(No Model.)

J. McADAMS.

CORE SPINDLE.

No. 492,226. Patented Feb. 21, 1893.

Fig. 2.

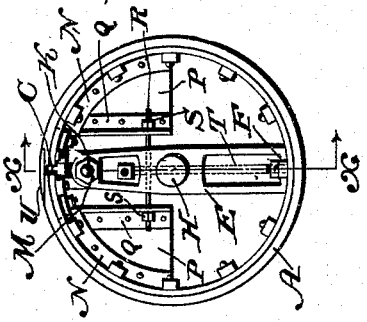


Fig. 5.

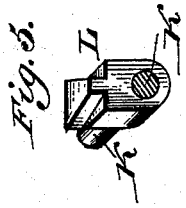


Fig. 6.

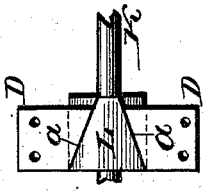


Fig. 1.

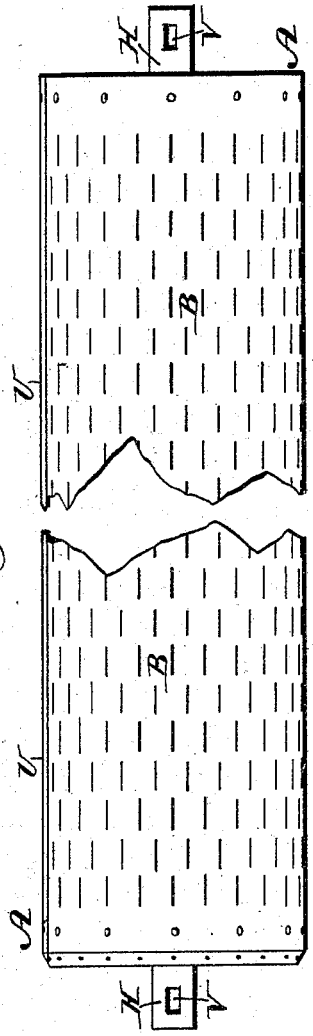


Fig. 3.

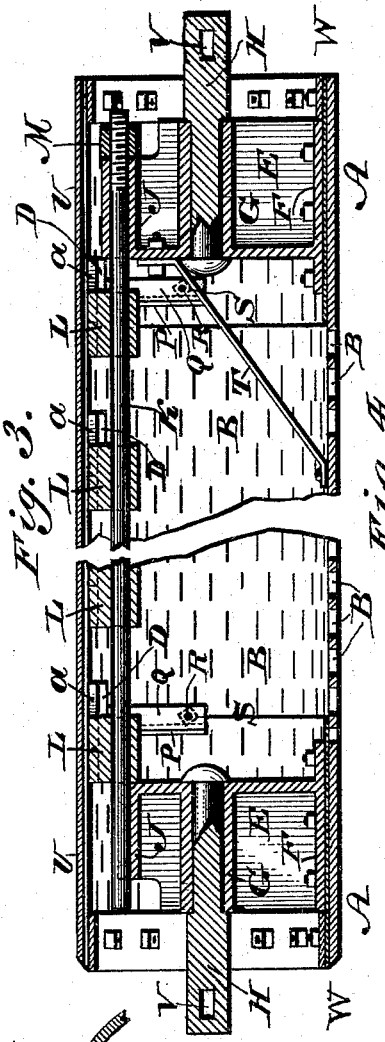


Fig. 4.

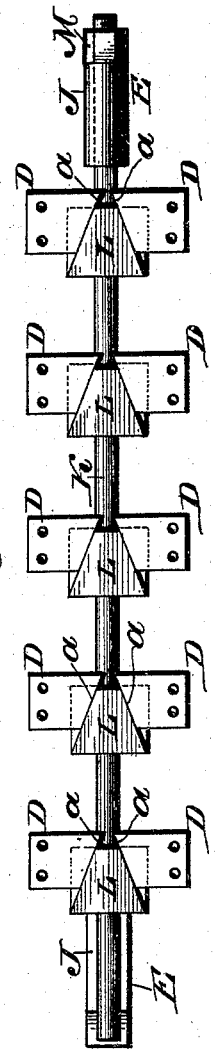
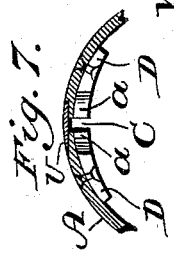


Fig. 7.



WITNESSES:

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CORE-SPINDLE.

SPECIFICATION forming part of Letters Patent No. 492,226, dated February 21, 1893.

