

No. 636,214.

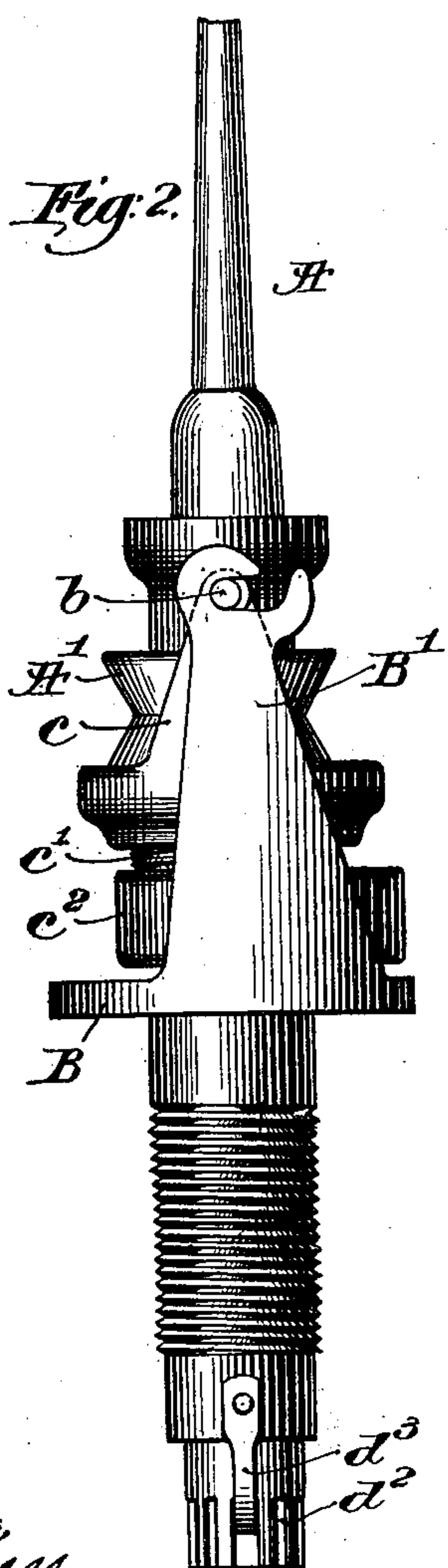
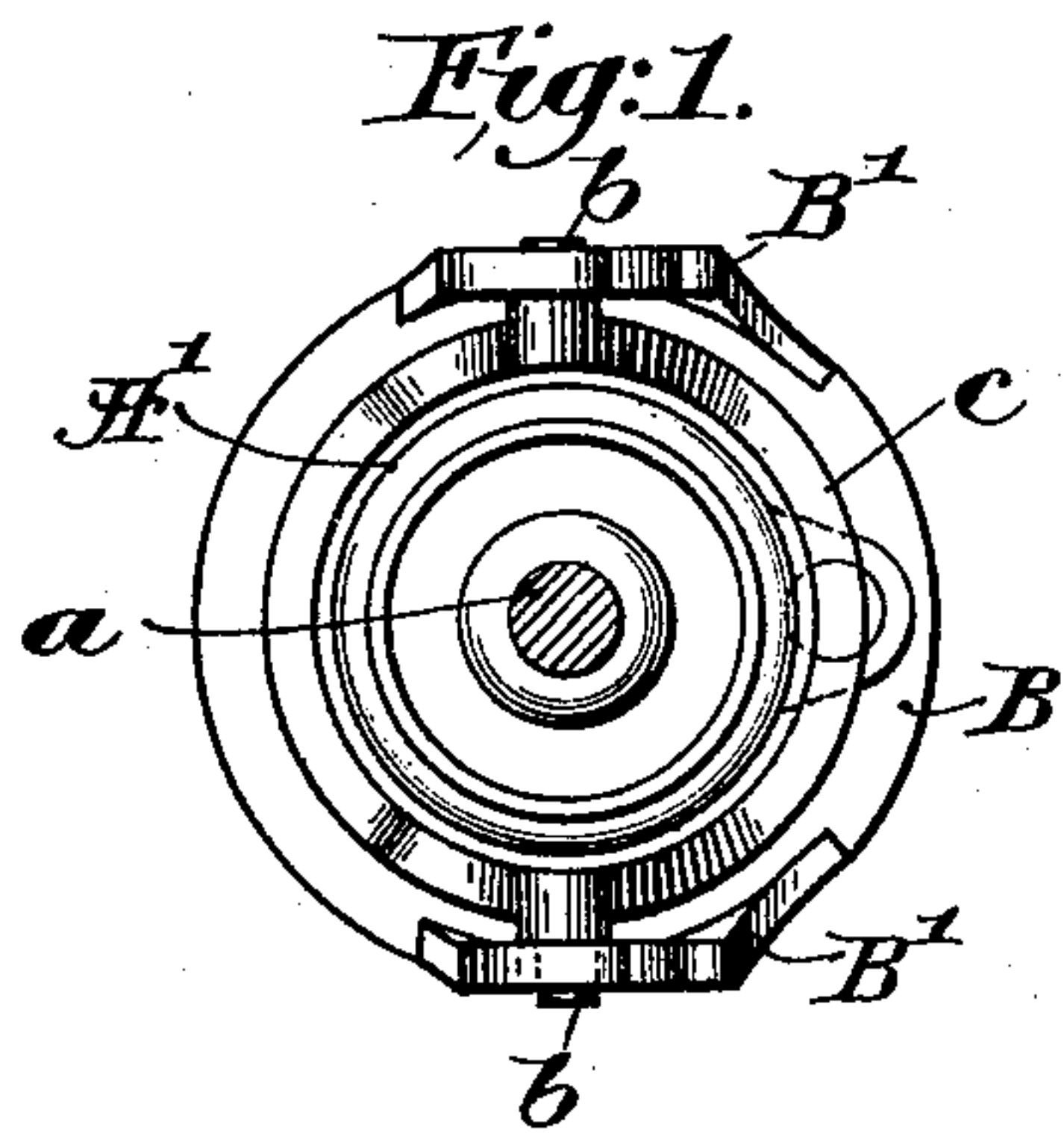
Patented Oct. 31, 1899.

