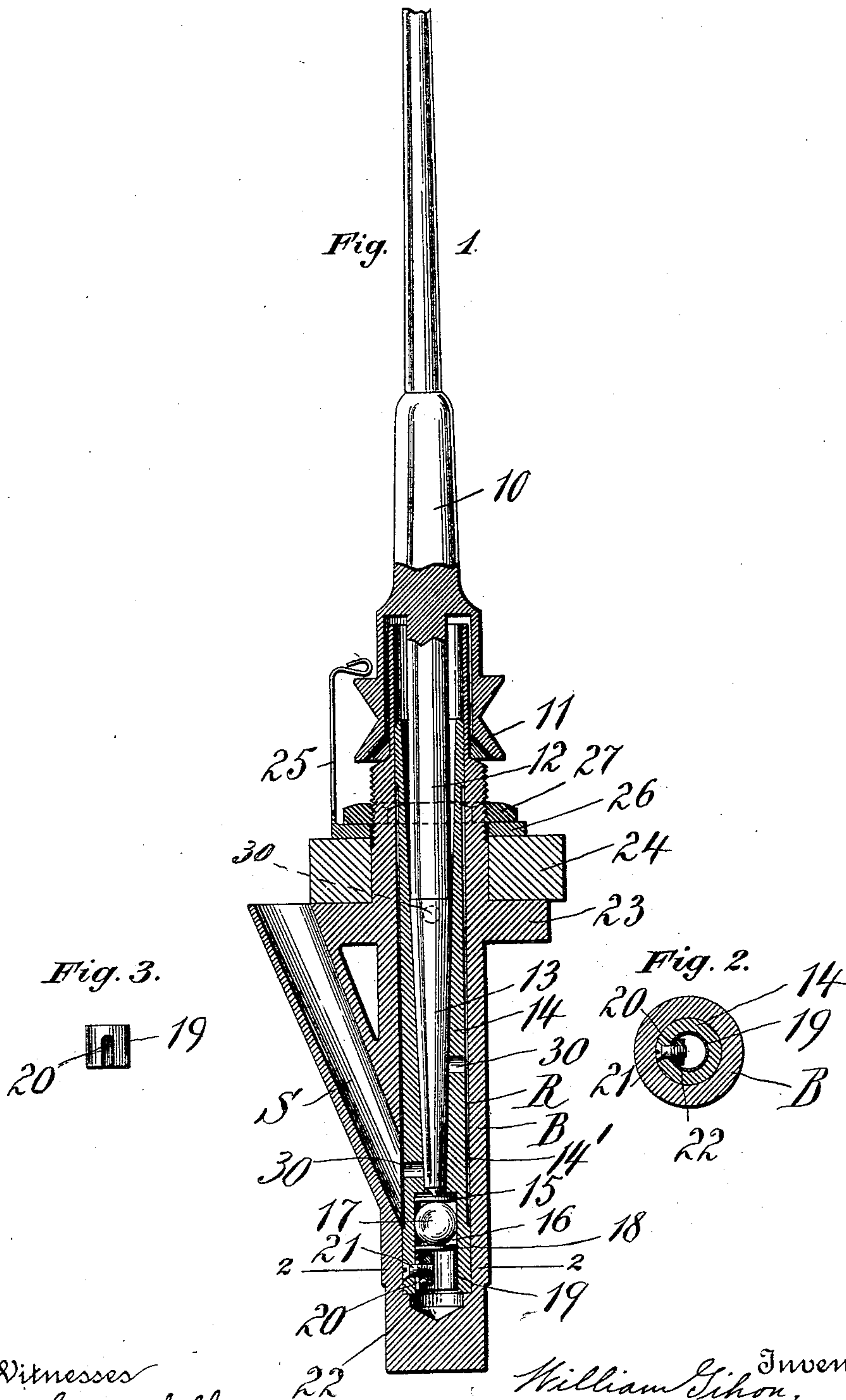


No. 733,641.

PATENTED JULY 14, 1903.

