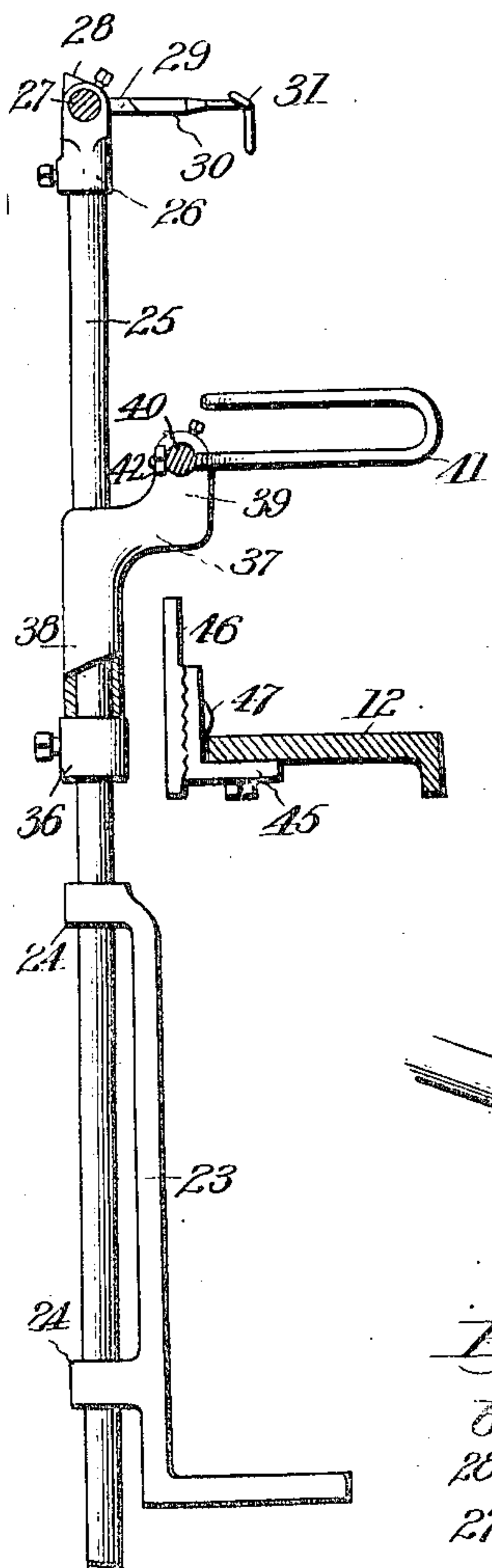
PATENTED MAY 1, 1906.

A. C. ALLGOOD.

SEPARATOR ATTACHMENT FOR RING SPINNING MACHINES.

APPLICATION FILED MAY 3, 1905.

Fig. 2.



