(No Model.)

F. M. GARCELON.

SPINDLE AND BOLSTER.

No. 528,936. Patented Nov. 13, 1894.

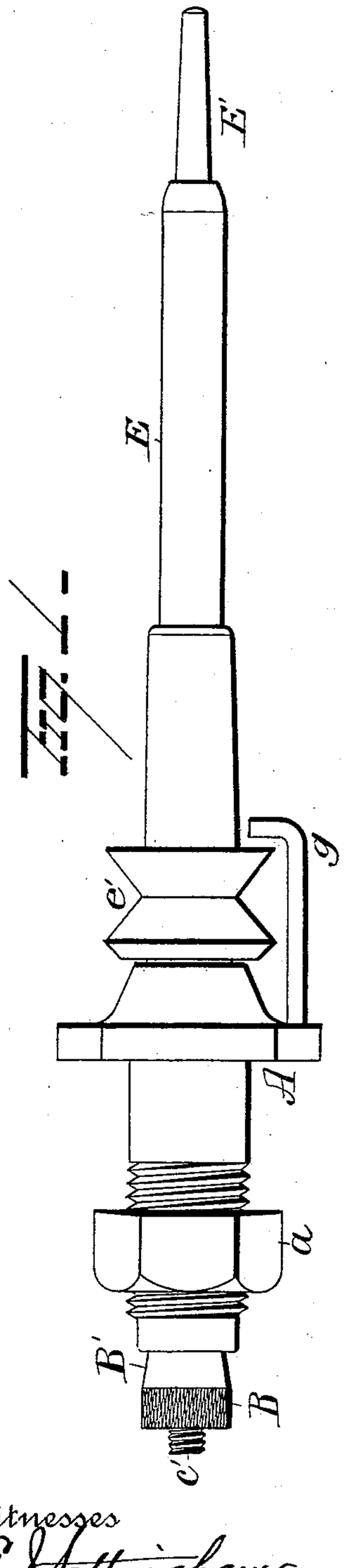

Fig. 1.

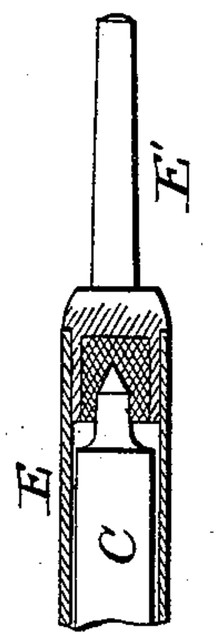

Fig. 3.

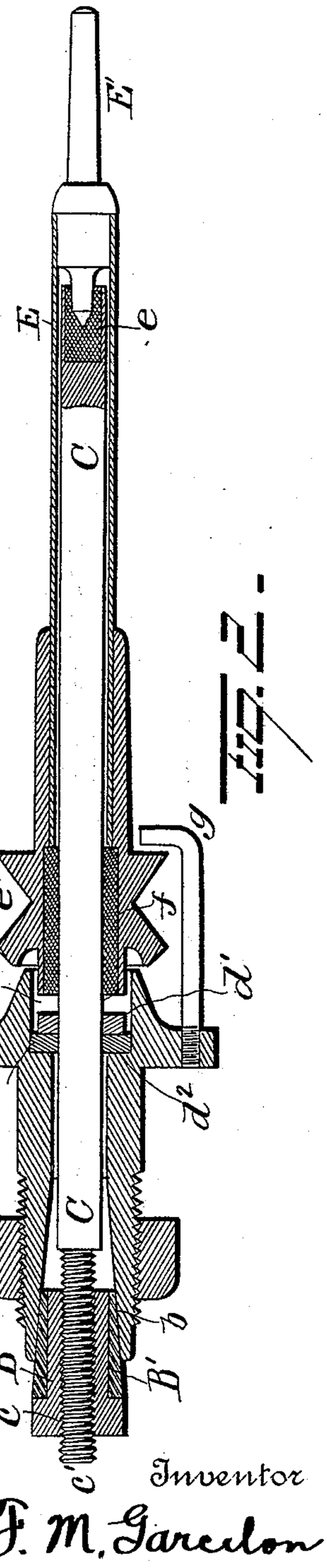

Fig. 2.

Witnesses
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UNITED STATES PATENT OFFICE.

FRED M. GARCELON, OF LEWISTON, MAINE.

SPINDLE AND BOLSTER.

SPECIFICATION forming part of Letters Patent No. 528,936, dated November 13, 1894.

Application filed January 2, 1894. Serial No. 495,353. (No model.)

