

(No Model.)

E. H. RYON.
SPINDLE SUPPORT.

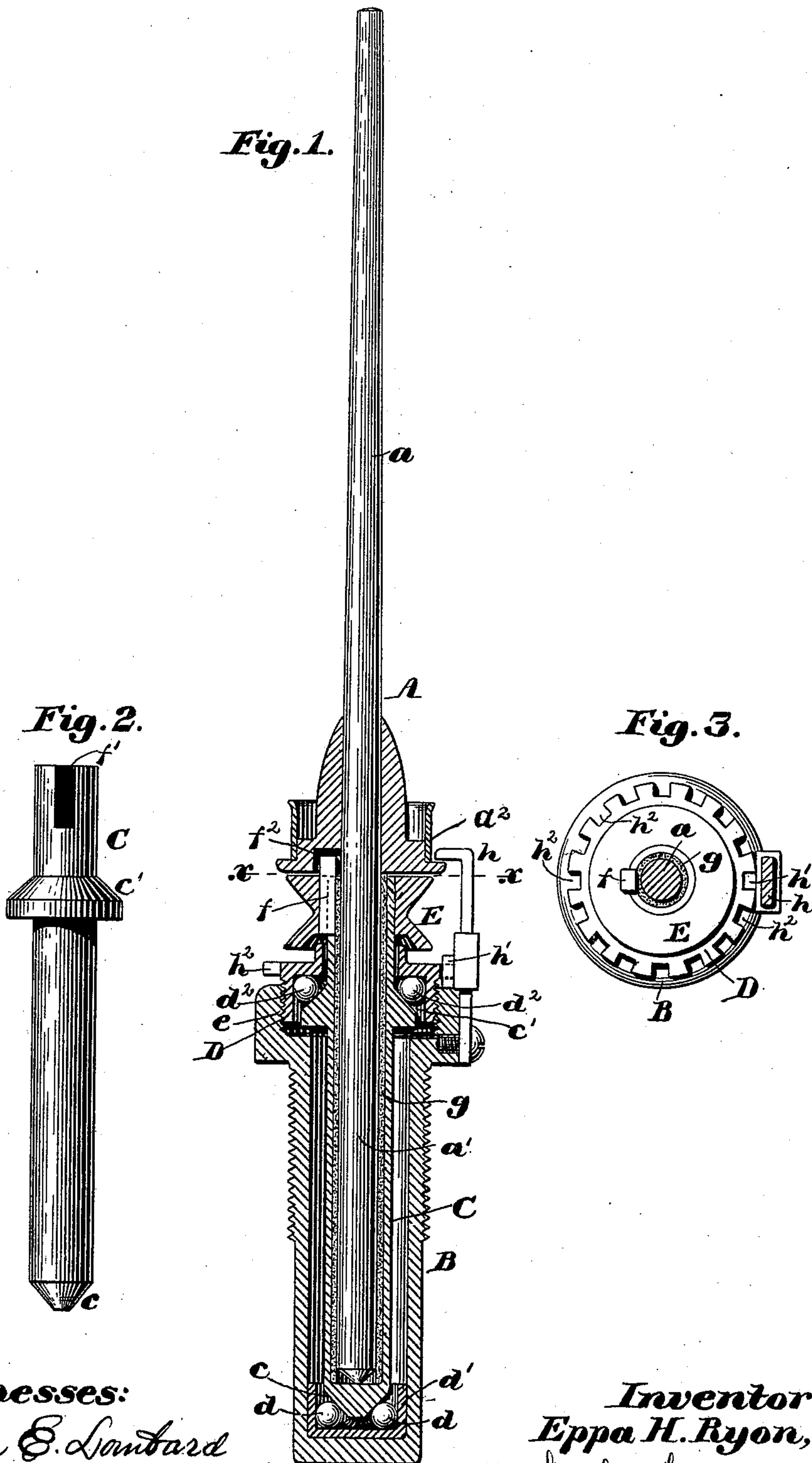
No. 602,171.

Patented Apr. 12, 1898.

Fig. 1.

Fig. 2.

Fig. 3.



Witnesses:
Walter E. Lombard
Thomas J. Drummond

Inventor:
Eppa H. Ryon,
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UNITED STATES PATENT OFFICE.

EPPA H. RYON, OF WALTHAM, MASSACHUSETTS, ASSIGNOR OF ONE-HALF
TO A. M. GOODALE, OF SAME PLACE.

SPINDLE-SUPPORT.

SPECIFICATION forming part of Letters Patent No. 602,171, dated April 12, 1898.

Application filed February 20, 1897. Serial No. 624,391. (No model.)

To all whom it may concern:

Be it known that I, EPPA H. RYON, of Waltham, in the county of Middlesex and 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.

