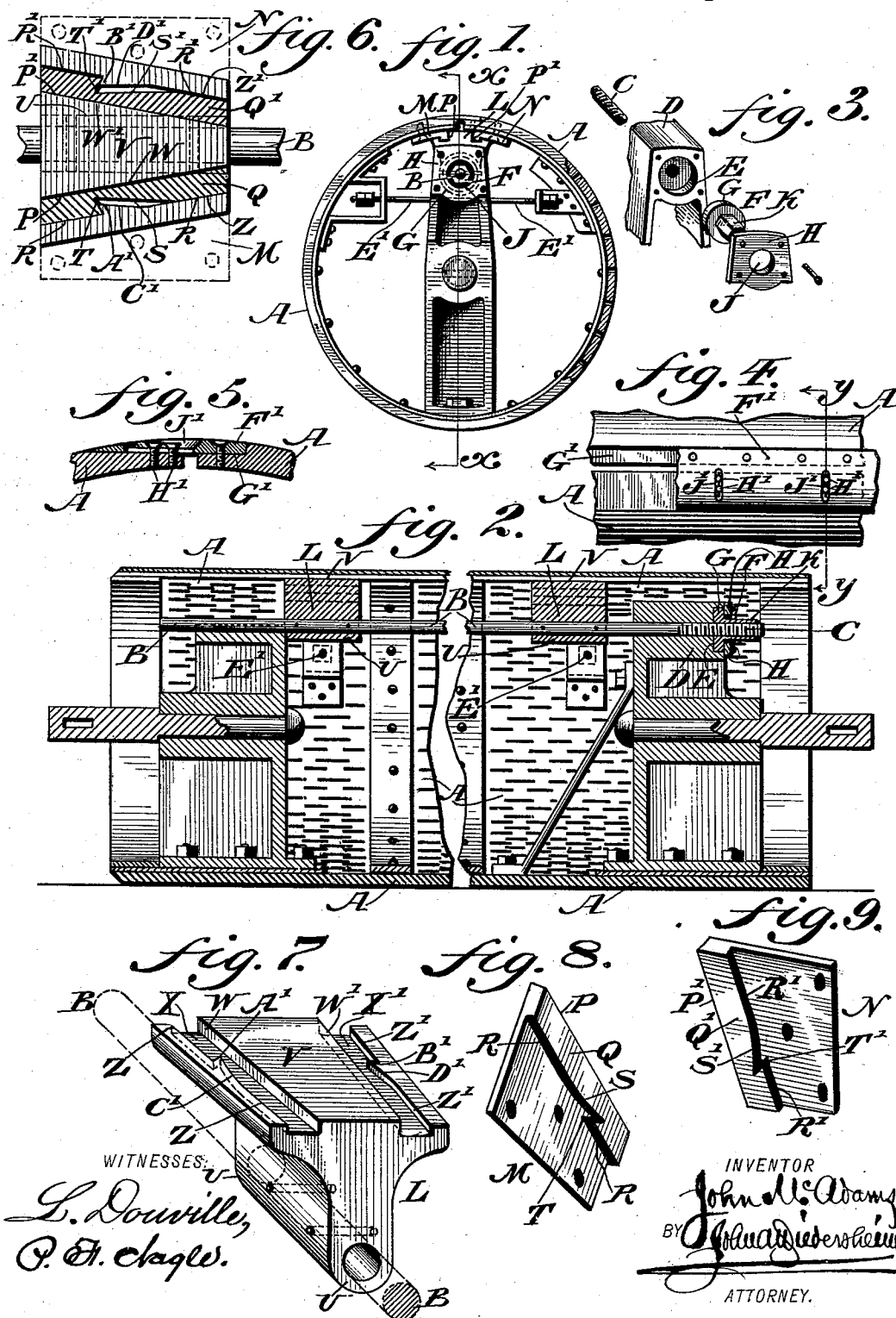


J. McADAMS.
CORE SPINDLE.

Patented Apr. 9, 1895.



UNITED STATES PATENT OFFICE.

JOHN MCADAMS, OF PHILADELPHIA, PENNSYLVANIA.

CORE-SPINDLE.

SPECIFICATION forming part of Letters Patent No. 537,301, dated April 9, 1895.

Application filed July 31, 1894. Serial No. 519,118. (No model.)

To all whom it may concern:

Be it known that I, JOHN MCADAMS, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Core-Spindles, which improvement is fully set forth in the following specification and accompanying drawings.

My invention relates to core spindles, and consists of improvements in various details upon a similar apparatus patented to me February 21, 1893, No. 492,226, whereby the efficiency of the device is greatly increased, as will be hereinafter set forth and claimed.

