

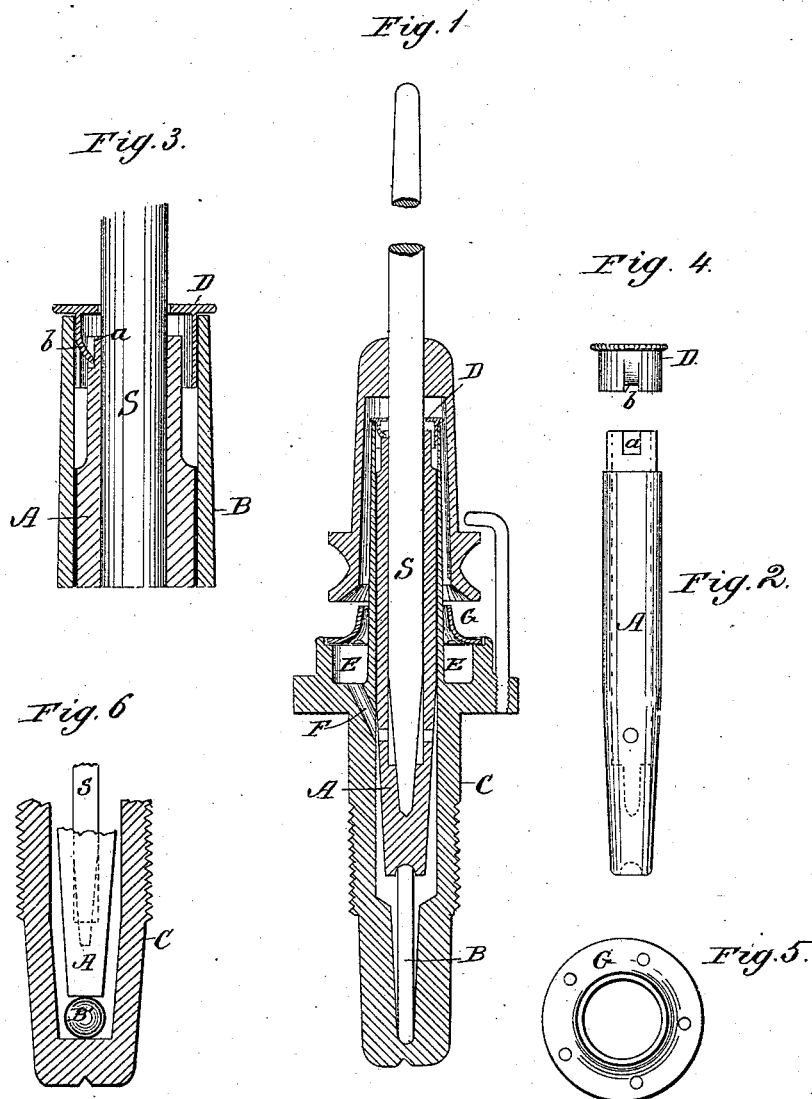
(No Model.)

A. R. SHERMAN.

BEARING FOR SPINDLES OF SPINNING MACHINES.

No. 305,969.

Patented Sept. 30, 1884.



WITNESSES:

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UNITED STATES PATENT OFFICE.

ALBERT R. SHERMAN, OF PAWTUCKET, RHODE ISLAND, ASSIGNOR TO THE
FALES & JENKS MACHINE COMPANY, OF SAME PLACE.

BEARING FOR SPINDLES OF SPINNING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 305,969, dated September 30, 1884.

Application filed October 11, 1882. (No model.)

To all whom it may concern:

Be it known that I, ALBERT R. SHERMAN, of Pawtucket, in the county of Providence and State of Rhode Island, have invented a new and useful Improvement in Bearings for Spindles of Spinning-Machines; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a central vertical sectional view of the bolster, bolster-case, and whirl, the spindle and supporting-pin being exposed in side elevation. Fig. 2 is a side view of the bolster. Fig. 3 is an enlarged view in vertical section of the upper end of the bolster and its case, showing the application of the cap to prevent the bolster from turning, and showing a portion of the spindle in side elevation. Fig. 4 is a detail side view of the cap, and Fig. 5 is a plan view of the cover to the oil-chamber in the bolster-case. Fig. 6 is a vertical section of the lower portion of the bolster-case, with the lower end of the bolster and spindle in side elevation, and showing a modification of my invention.

