

No. 740,525.

PATENTED OCT. 6, 1903.

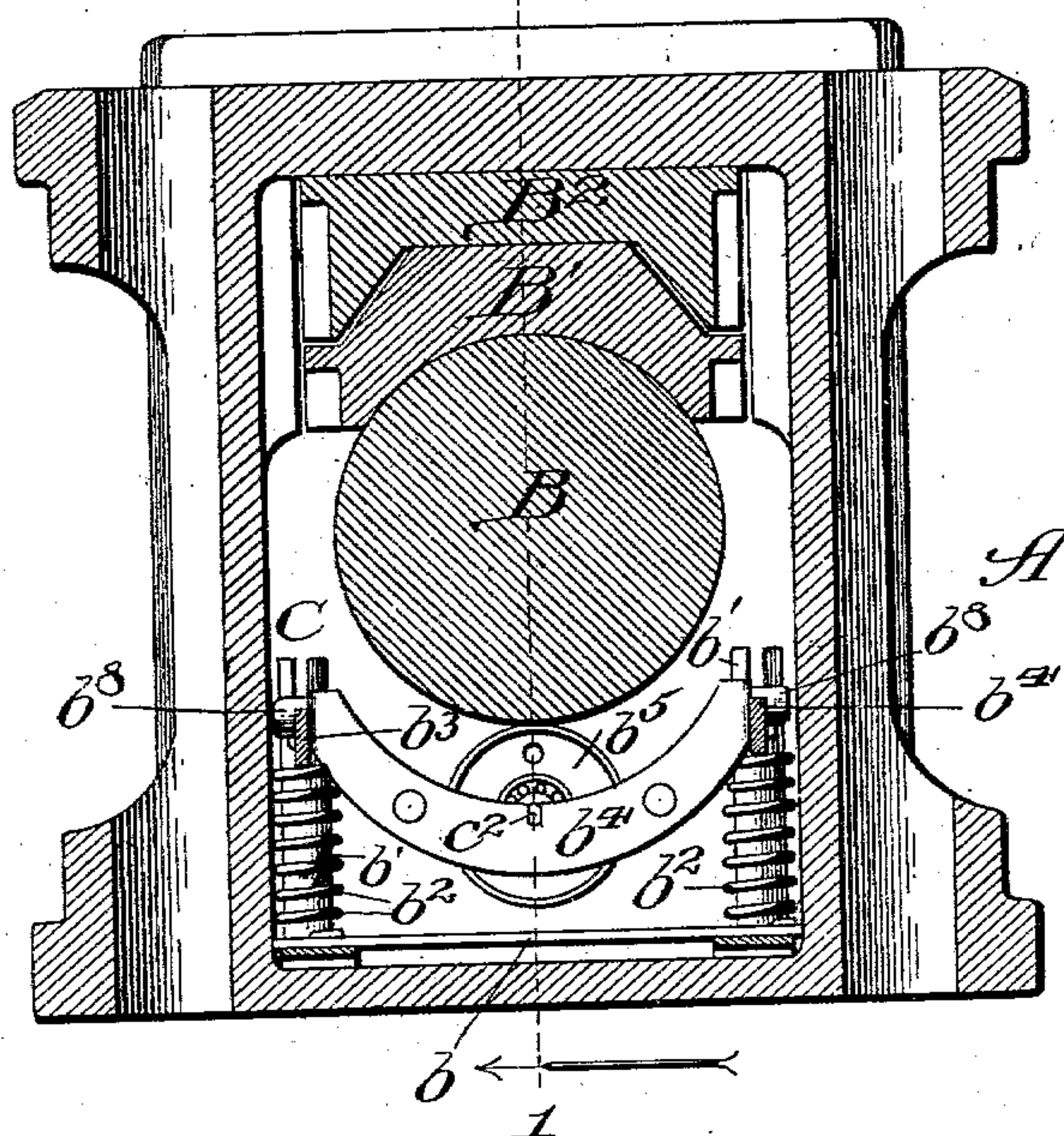
