

E. D. CARTER.

Spindles for Spinning and Twisting-Machines.

No. 156,770.

Patented Nov. 10, 1874.

Fig. I.

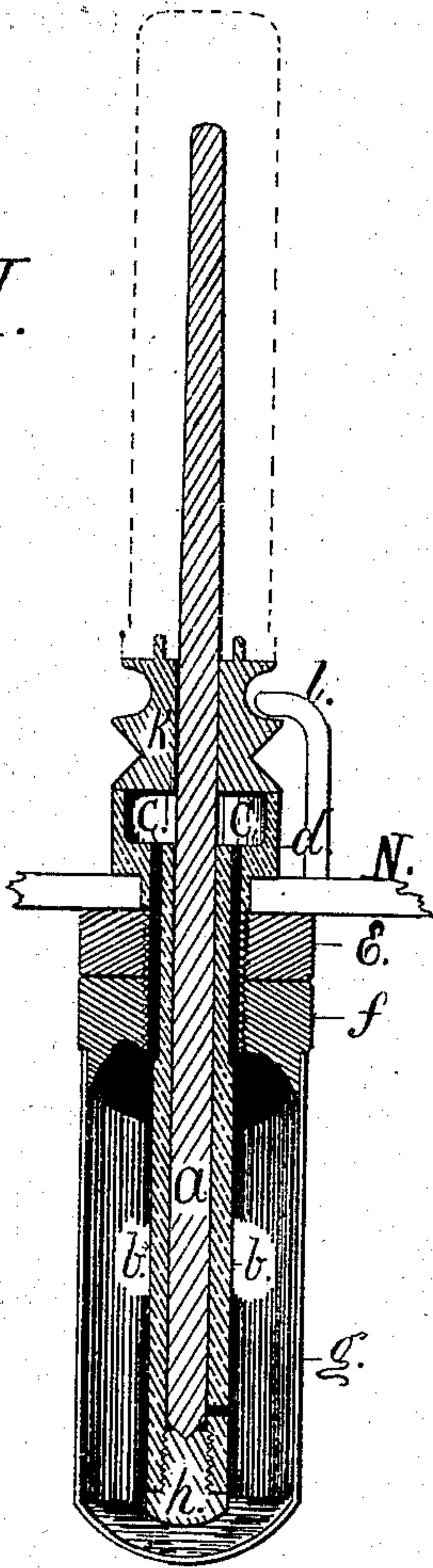


Fig. II.

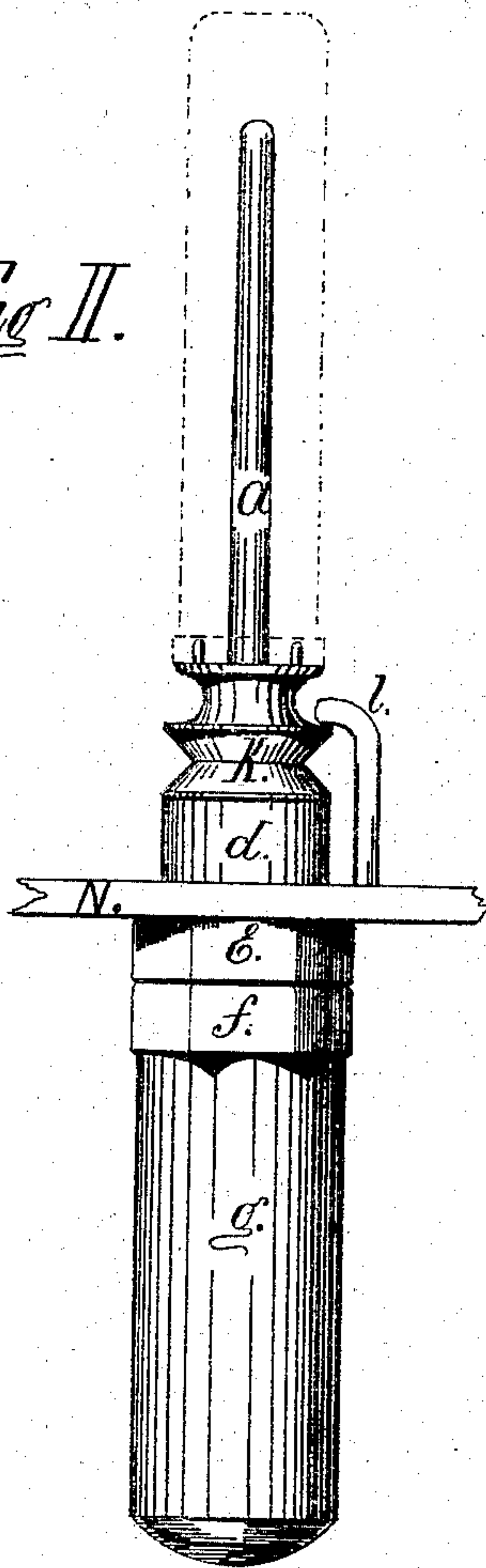
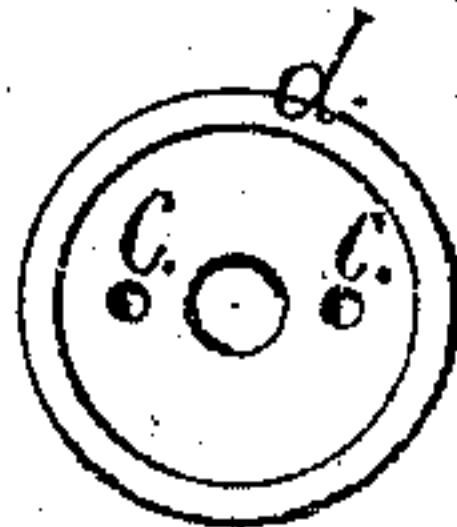


