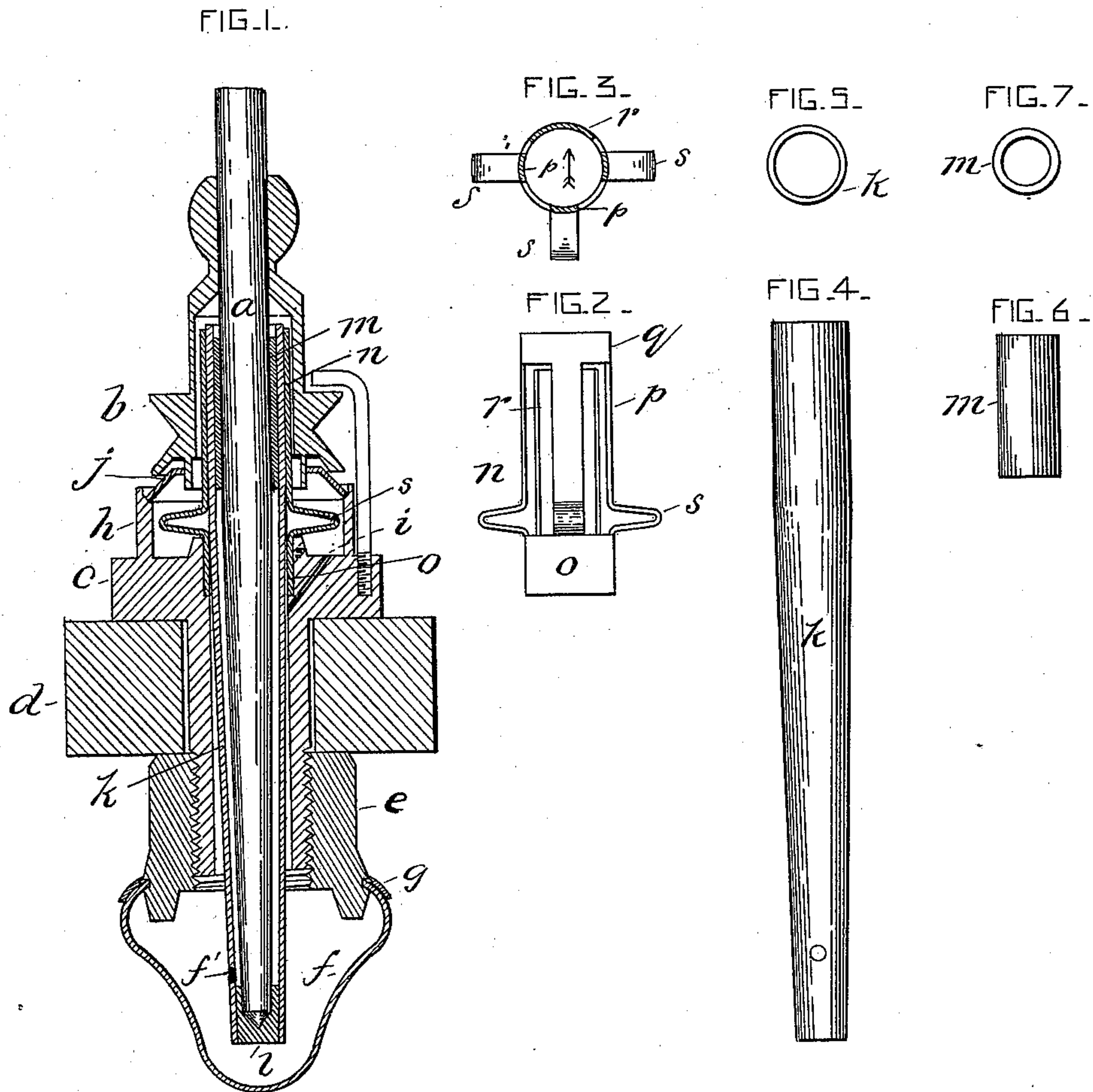


(No Model.)

C. H. CHAPMAN.
SUPPORT FOR SPINNING SPINDLES.

No. 408,581.

Patented Aug. 6, 1889.



WITNESSES.
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UNITED STATES PATENT OFFICE.

CHARLES H. CHAPMAN, OF GROTON, MASSACHUSETTS.

SUPPORT FOR SPINNING-SPINDLES.

SPECIFICATION forming part of Letters Patent No. 408,531, dated August 6, 1889.

Application filed April 16, 1889. Serial No. 307,446. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. CHAPMAN, of Groton, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Supports for Spinning-Spindles, of which the following is a specification.

My invention is particularly related to that class of spinning-spindles and supports therefor in which the bearings for the spindle are permitted to yield, in order that the spindle may find its true center or axis of rotation in accordance with its load, whether evenly or unevenly balanced thereon.