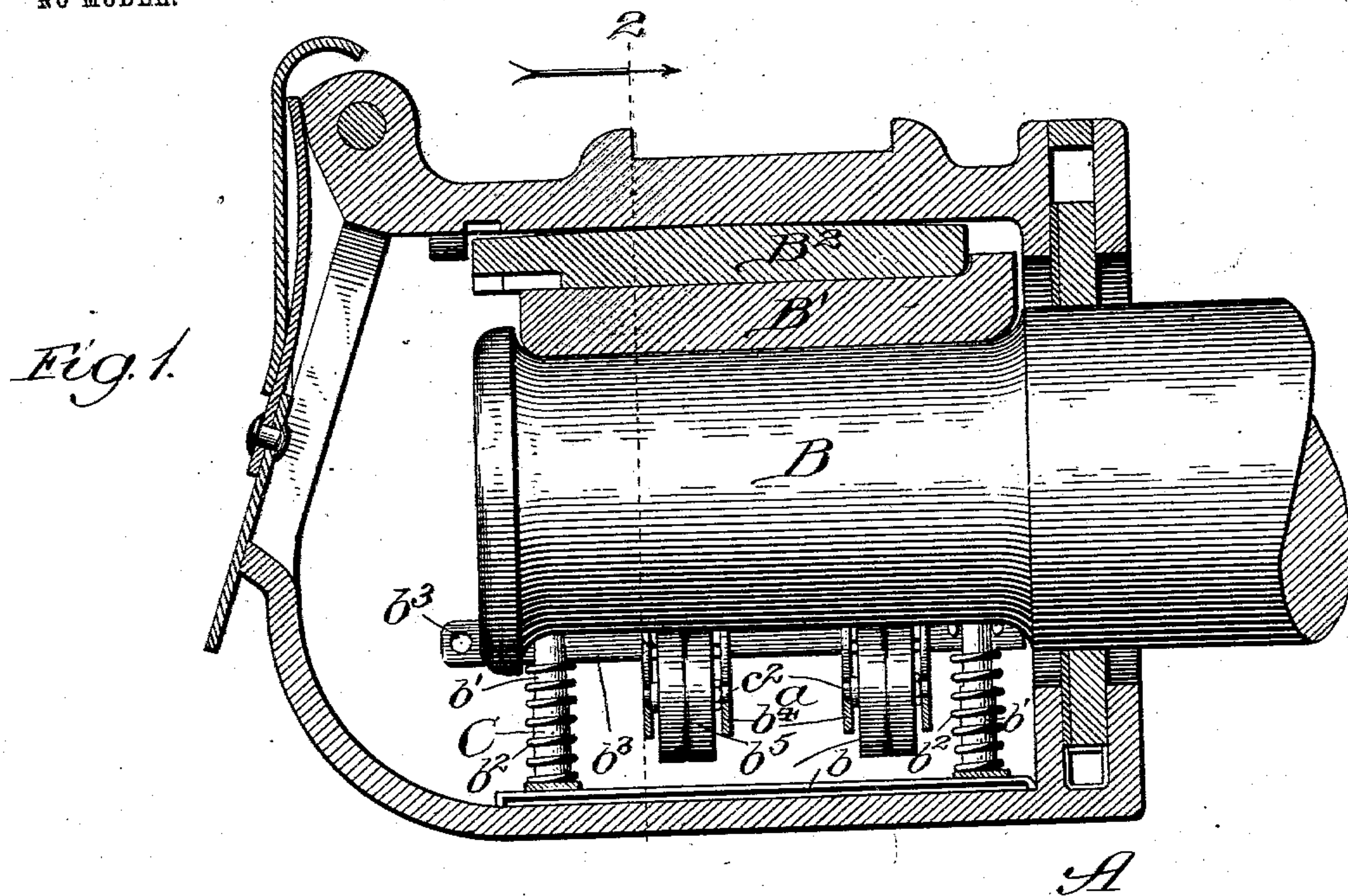
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# JOURNAL LUBRICATOR.

