

G. W. OLNEY.
Speeders.

No. 139,603.

Patented June 3, 1873.

Fig. 1

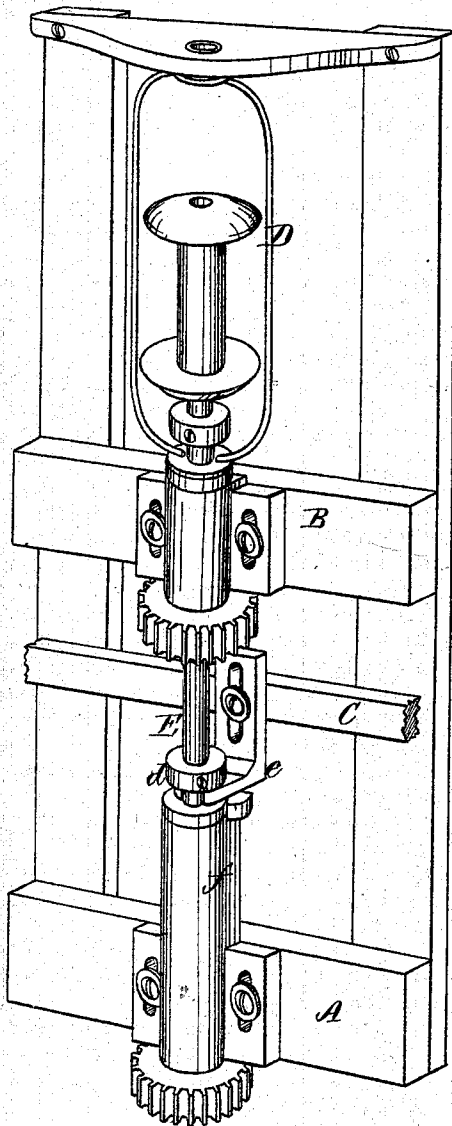
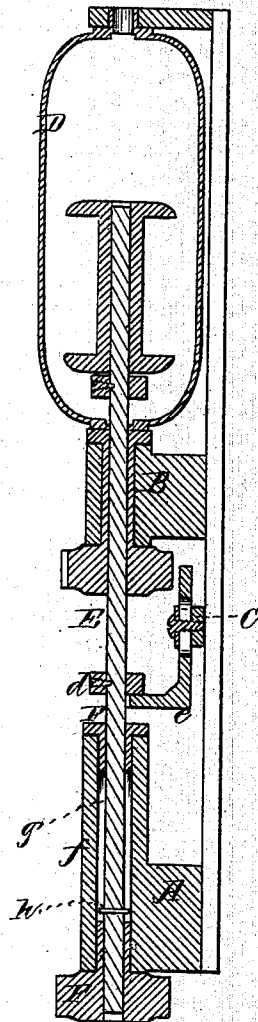


Fig. 2.



Witnesses.
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GEORGE W. OLNEY, OF LINCOLN, RHODE ISLAND.

IMPROVEMENT IN SPEEDERS.

Specification forming part of Letters Patent No. **139,603**, dated June 3, 1873; application filed October 16, 1872.

To all whom it may concern:

Be it known that I, GEORGE W. OLNEY, of Lincoln, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Speeders.

My invention relates to that class of speeders in which reciprocating live-spindles and bow-fliers are employed; and it consists in the novel combination therewith of a driven bolster, so arranged with relation to the spindle that the latter will be steadily driven by it, while freely traversing with the "copping rail;" and I do hereby declare that the following specification, taken in connection with the drawings furnished and forming a part of the same, is a clear and true description of a bow-flier and spindle embodying my improvement.

Referring to the drawings, Figure 1 represents, in front view, a spindle with the driven bolster. Fig. 2 represents the same in vertical section.

A denotes the usual stationary bottom rail; B denotes the usual stationary top rail; and C denotes the usual traversing or coping rail. D denotes a bow-flier of the usual form, arranged to be driven by bevel-gearing, in this instance, and mounted in fixed bearings located on the top rail in a manner not new. E denotes a reciprocating live-spindle, arranged to carry the bobbin within the range of the flier in the usual manner. The spindle is supported by a collar, *d*, secured by a set-screw to the spindle, and a forked arm, *e*, attached to and projecting outward toward the front from the coping rail. F denotes a driven bolster. It is suspended in accurately-fitted bearings *f*, which are secured to the bottom rail A. It is provided at its lower end with a horizontal driving-gear, which is arranged with proper relation to a vertical gear in the usual manner. A shoulder at its upper end, resting in the top of the bearing *f*, and the upper surface of the gear being in contact with the lower end of the bearing, prevents any vertical movement of the bolster. The bolster is traversed for nearly its whole length by a straight slot, *g*. The spindle E is provided with a radial stud, *h*, which projects into and loosely occupies the slot *g* in such a manner that the bolster, when revolved, will carry the spindle with it, and

at the same time to freely allow the spindle to rise and fall within it when actuated by the coping rail.

It will be observed that the bolster F and its driving-gear are rigidly united, and are, therefore, so far as operation and effect are concerned, the same as if a long-necked gear were employed with sufficient bearing to not only steady the spindle within its eye, but to steady itself in its bearing. The same results will accrue if the spindle be slotted and the stud be made to project from the bolster into said slot, although the method of connection shown and described is preferable to any other known to me.

A spindle mounted and driven as described is peculiarly steady in its movement, and practically admits of the non-use of the long upper tubular bolster, which quite recently has been generally deemed essential for producing good results with a high rate of speed. As far as relates to economy in the structure, in the consumption of oil, in durability and non-liability to get out of order, I know of none with which my improved speeder will compare unfavorably. No greater consumption of power is requisite to drive my speeder than is necessary for the most approved spindles of its class now in use, and the speed readily attained, and the practical results in the spinning accomplished, are fully equal, in my opinion, to any of the most generally approved speeders.

In this connection I have represented the traverse or coping rail as located between the bottom and top rails, and sustaining the spindles at a point about midway between their tips and bases. The said traverse rail is located, as shown, with a range of action between the two stationary rails, and by this arrangement great steadiness of movement is secured, as it traverses between two fixed portions of the frame of the machine.

I am aware that ordinary gears with splines have been combined with slotted spindles, and that long-necked gears have been employed in a similar connection, as in machines known as "Mayor's Speeders;" but I am not aware that prior to my invention a reciprocating speeder-spindle was ever driven by contact with a driven bolster, or by a gear so

constructed and arranged as to practically perform the function of a bolster while the spindle moved up and down within the eye of the gear. In the so-called Mayor speeder, aforesaid, the long-necked gear loosely embraces the spindle, and its bearing or box is so located, and in practice is so fitted, that the neck of the gear cannot practically perform the functions of a bolster.

I therefore claim as new and desire to secure by Letters Patent—

The combination, with a vertically recipro-

cating live-spindle and a bow-flier, of a coping rail connection which loosely engages with the spindle and the driven bolster F, which is closely fitted at top and bottom thereof within a long vertical bearing, and which is arranged to actuate the spindle and firmly maintain it in a rigidly vertical position, substantially as described.

GEORGE W. OLNEY.

Witnesses :

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