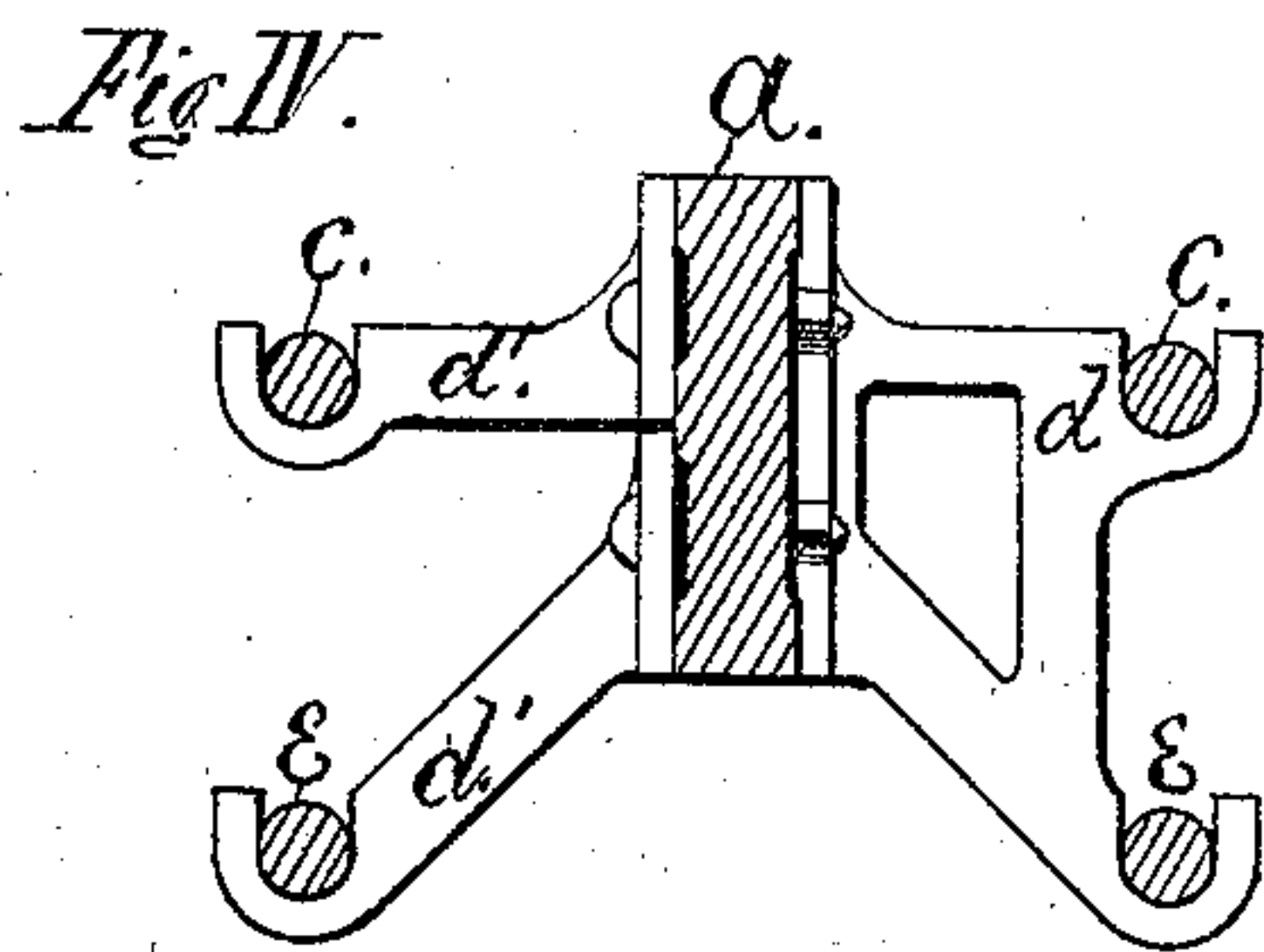
