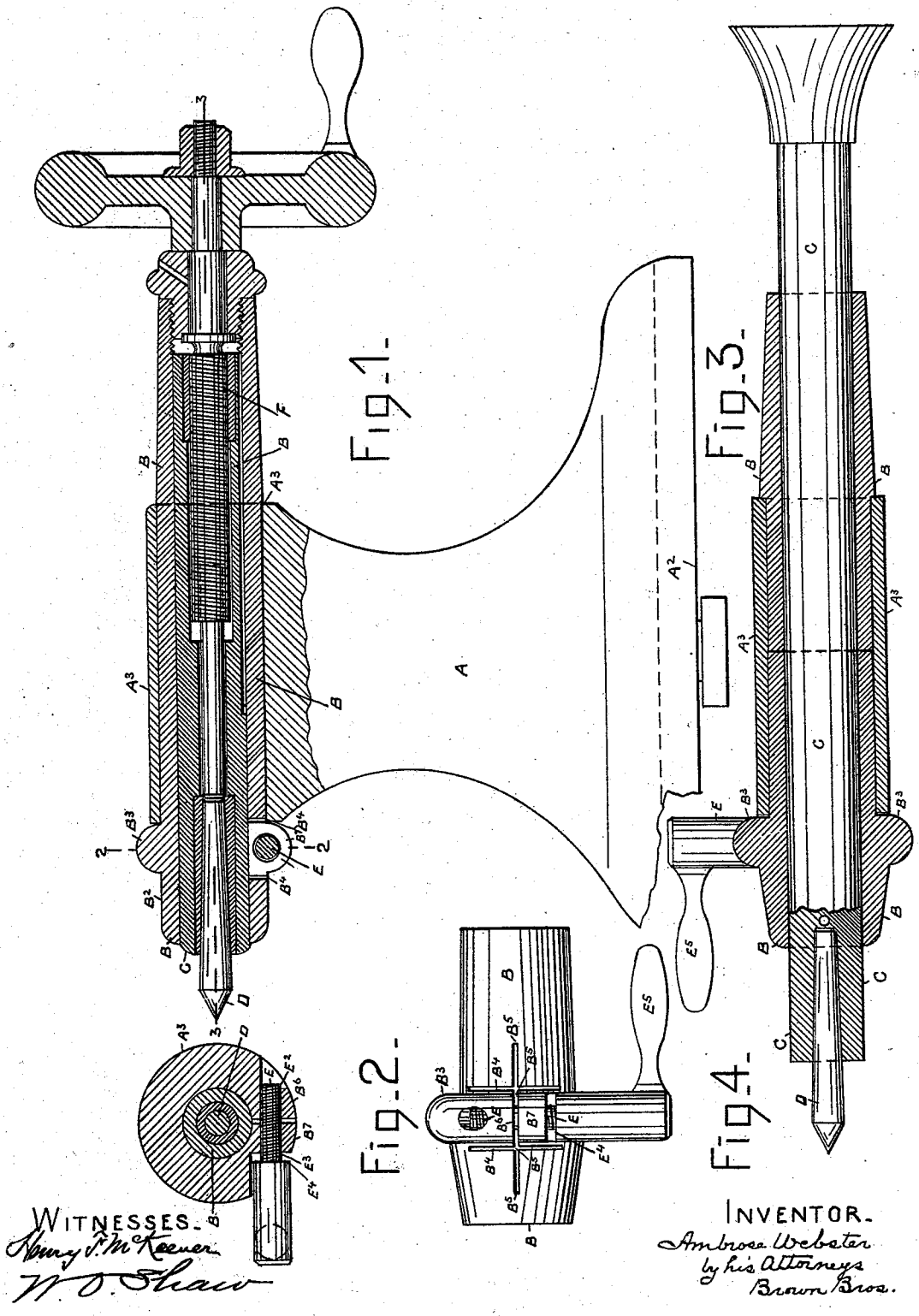
(No Model.)

A. WEBSTER.

TAIL STOCK SPINDLE FOR LATHES.

No. 412,439. Patented Oct. 8, 1889.



WITNESSES.
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UNITED STATES PATENT OFFICE.

AMBROSE WEBSTER, OF WALTHAM, MASSACHUSETTS.

TAIL-STOCK SPINDLE FOR LATHES.

SPECIFICATION forming part of Letters Patent No. 412,439, dated October 8, 1889.

Application filed June 21, 1889. Serial No. 315,101. (No model.)

