

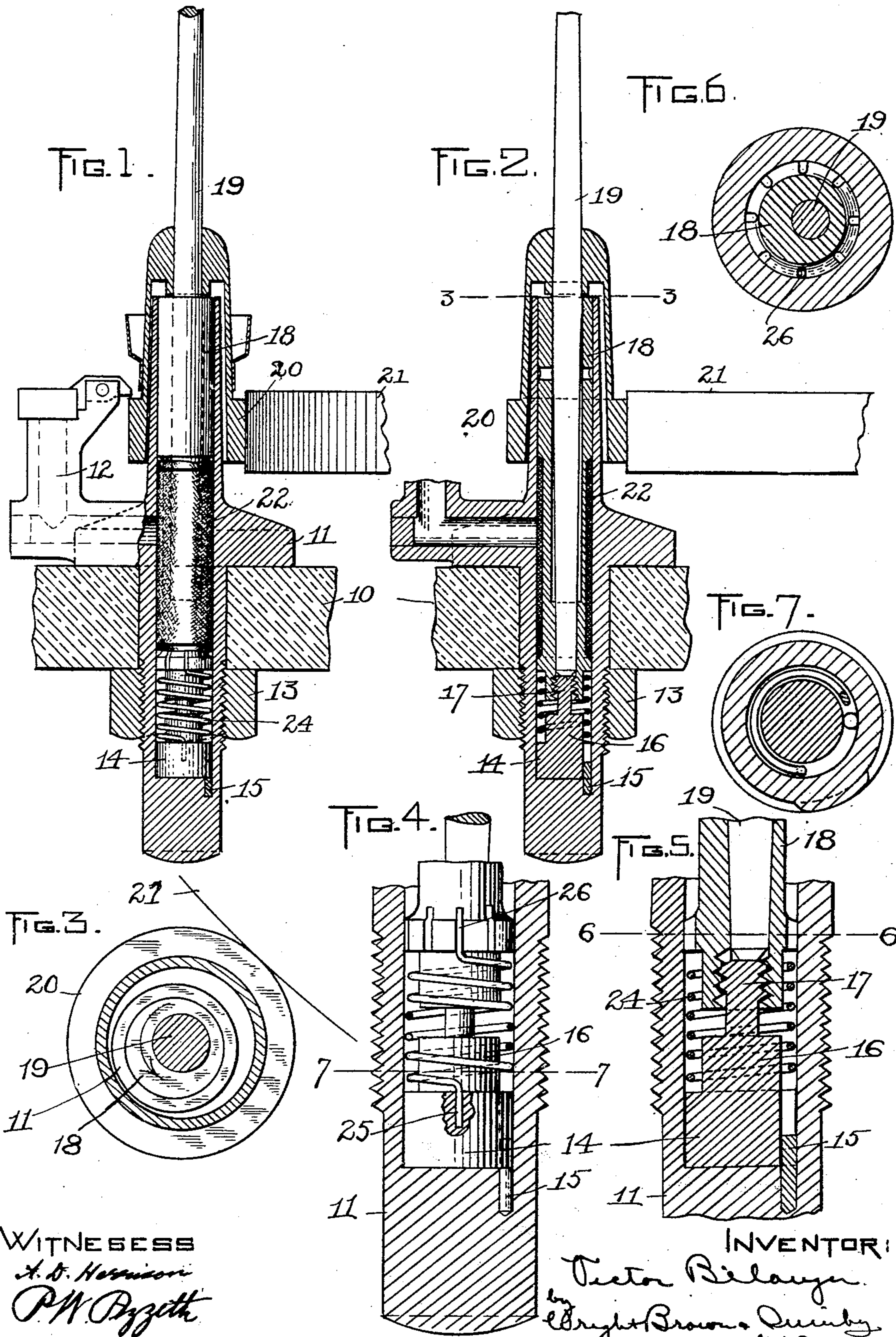
No. 677,154.

Patented June 25, 1901.

V. BÉLANGER.
SPINDLE.

(Application filed Mar. 12, 1900. Renewed Dec. 8, 1900.)

(No Model.)



UNITED STATES PATENT OFFICE.

VICTOR BÉLANGER, OF MARSHFIELD, MASSACHUSETTS.

SPINDLE.

SPECIFICATION forming part of Letters Patent No. 677,154, dated June 25, 1901.

Application filed March 12, 1900. Renewed December 8, 1900. Serial No. 39,226. (No model.)

To all whom it may concern:

Be it known that I, VICTOR BÉLANGER, of Sea View, in the town of Marshfield, in the county of Plymouth and State of Massachusetts, have invented certain new and useful Improvements in Spindles, of which the following is a specification.

This invention has relation to spindles for spinning and twisting machines, and has for its object to provide certain improvements therein, as illustrated upon the drawings, described in the following specification, and set forth in the appended claims.

