(No Model.)

J. DUFFY.

SPINDLE SUPPORTING AND DRIVING DEVICE.

No. 566,847. Patented Sept. 1, 1896.

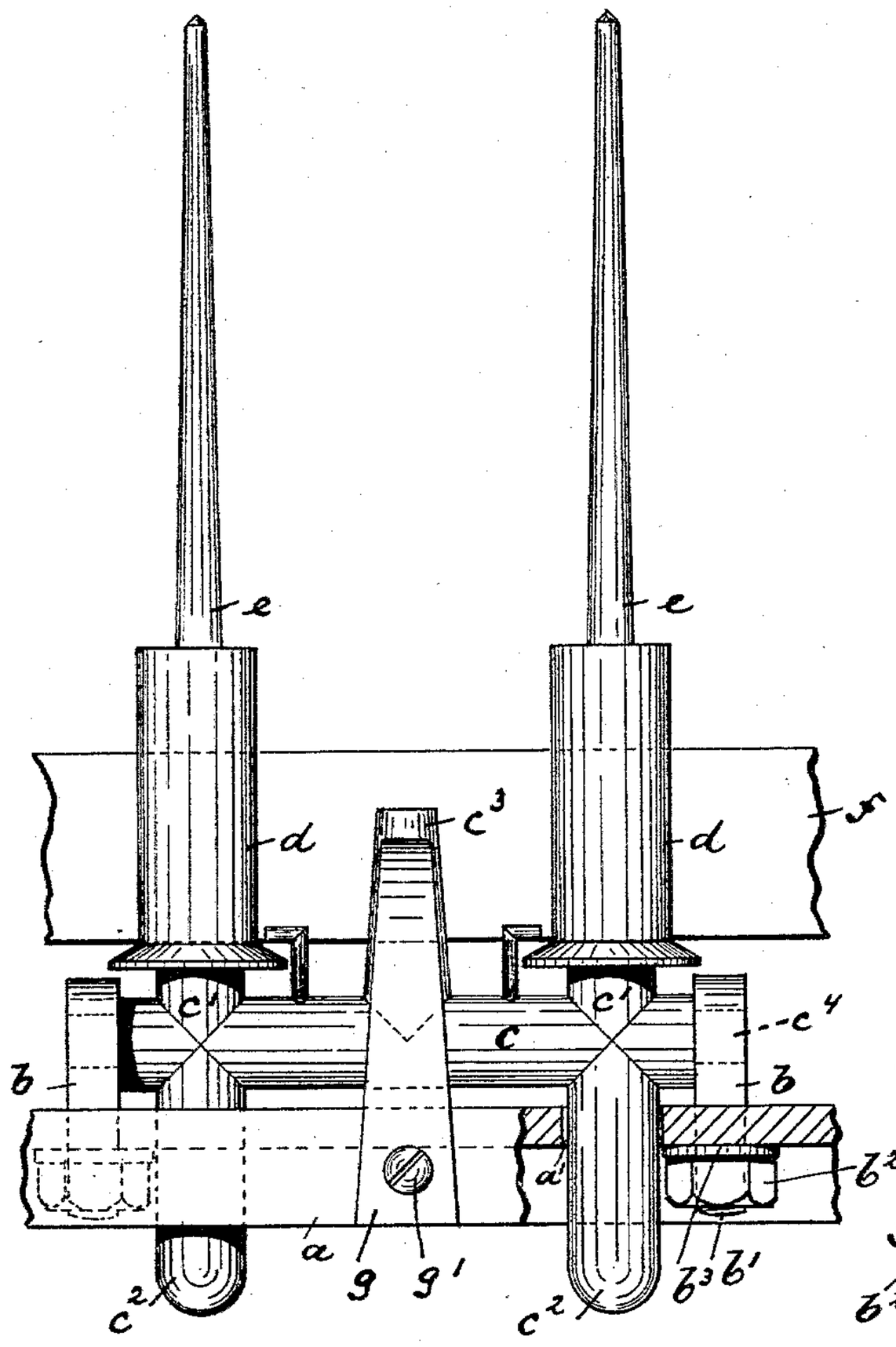

Fig. 1.