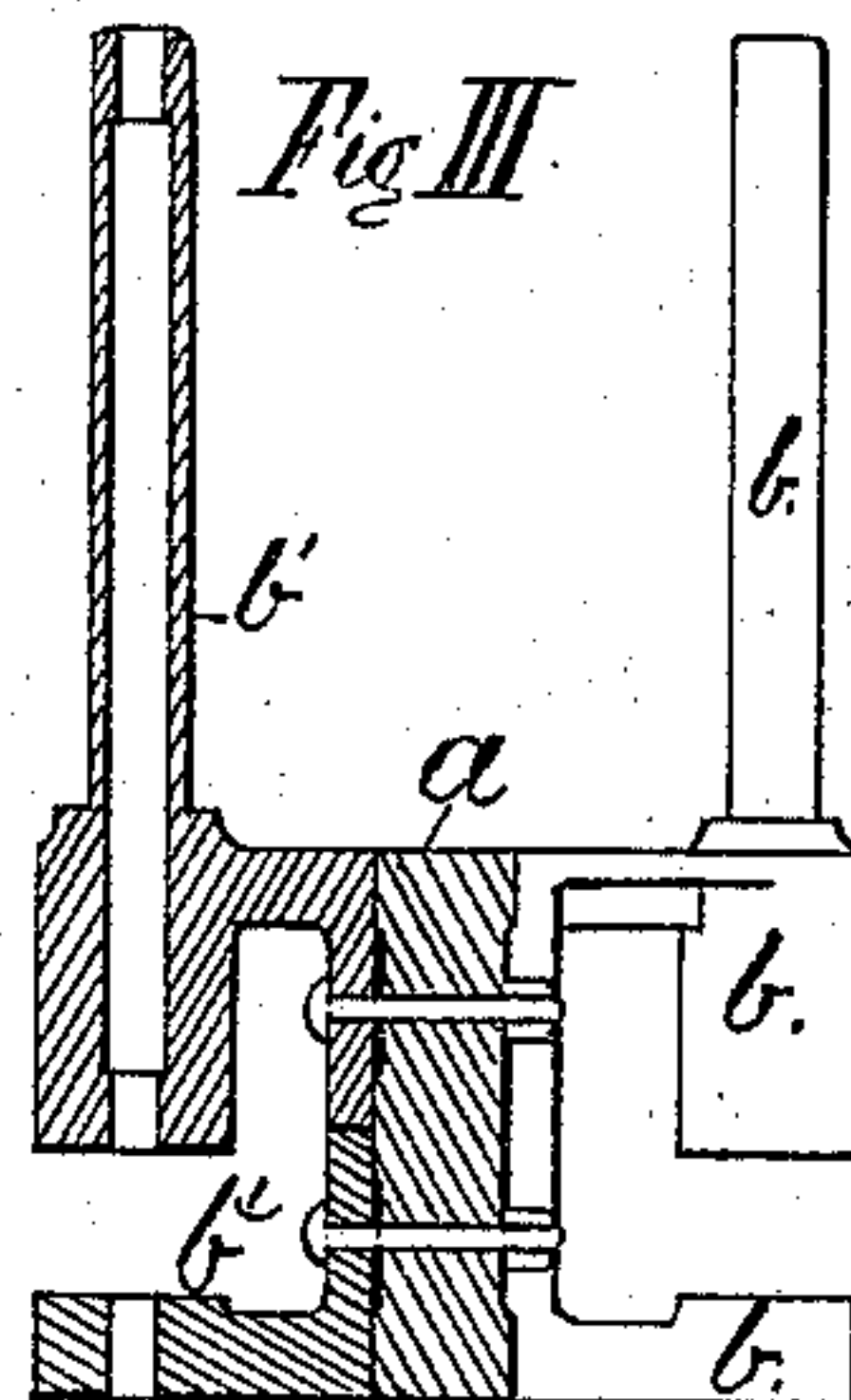
