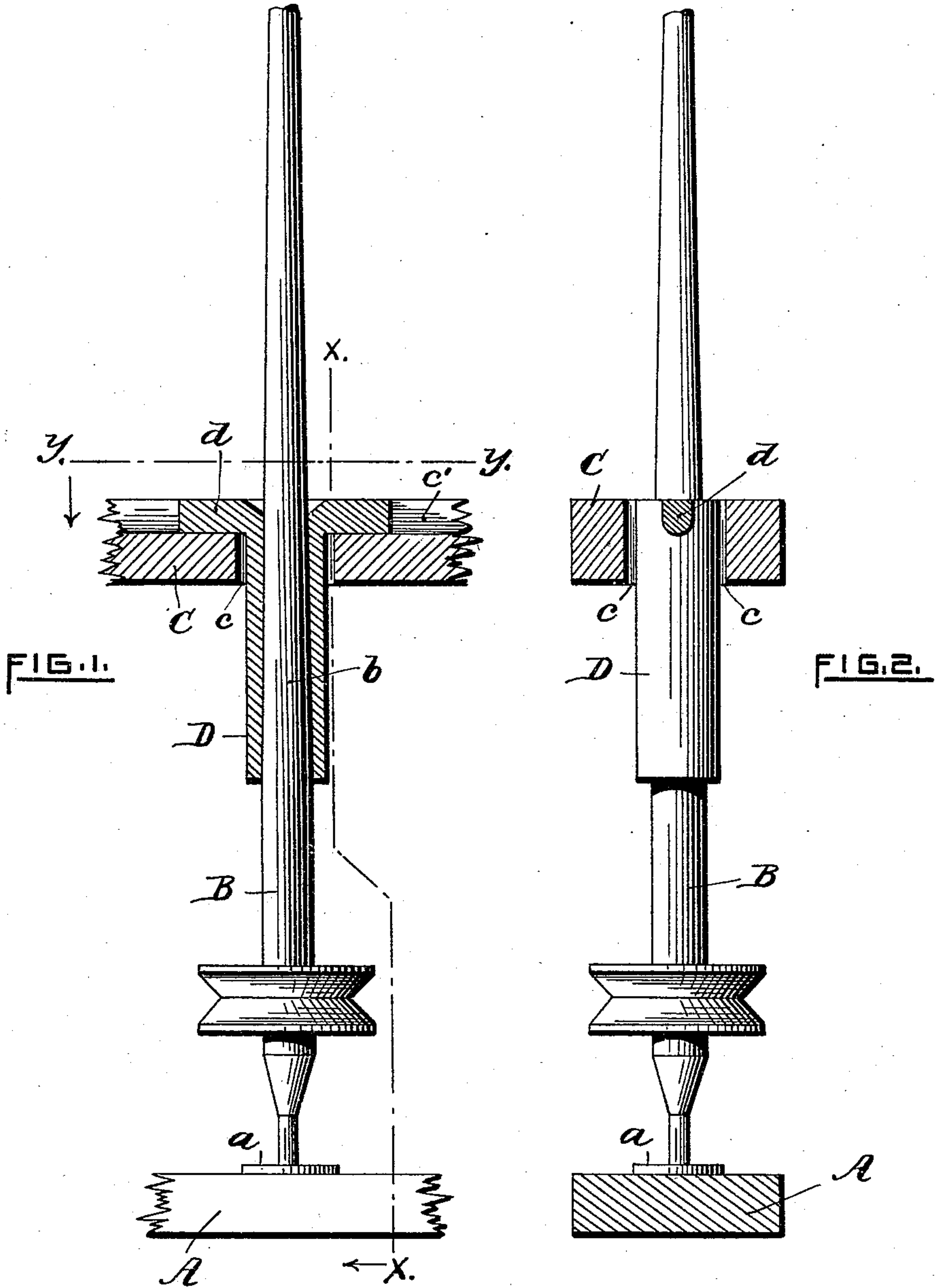


(No Model.)

T. GORMAN.
SUPPORT FOR SPINNING SPINDLES.

No. 543,622.

Patented July 30, 1895.



WITNESSES.

Charles Hannigan
S. J. Murphy

INVENTOR.

Thomas Gorman

FIG. 3.

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ATTY

UNITED STATES PATENT OFFICE.

THOMAS GORMAN, OF WARREN, ASSIGNOR OF ONE-HALF TO FRANK H. BROWN, OF WARWICK, RHODE ISLAND.

SUPPORT FOR SPINNING-SPINDLES.

SPECIFICATION forming part of Letters Patent No. 543,622, dated July 30, 1895.

