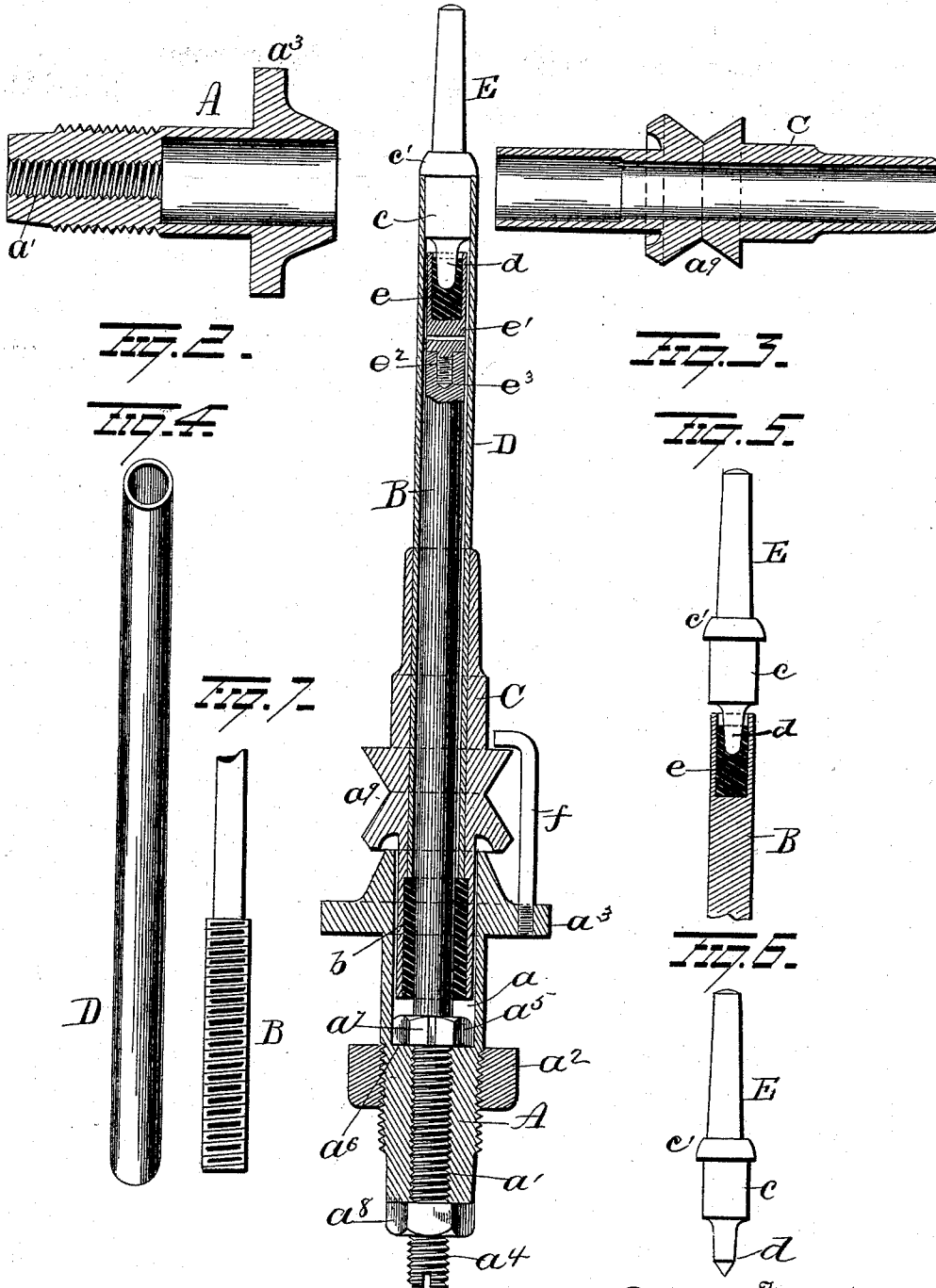


(No Model.)

F. M. GARCELON.
SPINDLE.

No. 526,670.

Patented Sept. 25, 1894.



Witnesses
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UNITED STATES PATENT OFFICE.

FRED M. GARCELON, OF LEWISTON, MAINE.

SPINDLE.

SPECIFICATION forming part of Letters Patent No. 526,670, dated September 25, 1894.

Application filed July 22, 1893. Serial No. 481,211. (No model.)

To all whom it may concern:

Be it known that I, FRED M. GARCELON, a citizen of the United States, residing at Lewiston, in the county of Androscoggin and State of Maine, 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.

My invention relates to spindles for spinning machines, the object of the invention being to produce a spindle for spinning machines which shall be simple and cheap in construction and which shall be effectual in the performance of its functions.