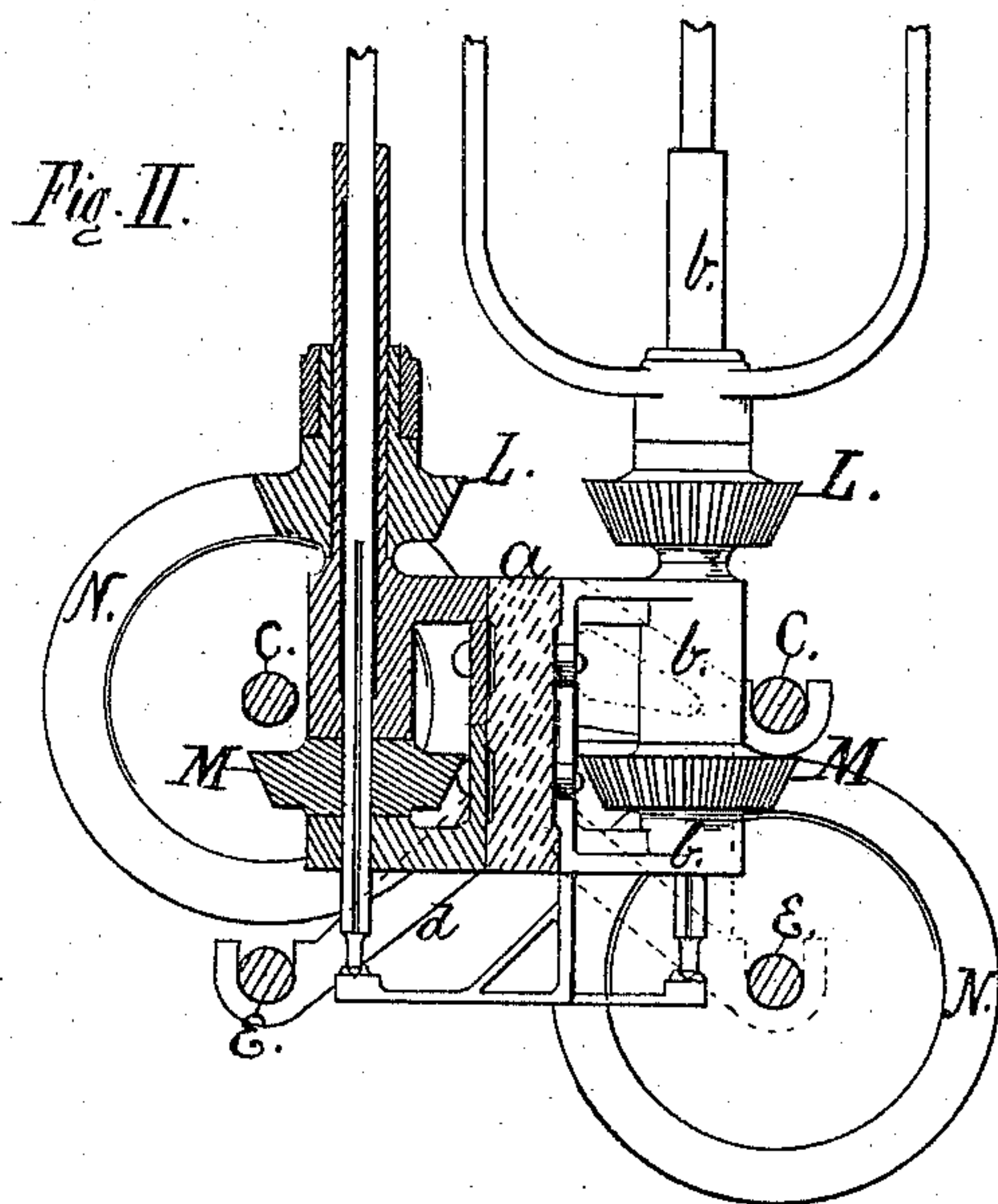
