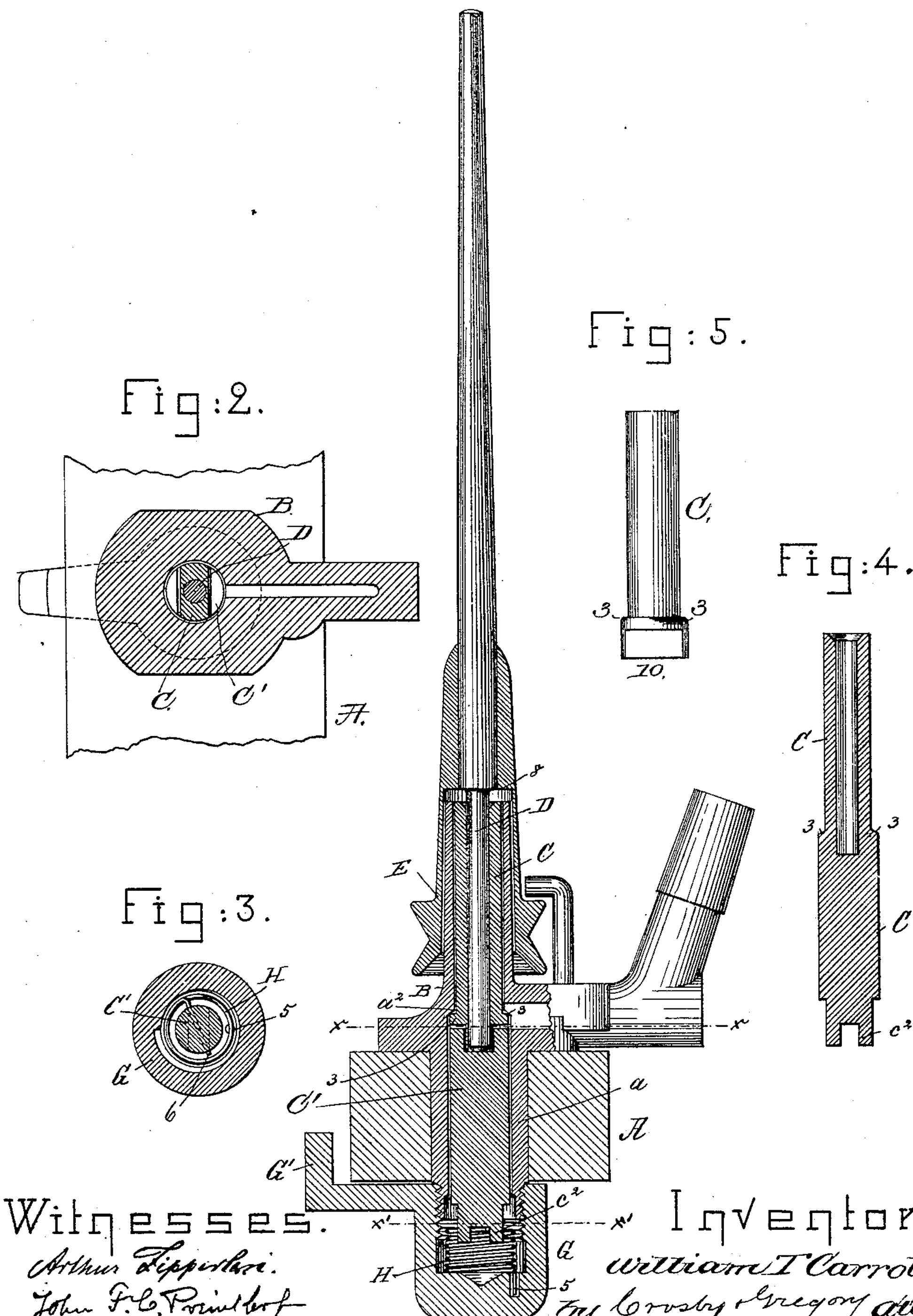
(No Model.)

W. T. CARROLL.

SPINDLE SUPPORT.

No. 344,304. Patented June 22, 1886.

Fig:1. Fig:2. Fig:3. Fig:4. Fig:5.



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UNITED STATES PATENT OFFICE.

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SPINDLE-SUPPORT.

SPECIFICATION forming part of Letters Patent No. 344,304, dated June 22, 1886.

Application filed September 15, 1884. Serial No. 143,126. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM T. CARROLL, of Worcester, county of Worcester, State of Massachusetts, have invented an Improvement in Spindle Supports, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention has for its object to improve the construction of the supports for spindles; and my invention consists, essentially, in the combination, with a rail, of a supporting-case open at its lower end to receive the bolster, and with a cap provided with an upwardly-extended arm, the said cap being adapted to be secured to the lower end of the case to retain the said case in the rail, the cap having an arm to come in contact with the rail and prevent the rotation of the cap.

My invention also consists in a rail and supporting-case therein open at both ends and provided with a shoulder, and a bolster having a shoulder to meet the shoulder of the supporting-case, and notched at its lower end to receive a spring to support the weight of the bolster, combined with a spring to engage one end of the bolster, and with an unperforated cap to close the open lower end of the said case oil-tight, and to hold fixedly one end of the said spring, substantially as will be described.

