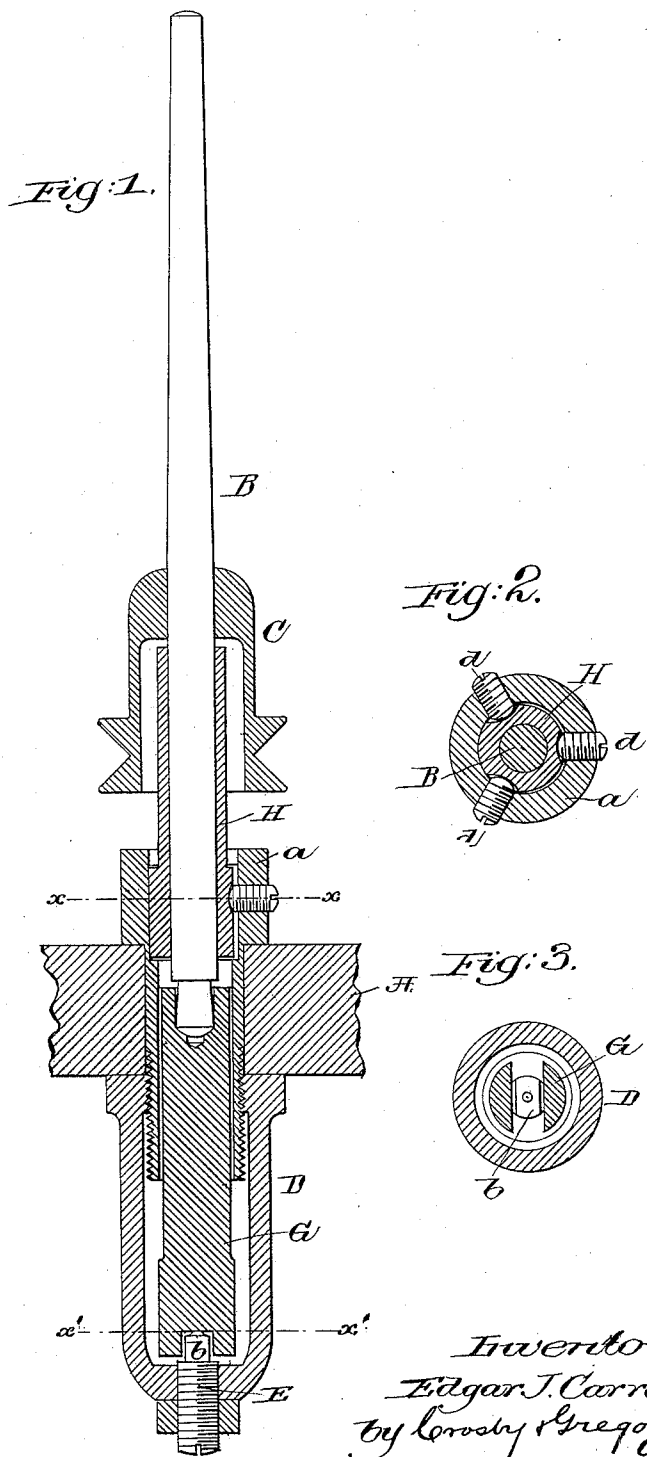


(No Model.)

E. J. CARROLL.
SUPPORT FOR SPINNING SPINDLES.

No. 401,686.

Patented Apr. 16, 1889.



UNITED STATES PATENT OFFICE.

EDGAR J. CARROLL, OF WORCESTER, ASSIGNOR TO GEORGE DRAPER & SONS, OF HOPEDALE, MASSACHUSETTS.

SUPPORT FOR SPINNING-SPINDLES.

SPECIFICATION forming part of Letters Patent No. 401,686, dated April 16, 1889.

Application filed August 22, 1887. Serial No. 247,557. (No model.)

To all whom it may concern:

Be it known that I, EDGAR J. CARROLL, of Worcester, county of Worcester, and State of Massachusetts, have invented an Improvement in Supports for Spinning-Spindles, 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 supports for spindles, whereby the latter may be run at greater speed with less gyration.