Figure 1 represents an end view of a core spindle embodying my invention, a portion of the right hand side being broken away. Fig. 2 represents a vertical section through the same, on line *x, x*, Fig. 1. Fig. 3 represents a perspective view on an enlarged scale of certain detached parts. Fig. 4 represents a top view of a detail portion of the device. Fig. 5 represents a section through the same on line *y, y*. Fig. 6 represents on an enlarged scale, a plan view of the expanding device locked. Figs. 7, 8 and 9 represent on an enlarged scale, perspective views of the expanding device detached.

Similar letters of reference indicate corresponding parts in the several figures.

Referring to the drawings: A designates the cylinder of a core spindle, which is slit from end to end, and provided with slots and standards, and journals therefor, which are in all respects the same as those shown in my prior patent above referred to, and form no part of my present invention.

The rod B is longitudinally movable in bosses in the upper portion of the standards, and has the end C screw-threaded. The boss D which supports this threaded end is elongated, and is recessed at E. A nut F engages the end C of the rod, said nut having a flange G, which has a bearing in the recess E, and is held therein by the plate H, which is bolted to the face of the said boss D, said plate having an opening J therein, through which extends the elongated squared portion K of the nut, whereby it is turned. The expanding device for the spindle consists of the side pieces M and N, and the body portion L, the pieces M and N being made rights and lefts, and

immovably secured to the upper inner portion of the shell A, one on each side of its longitudinal slot, so that their edges P and P' are at an angle to the longitudinal axis of the spindle, and converge as shown in Fig. 6. The said pieces M and N have the raised portions Q and Q' whose inner edges R, and R' are parallel with the edges P and P', and have portions cut therefrom on the lines S, and S', whereby projections T and T' are formed, which engage similar projections on the upper portion of the body piece L, as will be hereinafter explained. The said body piece L has the downwardly-depending lug U, through which passes the rod B, the latter engaging therewith, so that any longitudinal movement of the said rod B, will cause a like movement of the body L. The top V is raised, and its two sides W, and W' converge as shown in Fig. 7, in a direction parallel to the convergence of the sides P P', Fig. 6.

The top of the body L has on each side of the central raised part V, the longitudinal recesses X, X', which have the sides Z, Z' parallel to the sides W, W' respectively, of the raised portion V, and have also projections A', B', which abut against the projections T, T' of the side pieces, when the parts are in the position shown in Fig. 6. It will thus be seen that when the parts are in the position as in Figs. 1 and 6, the raised portions Q and Q' of the side pieces, rest in the depressions X and X', and that the longitudinal movement of the body piece L is limited in one direction by the contact of the projections A', B', with the projections T, T' of the side pieces, and in the other direction the movement is limited by the contact of the portions S, S' of the side pieces with the portions C', D' of the body piece L, so that the movement is positively limited in both directions, and thereby the width of the slit is controlled, and it is therefore possible to dispense with the controlling device E', which in my former patent constitutes the only provision for regulating the width of said slit.

In Figs. 4 and 5, F' designates a cover which extends longitudinally over the slit in the top of the core spindle, one side of which is secured in a recess G' in one half of the cylinder A, while the other half of the said cylinder is flat, as shown in Fig. 5, the pins H', H',

in the slots J', J', serving as guides, the heads of the pins being preferably counter-sunk as shown.

The operation will now be apparent. By the revolution of the nut F, the rod B is moved longitudinally, thereby giving a similar movement to the body piece L, thus increasing or decreasing the diameter of the shell as desired, the extent of such increase or decrease being positively limited, as has been described, the cover F' at all times closing the slit thereunder. The nut F is prevented from longitudinal movement by means of the plate H, which removes an objectionable feature found in my prior device.

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

1. In a core spindle, a split shell, a fixed support having a boss with a recess in its end, a rod with threaded end, a nut on said rod having a flange in said recess, and provided with an extension, a plate with an opening receiving said extension and an expanding device for the shell connected with said rod, said plate being secured to said boss, said parts being combined substantially as described.

2. In a core spindle having a split shell, means for varying the diameter of the shell, and a cover for closing the opening in said

shell, said cover consisting of the longitudinal strip F' having one portion secured to a recess in one half of the shell, the other portion resting on a flattened part of the other half of said shell, and being guided by the pins H' which enter the slot J' in said cover, said parts being combined substantially as described.

3. In a core spindle having a split shell, means for varying the diameter of the same consisting of the body piece L adapted to be moved longitudinally, the same having the raised portion V, the recesses X, X' and the projections A' and B', the latter being engaged by similar projections in the side pieces attached to the upper portion of the shell, said parts being combined substantially as described.

4. In a core spindle, a split shell, the side pieces M and N attached to the shell on opposite sides of said split, and having the raised portions with cuts and projections as described, and the movable piece L having the raised portion V with longitudinal recesses on the sides thereof, one of the walls of each of the recesses having a projection and a recess said parts being combined substantially as described.

JOHN MCADAMS.

Witnesses:

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