Witnesses

E. H. Walker
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Fig. 1.

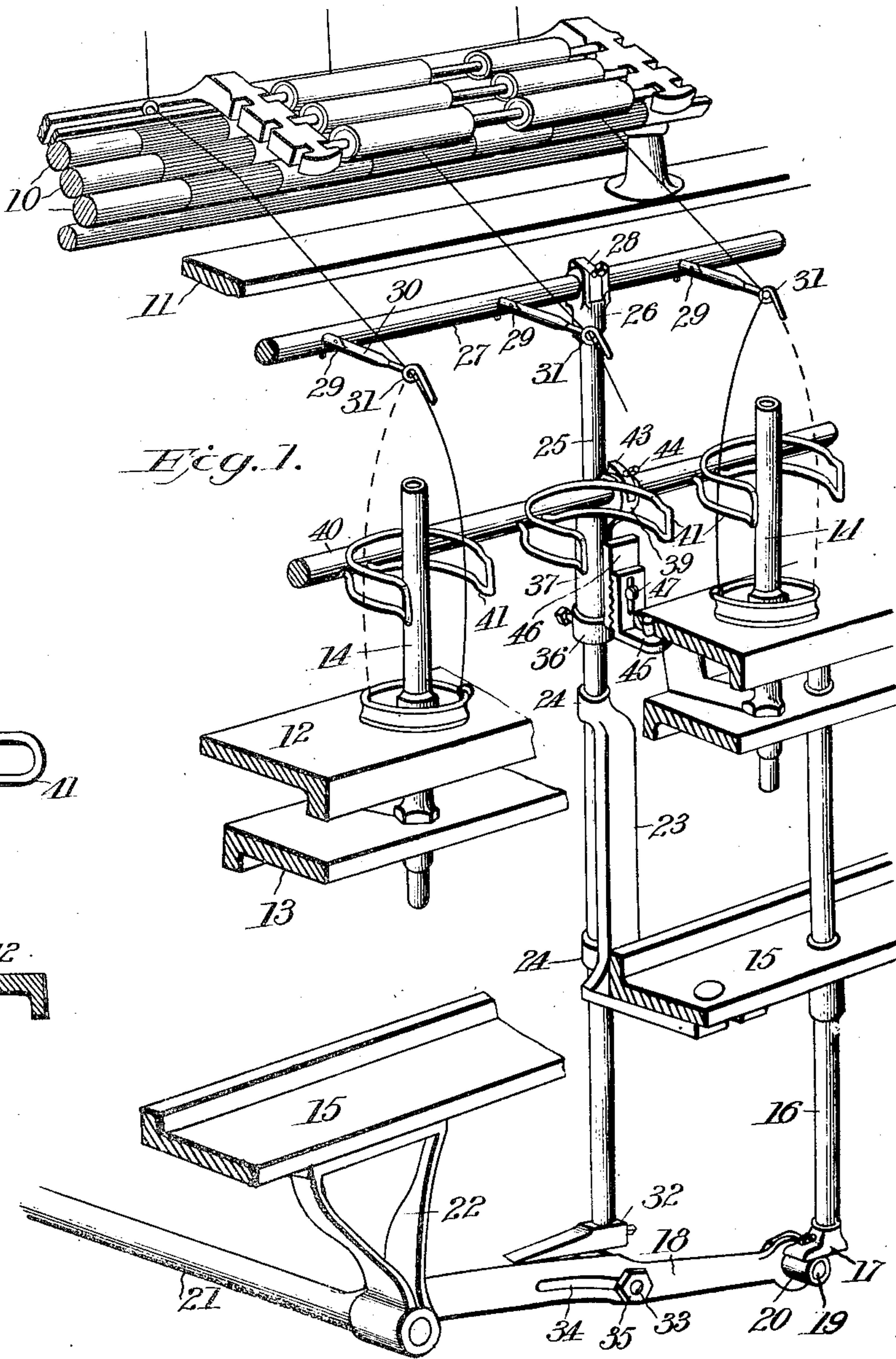


Fig. 3.

