

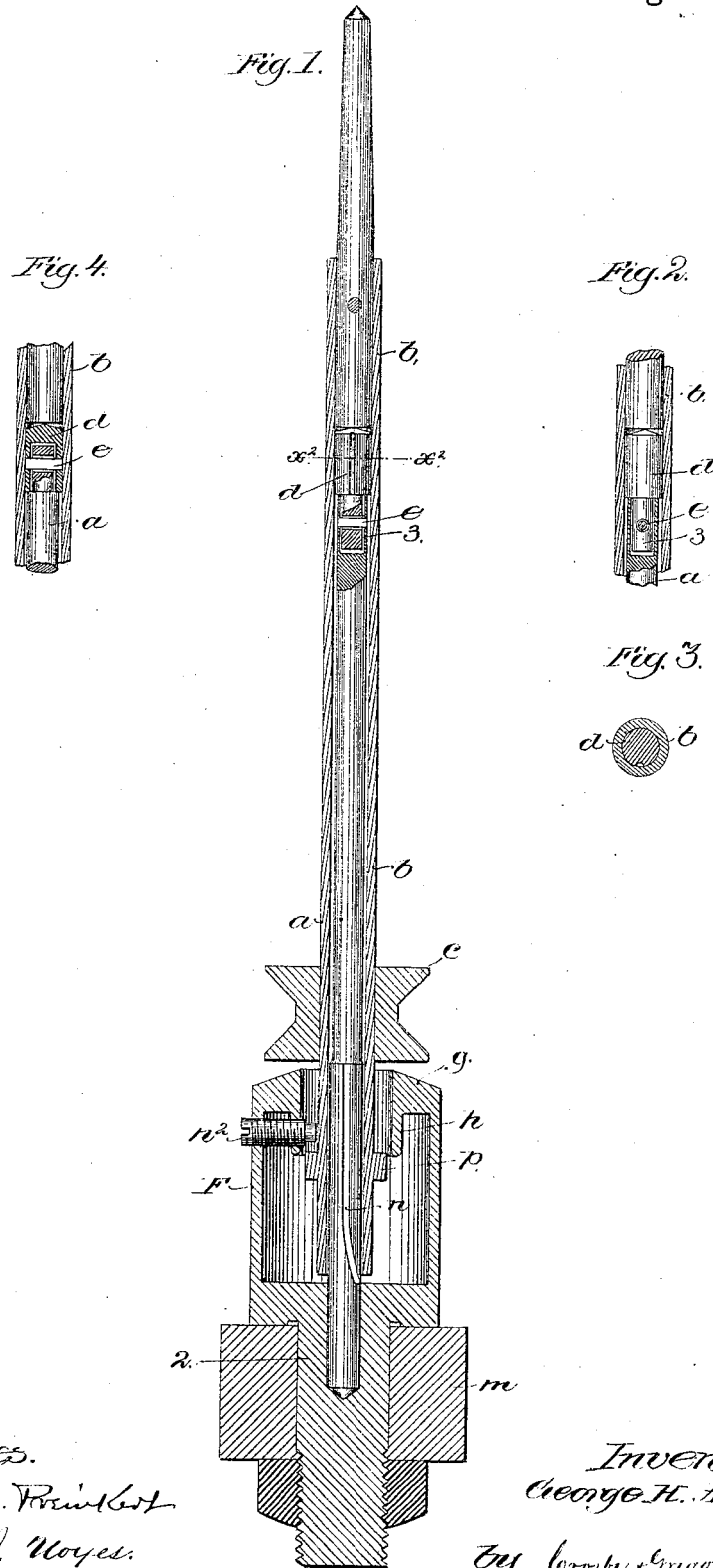
(No Model.)

G. H. ALLEN.

SPINDLE.

No. 263,300.

Patented Aug. 29, 1882.



Witnesses.  
John F. C. Printz  
Bernice J. Woyce.

Inventor.  
George H. Allen  
by Crosby & Gregory Attys

# UNITED STATES PATENT OFFICE.

GEORGE H. ALLEN, OF AYER, MASSACHUSETTS.

## SPINDLE.

SPECIFICATION forming part of Letters Patent No. 263,300, dated August 29, 1882.

Application filed May 1, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE H. ALLEN, of Ayer, county of Middlesex, State of Massachusetts, have invented an Improvement in Spindles, of which the following description, in connection with the accompanying drawings, is a specification.

My invention relates to spindles of that class known as "dead-spindles," and has for its object a novel support for the shell-spindle which carries the bobbin, whereby the shell-spindle may move laterally or radially upon the standard within it to enable the shell-spindle, with its bobbin, to center itself to its load.

In this my invention I have placed an independent step between the upper end of the standard and the interior of the shell-spindle, and have so mounted the step, as herein shown, by a slot-and-pin and stem-and-socket connection that the shell-spindle and step are free to move to a certain extent in every direction.

This invention is an improvement on United States Patent No. 244,712, wherein the lower end of the standard below the whirl is fitted loosely into a socketed base. In the construction shown in the said patent the pull of the band on the whirl tends to deflect the entire standard, and hence the spindle, from the perpendicular, which is extremely objectionable. To overcome the objections to such construction I have secured the standard rigidly in the base, so that it cannot move laterally at any point below the whirl, and hence the pull of the band is resisted by a rigid standard; but to enable the shell, with its load, to center itself correctly I have provided the standard at a point above the band-pull with a freely-moving step, the rotation of which is prevented by a pin, as will be described.

Figure 1 represents in partial vertical section a dead-spindle embodying my invention; Fig. 2, a detail of the same, showing a different view of the step; Fig. 3, a section of Fig. 1 on the dotted line *x x*, and Fig. 4 a broken detail of a modification.

The standard *a*, about which is placed the bobbin carrying shell-spindle *b*, upon which is secured the whirl *c*, is rigidly fixed to a socket in the base 2 of the oil-well *F*. At its upper

end (see Figs. 1 and 2) the standard *a* is provided with a longitudinal socket, into which is dropped loosely the smaller pintle or stem 3 of the step *d*. The stem 3 is bored transversely to form a hole for the reception of the small pin *e*, which is extended through the said hole loosely, and serves as a connection between the step and the standard *a* to prevent the rotation of the step with the shell-spindle *b*; but owing to the fact that the pin *e* holds the step loosely, and that the stem-and-socket connection between the rod and shell-spindle also affords space between them, the step is left comparatively free to move with the shell-spindle as the latter seeks its true center of rotation. The upper portion of the step *d* fits the shell-spindle *b* closely; but the shell-spindle does not touch the standard *a*, except at its lower portion, near or within the whirl.

I have shown a modification in Fig. 4 wherein the upper end of the standard *a* is provided with a reduced stem to fit a hole or socket of considerably larger diameter in the step, such construction being the converse of that shown in Figs. 1 and 2, and an obvious equivalent, the pin *e* in the said figure also entering loosely a hole of somewhat larger diameter in the reduced stem of the upper end of the standard, but fitting the hole in the step closely.

The oil-well, its cover *g*, and annular depending collar *h* are all cast in one piece.

The standard has a suitable groove, *n*, for oil.

The step-rail is marked *m*.

The shell-spindle is prevented from rising too far by screw *n*<sup>2</sup> and collar *p*.

I claim—

The standard *a* and the base, into which it is fitted rigidly, and the loose step supported, substantially as described, at the top of the said standard, combined with a shell-spindle, substantially as set forth.

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

GEORGE H. ALLEN.

Witnesses:

GEORGE V. BARRETT,  
WARREN H. ATWOOD.