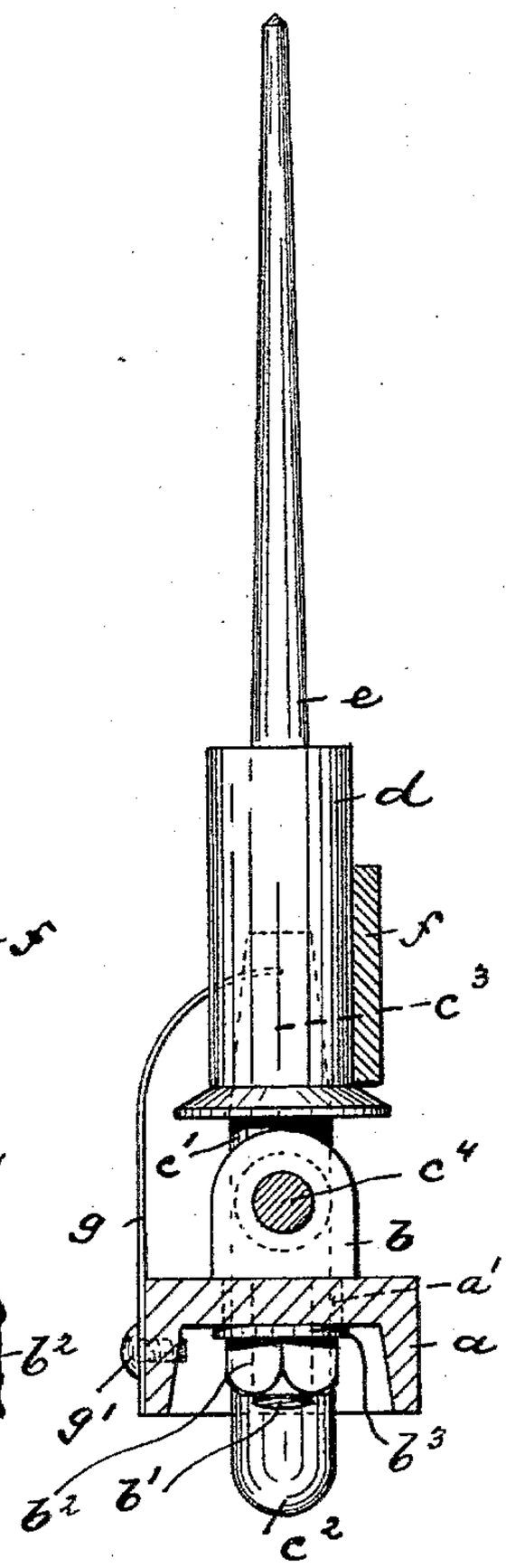

Fig. 2.

WITNESSES:

Abe. Rosen,

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INVENTOR:

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BY Gartner & Co

ATTORNEYS

UNITED STATES PATENT OFFICE.

JOSEPH DUFFY, OF PATERSON, NEW JERSEY, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO GEORGE DRAPER & SONS, OF HOPEDALE, MASSACHUSETTS.

SPINDLE SUPPORTING AND DRIVING DEVICE.

SPECIFICATION forming part of Letters Patent No. 566,847, dated September 1, 1896.

Application filed December 14, 1895. Serial No. 572,144. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH DUFFY, a citizen of the United States, residing in Paterson, Passaic county, and State of New Jersey, have invented certain new and useful Improvements in Spindle Supporting and Driving Devices for Spinning-Frames; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The object of my invention is to provide a support for duplex spindles, having the bolsters capable of a slight rocking motion toward and from the driving means and also of a slight vertical motion with regard to the spindle-rail for the purpose of producing a uniform frictional contact between the whirl and the driving means.

