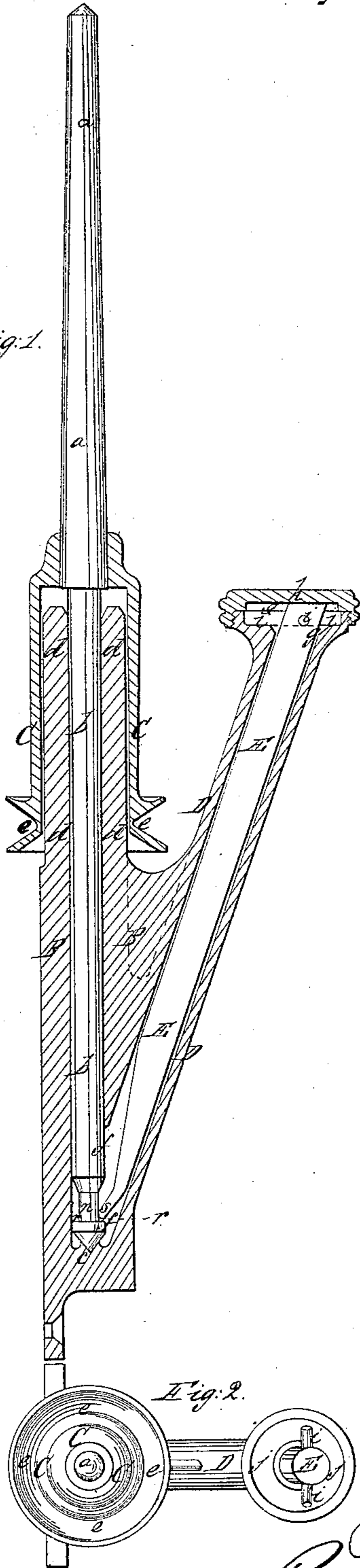


*J. E. Atwood,  
Spindle.*

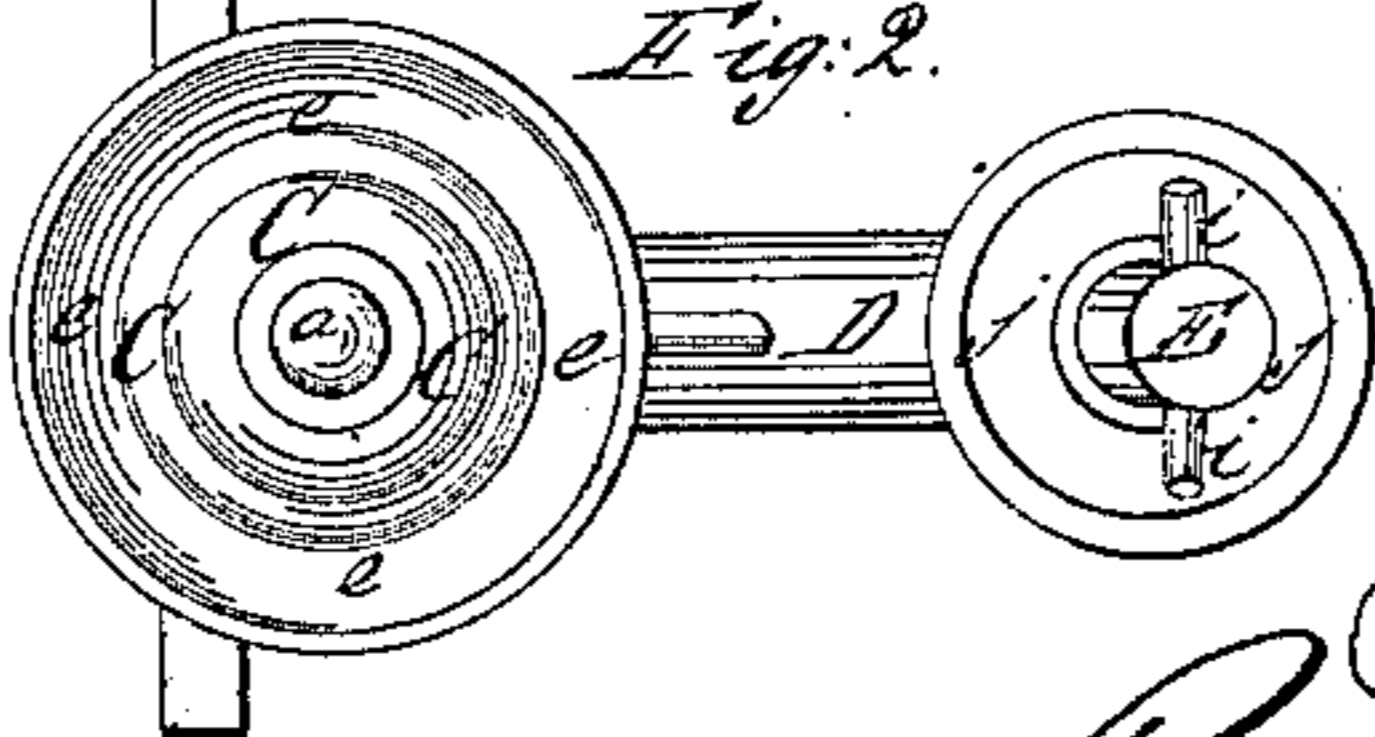
*N<sup>o</sup> 58,046.*

*Patented Sep. 18, 1866.*

*Fig. 1.*



*Fig. 2.*



*Witnesses:*

*J. W. Combs  
D. W. Reed*

*Inventor:*

*J. E. Atwood*  
*Wm. Combs & Co. Attys.*

# UNITED STATES PATENT OFFICE.

JOHN E. ATWOOD, OF MANSFIELD, CONNECTICUT.

## IMPROVEMENT IN SPINDLES FOR SPINNING-FRAMES.

Specification forming part of Letters Patent No. 58,046, dated September 18, 1866.

*To all whom it may concern:*

Be it known that I, JOHN E. ATWOOD, of Mansfield, in the county of Tolland and State of Connecticut, have invented certain new and useful Improvements in Spindles for Spinning-Frames; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a longitudinal transverse section. Fig. 2 is a plan or top view.

Similar letters of reference indicate corresponding parts in both figures.

This invention consists in an improvement in self-oiling spindles for spinning-frames, whereby they are prevented from being drawn aside or out of line by the tension of the bands upon the "whirr," and whereby they are retained in proper position in their journal boxes or bearings without being subjected to undue wear or friction.

To enable others to understand the construction and operation of my invention, I will proceed to describe it with reference to the drawings.

*a b* represent the spindle itself, of which *a* is the tapering upper portion, and *b* the cylindrical lower part or journal. *B* is the upright tubular journal box or socket, in which the journal *b* of the spindle *a b* is placed, as shown more clearly in Fig. 1.

The lower end of the journal *b* is made of conical form, and fitted into a step of corresponding shape in the bottom of the bearing *B*, as shown at *c*.

Formed around the lower end of the journal *b*, just above its conical extremity, is an annular groove, *n*, which is so shaped that an annular shoulder, *r*, is formed at the lower end of the said groove, as represented in the said Fig. 7.

The exterior of the upper end of the bearing *B* is made cylindrical, as shown at *d*, and fixed upon the lower end of the tapering upper portion, *a*, of the spindle *a b* is a downwardly-projecting cylindrical sleeve, *C*, which is of such size as to fit snugly upon the cylindrical part *d* of the bearing, and which has the whirr *e* formed upon its lower extremity. The said whirr being thus situated considerably below the top of the bearing *B* any lateral strain upon the spindle *a b* from the tension of the band upon the whirr is prevented.