To all whom it may concern:

Be it known that I, FRED M. GARCELON, of Lewiston, in the county of Androscoggin and State of Maine, have invented certain new and useful Improvements in Spindles and Bolsters; 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.

My invention relates to spindles for spinning machines,—the object of the invention being to provide simple and efficient means whereby to insure the proper running of the live spindle at any speed, should the bobbin be properly balanced or not.

A further object is to provide a dead spindle with simple and efficient cushioning devices, whereby to permit the live spindle to run uniformly at any speed and compensate for the irregularities of an unbalanced bobbin.

With these objects in view the invention consists in certain novel features of construction and combinations and arrangements of parts as hereinafter set forth and pointed out in the claims.

In the accompanying drawings: Figure 1 is an elevation of my improved spindle. Fig. 2 is a sectional view. Fig. 3 is a view of a modification.

A represents the bolster, which is provided at its lower end with screw threads for the reception of a nut *a* whereby to secure the device to the rail, as usual. The lower portion of the opening *b* in the bolster is made conical, for the reception of a similarly shaped plug B having a covering B′ of rubber or other suitable yielding material, or the whole of said plug may be made of yielding material. The plug B is made with a screw-threaded perforation *c*, for the reception of the screw-threaded lower end *c′* of the dead spindle C, which latter is made of a diameter less than the diameter of the bore of the bolster.

The bolster A is made at its upper end with a recess *d* and located within this recess is a collar *d′* made fast to the dead spindle and of a diameter less than the diameter of the recess *d*. Between the collar *d′* and the shoulder d^2 formed by the bottom of the recess *d*, is a washer D of rubber or other yielding material, which latter encircles the dead spindle and is of a diameter equal to the diameter of the recess *d*. The top of the dead spindle C is recessed for the reception of a bearing *e* of graphite or other lubricating material. The tubular running spindle E which encircles the dead spindle C, is provided at its upper end with a small spindle or tip E′, which has its bearing in the graphite *e* at the top of the dead spindle, thus revolubly mounting the live spindle E on the top of the dead spindle C. If desired, the tip or small spindle E′ can be recessed to receive the lubricating material and the end of the dead spindle can be finished to a point to fit into the lubricating material, as shown in Fig. 3. The running or live spindle E is provided with a whirl *e′*, the lower end of said whirl being recessed to receive a bushing *f* of fiber graphite or other lubricating material. The stop *g* is secured to the bolster and holds the running spindle in place while "doffing" the bobbin. Not shown.

By the provision of the elastic plug B and the elastic washer D and the location of these parts as shown and described, a proper cushioning action will be given to the dead spindle, so that should the bobbin be unbalanced, the live spindle will still run perfectly steady.

My improvements are very simple in construction, cheap to manufacture and effectual in the performance of their functions.

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

1. The combination with a bolster and a dead spindle, of an elastic device inserted in the end of the bolster and adapted to receive the dead spindle, and an elastic washer encircling the dead spindle at the upper end of the bolster, substantially as set forth.

2. The combination with a bolster and a dead spindle, of an elastic plug inserted in the lower end of the bolster and adapted to receive the lower end of the dead spindle, and an elastic washer encircling the dead spindle and located in a recess at the upper end of the bolster, substantially as set forth.

3. The combination with a bolster having a conical opening at its lower end and a dead spindle passing through said bolster and adapted to have a slight lateral movement therein, of a conical elastic plug inserted in

the conical opening in the bolster and adapted to receive the lower end of the dead spindle, and an elastic washer encircling the dead spindle at the upper end of the bolster substantially as set forth.

4. The combination with a bolster having a tapering bore at the lower end, of a dead spindle having a projection thereon adapted to engage the bolster, said spindle being threaded at one end, a tapering plug screwed on the threaded end of the spindle, and an elastic or yielding material interposed between the plug and the bore of the bolster, substantially as set forth.

5. The combination with a bolster having an opening therein and a dead spindle passing through said bolster and adapted to have a slight lateral movement, of a plug having an elastic covering, inserted in the lower end of said bolster and adapted to receive the lower end of the dead spindle, and an elastic washer, encircling the dead spindle and inserted in a recess in the upper end of the bolster, substantially as set forth.

6. The combination with a bolster having a recess in its upper end and a perforation extending through the bolster, and a dead spindle adapted to pass loosely through said perforation, of an elastic plug inserted in the lower end of said bolster and adapted to receive the dead spindle, an elastic washer located in the recess in the bolster and encircling the dead spindle, and a fast collar on the dead spindle and adapted to retain said elastic washer in place, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

FRED M. GARCELON.

Witnesses:
CHARLES E. GARCELON,
ALBERT R. SAVAGE.