APPLICATION FILED JAN. 10, 1903.

2 SHEETS—SHEET 1.

NO MODEL.



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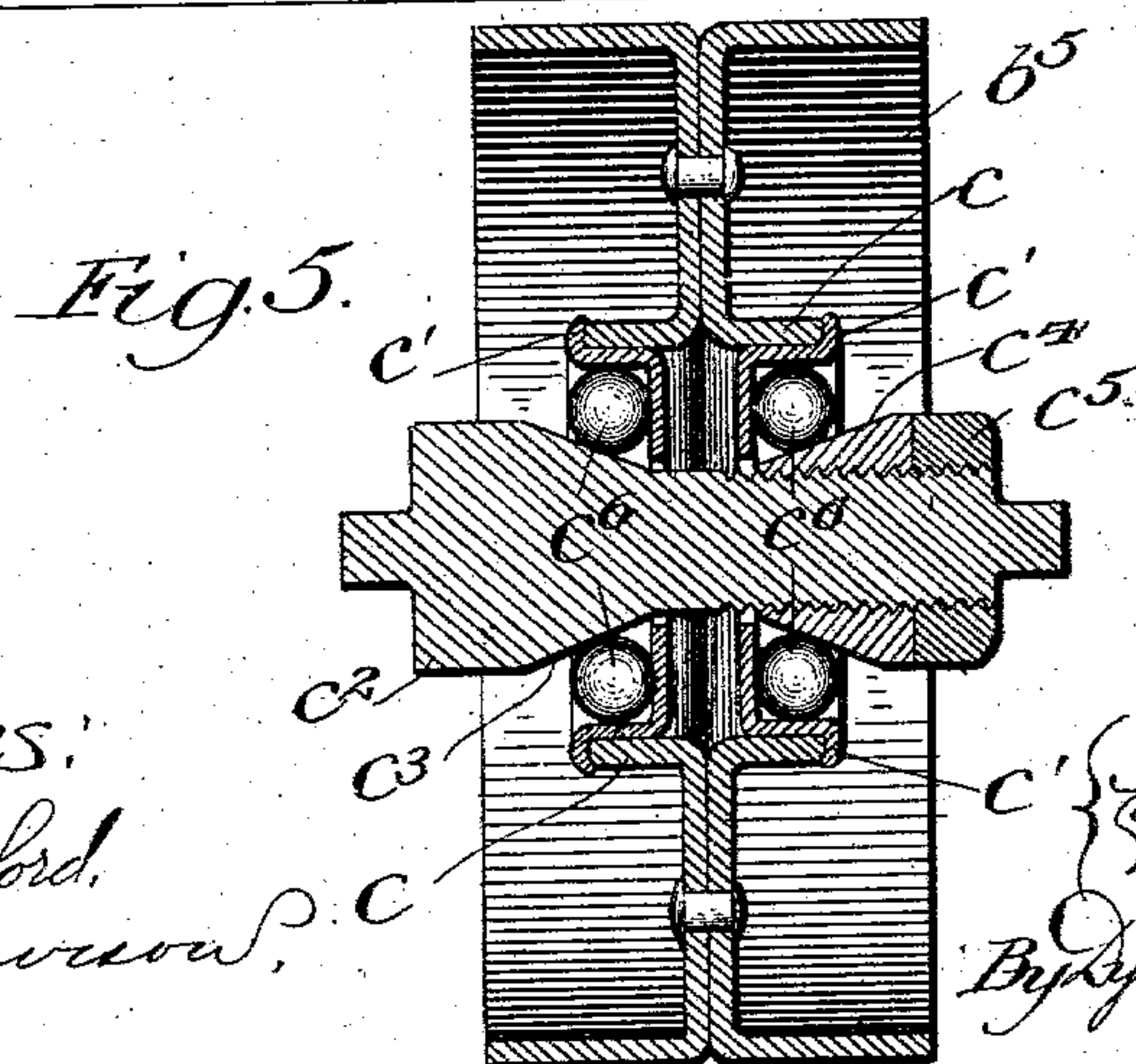
