J. C. STANLEY.

SPINNING SPINDLE.

No. 181,804. Patented Sept. 5, 1876.

Fig 1

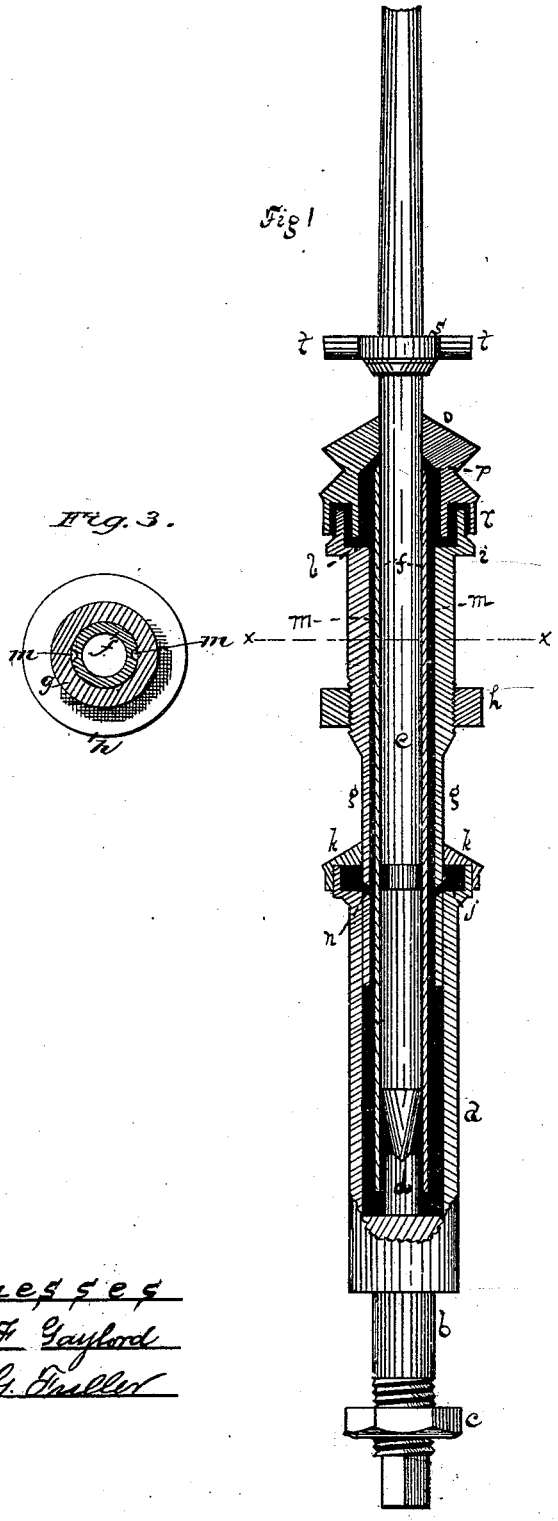
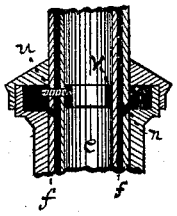


Fig. 3.

Fig 2



Witnesses
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UNITED STATES PATENT OFFICE.

JAMES C. STANLEY, OF NEW HARTFORD, CONNECTICUT.

IMPROVEMENT IN SPINNING-SPINDLES.

Specification forming part of Letters Patent No. **181,804**, dated September 5, 1876; application filed March 9, 1876.

To all whom it may concern:

Be it known that I, JAMES C. STANLEY, of New Hartford, in the county of Litchfield and State of Connecticut, have invented certain new and useful Improvements pertaining to a Spinning-Spindle, of which the following is a specification, reference being had to the accompanying drawings, where—

Figure 1 is a view, partially in central longitudinal section. Fig. 2 is a view, partially in central longitudinal section, the plane of which is at right angles to the plane of section in Fig. 1. The parts shown correspond in altitude with the adjacent parts in Fig. 1. Fig. 3 is a cross-section on line *x x* of Fig. 1, showing the ducts in the spindle-inclosing jacket, as hereinafter specified.

