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G. H. BRABROOK.
RING SPINNING MACHINE.
APPLICATION FILED MAY 3, 1906.

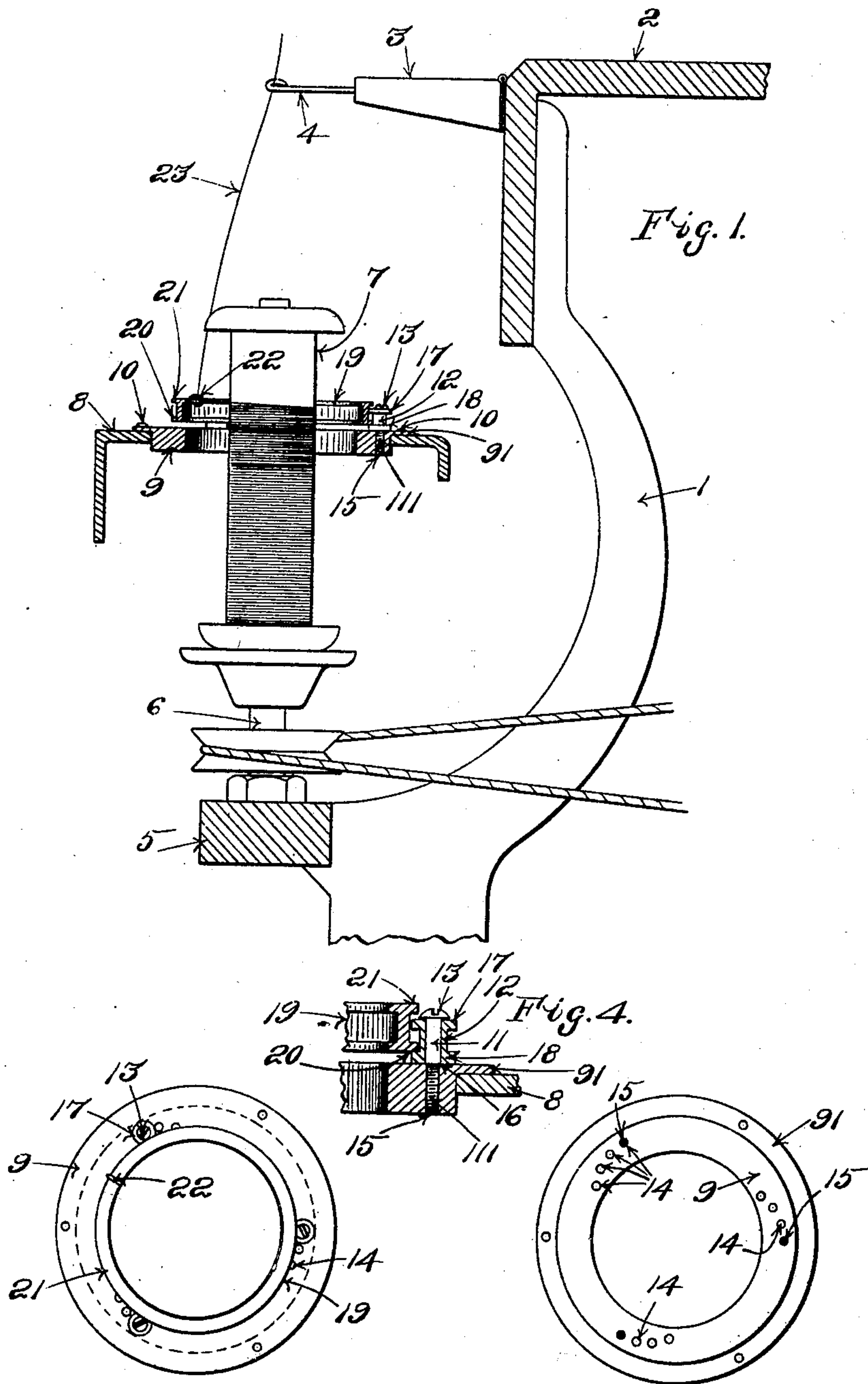


Fig. 2.

Fig. 3.

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UNITED STATES PATENT OFFICE.

GEORGE HALE BRABROOK, OF TAUNTON, MASSACHUSETTS.

RING-SPINNING MACHINE.

No. 897,578.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, GEORGE HALE BRABROOK, citizen of the United States, residing at Taunton, in the county of Bristol and State of Massachusetts, have invented a certain new and useful Improvement in Ring-Spinning Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention relates to ring spinning machines and the object of the invention is to provide an anti-friction bearing for the ring; also to provide means for adjusting the anti-friction bearing with relation to the ring and to so construct the anti-friction bearing and the ring that the ring will have a limited movement away from its seat.

The invention will now be particularly understood from the following description taken in connection with the accompanying drawings, and the novel features will be pointed out and clearly defined in the claims at the close of the specification.