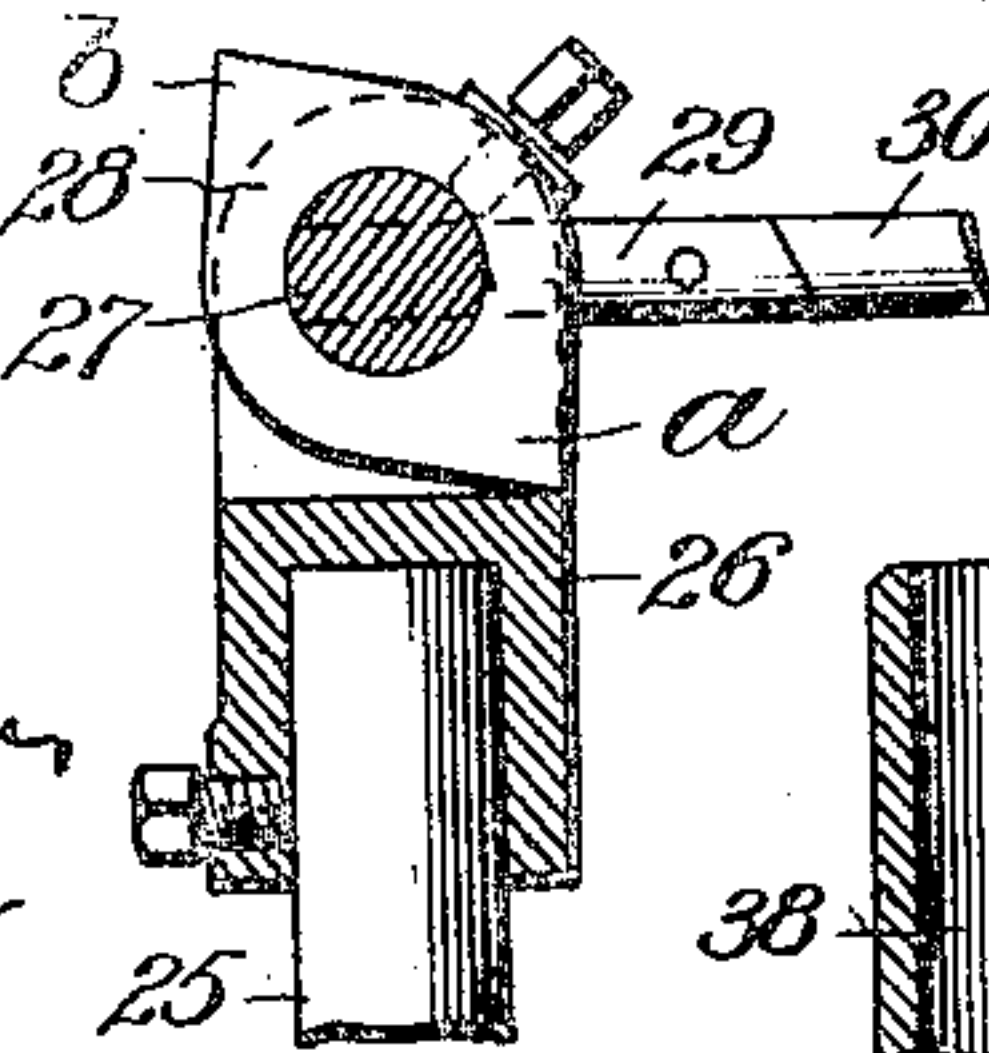
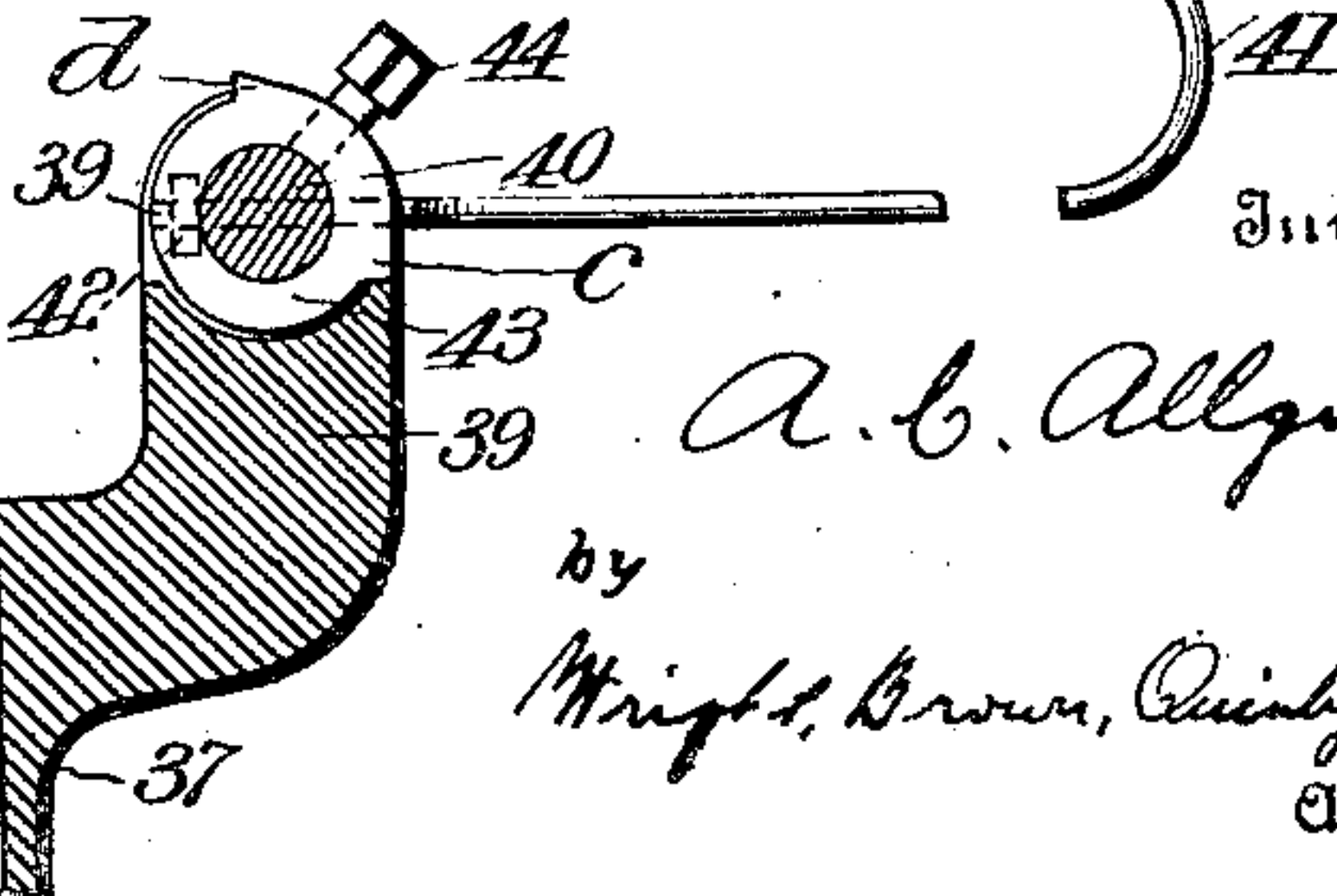