It is the purpose of my present invention to provide such improvements in the class of spindles and spindle-bearings mentioned as will allow the spindle to yield both laterally and vertically sufficiently to be accommodated to its load, and at the same time hold it against gyration, so that it may run steadily.

In an application for Letters Patent of the United States filed by me of even date herewith, Serial No. 307,447, I have shown, described, and claimed some of the improvements shown but not claimed herein; consequently it will not be necessary to more than merely mention the parts comprising such improvements herein.

Of the drawings hereto annexed and forming a part of this specification, Figure 1 is a sectional view (showing a portion of a spindle in elevation) of my improved spindle bearing or support and its associated parts. Fig. 2 is a side elevation of the bolster-bearing and shell-support, and Fig. 3 is a sectional top plan view of the same. Fig. 4 is a side elevation of the shell, and Fig. 5 is a top plan view of the same. Fig. 6 is a side elevation of the bolster-bearing, and Fig. 7 is a top plan view of the same.

The same letters of reference designate the same parts in all of the views.

In the drawings, *a* designates the spindle; *b*, the sleeve-whirl; *c*, the bolster-casing; *d*, the rail; *e*, the nut whereby the bolster-casing is secured to the rail; *f*, an open oil-cup attached to the nut *e*; *g*, a cover or rim arranged over the cup; *h*, an oil-cup connected with the upper portion of the bolster-case, and *i* an oil-duct leading from the oil-cup *h* to the interior of the bolster-case, whence the oil

can drip into the cup *f*; and *j*, a rim or hood beneath the whirl and over the oil-cup *h*, to prevent dirt and dust from falling or settling therein, and also to prevent the oil from being thrown out by the whirl over the top of the oil-cup.

k designates a shell of sheet metal or other suitable material, arranged in the bolster-case, and provided at its lower end with a step-bearing *l* and at its upper end with the bolster-bearing *m*, said shell being of a diameter which will permit it to move laterally to a limited extent without coming into contact with the interior of the bolster-case.

n designates a support for the shell and bolster-bearing, consisting of the thimble *o*, the elastic support or springs *p*, ring *q*, and rigid guard *r*. The elastic support *p* consists of comparatively narrow strips of metal extending between the thimble *o* and ring *q* and "set down" to form the angular or V-shaped portions *s*, for a purpose to be presently explained. The rigid guard *r* extends upward from the thimble *o* to or nearly to the ring *q*. The elastic support *p* may form an integral part of the thimble *o* and ring *q*, or be suitably connected therewith, and the rigid guard *r* may be integrally or otherwise connected with the thimble *o*.

The thimble *o* of the support *n* is secured in the bolster-case, and the shell *k* is arranged therein, so that the elastic support *p* and rigid guard *r* will extend up along the outside thereof horizontally on a line opposite the point at which the bolster-bearing is arranged in the shell, the ring *q*, shell *k*, and bolster-bearing *m* being soldered or otherwise suitably connected. With this construction the shell *k*, forming the support for the step and bolster-bearing, being supported upon and by the elastic support *p* and the band-pull being in a direction toward the rigid guard *r*, as indicated by the arrow in Fig. 3, said shell will be permitted to rock, as it were, on the elastic support, and at the same time be held against undue deflection and gyration. The V-shaped portion of the springs permits of slight elastic motion vertically, which, together with the rocking motion of the bolster-bearing before mentioned, accommodates the spindle to its load and avoids all undue rigidity in the supports for the spindle.

It will be seen that the cover *g* may be slipped up on the neck of the nut *e*, so that the oil may be supplied to the oil-cup *f*, and that the oil in said cups may be supplied to the spindle through the hole *f'*, whence it may be carried up by the rotation of the spindle to the bolster-bearing, (the latter being rifled,) and such oil as may be carried over the top of the spindle-support may run or drip back into the oil-cup *f*, as before explained, to be reused.

It is obvious that changes may be made in the form and arrangements of parts comprising my improvements without departing from the nature or spirit thereof.

I claim—

1. A support for the bolsters of spinning-spindles, consisting of the base or thimble *o*, ring *q*, springs *p*, connecting the thimble and ring, and rigid guard *r*, as set forth.

2. A support for the bolsters of spinning-spindles, consisting of the base or thimble *o*,

ring *q*, springs *p*, provided with the V-shaped portions *s*, and rigid guard *r*, as set forth.

3. A spindle and its sleeve-whirl and a bolster-case, combined with a bolster and step support, a support for the bolster and step support, elastic both vertically and laterally, and a rigid guard to prevent undue deflection and gyration of the spindle-support and spindle, as set forth.

4. A support for bolsters of spinning-spindles, consisting of a support proper, elastic both vertically and laterally, and a rigid guard, as set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 10th day of April, A. D. 1889.

CHARLES H. CHAPMAN.

Witnesses:

ARTHUR W. CROSSLEY,
A. D. HARRISON.