Original application filed March 26, 1891, Serial No. 386,493. Divided and this application filed March 28, 1895. Serial No. 543,532. (No model.)

To all whom it may concern:

Be it known that I, THOMAS GORMAN, of Warren, in the county of Bristol and State of Rhode Island, have invented certain new and useful Improvements in Spinning-Machines; and I do hereby declare the following specification, taken in connection with the accompanying drawings, forming a part of the same, to be a full, clear, and exact description thereof.

10 The present application is a division of pending application, Serial No. 386,493, filed March 26, 1891, and is designed to cover specifically that modification of the broad invention described and claimed in said other application, in which the bolster is supported vertically by the bolster-rail.

Referring to the drawings, Figure 1 is a front view, partly in section, of a spindle and portions of the step and bolster rails of a spinning-machine. Fig. 2 is a section on the line *x x* of Fig. 1; and Fig. 3 is a plan view of a portion of the bolster-rail, taken on the line *y y* of Fig. 1.

A represents the step-rail, having steps *a*, of ordinary construction.

B is a tapering spindle.

C is the bolster-rail, which is provided with holes or openings *c* to receive the bolsters for the spindles.

30 D represents the bolster, which as shown in the drawings, is provided with a tapering bore corresponding with the tapered portion *b* of the spindle B. The hole *c* in the bolster-rail is made of somewhat larger diameter than the external diameter of the bolster D, as shown in the drawings, and so that said bolster may be free to move laterally in the bolster-rail. The upper end of the bolster D is, like the remainder of the bolster, of circular shape, but is provided with one or more lugs or projections *d*, which lugs, when the bolster is inserted in the bolster-rail, loosely enter a recess or groove *c'*, formed in the upper surface of the bolster-rail to receive said lugs, as shown in the drawings, and thereby prevent the bolster from rotating with the spindle. These lugs rest upon the bottom of the groove *c'*, and so that the bolster D will be thus supported vertically by the bolster-rail. It is preferred, in order to enable the bolster to

swing easily within certain limits in the manner of a pendulum, to round the under side of each lug so as to give to it more or less of a U form, as shown in the drawings. Cutting away the under side of each lug, so as to give it more or less of a V shape, which is an obvious equivalent, will serve the same purpose.

By the construction and arrangement of the bolster and bolster-rail above described it will be seen that the bolster is free to move in various directions with relation to the bolster-rail. Thus the bolster is arranged loosely within the bolster-rail, so as to have a certain amount of lateral play therein. Again, the bolster is free to rise with relation to the rail. Again, the bolster being supported vertically by the rail at or near its upper end is thus suspended, so as to be capable of swinging within certain limits in the manner of a pendulum, such swinging movement being facilitated by the rounding or cutting away of the underside of the supporting-lugs. Again, the bolster, while prevented from rotating with the spindle, is free to turn to some extent in the bolster-rail by reason of the fact that the projecting lugs are loosely arranged in the groove which receives them, such turning of the bolster being facilitated by the circular shape of the bolster at its upper end, and the construction of the parts is such that all danger of the bolster becoming cramped in the rail is avoided. As a result of such freedom of movement thus given to the bolster, said bolster and its spindle are thereby enabled to readily and quickly accommodate themselves to all the varying conditions to which they may be subjected, and said spindle may be run at a high rate of speed smoothly and without chattering.

The manner of combining the bolster with the bolster-rail above described not only leaves the bolster free to rise with relation to the rail in the operation of spinning, but also permits the bolster to be readily inserted in and removed from the bolster-rail at any time, and likewise permits the spindle with its bolster to be readily raised out of its step for cleaning or any other purpose.

While I have shown in the drawings a tapering spindle and a bolster having a corre-

spondingly-tapered bore, I do not mean to limit myself to such construction, as it is evident that the present feature of invention may belikewise employed with a straight spindle and a bolster having a straight bore.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination of a bolster rail provided with a groove or recess in its upper surface, and a bolster arranged loosely within said bolster rail, said bolster being provided at or near its upper end with one or more lugs or projections adapted to enter the groove in the bolster rail and support said bolster vertically in said rail, substantially as described.

2. The combination of a bolster rail provided with a groove or recess in its upper surface, and a bolster arranged loosely within said bolster rail, said bolster being provided at or near its upper end with one or more lugs or projections adapted to enter the groove in the bolster rail and support said bolster vertically in said rail, said lugs being rounded or cut away on their under side, substantially as described.

THOMAS GORMAN.

Witnesses:

W. H. THURSTON,
S. J. MURPHY.