With this object 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 a sectional view illustrating my improvements. Figs. 2, 3, and 4, are detail views. Figs. 5, 6, and 7, illustrate modifications.

A represents a casing having a socket *a* for a purpose hereinafter explained, and also having a screwthreaded perforation *a'* extending from the bottom of the socket *a* to the lower end of said casing. The casing A is also provided externally with screwthreads for the reception of the threads in a nut *a²*, the upper face of said nut being parallel with the under face of a flange *a³* projecting from the casing A at the upper end thereof.

A dead spindle B is provided at its lower end with screwthreads *a⁴* and a recess for the reception of a screwdriver and is adapted to be screwed downwardly through the screwthreaded perforation *a'* in the base, or upwardly through said perforation, in which latter case the screwthreaded portion of the spindle will be made as shown in Fig. 7, that is to say the screw threaded portion will be greater in diameter than the main body of the spindle. The dead spindle is preferably made of a uniform thickness from end to end thereof, thus avoiding the necessity of turning it down, said spindle being cut from a bar of steel of uniform thickness. The screwthreaded portion of the dead spindle is adapted to extend within said socket, *a*.

A lock nut *a⁵* is screwed on the dead spindle, said nut being adapted to fit snugly within the socket *a* and rest on the shoulder *a⁶* at the base of said socket. The lock nut *a⁵* is provided at diametrically opposite sides with notches *a⁷* for the reception of a suitable wrench by means of which to screw it to its place on the dead spindle. Another lock nut *a⁸* is screwed on the end of the dead spindle B and bears against the lower end of said casing. By thus securing the dead spindle to the casing the dead spindle will be effectually prevented from vibration, and thus materially lessen the liability of the threaded portion to wear.

Located within the socket *a* in the casing A, is a sleeve or whirl C which can be conveniently cast in a single piece, and is made with a pulley *a⁹*, for the accommodation of a suitable strap by which to drive it. The lower end of the sleeve or whirl C is adapted to terminate slightly above the bottom of the socket *a* and at the lower end is recessed for the reception of lubricating material, preferably in the form of a sleeve *b* of anti-friction material, which constitutes a bearing for the whirl, on the dead spindle B.

Within the whirl C and bearing at its lower end on the top of the sleeve or bearing *b*, is a tube D, which is secured in said whirl by sweating or in any other suitable manner, said tube being preferably of uniform thickness from end to end. The tube may be cut from a length of brass or steel tubing, preferably of uniform diameter, thus avoiding the necessity of subsequent truing. By employing a dead spindle and a tube of uniform diameter from end to end, said parts can be made very true and the cost of the device materially reduced without reducing the efficiency thereof. The enlarged portion *c* of a spindle E is inserted in the upper end of the tube D and is secured therein by means of solder or in any other suitable manner, said spindle E being made with an annular shoulder *c'* which rests on the upper end of the tube D and is adapted to serve as a rest for the spool (not shown) which is placed on the spindle E.

The spindle E is provided at its lower end with a contracted journal *d*, which may be rounded as shown in Fig. 1, or said journal

may be made with a diamond point as shown in Fig. 6, and is adapted to have its bearing in a block of graphite *e*, or other suitable anti-friction material, at the upper end of the dead spindle B. The graphite bearing *e* is inserted in the end of a block *e'* having a screwthreaded shank *e²* adapted to enter a screwthreaded socket *e³* in the upper end of the dead spindle B. From this construction it will be seen that the graphite bearing *e* is removably secured to the end of the dead spindle, thus facilitating its ready renewal when worn and avoiding the necessity of removing the dead spindle when it is desired to renew the graphite bearing, as would be the case if the bearing *e* were inserted directly into the end of the spindle.

When the graphite bearing is inserted directly into the end of the spindle, time is lost, not only in removing the spindle, but in waiting for the cement which holds the graphite in place, to dry. However, the bearing may be inserted directly in the end of the spindle, as shown in Fig. 5, without affecting the proper operation of the device and in some cases, I may so construct it.

An arm *f* is secured to the flange *a³* of the casing A and is made with an annular upper end adapted to project over the pulley *a⁹*.

My improvements are very simple, can be

cheaply manufactured, and are very 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 casing, a dead spindle secured thereto and a sleeve adapted to rotate about said dead spindle, of a short spindle carried by said sleeve, a block removably secured to the end of the dead spindle, and an anti-friction bearing in said block, for said short spindle, substantially as set forth.

2. The combination with a casing, a dead spindle secured thereto and a sleeve adapted to rotate about said dead spindle, of a spindle carried by the sleeve, a block having a screwthreaded shank, adapted to enter a screwthreaded socket in the end of the dead spindle, and an anti-friction bearing in said block for the end of the short shaft, substantially as set forth.

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

FRED M. GARCELON.

Witnesses:

THOMAS C. SPILLANE,
PHILIP H. SPILLANE.