*D* represents a tube, which may be formed in one piece with the socket or journal-box *B*,

and which communicates with the interior of the said socket, as shown at *f*. The upper end of this tube *D* is expanded to constitute an oil-reservoir, *g*, which is covered by a screw-cap, *h*.

*E* is a bar or rod, which is placed in the tube *D*, and which is of somewhat less diameter than the interior of the said tube. The upper end of this rod *E* is furnished with two laterally-projecting lugs or ears, *i*, which rest upon the bottom of the oil-reservoir *g*, and serve to keep the bar *E* from descending too far, while it is prevented from rising up therefrom by the screw-cap *h*, secured upon the top of the said reservoir.

The lower portion of the bar *E* is made tapering, and has formed upon its lower end a spur or stud, *s*, which is bent inward, so that its extremity enters the groove *u* in the journal *b* of the spindle just above the shoulder *r*, so that when the spindle is forced upward the said shoulder *r* will strike the stud *s* and prevent the withdrawal of the journal *b* from the journal box or socket *B*. At the same time, by first removing the screw-cap *h* and taking out the rod *E*, the spindle may be easily withdrawn.

The oil or other lubricating material is placed in the reservoir *g*, and, flowing down through the space between the rod or bar *E* and the sides of the tube *D*, passes into the socket *B*, being forced upward therein between the journal *b* and the sides of the said socket to a height corresponding to that of the oil in the reservoir, and by thus keeping the said journal *b* of the spindle *a b* surrounded with oil, effectually and continuously lubricates the same.

What I claim as new, and desire to secure by Letters Patent, is—

1. The inclined tube *D*, provided at its upper end with a reservoir, *g*, in combination with the socket *B* and spindle *a b*, when said socket is surrounded by a sleeve carrying the whirr, substantially as herein set forth, for the purpose specified.

2. The bar or rod *E*, suspended within the tube *D*, and in relation with the annular shoulder *r*, formed around the lower end of the spindle *a b*, substantially as herein set forth, for the purpose specified.

J. E. ATWOOD.

Witnesses:

EUGENE ATWOOD,  
I. K. HARVEY.