The invention consists in the improved support for duplex spindles, its rocking bolsters, in the flexibly-mounted supports for said bolsters, and in the combination and arrangements of the various parts thereof, substantially as will be hereinafter more fully described, and finally embodied in the clauses of the claim.

In the accompanying drawings, Figure 1 is a front elevation of my improved support, certain portions being broken away and others shown in sections; and Fig. 2 an end elevation of Fig. 1, with the spindle-rail and driving-belt in section.

In the said drawings, a represents the spindle-rail, provided at certain intervals with openings in which are mounted the threaded ends b' of the bearings b, secured to said rail by means of the nuts b^2 and by preference with interposed elastic washers b^3. The bolsters c' c' are mounted on the tube c and extend with their downward projections c^2 c^2 into and through enlarged openings a' of the rail. Each end of said tube terminates in a trunnion c^4, resting in the bearings b, above referred to. An oil-chamber c^3 projects upwardly from the middle part of tube c and communicates through the latter with the oil-chambers of the bolsters in the well-known and usual manner.

In the bolsters c' and their projections c^2 are mounted the spindles e, having the whirls d, to which motion is imparted from the traveling belt f; or the said whirls may be provided with pulleys operated through belts in the ordinary manner, as will be manifest. A spring g is secured to the spindle-rail a by means of a screw g', and bears with its upper end against the upper portion of the oil-chamber, so as to keep the whirls d in continuous uniform frictional contact with the driving means.

By simply tightening or loosening the screw g', the tension of the spring g can be regulated. I do not intend to limit myself to the use of the spring g, as other equivalents may be used without departing from the spirit of my invention.

What I claim as new is—

1. The combination with the rail and with the driving means, of a rocking oil-tube provided at each end with a trunnion, bolsters mounted on said oil-tube, a spindle in each of said bolsters, a separate and independent bearing for each of said trunnions adjustably mounted in the rail, and means for controlling said oil-tube, substantially as and for the purposes described.

2. The combination with the rail and with the driving means, of a rocking oil-tube provided at each end with a trunnion, bolsters mounted on said oil-tube, a spindle in each of said bolsters, a separate and independent bearing for each of said trunnions flexibly mounted on the spindle-rail, and means for controlling the oil-tube, substantially as and for the purposes described.

3. The combination with the rail and with the driving means, of a rocking oil-tube provided at each end with a trunnion, bolsters mounted on said oil-tube, and projecting into and through enlarged openings in the rail, a spindle in each of said bolsters, a separate and independent bearing for each of said trunnions adjustably and flexibly mounted in the rail, and means for controlling the oil-tube,

substantially as and for the purposes described.

4. The combination with the spindle-rail and with the driving means, of a rocking oil-tube provided at each end with a trunnion, an oil-chamber projecting centrally and upwardly from said oil-tube, bolsters mounted on said oil-tube, a spindle in each of said bolsters, a separate and independent bearing for each of said trunnions flexibly and adjustably mounted in the rail, and a flat spring bearing with its upper portion against said oil-chamber and adjustably secured with its lower portion on the spindle-rail, substantially as and for the purposes described.

5. The combination with the spindle-rail and with the driving means, of a rocking oil-tube provided at each end with a trunnion, an oil-chamber projecting centrally and upwardly from said oil-tube, bolsters mounted on said oil-tube, and projecting into and through enlarged openings of the rail, a spindle in each of said bolsters, a separate and independent bearing for each of said trunnions and flexibly mounted on the rail, and a flat spring bearing with its upper portion against said oil-chamber and adjustably secured with its lower portion on the rail, substantially as and for the purposes described.

In testimony that I claim the foregoing I have hereunto set my hand this 3d day of December, 1895.

JOSEPH DUFFY.

Witnesses:

ALFRED GARTNER,

DUNCAN M. ROBERTSON.