W. GIHON.  
SPINNING SPINDLE.  
APPLICATION FILED JUNE 2, 1902.

NO MODEL.



Witnesses  
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# UNITED STATES PATENT OFFICE.

WILLIAM GIHON, OF CHICOPEE, MASSACHUSETTS.

## SPINNING-SPINDLE.

SPECIFICATION forming part of Letters Patent No. 733,641, dated July 14, 1903.

Application filed June 2, 1902. Serial No. 109,915. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM GIHON, a citizen of the United States of America, and a resident of Chicopee, in the county of Hampden and State of Massachusetts, have invented certain new and useful Improvements in Spinning-Spindles, of which the following is a full, clear, and exact description.

This invention relates to spindles for spinning cotton or wool; and it has for one of its objects the provision of a device whereby said spindle may be adjusted vertically and accurately to determine the running fit thereof in the bolster and in such a manner that all the wearing parts will constantly be subject to lubrication, and that, furthermore, no looseness of the spindle in the bolster will exist, while, on the other hand, said spindle will be perfectly free to rotate. Hence my invention includes as one of its features a device whereby the lower portion of the spindle will be supported, this device consisting of a step comprising a thrust member in direct contact with the lower end of said spindle and mounted in such a manner as to readily yield and adapt itself to the spindle if any excessive wear should cause the longitudinal axis thereof to be deflected from its normal condition.

My invention has, furthermore, for its object the provision of a suitable oil-reservoir within which the spindle-bolster will be supported, said bolster having a plurality of passages through which oil may pass from the reservoir to the interior of the bolster, thus permitting the lubricant to circulate around all of the wearing and wear-sustaining parts.

My invention comprises a base having an oil-reservoir to which the lubricant may be supplied through a spout permanently connected with the base and forming a unitary structure therewith, said spout having its oil-supplying aperture disposed at the outside of the spindle-rail, so that the condition of the supply of oil in the reservoir may be ascertained at any time, and on account of the unitary structure of the base and spout no leak of oil can exist.

My invention has been clearly illustrated in the drawings, in which similar characters denote similar parts, and in which—

Figure 1 represents a central section

through the base and bolster, showing the spindle in its operative position and supported by a step device, as above mentioned. Fig. 2 is a horizontal section taken on line 2 2 of Fig. 1, and Fig. 3 shows a side view in detail of the adjusted member whereby the spindle-supporting step will be retained in its adjusted position.

In the drawings, 10 denotes a spindle having a whirl 11 and a shank 12, the lower portion of which is tapered, as shown in 13, to fit the similarly-formed deep socket centrally provided in the bolster 14. Inasmuch as the taper 13 is so small that the weight of the spindle would cause said shank to wedge itself in place in the bolster 14, means are provided whereby its weight will be supported without causing any undue frictional contact between the spindle-shank 13 and the bolster 14, these means comprising a thrust member 15 adjustably supported in a chamber 16 in and opening from the lower end of said bolster and permitting the thrust member 15 to adapt itself without hindrance to the position of the longitudinal axis of the spindle 10 and its shank 12. Said chamber 16 is considerably larger than and has communication with the bottom of the deep spindle-socket in the bolster. For this reason I preferably support the thrust member 15 on a ball 17, which is also free to turn in the chamber 16 and which is supported by a disk 18, constituting a ball-rest and normally stationary.

From the above description it will be understood that if the wear of the spindle-shank 13 on the inside of the bolster 14 should be excessive on one side thereof and that consequently the longitudinal axis of the spindle should change or deflect the thrust member 15 may accommodate itself to such deflection.

The device whereby the shank will be caused to find its proper seat in the bolster 14 or whereby the vertical position of the spindle in the bolster will be controlled comprises in the preferred form thereof shown a support 19, disposed below the ball-rest 18 and preferably slotted, as shown at 20, to permit the passage of a clamp-screw 21 in engagement with a nut 22, whereby said support may be frictionally held in position within the chamber 16.

