(No Model.)

W. T. CARROLL.

SPINDLE.

No. 255,074. Patented Mar. 14, 1882.

Fig: 1.

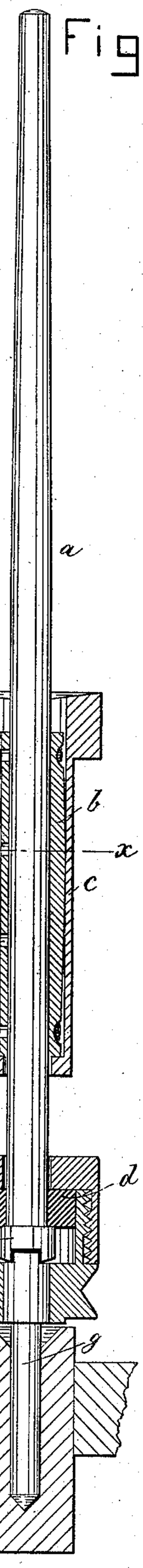
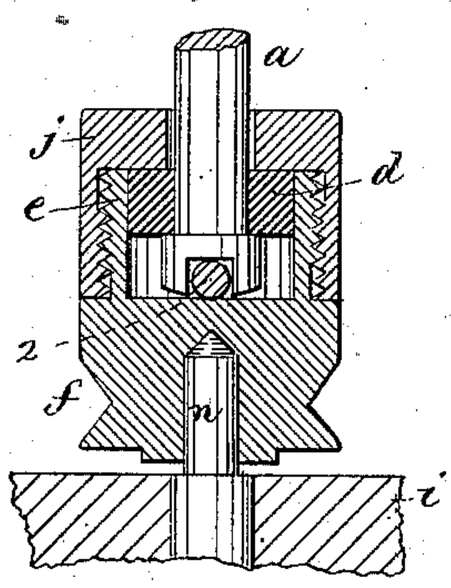


Fig: 2.

Fig: 3.



Witnesses.

Bernice J. Noyes.

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UNITED STATES PATENT OFFICE.

WILLIAM T. CARROLL, OF WORCESTER, ASSIGNOR TO GEORGE DRAPER & SONS, OF HOPEDALE, MASSACHUSETTS.

SPINDLE.

SPECIFICATION forming part of Letters Patent No. 255,074, dated March 14, 1882.

Application filed July 25, 1881. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM T. CARROLL, of Worcester, Worcester county, State of Massachusetts, have invented an Improvement in Spindles for Ring-Spinning Frames, of which the following description, in connection with the accompanying drawings, is a specification.

My invention in spindles has for its object to reduce the jar of the spindle when running, and entirely obviate any evil effects resulting from the band-pull, which is exerted in but one direction.

In my improved apparatus the lower end of the spindle is held and supported laterally by means of a block or washer of india-rubber, leather, or equivalent yielding medium or elastic material, fitted closely within a cavity at the upper end of the whirl, the latter being sustained during its rotation by a short pintle below the whirl, and either connected therewith or inserted therein loosely, as may be desired. The spindle has a bearing in a bolster which is so supported in its shell or case that the bearing may rock freely and permit the spindle to move into true central position.

Figure 1 represents in elevation and partial vertical section a spindle constructed and supported in accordance with my invention; Fig. 2, a cross-section thereof on the dotted line *x x*, Fig. 1; and Fig. 3, a modification showing the whirl fitted to turn on a short fixed stud.

The spindle *a* is extended through a bolster-bearing, *b*, made elliptical externally in the direction of its length, and placed in the case *c*. The case will be held in a bolster-rail, as usual, and owing to the shape of the bolster it is free to rock with the spindle in the said case. The lower end of the spindle has a foot or collar, a^2, above which is placed a block or ring of india-rubber, leather, or other suitable elastic material, *d*, fitted snugly and closely to the said spindle, and also within the sleeve *e*, extended upward from the whirl *f*, which receives the usual band which is to drive the spindle.

If desired, the foot or collar a^2 may be notched to engage a projection at the upper end of the pintle *g*, with which, as in Fig. 1, the whirl *f* is secured, the said pintle entering a foot-step or bearing, *h*, in the rail *i*. The sleeve *e* of the whirl is screw-threaded, and receives the cap *j*, which retains the yielding washer or block *d* in the cup. The hole at the top of the cap, through which the spindle is extended, is of somewhat greater diameter than the spindle, to allow it to move a little laterally without touching the cap. The usual band of the spinning-frame, in the groove of the whirl *f*, will rotate it, together with the yielding packing fitted snugly to it, and will revolve the spindle in unison with it; but the spindle, it is obvious, will in no manner be affected or strained out of perpendicular position by reason of the band-pull, for the whirl is not carried by the spindle, or in any way rigidly secured thereto.

If the spindle-foot is notched to fit a projection, 2, moving with the whirl, such connection will assist in rotating the spindle; but such connection is not absolutely necessary.

Instead of fixing the pintle *g* to the whirl, as in Fig. 1, I may bore the whirl to receive a pintle, *n*, fixed to the rail *i* and extended upward as in Fig. 2.

Removing the whirl entirely from the spindle and causing it to revolve with or on a stud below it, while the spindle is supported by a yielding packing, is productive of numerous advantages, among which are avoidance of the band-pull on the spindle and the ease with which the spindle finds its true center of rotation without jar.

The bolster-bearing *b* is shown as grooved in the direction of its length to receive the wick *o*, and is perforated at *p* for the passage of oil from the wick to the spindle.

I claim—

The whirl, its cup, and a pintle, and yielding washer or block fitted closely therein and to the spindle, combined with the independent spindle, bolster-case, and yielding or rocking bolster therein, substantially as shown.

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

WILLIAM T. CARROLL.

Witnesses:

WM. F. DRAPER,

JAMES H. BANCROFT.