Fig. 4.



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UNITED STATES PATENT OFFICE.

ANDREW C. ALLGOOD, OF HENDERSON, NORTH CAROLINA.

SEPARATOR ATTACHMENT FOR RING-SPINNING MACHINES.

No. 819,496.

Specification of Letters Patent.

Patented May 1, 1906.

Application filed May 3, 1905. Serial No. 258,640.

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 Separator Attachments for Ring-Spinning Machines, 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; and the invention particularly relates to improvements whereby both the thread-guides and the separators follow the movements of the ring-rail.

The object of this invention is to provide a simple and cheap separator and one which will prevent any possibility of the yarn ballooning, even with a very long traverse and high speed.

A further object of the invention is to provide a structure in which the number of parts used is reduced to the minimum and having no parts which are liable to break or get out of order, as is frequently the case with the blade type of separator, and at the same time furnishing all or more of the conveniences than are obtained with the blade-separator.

A further object of the invention is to provide a structure of separator which may be used with and operated by the mechanism for raising and lowering the thread-guides, as shown in my Patent No. 624,148, granted May 2, 1899.

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

Of 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 side elevation of my improved attachment in its relationship to the ring-rail, the latter being shown in section. Fig. 3 represents an enlarged detail view of the upper end of one of the thread-eye-lifting rods and the parts carried thereby, this portion of the attachment being similar to that in my patent above mentioned. Fig. 4 represents an enlarged detail view of the bracket, partly in section, for the separators and separator-rod.

Similar reference characters indicate similar parts throughout the several views.