10 This invention has for its object the production of a novel spindle-support.

In this my present invention the pintle of the spindle is placed in a bolster which is rotated positively, it taking the spindle with it, 15 and preferably I interpose a packing between the pintle and the interior of the bolster. The lower end of the bolster is shown as supported by a ball or balls, they constituting a rolling step, and the bolster has an inclined 20 or tapered shoulder between which and a ring fixed with relation to the supporting-case I interpose a series of balls.

In this invention the positively-rotated bolster is supported wholly by balls or rolling 25 surfaces. The whirl, suitably attached to this bolster, also carries a suitable projection or shoulder which coöperates with a notch or projection of the flange on the spindle against which the base of the bobbin rests.

30 Figure 1, in partial vertical section, shows a spindle and a support therefor embodying my invention; Fig. 2, an external view of the bolster; Fig. 3, a section below the line x , Fig. 1.

35 The spindle A, composed of a blade a and pintle a' and of any usual or suitable length and diameter, is provided with a flange a^2 of usual character on which rests the lower or head end of any usual bobbin. (Not shown.)

40 The supporting-case B is adapted to be secured to a spindle-rail in any usual manner.

The bolster C consists of a tube, preferably closed at its lower end, as at c , and provided 45 above its end with an inclined or tapered surface c' .

The closed end c is shown as made conical, and said end is represented as being sustained in and free to turn on a suitable rolling surface, the drawings illustrating a series 50 of balls d , held in a ball-case; but instead of the balls shown I may employ any other usual

number or shape of balls or other bearings commonly used in such positions.

The upper end of the supporting-case is shown as provided with a screw-thread at e , 55 into which, after the bolster has been put in the case B, is screwed the ring D, a series of balls or rolling surfaces d^2 being interposed between the said ring and the said inclined surface of the bolster, said balls resisting the 60 strain of the band on the whirl E, which is set onto the top of the bolster, the pin or projection f , held in the whirl, entering a notch at the upper end of the bolster to thus so connect the whirl and bolster that when the band 65 is put in the groove of the whirl the bolster will be rotated, and the said projection entering a notch f^2 in the flange a^2 causes the rotation of the spindle with it. The pintle of the spindle entering the bolster is surrounded 70 by a packing g , which yields slightly to any vibration of the spindle.

Rising from the supporting-case is a hook h , which overlaps the flange and keeps the spindle down in the bolster, and the shank 75 of the hook has a sliding block provided with a lip h' , which may enter any one of a series of notches h^2 in the ring to thus hold said ring in its adjusted position.

Having fully described my invention, what 80 I claim, and desire to secure by Letters Patent, is—

1. A bolster having an attached whirl, a surrounding support to receive said bolster, a spindle having its pintle within said bolster and means to connect the said whirl and 85 bolster with the spindle in order that the latter may be rotated with the bolster and its whirl, and ball-bearings interposed between the said bolster and its supporting-case near said whirl to constitute a rolling lateral bearing for the bolster, substantially as described. 90

2. A bolster having an attached whirl, means to sustain said bolster, a spindle having its pintle within said bolster, and means to connect the said whirl and bolster with the spindle in order that the latter may be rotated 95 with the bolster and its whirl, and a packing interposed between said pintle and bolster, substantially as described. 100

3. A supporting-case, a bolster having at its exterior a tapered or inclined surface, a

ring surrounding said bolster, rolling surfaces interposed between said ring and the tapered or inclined surface of the bolster, and a whirl connected with and to rotate the bolster, substantially as described.

4. A supporting-case, a bolster having at its exterior a tapered or inclined surface, a rolling surface to sustain the weight of said bolster, a ring surrounding said bolster, rolling surfaces interposed between said ring and the tapered or inclined surface of the bolster, and a whirl connected with and to rotate the said bolster, substantially as described.

5. The supporting-case, its notched ring, a bolster having an attached whirl, and a spindle provided with a flange independent of and located above said whirl, combined with a hook to overlap the said flange, and a movable lip to enter a notch in the said ring, substantially as described.

6. The bolster-case, a bolster therein provided near its upper end with an inclined or tapered surface, a whirl attached to said bolster, and a ring interposed between said tapered or inclined surface and the lower end of the whirl, combined with a series of balls or rolling surfaces interposed between said ring and said tapered or inclined surface, substantially as described.

7. A supporting-case, a spindle, a bolster

having an inclined or tapered surface and rotated in unison with said spindle, combined with a ring mounted on the supporting-case and a series of balls interposed between said inclined or tapered surface of the bolster and said ring, substantially as described.

8. A supporting-case and a spindle, a bolster in which the pintle of the spindle is inserted loosely, means to connect said spindle and bolster that they may be rotated in unison with a suitable packing interposed between said bolster and spindle, substantially as described.

9. A supporting-case and a spindle, a bolster in which the pintle of the spindle is inserted loosely, means to connect said spindle and bolster that they may be rotated in unison, combined with a bearing in said supporting-case for the end of said bolster, and with a suitable packing interposed between said bolster and spindle, substantially as described.

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

EPPA H. RYON.

Witnesses:

GEO. W. GREGORY,
MARGARET A. DUNN.