This device is a self-oiling spindle, having various features of novelty, which will be specified hereinafter.

The letter *a* denotes the oil-cup, with tang *b* and nut *c*, for attachment to the rail of a spinning-machine, with a pillar, *d*, rising from the bottom, to make a step-bearing for spindle *e*, and it is overlapped by the non-rotating jacket *f*, which runs far up on the spindle, furnishing a long bearing therefor. This jacket is fast in the outer jacket *g*, which sets by its foot into the open end of oil-cup *a*, with sufficient tightness to steady it. It bears the nut *h*, by which it may be fastened (between it and shoulder *i*) to the upper rail of the spinning-machine. The open end of the oil-cup *a* is flared into a bowl, *j*, having cover *k*, into which bowl oil is poured when a new supply is wanted, and which receives, as hereinafter explained, the return flow of the oil, which runs up on the spindle to the top of jacket *f*. The cover *k* is pierced centrally, for the passage of jacket *g*, and can be readily lifted from its seat.

The upper end of outer jacket *g* is formed into a bowl, *l*, which receives the overflow of oil from the top of jacket *f*, which is caused by the rotation of the spindle, such rotation causing the oil to rise from the oil-cup *a* up around the spindle till it comes to the top of jacket *f*, when it flows over into bowl *l*, whence it returns downward, by its own weight, through the ducts *m* made in the surface of jacket *f*, (though they may be made wholly or partially in the body of jacket *g*,) to the bowl *j*, (though it does not practically stop in bowl *j*,) from whence it escapes, through ducts *n* made in jacket *g*, into oil-cup *a*, to again be drawn up by the rotation of the spindle, thus keeping up a constant circulation of oil. Bowl *l* is covered by cap *o*, borne on the spindle, which is also a whirl or pulley whereby the spindle is driven. It bears on the under side the inverted cup *p*, which prevents the oil from being thrown outward laterally by the high speed of the spindle. It also bears the inverted cup *r*, outside bowl *l*, to protect such bowl from the entrance of dust. The wooden bobbin to be used is borne on the upper end of the spindle resting on collar *s*, having the lugs *t*.

The spindle is kept from rising from its seat by the set-screw *u* running through the two jackets into the annular groove *v* in the spindle.

I will now point out what I think are the novel features of this apparatus, to wit:

First. I believe it to be new to construct the cap *o* with the two reversed cups *p* and *r*, the former to prevent lateral throw of oil, and the latter to protect cup or bowl *l* from dust, and this feature forms the subject-matter of the first clause of the claim.

Second. I believe it to be new to so construct and lead the ducts *m* that the overflow from above shall be returned to the oil-cup below without coming in contact with the spindle. A spindle has been patented previous to this invention which has a return-duct, but that return-duct leads directly against the spindle, so that the oil can only return when the spindle is at rest, while in my device the oil can freely return while the spindle is in motion. This feature forms the subject-matter of the second clause of the claim.

Third. I believe it to be new to combine the spindle with a jacket, *f*, which forms a bearing, and these two with an oil-cup, *a*, leaving an oil-space between said jacket and said cup, the said spindle being supported by an overlapping step, *d*. This feature forms the subject-matter of the third clause of the claim.

I claim as my invention—

1. The cap *o*, formed with the whirl and the

reversed or inverted cups *p r*, in combination with the bowl *l* and spindle *e*, substantially as and for the purpose specified.

2. The combination of the cap *o*, spindle *e*, jacket *g*, provided with the bowl *l*, and jacket *f*, having ducts *m*, operating to return the overflow to oil-cup *a* without coming in contact with the spindle, all substantially as described.

3. In combination, spindle *e*, jacket *f*, forming a bearing therefor, and overlapping step *d*, and oil-cup *a*, having oil-space between the cup and jacket, all substantially as described, and for the purpose set forth.

JAMES C. STANLEY.

Witnesses:
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