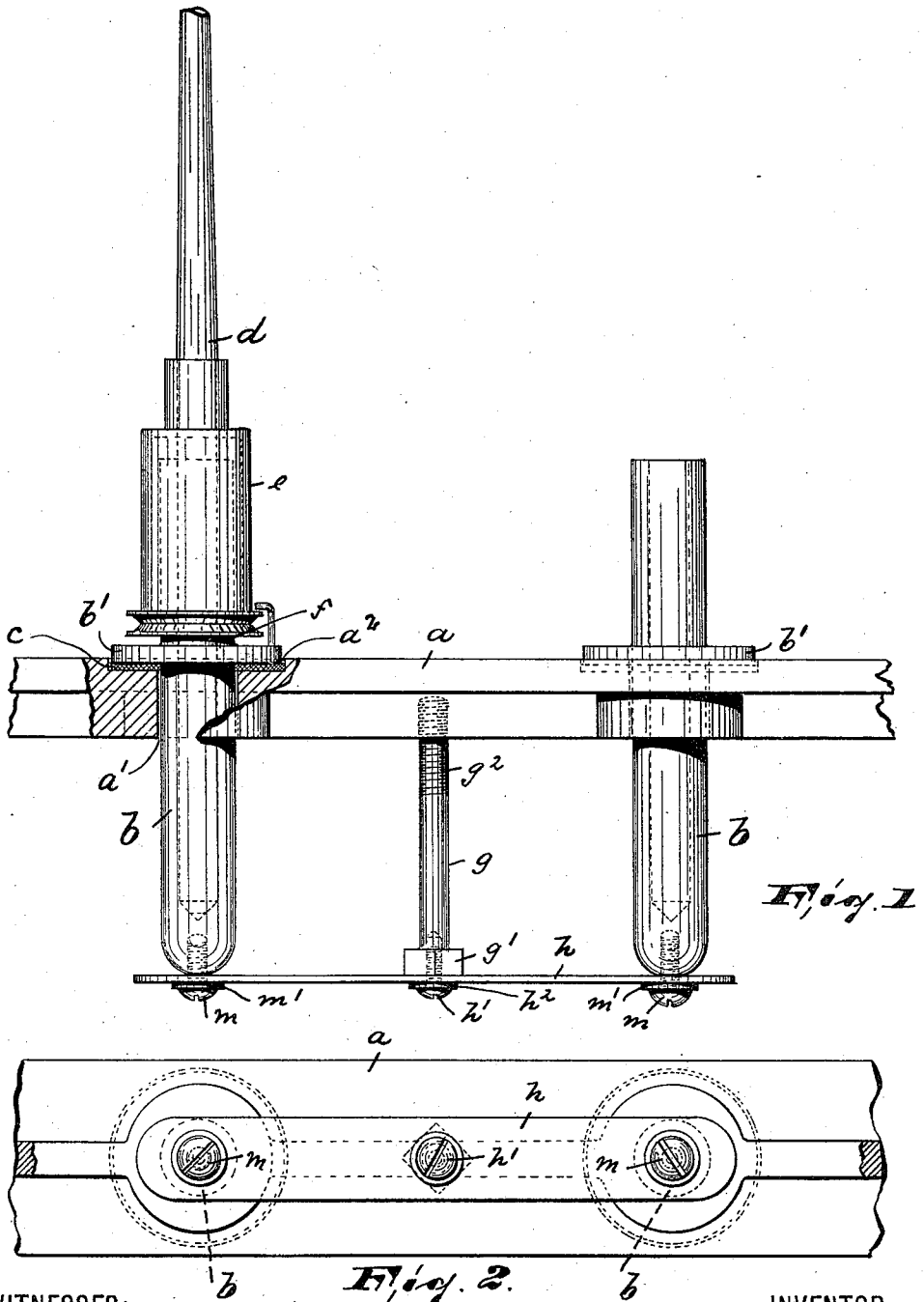


(No Model.)

A. SCHEID
SPINDLE.

No. 574,946.

Patented Jan. 12, 1897.



WITNESSES:

Wm. D. Bell.
Duncan M. Robertson

INVENTOR:

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BY *Partnes & Co* ATTY'S.

UNITED STATES PATENT OFFICE.

ADAM SCHEID, OF HARRISON, NEW JERSEY, ASSIGNOR TO THE SAWYER SPINDLE COMPANY, OF PORTLAND, MAINE.