The delivering-rolls 10, roller-beam 11, ring-rail 12, spindle rail 13, spindles 14, and lower or guide rail 15 are such as in an ordinary type of spinning-frame. One of the lifting-rods for the ring-rail is shown at 16, having a shoe or foot 17 resting upon a roller 20, mounted on a pin or stud 19, projecting from the lifter-arm 18, the latter being actuated by the cross-shaft 21, supported by a bracket 22, these portions of the present attachment being similar to those in my above-mentioned patent.

A bracket 23 is shown as secured to the under side of and rising from the lower or guide rail 15, said bracket having guides 24 for the thread-eye-lifting rod 25. It will be understood, of course, that any number of such lifting-rods as may be necessary to properly support the thread-eyes and their rod are employed in the spinning-frame. The upper end of each rod 25 is provided with a slotted head 26 for the guide-wire rod 27, extending from end to end of the machine above the ring-rail. Secured to the said rod 27 and located in the slot of each head 26 is a cam 28, having two shoulders *a* and *b* adapted to alternately engage the bottom of the slot in the head 26, according to the direction in which the rod 27 may be turned. These shoulders *a* and *b* are so spaced as to permit of a rotation of the rod 27 slightly more than one-fourth of a circle. At suitable points, according to the space between the spindles, the rod 27 is perforated to receive the guide-wire studs 29, each of said studs being jointed to provide an outer arm 30, which may be turned upward and backward, each of said arms being provided with a thread-eye 31. This structure is substantially the same as shown in my patent referred to and produces means whereby the rod 27 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, and of course either of the arms 30 may be turned upward to enable an individual bobbin to be removed for piecing up ends, &c. The lower end of each rod 25 is provided with a foot 32, resting on a pin 33, projecting from the lifter-arm 18, the latter being provided with an elongated slot 34, through which the pin 33 extends. A nut 35 secures the pin 33 in its adjusted posi-

tion in the slot 34, said slot being of a length to permit of a wide range of adjustment to vary the amount of vertical movement that will be imparted to the thread-eyes. Each rod 25 is provided with a collar 36, which may be adjustably mounted on said rod. A bracket 37, having a sleeve portion 38 loose on the rod 25, is engaged by the collar 36, so as to be lifted when the rod 25 moves upwardly. The bracket 37 is provided with a slotted head 39, and two or more of such brackets and heads support the horizontal separator-rod 40, which extends with the ring-rail from end to end of the machine. Each slotted head is formed with a transverse hole which forms a bearing for said rod to permit the latter to be turned thereon.

The separators 41 consist each of a wire bent so as to form as much of a circle as possible, while leaving sufficient space in the front to allow of the separators being thrown back out of the way when doffing. The diameter of the upper circle formed by the separator and the width of the opening will depend on the size of the ring that is used and the size of the full bobbin. The wire forming the separator is bent so as to provide two wires on each side of the ring or bobbin, said two wires being any required distance apart to suit the work to be done. The outer or front ends of the doubled wires are bent outward or flared from a true circle, so as to avoid any liability of the thread being thrown over or around the ends of the separator when a very light traveler and long traverse is used to spin soft twisted yarns at high speeds. The ends of the wire extend back and form shanks or studs, which pass through suitable holes in the rod 40. As indicated in the drawings, the rear ends or shanks of the wire are provided with nuts 42 to retain them in their holes or bearings in said rod.

Secured to the rod 40 by means of a set-screw 44 and located in the slot of each head 39 is a cam-stop 43, having stop-shoulders *c* and *d*, which are adapted to alternately engage the bottom of the slot in the head, according to the direction in which the separators may be turned. These stop-shoulders are so spaced as to permit of a rotation of the rod and the separators slightly more than one-fourth of a circle, so that when spinning they will rest in a substantially horizontal position, and when thrown back they will pass beyond a vertical position and remain in that position until again thrown forward.

