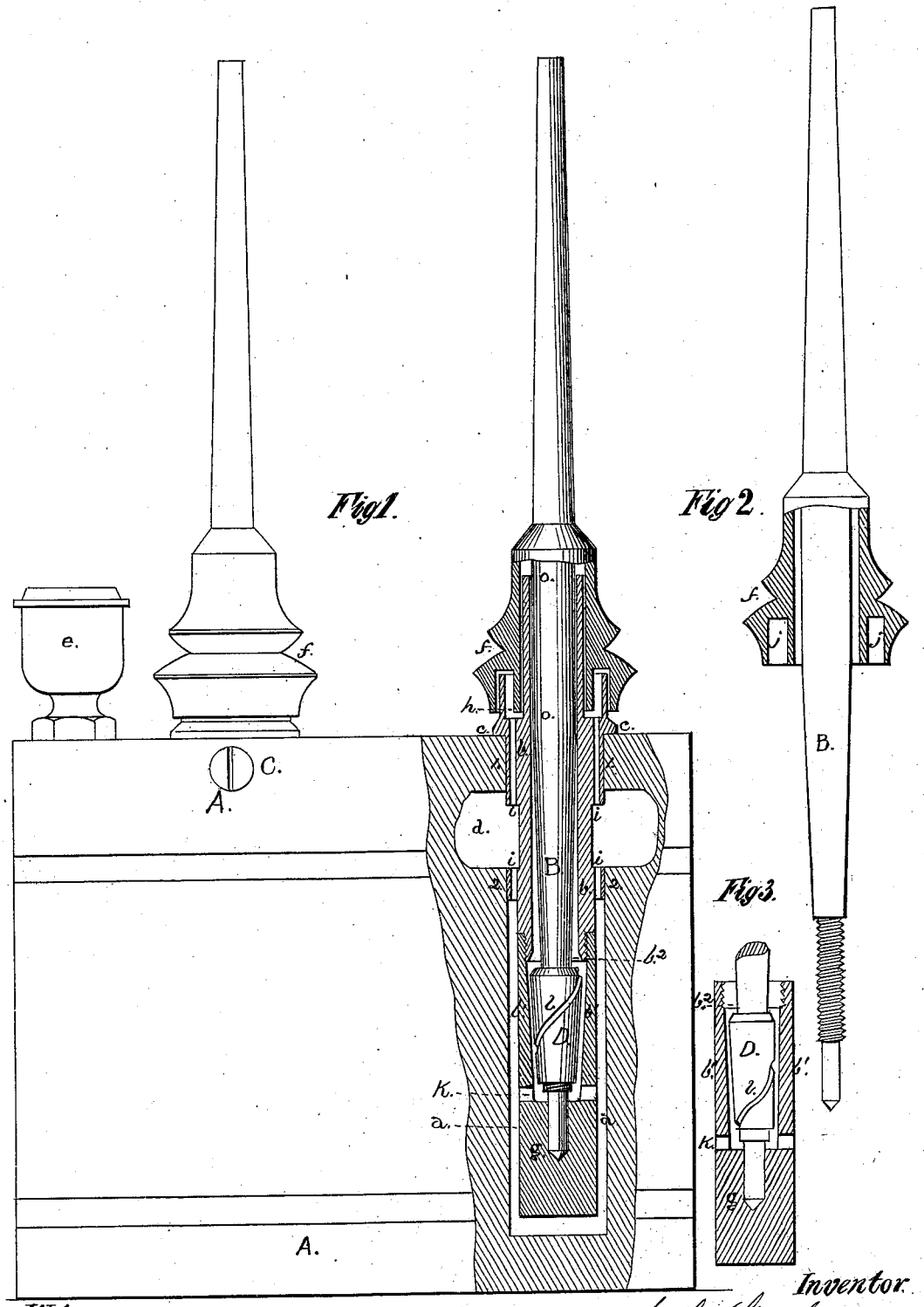
J. C. STANLEY.
Spinning-Spindle.