Application filed September 14, 1891. Serial No. 405,680. (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 Camden, State of New Jersey, 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 improvements in core spindles and has for its object an expansible spindle, which may be readily adapted for casting pipes of different diameters and for this purpose it consists: First, of a split shell having blocks with inclined faces secured to the inner face thereof, a standard within said shell having a rod provided with wedges movable in bosses thereon, and angle plates provided with adjustable braces and on opposite sides of said shell.

It further consists of a split shell with recessed walls at the edges of the split, means for expanding said shell and for regulating said expansion, and a cover for said split.

It further consists of the arrangement and combination of parts hereinafter set forth.

Figure 1 represents a side view of a core spindle embodying my invention. Fig. 2 represents an end view of the same. Fig. 3 represents a longitudinal section on line *x*, *x*, Fig. 2, spring plates for closing the tube being added to the view shown in Fig. 2. Fig. 4 represents a top or plan view of a portion of the device. Fig. 5 represents a perspective view of a detail portion of the device. Fig. 6 represents a plan view of one of the wedges with adjacent blocks, said parts being in different position from those shown in Fig. 4. Fig. 7 represents a sectional view of a detail portion of the device.

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

Referring to the drawings: A designates a cylinder, shell or tube of a core spindle, formed of wrought iron or other suitable material, having a number of longitudinal slots B therein, whereby air may escape from the contact surface of the pipe which is being cast thereon. The said shell is slit from end to end as at C, and has firmly secured to its inner face on or near to each side of the slit, a number of blocks D forming shoulders or projections with inclined faces *a*.

To the inner side of the shell and opposite the slit C are secured the standards or supports E, each having a flanged base portion F by means of which it is secured to the shell, a boss G in which the journals H are held and a boss J in which a rod K is longitudinally movable. Eccentrically secured to the said rod are a number of wedges L, adapted to contact with and bear against the inclined faces *a* of the blocks D, so that when a nut M, which works on a threaded end of the rod and bears against the boss J, is properly rotated, the wedges are drawn against the blocks so that the slit C is widened, and thereby the diameter of the shell A is increased.

To determine when the shell has been sufficiently spread or enlarged, and to limit the further operation of the nut and rod, segmental angle irons N are fastened to the shell on both sides of the slit C, and plates P are attached to said irons having the angle irons Q secured thereto. Passing through two opposite angle irons Q are the rods R having screw-threaded ends on which are the nuts S, whereby the desired distance apart of the angle irons Q can be controlled and thereby the width of the slit C. A brace rod T is employed to strengthen the connection of one of the standards E with the shell. The outer face of the shell at the walls of the slit C is cut away forming a recess for the reception of a cover U which extends on both sides of the said slit so that it closes the same while the pipe is being cast thereon, resting in said recesses and not projecting above the surface of the shell. The journals H project beyond the ends of the shell and have openings V therein, whereby the end of a bar or other suitable tool may be inserted therein for ease in rotating and carrying the same.

In Fig. 3 are shown spring plates W, between the base of the standard E and the shell A, and opposite the slit C, serving to close the tube when the wedging device is drawn back. When the spring plates W are not employed, as in the device shown in Figs.

1 and 2, the split shell is sufficiently resilient to close itself when the wedges L are withdrawn.

It will be seen that by the mechanism described, the shell may either be increased or decreased in diameter as desired, the cover U at all times closing the slit C in the same.

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

1. A core spindle having a split shell, blocks with inclined faces secured to the inner face of said shell, standards secured with said shell, a rod with wedges secured thereto and movable in bosses on said standards, and angle plates on opposite sides of said split shell and provided with adjustable brace rods, said parts being combined substantially as described.

2. A core spindle having a split shell with recessed wall at edges of the split, means for expanding said shell, means for regulating said expansion, and a cover for said slit said parts being combined substantially as described.

3. A core spindle having a split shell with edges cut away or recessed on their outer face, means for expanding said shell, and a cover for closing the slit, resting in said recessed portion, substantially as described.

4. A core spindle having a split shell, means substantially as described for expanding said shell angle irons secured to the inner face of said shell on opposite sides of said split, a rod with screw-threaded ends passing loosely through said angle irons and nuts on said screw-threaded ends bearing against said angle irons, said parts being combined substantially as described.

5. A core spindle having a split shell, means substantially as described for expanding said shell and spring plates secured to said shell for closing said split, substantially as described.

6. A core spindle consisting of a split shell with blocks having inclined faces secured to the inner face thereof on opposite sides of said split, standards having flanges in said shell, a rod mounted in bosses on said standards, wedges secured to said rod and adapted to bear against said inclined faces of the blocks, means for operating said rod, means for regulating the width of expansion of said split, and spring plates secured between the standards and the shell for closing said split, said parts being combined substantially as described.

JOHN McADAMS.

Witnesses:
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