Referring to the said drawings, Figure 1 represents in longitudinal section a spindle equipped with my improvements, the bolster being shown in elevation. Fig. 2 represents a somewhat similar section with the bolster itself likewise in section. Fig. 3 represents a transverse section on the line 3 3 of Fig. 2, the parts being shown enlarged. Figs. 4 and 5 represent enlarged views showing the connection between the eccentric and the stationary member around which the eccentric is movable. Fig. 6 represents a transverse section on line 6 6 of Fig. 5. Fig. 7 represents a transverse section on line 7 7 of Fig. 4.

Referring to the drawings, the bolster-rail is indicated at 10 and is apertured to receive the bolster-case 11, the latter being provided with the oil-cup 12. The bolster-case is passed through the rail and is secured in place in the usual manner by a nut 13. The bolster-case is provided with an internal cylindrical aperture, as usual, in the lower end of which is dropped the member 14. This member is prevented from rotating by the pin or key 15, which fits in a groove in the periphery thereof and extends downwardly into an aperture in the lower end of the bolster-case. Said member has a concentric boss 16, with an upwardly-projecting threaded concentric pin 17, the threads of which are relatively large, as shown. This member has been heretofore employed for the purpose of adjusting the spindle, and while I may use it for the same purpose I likewise utilize it for accomplishing certain results to be set forth.

18 indicates the bolster, which is constructed with an eccentric aperture to receive the spindle 19, so that said spindle is mounted

eccentrically of the bolster-case, and hence by rotating the bolster within the case said spindle may be moved in a circular path about the axis of the bolster-case.

Secured to the spindle 19 is a whirl 20, which may be constructed in accordance with any preconceived plan. I have shown it as being cylindrical to bear against a driving-wheel, (indicated conventionally at 21,) although I may, if desirable, provide the whirl with a groove to receive a band, tape, or cord actuated by a driving-drum. The lower end of the bolster is provided with internal coarse threads to receive the pin 17, and the two parts fit together so loosely that the bolster is free to move laterally a limited distance relatively thereto. Between its ends the bolster is cut away to receive an encircling packing 22, of fiber, fabric, or other suitable material. This will hold the oil introduced through the oil-cup 12.

The spindle 19 rests at its lower end upon the top of the pin 17, and consequently by screwing the bolster up or down the spindle may be adjusted with relation to the bolster. The lower end of the bolster, which is internally threaded, is reduced in diameter, as shown, being substantially equal in diameter to the boss 16 on the member 14, and around the two parts is placed a connecting spiral spring 24. The lower end of the spring is bent downwardly and forced into an aperture 25 in the member 14, while the upper end of the spring is bent upwardly and placed in a groove 26 in the bolster.

Where the whirl is driven from a pulley or wheel 21, it is desirable that it should bear against said wheel constantly at all times, and hence the spring connects the stationary member 14 and the bolster 18, so as to draw said bolster in the direction indicated by the arrow in Fig. 3; but where the whirl is driven from a belt the action is just reversed, and the spring is set to move the whirl and the spindle away from the driving-drum which actuates the belt, and thereby maintain constant tension on the belt.

It is evident that the adjustment by means of the eccentric bolster may be as great or as little as desirable, for the eccentricity of the spindle with relation to the bolster may

be increased or diminished as much as is necessary.

So far as I am aware, I am the first to have provided means for adjusting the spindle and whirl laterally with relation to the bolster-case and am also the first to have provided an eccentric bolster. I have provided for increasing the tension of the spring 24 by grooving the lower end of the bolster at various points to receive the ends 26 of the spring.

Having thus explained the nature of the invention and described a way of constructing and using the same, although without having attempted to set forth all of the forms in which it may be made or all of the modes of its use, I declare that what I claim is—

1. A spindle having a rotatable eccentric bolster.
2. The combination of a bolster-case, a bolster, and a non-vibratory spindle with provisions for adjusting the spindle laterally with relation to the bolster-case.
3. The combination of a bolster-case, a bolster, a spindle, and a whirl, non-vibratory with relation to said case, with provisions for adjusting the whirl laterally with relation to the bolster-case.
4. The combination of a bolster-case, a spindle with a whirl thereon, said spindle being non-vibratory with relation to said case, and

means for adjusting the spindle and whirl laterally with relation to the bolster-case.

5. A spindle mechanism for spinning and twisting machines having provisions including a rotatable eccentric for automatically adjusting the spindle with relation to its driving mechanism.

6. In combination, a bolster, a bolster-case, a spindle, and a rotatably-adjustable eccentric bolster.

7. In combination, a bolster-case, a spindle, an eccentric bolster, and a spring which tends to rotate said bolster.

8. In combination, a bolster-case, a spindle, having a whirl, an eccentric bolster, a stationary member in said bolster-case, and a spring connection between the bolster and the stationary member.

9. In a spinning-machine, the combination of a driving member, a spindle having a whirl rotated by the driving member, and means confined within the bolster for automatically maintaining a constant contact between the driving member and the whirl.

In testimony whereof I have affixed my signature in presence of two witnesses.

VICTOR BÉLANGER.

Witnesses:

MARCUS B. MAY,
P. W. PEZZETH.