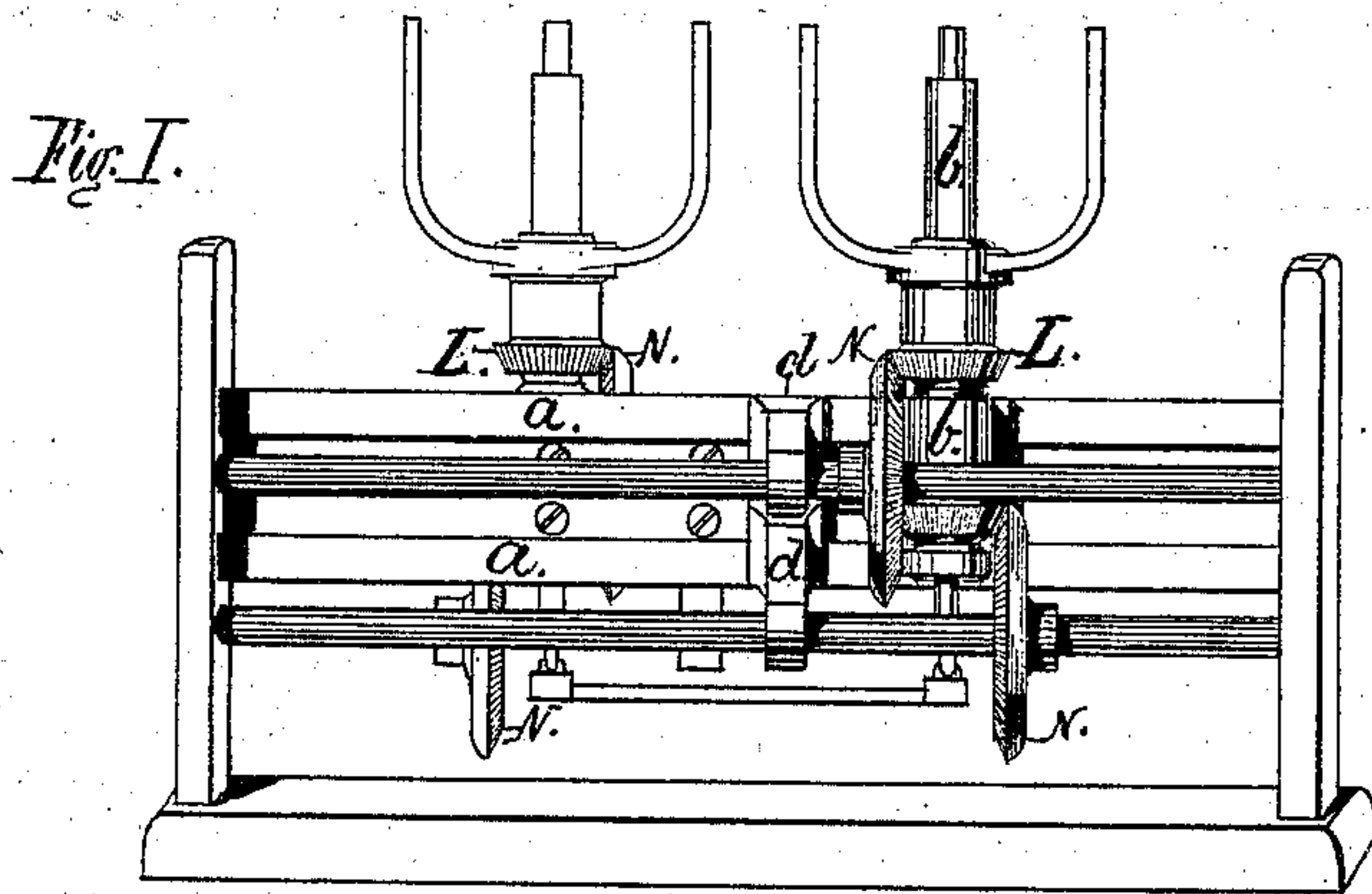