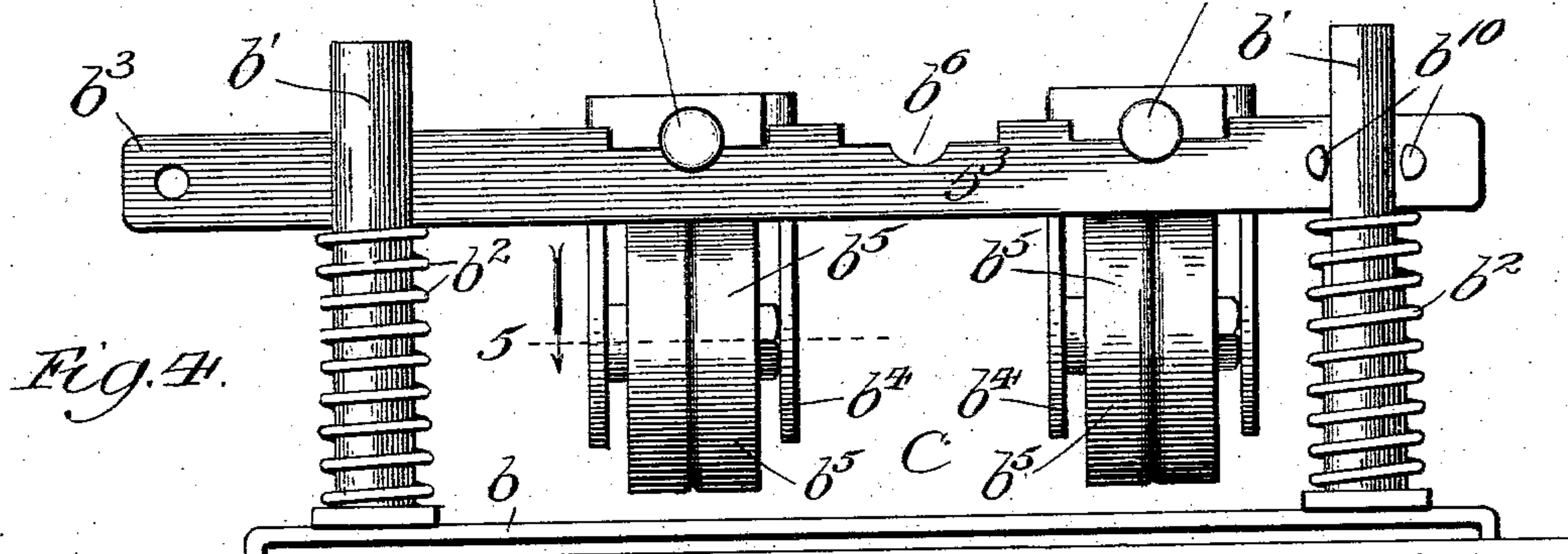
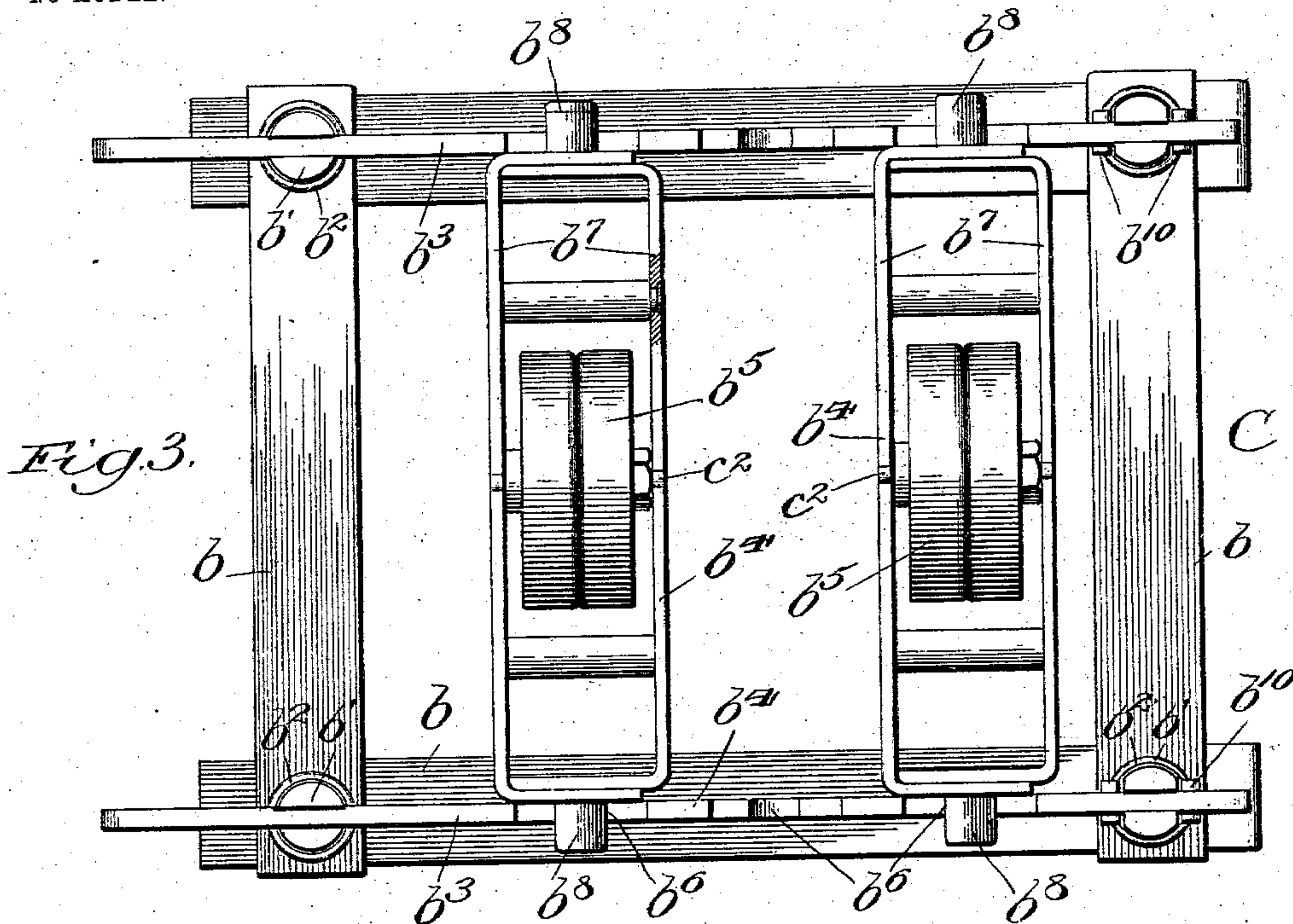
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2 SHEETS—SHEET 2.



