

(No Model.)

A. GARTNER.
SPINDLE.

No. 574,900.

Patented Jan. 12, 1897.

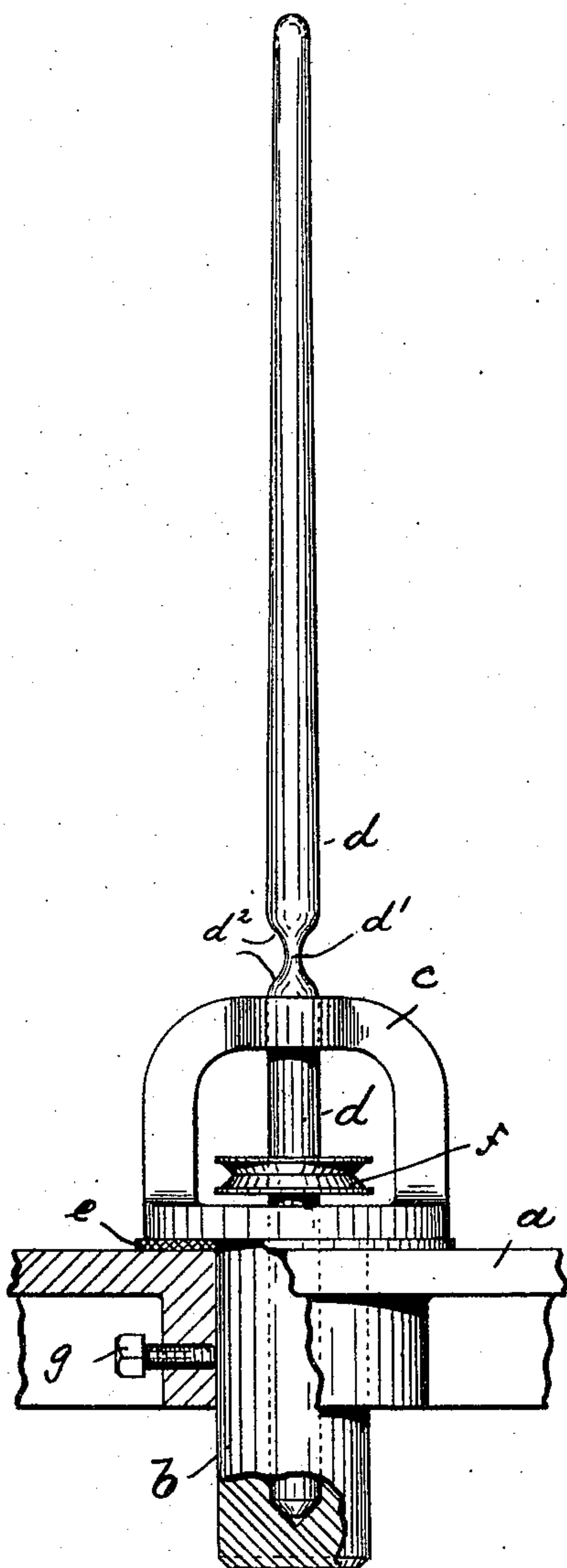


Fig. 1.