No. 209,199. Patented Oct. 22, 1878.



Witnesses:
Wm. Black
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Inventor.
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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. **209,199**, dated October 22, 1878; application filed June 24, 1878.

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 a new and useful Improvement in Spinning-Spindles; and I do hereby declare that the following is a full, clear, and exact description thereof and of its mode or manner of operation, reference being had to the accompanying drawings, and to the letters of reference marked thereon, and making a part of this specification.

This invention is an improvement on that class of spinning-spindles which are self-oiling, or in which the oil is carried up around the spindle by its own rotation, similar to that described in Letters Patent No. 181,804, granted to me on the 5th day of December, 1876, and has for its object the securing of a more abundant and uniform lubrication of the spindles.

The improvement consists in the combination with and application to that part of the spindle which is in the oil-chamber of a spirally-grooved nut, or its equivalent, which revolves with the spindle, and which will act to continually lift and carry up the oil around the spindle, thereby securing a more abundant lubrication of the spindle, and consequently a more uniform and easy revolution of it.

Figure 1 is a view, partly in central vertical section, of the spindle and the spinning-rail in which it rests, the two being in proper position. Fig. 2 is a detached view of the spindle. Fig. 3 is a detached view of the lower part of the spindle and its conical spirally-grooved nut.

A is a portion of a spinning-rail, forming a part of the spinning-frame, and is a solid continuous piece of metal, and contains within itself a series of chambers, *a*, each of which is a receptacle and holder of a spindle, B, and its bolster or casing *b*, which is non-rotary, and through which support is given to the spindle, and it also forms an oil-chamber to the spindle.

An oil duct, *d*, within the rail, and to which oil is supplied through a cup, *e*, communicates with all the chambers *a*, so that all the spindles may be oiled at once, whether at rest or in motion.

The bolsters or casings *b* of the spindles B rest by shoulders *c* upon the top of the rail A, and are kept in vertical position in the chambers *a* by the bearings 1 and 2, and are held in position by set-screws C.

The spindles B are fitted with whirls *f*, and revolve within the bolsters or casings *b*, which form bearings for the spindles, the spindles being made cylindrical for a part of their length, *o o*, corresponding in position with the upper ends of their bolsters or casings, and for a distance to give a sufficient bearing in the bolsters, and tapering the rest of their length, both above and below such cylindrical part.

To the lower ends of the bolsters proper are screwed the bolster ends b^1, which carry or form the step-bearings *g* for the lower ends of the spindles.

The upper end of the bolster or casing *b* is formed into a cup, *h*, to receive any overflow of the oil over the top of the bolster or casing, and leading from such cup are ducts *i*, which permit any oil gathered in such cup to flow freely downward into the oil-chamber *a*.

A double-reversed cup, *j*, forming a part of the whirl, sits over the top of the oil-cup *h*, and prevents the escape of oil and the ingress of dust. The oil is admitted to the interior of the bolsters or case *b* and to the spindle through openings *k k*.

Around the lower end of the spindle, and just above the bearing of its lower end, I place a conical nut, D, in which is a spiral groove, *l*. This nut revolves with the spindle B, and by means of the spiral groove cut therein continually lifts or forces up the oil around the spindle, thus causing a larger quantity of oil to circulate within the casing *b* than would be effected by capillary attraction only. This nut D also acts as a collar to prevent, by its contact with the shoulders b^2, the spindles rising out of their bearings.

The nut D should be of less diameter or smaller than the chamber in which it revolves, so as to have no contact with the sides of such chamber. By this relative construction and arrangement of the nut and the chamber in

which it revolves the spiral groove of the nut is prevented becoming filled, partially or wholly, by any dust or sediment that may enter the chamber with the oil or gather therein, which would be likely to happen if the nut was in close contact with the sides of the chamber.

What is claimed as new is—

The combination, with the spindle B and its bolster or casing *b*, of the conical spirally-grooved nut D, the several parts arranged substantially as and for the purposes set forth.

J. C. STANLEY.

Witnesses:
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