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# UNITED STATES PATENT OFFICE.

JACOB J. BUSENBENZ, OF CHICAGO, ILLINOIS, AND EMIL LANGE, OF DAVENPORT, IOWA, ASSIGNORS TO FRANK M. UTT, OF CHICAGO, ILLINOIS, AND RAILWAY JOURNAL LUBRICATING COMPANY, A CORPORATION OF WISCONSIN.

## JOURNAL-LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 740,525, dated October 6, 1903.

Application filed January 10, 1903. Serial No. 138,560. (No model.)

*To all whom it may concern:*

Be it known that we, JACOB J. BUSENBENZ, residing at Chicago, in the county of Cook and State of Illinois, and EMIL LANGE, residing at Davenport, in the county of Scott and State of Iowa, citizens of the United States, have invented a new and useful Improvement in Journal-Lubricators, of which the following is a specification.

Our invention relates particularly to journal-lubricators employing a wheel or roller for applying lubricant to the journal; and our primary object is to provide a simple and efficient lubricator which may be used in connection with the ordinary journal-box of a car or in similar situations, provision being made for self-adjusting movement of the oil-carrying rollers to compensate for relative movement between the journal and journal-box.

The invention may be applied advantageously to journals or shaft-bearings in many situations.

For purposes of illustration the accompanying drawings show the improvement applied to a car journal-box; but the invention is not to be considered as limited in its application to cars.

In the drawings, Figure 1 represents a longitudinal sectional view of a car journal-box equipped with our improved journal-lubricator; Fig. 2, a transverse section taken as indicated at line 2 of Fig. 1; Fig. 3, a plan view of the lubricator; Fig. 4, a side elevational view thereof; and Fig. 5, a sectional view of an oil-carrying roller, taken as indicated at line 5 of Fig. 4.

A description of the preferred construction is as follows: A represents a journal-box of common form and having the usual oil-cavity *a*; B, a journal supporting said journal-box through the medium of the usual brass B' and wedge B<sup>2</sup>, and C our improved journal-lubricator inserted in the cavity *a* beneath the journal.

The improved device C comprises in the preferred construction a rectangular base-frame *b*; standards *b*<sup>1</sup>, rising from the four corners thereof; springs *b*<sup>2</sup>, encircling the

standards; longitudinal (of the journal) bars *b*<sup>3</sup>, arranged on edge to move in slots in the upper ends of the standards, being yieldingly supported on the springs; transverse pivoted cradles or roller-supports *b*<sup>4</sup>, and rollers *b*<sup>5</sup>, antifrictionally journaled on the members *b*<sup>4</sup>.