T. MAYOR.

Speeders for Drawing and Twisting Roving.

No. 149,498.

Patented April 7, 1874.



Witnesses,  
George Chatterton  
James Chatterton

Inventor,  
Thomas Mayor  
per Joseph A. Miller  
Atty.



# UNITED STATES PATENT OFFICE.

THOMAS MAYOR, OF PROVIDENCE, RHODE ISLAND, ASSIGNOR OF ONE-HALF HIS RIGHT TO GEORG CHATTERTON, OF SAME PLACE.

## IMPROVEMENT IN SPEEDERS FOR DRAWING AND TWISTING ROVING.

Specification forming part of Letters Patent No. 149,498, dated April 7, 1874; application filed January 7, 1874.

*To all whom it may concern:*

Be it known that I, THOMAS MAYOR, of the city and county of Providence, State of Rhode Island, have invented a new and useful Improvement in Speeders for Spinning and Twisting Roving; and I do hereby declare that the following is a full, clear, and exact description thereof, which, with the accompanying drawings, forming part of this specification, will enable others skilled in the art to make and use the same.

The object of my invention is, first, to construct a speeder-frame having a double row of spindles and bow-fliers, so as to insure greater steadiness than usual when running at high speed by giving a firmer support to the stationary brackets and spindle-tube or bolster; second, to bring the bevel-gear driving the bow-flier, and the bevel-gear driving the spindle, closer together than has heretofore been done, so as to support the same in one bracket, and also reduce the height of the machine, so that the operator can attend all parts of a speeder-frame, without the use of raised steps, more conveniently and with less exertion than heretofore; third, to secure the brackets supporting the spindle and bow-flier, and also the brackets supporting the shafting, on one central rail, thereby economizing room, and also simplifying the construction of the machine.

In the accompanying drawings, Figure I is an elevation, showing the position of the bevel-gears, shafts, spindles, bow-fliers, and their relation to the central rail. Fig. II is a section through the rail, showing one bracket and bolster in section and one in side view. Fig. III shows the bolsters secured to the central rail, one in section and the other in side view. Fig. IV shows the bearings for the four parallel shafts, and their connection with the central rail.

To produce even and uniform roving in a speeder, with bow-fliers running at high speed, the absolute solidity and steadiness of all parts become of the utmost importance. When the bolster which supports the upper part of the spindle is secured to one part, the support of the lower part of the spindle and the bevel-gear by means of which it is driven

by another, and the shafting by which the gears driving the bow-fliers and spindles are supported by another part of the frame, high speed and uniform work are difficult to obtain, as the least vibration in one part effects the evenness of velocity in the other, for if the bobbin does not run perfectly true an alternate slack and tension is the result. If the bow-flier is not perfectly true, moving steadily in its own circle, and also in a true circle around the bobbin, the same alternate slack and tension is the result, and uniform work is impossible. To obviate such difficulty, and also simplify the construction, I place in the center of my frames a strong rail, *a*, having sufficient depth to give a good and firm support to the bolster *b b*, and also to the bracket *d d*, so that from this one central rail all the bearings for the spindles, bow-fliers, and the shafting and gearing, are firmly supported, and true motions of all moving parts are secured.

To bring all these bearings so as to give them this firm support I raise the bevel-gear *M* which drives the spindle close to the shaft *c*, by which motion is imparted, through the bevel-gears *N* and *L*, to the bow-flier, and raise the shaft *E* so that the gear *N* on the same will enter into and give motion to the said bevel-gear *M*, and for that purpose I place the bevel-gears *N* on the shafts *C* and *E*, one on each side of the bolster. It is obvious that when the bevel-gear *M* is placed, as usual, below the bevel-gear *N* on the shaft *C*, a much longer bolster or bracket is required to support the bevel-gear *M*, and also a much longer bracket to give bearing to the shaft *E*, and less steadiness in working is the unavoidable result. The spindle also must be so much longer and heavier, and the machine must be higher, and require more material in its construction.

The bolster *b b*, as shown in Fig. III, may be cast in one piece, and secured to the rail, as shown, or it may be made in two pieces, and one part attached to the rail, and the other adjusted to make a true bearing, as is shown in the bolster *b' b'* in section.

The brackets *d' d'*, which support the shafting, may also be made, as shown in Fig. IV, either in one or in two parts, and firmly secured to the central rail.



An advantage is gained by constructing speeders on my plan which cannot be gained on the old plan, viz: In some cases manufacturers require speeder-frames with a single row of bow-fliers, and in time, by increasing their work, wish to double the number. By my plan a single row of bow-fliers can be doubled, and made into a double-row frame, by simply attaching the bolsters and shafts on the other side of the central rail.

I claim—

1. The bow-flier and the spindle of a speeder for spinning and twisting roving, in combination with and driven by two bevel-gears, N N,

placed on opposite sides of the bolster, and below the bevel-gears L and M, substantially as and for the purpose set forth.

2. The brackets *d d*, carrying the four lines of shafting, and the brackets *b b*, supporting the bolsters and driving-gears for the bow-fliers and spindles, combined with and secured to the single central rail or frame, substantially as specified.

THOMAS MAYOR.

Witnesses:

EDWARD A. TURNER,  
EDWIN JERAULD.