

J. DUFFY & H. WHORWELL.
Spindle.

No. 220,357.

Patented Oct. 7, 1879.

Fig. 1.

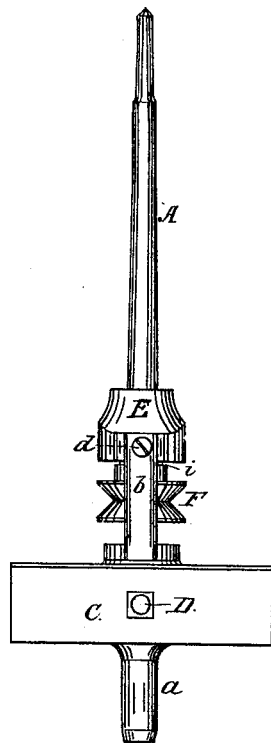
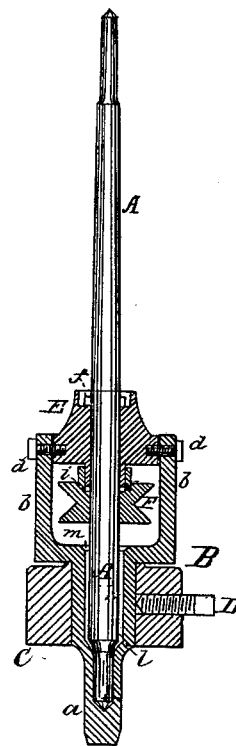


Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

JOSEPH DUFFY AND HENRY WHORWELL, OF PATERSON, NEW JERSEY.

IMPROVEMENT IN SPINDLES.

Specification forming part of Letters Patent No. **220,357**, dated October 7, 1879; application filed July 19, 1879.

To all whom it may concern:

Be it known that we, JOSEPH DUFFY and HENRY WHORWELL, of Paterson, in the county of Passaic and State of New Jersey, have invented a new and useful Improvement in Spindles and Bolsters; and we do hereby declare that the following is a full, clear, and exact description of the same.

Our invention relates to devices for spinning silk and other fibrous material; and its object is twofold—first, to provide a bolster which shall support the spindle firmly, and yet be adapted to permit the spindle and its attached whirl to be conveniently detached when required; second, to facilitate the lubrication of the spindle-bearings.

To these ends we adopt the construction hereinafter described, and shown in the accompanying drawings, in which—

Figure 1 is a side view, and Fig. 2 a vertical section, of the spindle and bolster, the latter being attached to a rail.

The spindle A travels in the bolster B, which is secured in the supporting-rail C by means of a clamp-screw, D. The tubular lower part, *a*, and the vertical arms *b* of the bolster constitute its body or integral portion, while the bridge-piece E, which forms the upper bearing of the spindle, is made detachable, being secured to and between said arms *b* by means of screws *d*. Such adaptation of the bearing E for detachment enables the spindle A and its attached whirl F to be conveniently removed from the bolster when occasion requires, it being only necessary to first remove the screws *d* and then slide the bearing E upward; yet

when the bearing E is in place, as shown in the drawings, the spindle is supported firmly, so that it runs with perfect steadiness.

An annular oil cavity or cup, *f*, is formed in the bearing E, concentric with the spindle. From said cup the oil descends along the spindle and enters an annular cup, *i*, formed in the upper side of the whirl F, which is provided with an annular flange to receive a corresponding flange of bearing E.

As a well-understood fact, the oil which descends from cup *f* into cup *i* will be forced back up the spindle, and thus continue to circulate until evaporated or used up.

An annular oil-chamber, *l*, is also formed in that part of the tubular portion *a* of the bolster which fits in the rail C, and a counter-sink is formed at *m*, to facilitate the entrance of the lubricant into such cavity.

What we claim is—

1. The bolster having the tubular lower portion, *a*, and arms *b* made in one piece, and the detachable bridge or upper spindle-bearing, E, and the screws *d*, all combined as shown and described.

2. The combination of the upper spindle-bearing, E, body B of the bolster, and the whirl F, said parts having, respectively, the annular oil cavities or cups *f* *l* *i* and counter-sink *m*, all as shown and described.

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