The bolster 14 is preferably seated within



a base closed at its bottom and having near its upper portion a flange 23, the upper face of which rests against the under side of the spindle-rail 24, while at the upper face the spindle guard or retainer 25 is carried as a part of washer 26, surrounding that portion of the base B which projects above the rail and clamped in place by a nut, such as 27, whereby the ring 26, guard-rail 24, and base B are firmly secured together. The aforesaid washer 26, with the guard 25, is constructed integrally from a single blank of thin metal, the projecting part 25 being turned up substantially vertically from the plane in which the washer rests and has its free extremity intumed to detachably engage with a spring reaction over the whirl of the spindle, as clearly shown in Fig. 1 of the drawings.

The reservoir is herein indicated by R, and consists, substantially, of a cylindrical chamber adapted to receive the bolster 14, the central portion 14' of which is reduced to form an annular space in which the oil may rise and be conducted through a series of channels or passages 30 into the interior of the bolster.

In order to facilitate the lubrication, the oil-passages 30 are preferably superposed to each other, so as to connect the reservoir and bolster at levels of different heights, the reservoir being filled through a spout S, preferably formed integral with the base B and so disposed relative thereto that this filling-aperture has a position both beyond the rail 23 and also below the top thereof, as clearly shown in Fig. 1, so that oil may be supplied to said reservoir without in any way disturbing the spindle or its support and so that there need be no liability of having oil smeared on the top of the rail. The oil finding its way through the aforementioned perforations 30 into the spindle-socket of the bolster may, through the aforementioned communication between such socket and the chamber 16 thereunder, find its way to lubricate the disks and ball constituting the spindle-support to insure the utmost freedom of action between said parts.

The operation of adjusting my improved spindle is substantially as follows: If it is found that looseness exists between the spindle and the bolster, the retainer 25, which is preferably resilient, may be thrown back sufficiently to permit the whirl 11 of the spindle to pass the same. After the spindle has been removed the bolster 14 may be withdrawn from its seat in the base B, thus leaving the clamping-screw 21 free for manipulation. By reinserting the spindle-shank 13 into its seat

in the bolster 14 the supporting member 19 may be vertically adjusted until the depressed portion 14 has its required bearing in the bolster, after which the clamping-screw 21 may be tightened to hold the now-adjusted support 19 in proper position, and the bolster will be ready to be reinserted into the base B, and the spindle may now be replaced in the bolster, as before.

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

1. The combination with a spindle-base having the bolster-socket therein closed at its bottom, and having an oil-entrancespout leading to said socket, of a bolster, fitted in said base-socket having the deep spindle-socket, and, therebelow, and at its lower end, the chamber 16, and having oil-passages 30 through its wall leading into the spindle-socket, a vertically-adjustable support in the lower portion of said chamber, a ball supported thereon, a disk supported on the ball, and a spindle within the socket in the bolster having its lower end resting on said disk, substantially as and for the purposes set forth.

2. The combination, with a spindle; of a bolster having a chamber; a thrust member for said spindle; a ball for supporting said thrust member; a ball-rest mounted for vertical movement in said chamber; a slotted sleeve disposed below said rest; and means for adjusting said sleeve vertically.

3. The combination, with a spindle; of a bolster having a chamber; a thrust member for said spindle; a ball for supporting said thrust member; a ball-rest mounted for vertical movement in said chamber; a support disposed below said rest; and a clamping-screw for adjusting said support vertically and for holding the same in adjusted position in the bolster.

4. The combination, with a spindle; of a bolster having a chamber; a thrust member for said spindle; a ball for supporting said thrust member; a ball-rest mounted for vertical movement in said chamber; a slotted sleeve disposed below said rest; and a clamping-screw passing through said slot and a nut in engagement therewith, for holding said sleeve in adjusted position in the bolster.

Signed by me, at Springfield, Massachusetts, in the presence of two subscribing witnesses.

WILLIAM GIHON.

Witnesses:

WM. S. BELLOWS,  
M. A. CAMPBELL.