In a previous application for a patent, filed July 3, 1882, I have described a means for reducing the friction, noise, and power required for driving spinning-spindles, for which purpose the spinning-spindle bolster was suspended in the bolster-case by means of a flange or shoulder, so as to have a free lateral motion, and said bolster had a plain cylindrical surface in the plane of the whirl, loosely fitted in the bolster-case, so that a cushion of oil existed between the bolster and bolster-case, securing the results before described.

The object of my present invention is mainly to secure or make available these same advantages in such forms of spinning-bolsters already in use which do not have a flange for supporting them in their cases; and to this end my invention consists in combining, with the bolster and bolster-case, a ball or a detachable stiff vertical supporting-pin having free lateral movement, which pin or ball is stepped at its lower end in the bottom of the bolster-case, and upon which pin or ball, at its upper end, the bolster is stepped and supported, but

has a free lateral movement, while the oil-cushion between the bolster-case and the bolster is preserved in the plane of the whirl, as in my previous application referred to.

My invention also consists in means for locking the bolster and its case together to prevent the former from turning, and in the means for facilitating the lubrication of the parts, as will be hereinafter fully described.

In the drawings, B represents the pin, resting upon its end in the bottom of bolster-case C, and forming a support for the loosely-fitted bolster A. This pin is free to move side-wise at its upper end, and also has considerable length, which allows its load to be moved quite readily as the oscillations of the bolster require. Inside the bolster is arranged the spindle S, having the usual whirl, and in the plane of this whirl the bolster has a loose cylindrical fitting to form an oil-cushion, as described in my application referred to. Now, to prevent the bolster from turning in the bolster-case, I use a metal cap, D, that is forced within the upper end of the bolster-case with a frictional contact down to a shoulder formed upon the metal cap. Upon one side of this metal cap D there are two slits made, and the metal between the two slits is forced in to form a key or steady-pin, *b*. (See Figs. 3 and 4.) This fits within a somewhat larger slot, *a*, that is cut out of the upper end of bolster A, (see Figs. 2 and 5,) and by this means I very readily keep the bolster from turning. The lower portion of the bolster-case is formed in the nature of an exteriorly-threaded socket for connection with the rail by a nut, as usual, and above it is a chambered space about the central stem, marked E. This is for a reservoir to hold oil for lubricating. From bottom of reservoir there is a hole, F, drilled diagonally through the bolster-case to the interior space. To permit the oil to fill the interior space for the purpose of lubricating the spindle and cushioning the bolster, I use a metal cover, G, that is loosely fitted within a recess at the upper end of oil-space E, and this metal cover is made with an inside diameter at its upper end that is larger than the upright stem of the bolster-case which it surrounds. By having this open space it permits any oil that

may overflow from the top of bolster to return again to the oil-reservoir for the use of lubrication again. This disk or metal cover G has one or more holes through its lower surface, near its outer diameter, for the purpose of supplying the reservoir with oil, a great advantage in the same being that the spindle can be supplied with oil when it is in running motion.

10 In defining my invention with greater clearness, I would state that I am aware that a bolster has been sustained inside the bolster-case upon a springing or elastic stem which was rigidly fixed to the bolster; and I do not claim this, but only a stiff or inflexible laterally-tilting pin or shaft having a loose frictional abutment against the bolster; or in the place thereof a ball which takes the place of the pin and rests upon a flat surface in the bottom of the bolster-case, as shown at B' in Fig. 6, so as to have a free lateral motion, the said ball sustaining on its upper side the bolster just as the pin does.

Having thus described my invention, what I claim as new is—

1. The combination, with the bolster-case, the spindle, and the bolster having a loose peripheral fitting throughout its length in the case, forming an oil-chamber, of an inflexible supporting-pin, B, or its equivalent, as described, the same being supported in the lower end of the case, and having a loose frictional abutment against the bolster at its point of contact therewith, to support the bolster and allow it free lateral adjustment, as described.

2. The combination of the bolster A, having notch *a*, the bolster-case, and the cap D, having tongue or key *b*, the said cap being fitted with a frictional contact upon the bolster-case, with its tongue *b* projecting into the slot *a*, to prevent the bolster from turning, as described.

ALBERT R. SHERMAN.

Witnesses:

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ALONZO E. PIERCE.