E. H. RYON.

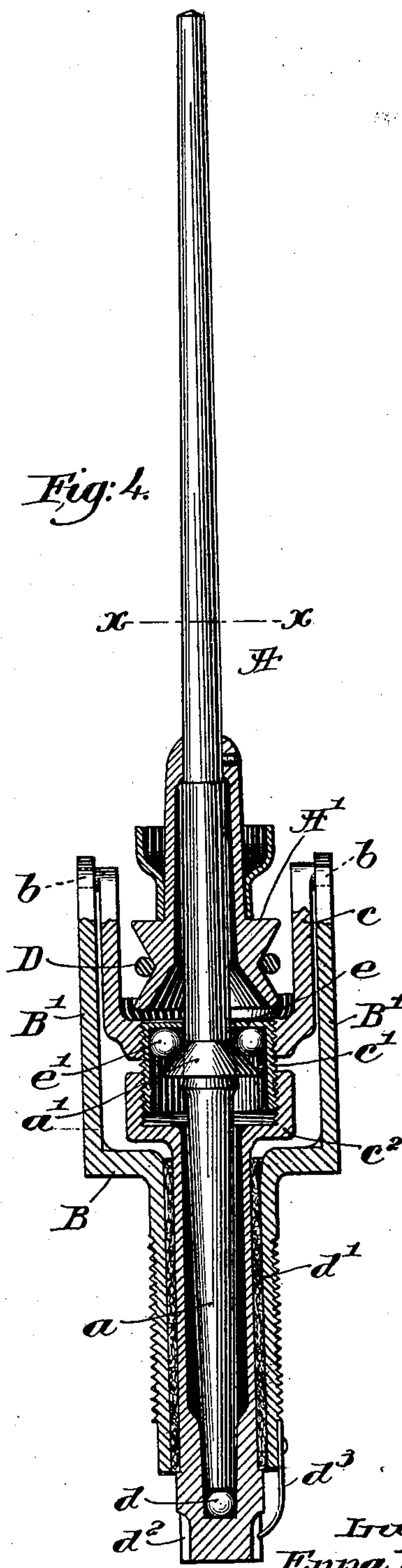
SPINDLE SUPPORT FOR SPINNING MACHINES.