In my experiments, aiming to produce a spindle which could be run at very high speed, I have discovered that the bolster within the sleeve-whirl if stiff and rigid, and when once set "plumb" with relation to the bolster-case, may be used advantageously as an aligning-surface, against which the sides of the pintle of the spindle may be forced and aligned, under ordinary loads, by the pull of the band on the whirl; but to produce the best results the step of the spindle should be free to move in any direction with the foot or extremity of the spindle, to cushion, as it were, the movement of the foot of the pintle, due to an unduly unbalanced load.

The special features in which my invention consist will be hereinafter described, and specifically set forth in the claims at the end of the specification.

In the drawings I have illustrated one form in which my invention may be embodied.

Figure 1 in vertical section shows a rail containing a bolster case, step, and bolster embodying my invention, the spindle shown in elevation having its whirl in section; Fig. 2, a section in the line xx , and Fig. 3 a section in the line x' .

The rail A, spindle B, and its sleeve-whirl C are all as usual. The bolster-case a has a shoulder to rest upon the rail A, and the shank of the bolster-case, passed down through a hole in the rail, has screwed upon its screw-threaded portion a cup or nut, D, which constitutes a detachable bottom to support the loose step G, the said device also, as herein shown, serving to hold the bolster-case down firmly upon the rail, and to receive and to retain oil and prevent its escape, and to receive

the plug or device E, which has a projection, b , to enter a suitable slot in the lower end of the step G, the said step being restrained from rotating in the bolster-case by means of the said projection. The step G is mounted loosely, so that it is free to vibrate to a limited extent and act as a cushion for the lower end of the spindle, as it trembles or vibrates when run at high speed and unequally loaded.

The bolster-case, as herein shown, is provided with three adjusting and holding screws, d , which, when the bolster H is placed in true vertical position or plumb, are turned in against, preferably, an enlarged portion of the lower end of the bolster, thus securing the same rigidly in position. This bolster, having once been set in true vertical position or plumb, receives within it the lower end of the spindle, and the sleeve-whirl passes down about the bolster, so that the pull of the band in the groove of the whirl tends to force the sides of the spindle against the vertically-placed bolster, so that the bolster serves as a device to align the spindle with it, thus avoiding the tendency of the band-pull to deflect the spindle, which is incident to other spindles with yielding bearings, and tending to keep the spindle in true vertical position and retain the spindle, when in rotation, in the position established for it by the rigidly-held bolster, except when subjected to an unduly unbalanced load.

I have herein shown but do not lay claim to a sleeve-whirl spindle and a rigid bolster or support therefor below its junction with the whirl, combined with a step and means to support the same loosely and permit it to move laterally with the foot of the spindle; nor do I claim the combination, with a sleeve-whirl spindle, of a bolster case or support having a rigid bearing therein for the spindle, the sleeve-whirl surrounding the said bearing, so that the band pulls the spindle against the said rigid bearing, and a step mounted loosely in the bolster case or support to move laterally therein with the foot of the spindle; nor do I claim a spindle and a bolster case or tube combined with a rigid upper lateral bearing or support in said case or tube, and an independent yielding lateral bearing for the lower end of the said spindle located in said sup-

porting-tube, the said bearings being separated; nor do I claim, broadly, the combination, with a spindle and the bolster-case containing a bolster-bearing, of a loose step for the spindle and a detachable bottom, on which
5 said loose step is supported.

I claim—

1. The combination, with a sleeve-whirl spindle and a case or support having therein
10 a rigid bolster-bearing for the spindle, of a detachable cup or nut, constituting a step-case, and an oil-reservoir and containing a loose step for the spindle, substantially as described.

2. A sleeve-whirl spindle, a bolster-case, and
15 rigid bolster therein, and a chambered cup or nut at the lower end of the case, combined with a loosely-held step to support the pintle of the spindle, and with locking means to restrain the rotation of the step with the spindle.

3. A sleeve-whirl spindle, a bolster case or
20 support, a bolster held rigidly therein in vertical position by means of adjusting or set screws, as *d*, and a cup or nut, combined with a loosely-held step, and with means to restrain the rotation of the step with the spindle, sub-
25 stantially as described.

4. A spindle and a bolster-case containing a rigid bolster-bearing, combined with a detachable cup or nut containing a loose step for the spindle-support in said cup or nut, to
30 operate substantially as described.

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

EDGAR J. CARROLL.

Witnesses:

FREDK. J. BARNARD,
GEO. A. DRAPER.