Fig. III



*Witnesses*

*James L. Richardson*  
*Harold N. Burdick*

*Inventor*

*Euclid D. Carter*  
*by his Attorney*  
*Joseph A. Miller*



# UNITED STATES PATENT OFFICE.

EUCLID D. CARTER, OF PAWTUCKET, RHODE ISLAND, ASSIGNOR OF ONE-HALF HIS RIGHT TO THOMAS ROBINSON, OF SAME PLACE.

## IMPROVEMENT IN SPINDLES FOR SPINNING AND TWISTING MACHINES.

Specification forming part of Letters Patent No. **156,770**, dated November 10, 1874; application filed September 30, 1874.

*To all whom it may concern:*

Be it known that I, EUCLID D. CARTER, of the town of Pawtucket, county of Providence, State of Rhode Island, have invented a new and useful Improvement in Spindles for Spinning and Twisting Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings forming part of this specification, in which—

Figure I is a vertical section through the center of the spindle, showing the suspended bolster *b*, carrying the step for the spindle, the oil-reservoir *g*, and the return-ducts *C*, and their relation to the spindle. Fig. II is an elevation of the same, showing its external appearance, a bobbin being shown in broken lines. Fig. III is a top view of the oil-cup *d*, showing the return-ducts *C*.

Similar letters of reference indicate corresponding parts.

The object of this invention is to make a spindle for spinning and twisting machines which shall be light, firmly supported in its bolster, and surrounded by an oil-reservoir, which will supply oil for a long time.

The nature of the invention consists in rigidly securing to the bolster-rail of a spinning or twisting machine a spindle-bolster, the upper part of which forms a chamber and rests on the bolster-rail, and the suspended part of which forms the bolster, and has a step secured to the lower end; and surrounding this suspended step a chamber, so secured by a screw that the same may be readily removed and replaced while the machine is in motion, and so arranged that the oil may enter the suspended bolster, and ascend in the same, and return, through ducts, to the reservoir or bottle.

In the drawings, *a* is the spindle, which is supported by the bolster-tube *b*, and rests on the step *h*. The upper end of the bolster-tube *b* has an oil-cup, formed by enlarging the diameter of the bolster, and which forms a shoulder on the same, and rests on the bolster-rail *N*, to which it is secured by the nut *E*. Surrounding the bolster-tube, and se-

cured to the same by the nut *S*, is the oil-reservoir *g*, the interior of which communicates with the interior of the bolster-tube by one or more holes, and with the oil-cup by the ducts *C C*. The whirl *K* is secured to the spindle, revolves with the same, and carries the bobbin, which is indicated in broken lines. The spindle is prevented from lifting when the bobbin is doffed by the hook or turn-button *l*.

The advantages of my arrangement, as described, consist in the perfect lubrication of the spindle, for, when the oil-reservoir is partly filled with oil, the same will flow into the interior of the bolster through the holes in the bolster near the step, and, by the rapid revolution of the spindle, the oil will be drawn upward, and thrown off by the centrifugal force in the enlarged space in the oil-cup *d*, and returned to the oil-reservoir by the ducts *C*. Thus a continuous circulation of the oil is produced as long as the spindle is in motion. As the oil bottle or reservoir is large, the spindle will be oiled for a long time; and as its bottom is below the step all impurities in the oil, and all gummy matter formed by the friction and by oxidation, are precipitated to the bottom of the oil-bottle, and prevented from reaching the spindle. All bearing-surfaces are therefore at all times lubricated with pure oil, thus insuring the free running of the spindle with the least possible power.

The oil bottle or reservoir *g* can be taken off, cleaned, refilled, and replaced without stopping the machine or the spindle, by unscrewing the bottle; and for this purpose the screw portion is made four or six sided, or may be made of any other form best suited to answer this purpose.

I am aware that bolsters have heretofore been suspended and secured to the bolster-rail similar to the bolster shown in my invention. This I do not claim. I am also aware that chambers have been used, forming oil-reservoirs, surrounding the bolster, and communicating with the same; but such chambers could not be detached from the bolster and cleaned or refilled while the spindle was running, and the machine had to be stopped, which is not necessary with the arrangement as shown, and which is herein described.

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

The oil bottle or reservoir *g*, substantially as described, in combination with the suspended bolster *b*, having holes for the admission of oil near the steps, and the ducts *C*,

connecting the oil-cup with the oil-reservoir, substantially as and for the purpose herein set forth.

EUCLID D. CARTER.

Witnesses:

JOSEPH A. MILLER,  
THOMAS ROBINSON.