(Application filed Oct. 5, 1898.)

(No Model.)



*Fig. 4.*



Witnesses,  
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# UNITED STATES PATENT OFFICE.

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

## SPINDLE-SUPPORT FOR SPINNING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 636,214, dated October 31, 1899.

Application filed October 5, 1898. Serial No. 692,679. (No model.)

*To all whom it may concern:*

Be it known that I, EPPA H. RYON, of Waltham, county of Middlesex, State of Massachusetts, have invented an Improvement in  
5 Spindle-Supports for Spinning-Machines, 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 spindle-support wherein the tendency of the band-pull to tip the spindle out of vertical alinement is substantially overcome.

In accordance with my invention I have  
15 provided a bolster or bearing which I have pivoted at a point above the line of band-pull. I have also shown the end of the pintle of the spindle entered loosely in a bearing in the bolster and the weight of the spindle is borne  
20 by a rolling bearing, and also, preferably, I have shown the spindle as provided with a lateral bearing in said bolster somewhat below the line of band-pull, said bearing being shown as of the class known as "roller bearings."  
25

Figure 1 shows a section below the dotted line *x* of Fig. 4 of a spindle and the support embodying my invention in one practical form. Fig. 2 is a partial side elevation of the  
30 spindle and support shown in Fig. 1. Fig. 3 shows the lower end of the bolster, and Fig. 4 shows the spindle in elevation and the bolster and supporting-case in section.

The spindle A, provided with a sleeve-whirl  
35 A', has an extended pintle *a*, and at a point below the band-pull of the whirl the pintle has a conical collar or surface *a'*.

The supporting-case B is shown as having a shank threaded as usual and adapted to be  
40 inserted in a hole in a spindle-rail, (not shown,) said threaded shank thereafter receiving a suitable nut by which to confine the said case in usual manner to the rail. Rising above the supporting-case, as shown, are two up-  
45 rights or extensions B', having bearings of suitable or usual construction to receive studs or pivots *b*, which support the bolster to be described in a pivotal manner at a point above the band-pull. As herein shown, for simplicity of construction the uprights B' have slots  
50 and the studs or pivots *b* extend from a point

of the bolster and enter said slots, thereby supporting the bolster.

The bolster herein shown as embodying one practical form of my invention is represented  
55 as composed of a plurality of parts or pieces *c c' c²*. The part *c²* is bored to receive loosely the pintle of the spindle and the lower end of said bore is shown as constructed to embrace the extremity of the pintle loosely, the said  
60 extremity standing, preferably, on a roller-bearing *d*. The part *c²* is extended, as shown, through an elastic packing *d'*, located in the shank of the supporting-case, and the lower end of said part *c²* is represented as provided  
65 with a series of notches *d²*, either of which may be engaged by a locking or restraining projection *d³* to prevent any accidental rotation of said part *c²*. The upper end of the part *c²* is  
70 shown as threaded, and said threads are engaged by the threaded part *c'*, it constituting a coupling part and also a means for adjustment of the part *c²* of the bolster vertically. The top part *c* of the bolster is shown shaped as  
75 a yoke, the arms of the yoke being supported by the studs *b* in the bearings of the uprights B'. The central part of the part *c* is threaded, and said threads are engaged by the threads  
80 of the part *c'*. The part *c'* is represented as a cylindrical form, wholly open at one end and having at the opposite end a head *e*, having a hole to fit over the spindle above its  
conical shoulder or sleeve *a'*, the space between said shoulder and head *e* being shown  
85 as filled with a series of balls *e'* to thereby constitute at that point a roller or antifriction lateral bearing. Rotation of the parts *c'* and *c²* with relation to *c* enables any wear of the  
90 said lateral bearing to be compensated for, and the rotation of the part *c²* or *c'* enables the top part of the spindle to be raised as desired, the projection *d³* being at such times  
disengaged from the notched part *d²*. The adjustment of the part *c²* or *c'* enables proper  
95 contact to be always insured of the moving parts of the spindle with the rolls *e'* and *d*.