Other features of my invention will be described in the claims at the end of this specification.

The oil-chamber can be cleaned out after removing the cap.

The particular features in which my invention consists will be herein described, and particularly pointed out in the claims.

Figure 1 is a vertical section taken through the supporting-case, whirl, bolster, nut, and bolster-rail, the spindle in the bolster, the oil-reservoir, and the hook being shown in elevation. Fig. 2 is a section of Fig. 1 in the line $x\ x$, Fig. 1. Fig. 3 is a section in the line $x'\ x'$, Fig. 1; and Fig. 4, a vertical section of a modified form of bolster, and Fig. 5 an enlarged detail of the upper end of the bolster shown in Fig. 1.

The rail A, common in ring-spinning frames, receives in it the neck a of the supporting-case B, which is bored through from bottom to top, the diameter of the bore in the neck being greater than in the case above the rail, thus forming a shoulder or projection, a^2, against which may strike a shoulder or projection, 3, formed on the bolster C, which receives the spindle D, the latter having attached to it the usual sleeve-whirl, E. The lower end of the case B is provided with a screw-thread upon which is screwed a threaded cap, G, made as a cup, provided, preferably, with an attached arm having an upright, G'. The cap is shown as provided with a small hole, 5, in which is inserted one end of a wire bent to form a spring, H, the other end of the wire being turned diametrically across the upper portion of the body of the spring, and serving as a yielding seat for the lower end, c^2, of the step part C' of the bolster, the said spring acting to restrain the rotation of the bolster in the supporting-case, and also to support the bolster in a yielding manner and keep the shoulder or projection 3 up toward the shoulder a^2 of the supporting-case.

To assemble the parts most conveniently the supporting-case B will be set into the rail, the bolster will be pushed up through the lower end of and into the case, and the cap will be placed against the lower end thereof with the end 6 of the spring in the notch c^2 of the step part of the bolster, and then the case will be rotated until the cap is screwed up to the under side of the rail.

The arm or projection G' of the cap will in practice come against the rail and prevent the cap from rotating.

The removal of the cap from the lower end of the case enables the oil-well to be cleaned without removing the spindle.

The bolster is placed in the case with what is known as a "loose" fit, so that oil can enter between them, and when the usual bobbin is being doffed from its spindle the shoulders referred to prevent the bolster from being lifted out of the supporting-case.

The shoulder 8 of the sleeve-whirl and the shoulder of the spindle next to it do not touch the top of the bolster.

The bolster shown in Fig. 1 is made in two

parts; but, if desired, it may be made in one integral piece, as in Fig. 4.

The bolster will have suitable passages for the circulation of oil which will stand in the support.

By making the bolster in two parts dividing it nearly opposite the lower end of the pintle of the spindle, and connecting the two parts by a projection of one entering a slot of the other, the oil is permitted free access to the foot of the pintle.

By the term "shoulder," as indicated at a^2, I mean to include any suitable projection—such as a pin—the purpose of the projection or pin being merely to prevent the bolster inserted from the lower end of the case from being lifted out from top, but yet not restraining the bolster from being freely removed from the bottom of the said case.

I have used the term "shoulder" 3, and thereby I mean to include any suitable equivalent enlargement or projection of the bolster to co-operate with the shoulder a^2 of the supporting-case to prevent the bolster from being lifted therefrom.

The cap G closes the lower end of the supporting-case, and holds the spring in place; and it will be obvious that it is not essential for such purpose that the cap of the particular shape be always used.

The bolster shown in Fig. 1 is composed of the upper part, C, having its lower end, 3, enlarged, and slabbed, as shown at 10, (see Fig. 5,) to form a head, the part C′ having at its upper end a transverse slot to receive the said head, as best shown in Figs. 1, 2, and 5.

I claim—

1. The supporting-case and cap, provided with the upwardly-extended arm, combined with the rail A, the arm by its contact with the rail preventing the rotation of the cap, substantially as described.

2. The supporting-case bored from end to end, and, provided with a shoulder or projection, and a bolster made in two parts placed loosely therein, and connected together by a projection in one entering a notch in the other, the said bolster being capable of being inserted in the supporting-case only through the open lower end of the latter, combined with a cap to close the lower end of the supporting-case, and sustain the weight of the bolster, and with means to restrain the free rotation of the bolster in the supporting-case, substantially as described.

3. The rail A, the supporting-case open at both ends, and provided with the shoulder a^2, the unperforated cap to close the open lower end of the supporting-case oil-tight, and a spring having one end fixed with relation to the said cap, combined with the bolster having a shoulder to meet the shoulder a^2 of the supporting-case, and notched at its lower end to be engaged by the said spring, the latter supporting the weight of the bolster in a yielding manner, and also restraining the free rotation of the bolster in the supporting-case, all substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM T. CARROLL.

Witnesses:
E. D. BANCROFT,
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