SPINDLE.

SPECIFICATION forming part of Letters Patent No. 574,946, dated January 12, 1897.

Application filed November 17, 1896. Serial No. 612,514. (No model.)

To all whom it may concern:

Be it known that I, ADAM SCHEID, a citizen of the United States, residing in Harrison, Hudson county, and State of New Jersey, have
5 invented certain new and useful Improvements in Spindles; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains
10 to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention relates to duplex spinning-spindles, and its object is to provide for said
15 spindles a support of simple and strong construction, easily adjusted, and reliable and efficient in operation.

The invention consists in the improved
20 spindle-support for "duplex" spindles, its adjusting and regulating mechanism, and in the combination and arrangement of parts, substantially as will be hereinafter more fully described, and finally embodied in the clauses
25 of the claim.

Referring to the accompanying drawings, in which like letters of reference indicate corresponding parts in each of the two views, Figure 1 is a front elevation of a portion of
30 a spindle-rail on which are mounted, by means of my improved support, a series of spindles, certain portions being broken away and others shown in section to better illustrate the nature of my said invention; and
35 Fig. 2, an underneath view of Fig. 1.

In said drawings, *a* represents the spindle-rail, provided at certain intervals with vertical holes or openings *a'* and enlarged circular recesses or grooves *a''*, adapted to receive the
40 supporting-tubes *b* and their annular flanges *b'*, respectively. The diameter of the hole *a'* and recess *a''* is slightly larger than the respective diameter of the tube and flange.

An elastic ring or washer *c* is placed in the
45 recess *a''* between the bottom thereof and the under side of the flange *b'*.

In the tube *b*, which contains a step and bolster bearing, is arranged the spindle *d*, provided with the sleeve *e* and whirl *f*, by
50 means of which motion is imparted to the said spindle. The lower end of each tube *b* is pro-

vided with a vertical internally-threaded hole, adapted to be engaged by a set-screw *m*, which penetrates one end of a flat spring *h*, resting on the head of said set-screw and the intermediate washer *m'*, as clearly shown. The
55 other end of said flat spring *h* is secured in an identical manner to the tube *b* of the adjoining spindle. In the center of said flat spring is arranged an opening penetrated by
60 a set-screw *h'*, engaging the internally-threaded bore of the vertical rod or stem *g*, which latter is provided at its lower end with a polygonal-shaped collar *g'*, adapted to be engaged by a wrench or other suitable tool and
65 at its upper end with screw-threads engaging an internally-threaded opening in the rail *a* and arranged midway between the centers of the openings *a'*.

The tendency of the flat spring is to draw
70 the tubes *b* downward, and thus their respective flanges *b'* against the washers *c*. The flexibility of each spindle can be regulated "separately" by means of the set-screws *m*, that is to say, by tightening or loosening the
75 connection between the flat spring and the tube, or "jointly" by operating the stem or rod *g*, which is easily accomplished by means of a wrench or other suitable tool.

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

1. The combination with the spindle-rail, of two tubes, each containing step and bolster bearing, loosely mounted in said rail, a
85 flatspring-plate adjustably secured at or near its ends to the lower ends of said tubes, a vertical stem or rod, arranged midway between said tubes, and in the rail and vertically adjustable therein, and loosely secured
90 at its lower end to the central portion of the flat spring-plate, and a whirl-driven spindle in each of said tubes, all said parts, substantially as and for the purposes described.

2. The combination with the spindle-rail,
95 provided with a series of vertical holes or openings and with enlarged adjoining recesses, of a tube loosely arranged in each of said openings, an annular flange projecting from each tube and above the rail and arranged in its respective recess, an intermediate washer in said recess and below said
100

flange, a flat spring-plate adjustably secured
at or near its ends to the lower ends of two
adjoining tubes, a vertical stem or rod pro-
vided at its lower end with a polygonal-shaped
5 head, loosely secured to the central portion
of said spring-plate, and having its upper por-
tion threaded and engaging the rail midway
between the openings for the tubes, and a
whirl-driven spindle in each of said tubes, all

said parts, substantially as and for the pur- 10
poses described.

In testimony that I claim the foregoing I
have hereunto set my hand this 3d day of Oc-
tober, 1896.

ADAM SCHEID.

Witnesses:

ALFRED GARTNER,
WM. D. BELL.