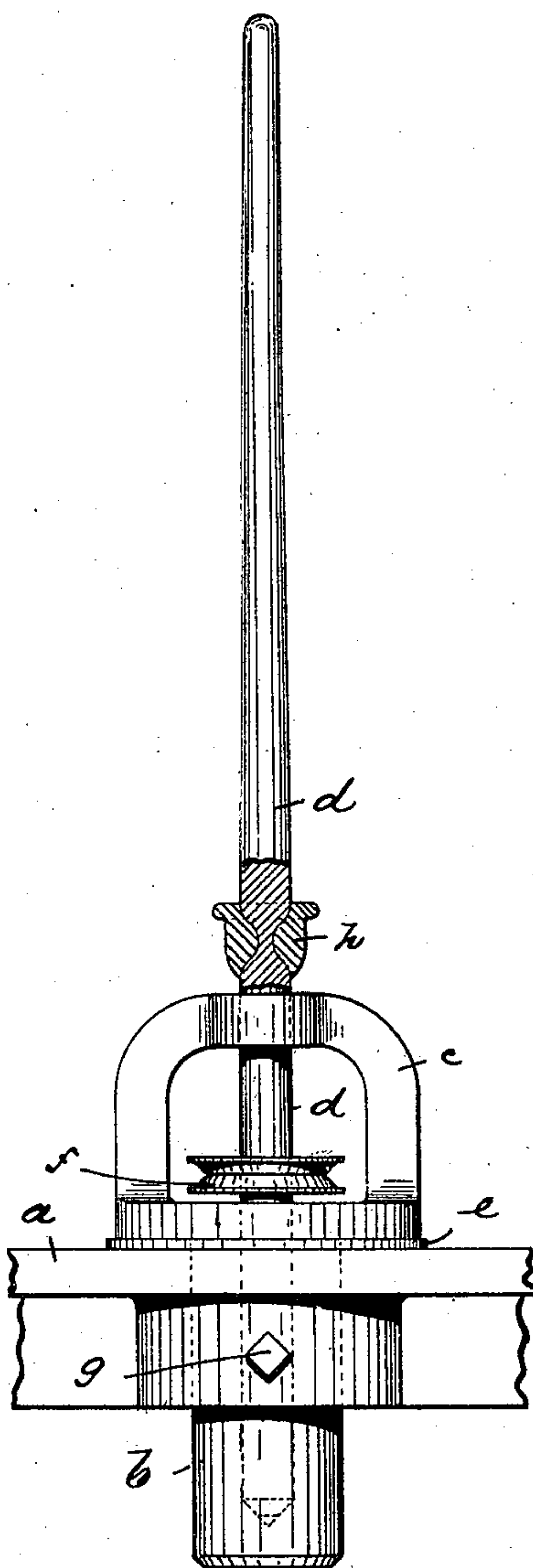


Fig. 2.

WITNESSES:

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UNITED STATES PATENT OFFICE.

ALFRED GARTNER, OF NEWARK, NEW JERSEY, ASSIGNOR TO THE SAWYER SPINDLE COMPANY, OF PORTLAND, MAINE.

SPINDLE.

SPECIFICATION forming part of Letters Patent No. 574,900, dated January 12, 1897.

Application filed November 17, 1896. Serial No. 612,486. (No model.)

To all whom it may concern:

Be it known that I, ALFRED GARTNER, a citizen of the United States, residing in Newark, county of Essex, and State of New Jersey, have 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 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.

My invention relates to spinning-spindles for silk or other filaments which are revolved at high speed and which therefore must be capable of adjusting themselves to unbalanced loads.

The object is to provide a spindle which can be quickly inserted into a supporting-tube which is securely mounted in the spindle-rail, and thus furnishes a spindle having sufficient yielding motion to accomplish the above-stated purpose.

The invention consists in the improved spindle and support and in the combination and arrangement of the various parts thereof, substantially as will be hereinafter more fully described and finally embodied in the clauses of the claim.

In the accompanying drawings, Figure 1 is a front elevation of a spindle-rail, partly in section, on which is mounted my improved spinning-spindle; and Fig. 2, a view similar to Fig. 1, illustrating a slight modification thereof.

In said drawings, *a* represents a spindle-rail, and *b* a tube penetrating said rail and removably secured thereto by means of the set-screw *g*. The tube *b* is provided above the rail with an annular flange resting on the intermediate elastic washer *e* and with a yoke *c*, forming at its central portion an additional bearing for the spindle *d*, which latter is provided with a whirl *f*, by means of which motion is imparted to the said spindle.

The spindle *d* is turned down or reduced in diameter right above its upper bearing, as at *d'*, which reduced portion connects with the full-sized portions of the spindle by means of

the curved substantially conical-shaped portions *d''*, as clearly illustrated in the drawings, which by preference is covered by a block *h*, of suitable elastic material, for the purpose of giving additional efficiency and durability.

Heretofore spindles were constructed which consisted of an upper and lower section connected by a flexible rod or wire, as, for instance, in United States Letters Patent No. 545,590; but those spindles, when rotated at high speed, quickly got out of order and broke at the connecting points. The present spindle overcomes said defect, as the oscillating center, that is to say, the reduced portion *d'*, is strengthened by the adjoining connecting substantially conical-shaped portions *d''*, and, furthermore, as it is made out of one continuous piece of metal is not subject to the laws of nature regarding centrifugal force when applied to metals of different strength and molecular formation.

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

1. A spinning-spindle for silk or other filaments, having a reduced portion with adjoining conical-shaped portions, substantially as and for the purposes described.

2. A spinning-spindle for silk or other filaments, having a reduced portion with adjoining conical-shaped portions, and a block of elastic material covering the same, substantially as and for the purposes described.

3. A spinning-spindle for silk or other filaments provided with a substantially semicircular groove, as and for the purposes described.

4. A spinning-spindle for silk or other filaments provided with a substantially semicircular groove and having said groove covered and surrounded by a block of suitable flexible material, substantially as and for the purposes described.

5. The combination with the spindle-rail, of a tube mounted in said rail, an annular flange on said tube and above the rail, an elastic washer between said flange and the rail, a yoke projecting from said flange, and a whirl-driven spindle in said tube and having an up-

per bearing in said yoke, and provided above said bearing with a reduced portion, substantially as and for the purposes described.

6. The combination with the spindle-rail, of
5 a tube mounted in said rail, an annular flange on said tube and above the rail, an elastic washer between said flange and the rail, a yoke projecting from said flange, a spindle in said tube and yoke and provided above said
10 yoke with an annular substantially semicircular groove, and a block of suitable elastic

material covering and surrounding said groove, all said parts, substantially as and for the purposes described.

In testimony that I claim the foregoing I 15
have hereunto set my hand this 3d day of October, 1896.

ALFRED GARTNER.

Witnesses:

WM. D. BELL,
S. D. RUMSEY.