As has been stated, each bracket 37 is loose upon the rod 25, and the lowermost position thereof will be determined by the adjustable collar 36. To lift the separators clear of the rings in case of a very short stroke being imparted to the thread-guides, I provide an adjustable bracket composed of two members, the angular member 45 being secured to the ring-rail 12 and having a vertical slot through

which a screw 47 passes into the vertical member 46 of the bracket. Preferably the adjacent surfaces of the two members of the bracket are corrugated, so that the operative portion of said bracket may be lengthened or shortened, as required, and the adjustment retained without any possible chance of slipping.

As will be readily understood, the separators rise and fall with the thread-eyes, excepting at such times as the traverse of the ring-rail causes the vertical members 46 of the adjustable brackets, which are carried by the ring-rail, to engage the under surface of the projecting portions of the sliding brackets 37 and cause the latter to slide on the rods 25, whereby the separators will partake of the movements of the ring-rail.

I claim—

1. As a new article of manufacture, a separator for spinning-frames, consisting of a single piece of wire having parallel upper and lower curved portions and having attaching-shanks substantially in the same plane with one of said curved portions, the separator being formed with a space opposite the attaching-shanks having sufficient width to pass a spindle and a bobbin thereon.

2. As a new article of manufacture, a separator for spinning-frames, consisting of a single piece of wire bent to form a partial circle, the wire at each end of said partial circle being bent back and curved to partially correspond with said partial circle and in a plane parallel therewith, the ends of the wire forming attaching-shanks substantially in the same plane as the said backwardly bent and curved portions, the separator being formed with a space opposite the attaching-shanks having sufficient width to pass a spindle and a bobbin thereon.

3. A spinning-machine having a rotatable separator-rod, wire separators carried thereby, each separator extending both sides of a spindle and formed with a space opposite its connection with said rod, said space having a sufficient width to pass a spindle and a bobbin thereon, and stop devices for limiting the rocking movements of said rod.

4. A spinning-machine having thread-eyes and lifting-rods therefor, means for actuating said rods, a separator-rod, means for supporting said separator-rod, the supporting means being movably supported on said lifting-rods and separators carried by said separator-rod.

5. A spinning-machine having thread-eyes and lifting-rods therefor, means for actuating said rods, a separator-rod, means for supporting said separator-rod, the supporting means being movably supported on said lifting-rods, the separator-rod being rotatably mounted in said supporting means, stop devices for limiting the rocking movements of the separator-rod, and separators carried by said separator-rod.

6. In a spinning-machine, the combination with a separator-rod having curved wireseparators adapted to partially embrace the spindles, of supporting means for said rod, the
5 rod being rotatably mounted in said supporting means, and stop devices for limiting the rocking movements of said rod.

7. In a spinning-machine, the combination with thread-eyes and lifting-rods therefor, of
10 collars adjustably secured to said lifting-rods, brackets having sleeve portions slidably mounted on the lifting-rods and having slot-
15 ted heads, a separator-rod extending through said heads, a cam-stop mounted in the slot of one of said heads and secured to the separator-rod and having shoulders adapted to alternately engage the bottom of said slot, and
separators carried by the separator-rod.

8. A spinning-machine attachment comprising in its construction a plurality of rods adapted to reciprocate vertically, means for reciprocating said rods, a thread-eye rod supported by said vertically-movable rods, sleeves mounted on said vertically-movable
25 rods, means carried by said rods for engaging

the lower ends of the sleeves, bearings carried by said sleeves, a separator-rod mounted in said bearings and having separators, and stop devices for limiting movement of the separator-rod in said bearings.

9. A spinning-machine attachment comprising in its construction a separator-rod and separators, supports for said separator-rod, means for permitting said supports to be given vertical movements, and means carried
35 by the ring-rail for engaging said supports to lift them.

10. In a spinning-machine, the combination with vertical rods, of brackets slidably supported on said rods, a rod having separators and supported by said brackets, and adjustable brackets attached to the ring-rail and adapted to engage the slidably-supported brackets to lift the separators.

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

ANDREW C. ALLGOOD.

Witnesses:

THOMAS J. GARRETT,
GEO. B. ALLEN.