The base *b* comprises horizontally-disposed longitudinal members arranged flatwise and transverse members having their end portions lapping upon and fixedly secured to the end portions of the longitudinal members. The standards are secured at the lapped points, as shown. The bars *b*<sup>3</sup> are provided with studs *b*<sup>10</sup>, which engage the standards and prevent longitudinal shifting of the bars. The outer ends of the bars project some distance beyond the outer standards, affording handles by which the device may be removed. Each bar preferably is provided at its top edge with three bearings *b*<sup>6</sup>, the bearings of the two bars comprising three sets, with the members of each set directly opposite each other. Each member *b*<sup>4</sup> comprises two side members *b*<sup>7</sup>, curved edgewise and having their ends bent laterally toward each other, and pins or studs *b*<sup>8</sup>, securing said end portions together and projecting to afford trunnions or pivots, which rest in the bearings *b*<sup>6</sup>. The members *b*<sup>7</sup> are spaced and rigidly joined by shouldered rivets *b*<sup>9</sup>. The rollers are preferably formed of cup-shaped stampings placed back to back and riveted together and having oppositely-turned hub portions *c*, into which are forced ball cups or races *c*<sup>1</sup>. Each roller is supported on a short shaft *c*<sup>2</sup>, having angular ends fitting into correspondingly-shaped centrally-located sockets or recesses at the upper edges of the side members *b*<sup>7</sup>. Each shaft has an integrally-formed cone *c*<sup>3</sup>, an adjustable cone *c*<sup>4</sup>, and a lock-nut *c*<sup>5</sup>. The cones are shaped to leave the cups open and the balls *c*<sup>6</sup> exposed openly to the oil. This is essential, for the reason that cars now run at such speed that an oiling-roller cannot be employed except by providing for it a properly-arranged antifriction-bearing. Of course the size of the roller is limited by the depth of the oil-cavity or waste-cavity.

It will be understood that our construction



permits the use of a stable frame and springs of substantial length, the curvature in the members  $b^4$  still permitting the rollers to lie beneath the journal. Moreover, the pivotal roller-supports permit the rollers to adjust themselves to perfect lineal contact with the journal, while the springs provide for uniform pressure upon the journal regardless of wear. Two rollers may be arranged, as shown, or one roller may be supported at the central bearings  $b^6$ . Each roller preferably has a circumferential groove, as shown.

It will be understood that the construction and arrangement of the standards and springs may be varied and that other changes in details of construction within the spirit of our invention may be made. Hence no undue limitation is to be understood from the foregoing detailed description.

What we regard as new, and desire to secure by Letters Patent, is—

1. A journal-lubricator, comprising a suitable frame, standards on said frame, spring-supported bars slidably connected with said standards, a transverse roller-support pivotally supported on said bars, and a roller journaled centrally on said support, for the purpose set forth.

2. A journal-lubricator having a transverse roller-support provided with shaft-sockets, a shaft having its ends fitted into said sockets and equipped between its ends with cones, a roller encircling said shaft and equipped with ball-cups, and openly-exposed balls confined between said cones and cups, for the purpose set forth.

3. A journal-lubricator comprising a rectangular base-frame provided at its four corners with standards, bars slidably longitudinally of said standards, springs supporting said bars, a downwardly-bowed transverse roller-support pivoted on said bars and having separated side members, a shaft fixed at its ends to the central portion of said roller-support, and a roller antifrictionally journaled on said shaft, for the purpose set forth.

4. A journal-lubricator, comprising a frame having four slotted standards, two longitudinal bars slidably vertically within the slots of said standards, coil-springs supporting said bars at said standards, a transverse roller-support carried by said bars, and a roller journaled on said roller-support, for the purpose set forth.

5. A journal-lubricator, comprising a frame having four slotted standards, two longitudinal bars slidably vertically within the slots of said standards, said bars having their upper edges provided with bearing-recesses, a transverse roller-support provided at its ends with projecting pivots, and a roller journaled on said roller-support, for the purpose set forth.

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