The band D pulls in the groove of the whirl above the lateral bearing of the spindle, said  
bearing being located immediately below the  
100 whirl, and the elastic packing resists said strain and prevents undue jarring or vibration of the spindle and bolster; but such



strain put on the spindle above such lateral bearing has a tendency to tip the spindle out of a true vertical plane; but on pivoting the upper end of the bolster on the studs *b* at a point above the line of band-pull the tendency to tip the spindle out of vertical plane is reduced to the minimum.

The whirl in practice will be removably attached to the spindle in any usual or suitable manner, as by a pin or slot or screw-threads.

This invention is not limited to the particular construction shown for the bolster, so long as it has a pivotal point at or above the line of band-pull and the lower end of said bolster fits loosely a surrounding supporting-case.

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

1. A spindle having a whirl, and a supporting-case, combined with a bolster pivoted at a point at one side the line of band-pull and presenting a lateral bearing for the spindle at the opposite side of said line of band-pull, substantially as described.

2. A supporting-case, a bolster having its lower end inserted in said case, and having its upper end pivoted with relation to said case, and a packing to surround the lower end of said bolster, combined with a spindle having its pintle supported loosely in said bolster and provided with a whirl, said spindle having a lateral bearing in said bolster, the band-pull on the whirl of the spindle coming between the pivotal point of the bolster and the said lateral bearing, substantially as described.

3. A spindle, the bolster-case, uprights extended thereabove and having bearings, combined with a bolster having a loose fit in said case, and provided at its upper end with studs to constitute pivots for said bolster in said bearings, whereby the upper end of the said bearing is enabled to resist some of the strain of the band-pull on the whirl of the spindle, substantially as described.

4. A spindle, the bolster-case, the uprights extended thereabove and having bearings,

combined with a bolster having at its upper ends studs to enter said bearings, whereby the upper end of the said bearing is enabled to resist some of the strain of the band-pull on the whirl of the spindle, and an elastic packing surrounding the shank or lower end of the bolster, whereby it may move to a limited extent, substantially as described.

5. A supporting-case, a bolster composed of a plurality of parts united by a screw-thread, the lower end of the bolster having a loose fit in said case, and being pivoted at the upper end of said case, combined with a spindle having a whirl, a conical surface, and balls contacting with said conical surface to constitute a lateral bearing for the spindle in said bolster, substantially as described.

6. A supporting-case, and a bolster pivotally mounted with relation thereto, said bolster being composed of a plurality of parts united by screw-threads and adjustable one part on another, combined with a spindle, a rolling step-bearing, and a lateral bearing therefor, both in said bolster below the pivotal point thereof, substantially as described.

7. A supporting-case, and a bolster pivotally mounted with relation thereto, said bolster being composed of a plurality of parts united by screw-threads and adjustable one part on another, combined with a spindle, a rolling step-bearing, and a lateral bearing above said step, both located in said bolster below the pivotal point thereof, and a packing interposed between the lower end of said bolster and the said supporting-case substantially as described.

8. A spindle having a whirl, and a bolster to receive the pintle of said spindle, combined with a support, and means to pivot the said bolster outside the whirl, 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,  
EDITH M. STODDARD.