In the drawings,—Figure 1 is a vertical section, partly in elevation, of a portion of a ring spinning machine illustrating my invention. Fig. 2 is a plan view of the combined ring and ring holder and bearings removed from the ring rail. Fig. 3 is a bottom view. Fig. 4 is a detail sectional view on an enlarged scale showing the connection between the anti-friction roll and its stud and the ring and ring holder.

Referring now to the drawings,—1 is the frame, 2 the roller beam, 3 the thread plate, 4 the thread guide, 5 the spindle rail, 6 the spindle, and 7 the bobbin, all of which may be of well known construction. Supported on the ring rail 8 is the ring holder or carrier 9 which, as shown, is in the form of a flanged ring and is preferably secured to the ring rail 8 by screws 10 passing through the flange 91 of the ring into the ring rail. Rising from the upper face of the ring holder 9 and disposed at equal distances from the center of the ring holder 9 are the short studs or posts 11, preferably three in number. These studs, preferably of steel, are preferably arranged at equal distances from each other, as well as from the center, and on these studs are journaled the anti-friction rollers 12 formed preferably from bronze.

Each stud or post 11 is formed with a head 13 and a reduced lower portion 111 which is screw threaded and is secured into one of the holes 14 tapped out in the ring holder 9.

Preferably a bit of soft solder 15 is dropped into the end of the hole 14 after the stud is screwed in to aid in preventing the stud from working loose. The reduced portion 111 forms a shoulder 16 which rests on the upper side of the ring holder 9. The portion of the stud of larger diameter which projects above the ring holder 9 and on which the anti-friction roller is journaled is of sufficient length to allow the anti-friction roller 12 to turn freely thereon without being clamped between the head of the stud and the ring holder 9.

The holes 14 are preferably disposed in groups, each group comprising several holes at varying distances from the center, the different groups corresponding with each other as to distances from the center, as shown, so that the studs 11 may be adjusted therein to bring them into proper relation to the ring 19. By this means, rings of different diameters may be employed.

The anti-friction rollers 12 are grooved in their periphery forming two flanges 17 and 18. A ring 19 is formed with an annular flange 20 which projects from the lower part of its periphery and enters the groove of the anti-friction rollers between the upper and lower flanges 17 and 18 thereof. The studs 11 should be adjusted at such distances from the center that the flange 20 of the ring 19 will not bind upon the anti-friction roller, but will have free rotary movement without too much lateral movement. The width of the groove in the anti-friction rollers is somewhat greater than the thickness of the flange 20 so as to allow a slight vertical movement of the ring 19 which insures for the ring an easy motion.

On the upper side of the periphery of the ring 19 is an annular flange 21 to hold the traveler 22 in the usual manner. The thread 23 passes from the thread guide 4 down through the traveler 22 in the usual manner. As the spindle is driven, tension on the thread is obtained by the weight of the ring 19 and as the spindle is speeded up the ring will rise slightly from its seat on the lower flanges of the anti-friction rollers 12, but will be limited in its upward movement by the upper flanges of the anti-friction rollers 12. The anti-friction rollers will reduce the friction and wear upon the ring 19 and improve the smoothness of running of the machine.

When the ring 19 is in its lowest position

seated on the lower flange of the anti-friction rollers 12, as shown in Fig. 4, there will be as shown a clearance space between the upper flange 17 of the rollers and the flange 21 of the ring on which the traveler is mounted, whereby the moving traveler can pass between the flange 21 of the ring and the flange 17 of the rollers.

What I claim is:

10 1. In a ring spinning machine, in combination with a ring-holder, a rotary ring having flanges which project from its upper and lower edges, a traveler movable on the upper flange of said ring, three or more
15 grooved anti-friction rollers journaled on studs which project vertically from the face of the ring-holder, said rollers forming bearings for the outer periphery of the ring, the grooves in the said rollers being of greater
20 width than the thickness of the lower flange on the ring whereby clearance is afforded for the traveler between the upper flange of the ring and the upper flange of the rollers.

25 2. In a ring spinning machine, in combination with a traveler and traveler ring, a ring-holder having adjustably mounted therein three or more studs, anti-friction rollers journaled on said studs and forming bearings for the traveler ring, the ring being

provided with a group of tapped out holes 30 for each of said studs, each group being disposed in a line eccentric to the center of the ring and corresponding with every other group, the corresponding holes in all the groups being in a line concentric with the 35 center of the ring, whereby the studs may be adjusted to accommodate rings of varying sizes.

3. In a ring spinning machine in combination with a ring holder, a flanged rotary 40 ring, a traveler movable on the flange of said ring, three or more grooved anti-friction rollers journaled on studs which project vertically from the face of the ring holder, said rollers forming bearings for the rotary ring, 45 the traveler supporting flange of said rotary ring being always above the upper ends of the said rollers to afford a sufficient clearance at all times for the passage of the traveler and its supporting flange above the rollers. 50

In testimony whereof I affix my signature, in presence of two witnesses.

GEORGE HALE BRABROOK.

Witnesses:

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