To all whom it may concern:

Be it known that I, AMBROSE WEBSTER, a citizen of the United States of America, and a resident of the city of Waltham, in the county of Middlesex and State of Massachusetts, have invented new and useful Improvements in Tail-Stocks for Lathes, of which the following is a full, clear, and exact description.

This invention in tail-stocks of lathes relates to clamping the spindle in a bushing or quill otherwise adapted to be held in the tail-stock, and to holding the bushing against backward movement through the tail-stock as the spindle is moved forward through the bushing.

The invention consists, first, of a bushing or quill adapted to receive the spindle and to be held in the tail-stock, and having through its thickness two transverse cuts or slits extending partially around it, and a longitudinal cut or slit crossing its said transverse slits and extending partially along its length, in combination with a screw-pin crossing the longitudinal slit between the transverse slits, and engaged with the walls of the longitudinal slit, so that turned in one direction it operates to close and thereby to clamp the bushing on, and in the other direction to release the bushing from, the spindle.

The invention consists, second, of a bushing or quill adapted to receive and to be clamped on the spindle, and to be inserted in the tail-stock, and constructed with a shoulder to rest against the tail-stock, and thereby, as the spindle is forced forward through the bushing, to secure the bushing against moving backward through the tail-stock.

In the drawings forming part of this specification, Figure 1 is a central vertical longitudinal section of the upper part of, and a side elevation of the lower part of, a tail-stock having the improvements of this invention. Fig. 2 is a transverse vertical section, line 2 2, Fig. 1. Fig. 3 is a central horizontal section, line 3 3, Fig. 1, but without the operating mechanism for a movement of the spindle forward and backward through the bushing. Fig. 4 is a side view of the slit bushing or quill of Fig. 2, detached.

In the drawings, A is the tail-stock, at its lower portion A^2 adapted, as usual, for application to the lathe-bed. The upper portion A^3 of tail-stock is bored out from end to end to receive a bushing or quill B, which in turn receives the spindle C, having a prick-point D secured therein. In Fig. 1 the bushing B is in one length and in Fig. 3 it is in two lengths, placed end to end. In both instances the bushing projects beyond the front and rear ends of the tail-stock, and its front projecting portion B^2 has a surrounding shoulder or bead B^3, to rest or abut against the front end of the tail-stock, and, again, it has two transverse cuts or slits B^4 B^4 through its thickness, one at each side of its said shoulder and partially around it, and a longitudinal slit B^5, crossing its said shoulder and its said transverse slits and extending for a portion of its length.

E is a screw-pin extending longitudinally across from wall B^6 to wall B^7 of the longitudinal slit B^5 of the bushing. This screw-pin E at one end portion E^2 engages one wall B^6, and at its other end portion E^3 passes loosely through the other wall B^7 of the longitudinal slit B^5 of the bushing, and it has a shoulder E^4 to abut against the wall B^7, and also a handle E^5 for convenience in turning it.

Turning the screw-pin E in one direction forces the opposite side walls B^6 B^7 of the longitudinal slit or cut B^5 toward, and turning it in the other direction leaves said walls free to open from, each other—in the first instance clamping the bushing on, and in the second instance releasing the bushing from, the spindle. A clamping of the bushing on the spindle, as described, preserves the true axial line of the spindle.

As shown, Fig. 1, the spindle is adapted to be moved forward and backward by turning a feed-screw F in the proper direction, all as well known and as usual, and in this case the shoulder B^3 of the bushing in its abutment against the front end of the tail-stock holds the bushing against moving backward as the spindle is forced forward by turning the feed-screw F.

As the mechanism of Fig. 1 is all contained in the bushing or quill B, obviously it can be fitted and made complete of itself, all without handling the tail-stock.

Having thus described my invention, what I

claim, and desire to secure by Letters Patent, is—

1. The combination, with a lathe-spindle, of a bushing B, surrounding it, and constructed with transverse slits B^4 B^4, and a longitudinal slit B^5, in combination with a screw E, joining and engaging the walls of the longitudinal slit, substantially as described, for the purposes specified.

2. The combination, with a lathe-spindle, of a bushing B, surrounding and adapted to be fastened to and released from it, and having a shoulder B^3, in combination with the tail-stock of the lathe adapted to receive said bushing and to make a rest for its said shoulder B^3, substantially as described, for the purpose specified.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

AMBROSE WEBSTER.

Witnesses:
ALBERT W. BROWN,
W. O. SHAW.