

No. 781,335.

PATENTED JAN. 31, 1905.

A. A. FREEMAN.
OIL CONTROLLER FOR CAR AXLES.
APPLICATION FILED JUNE 1, 1904.

Fig. 1.

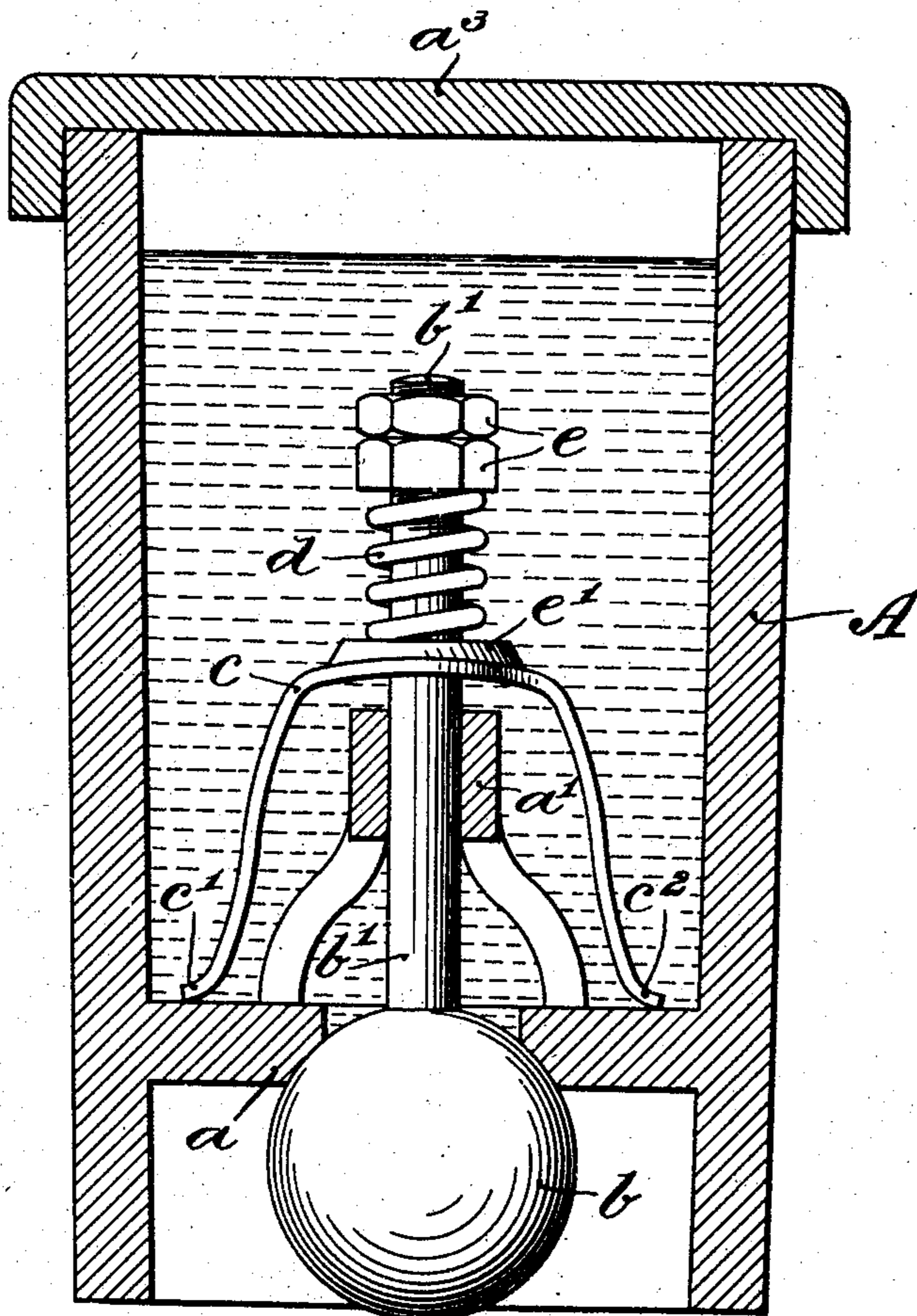
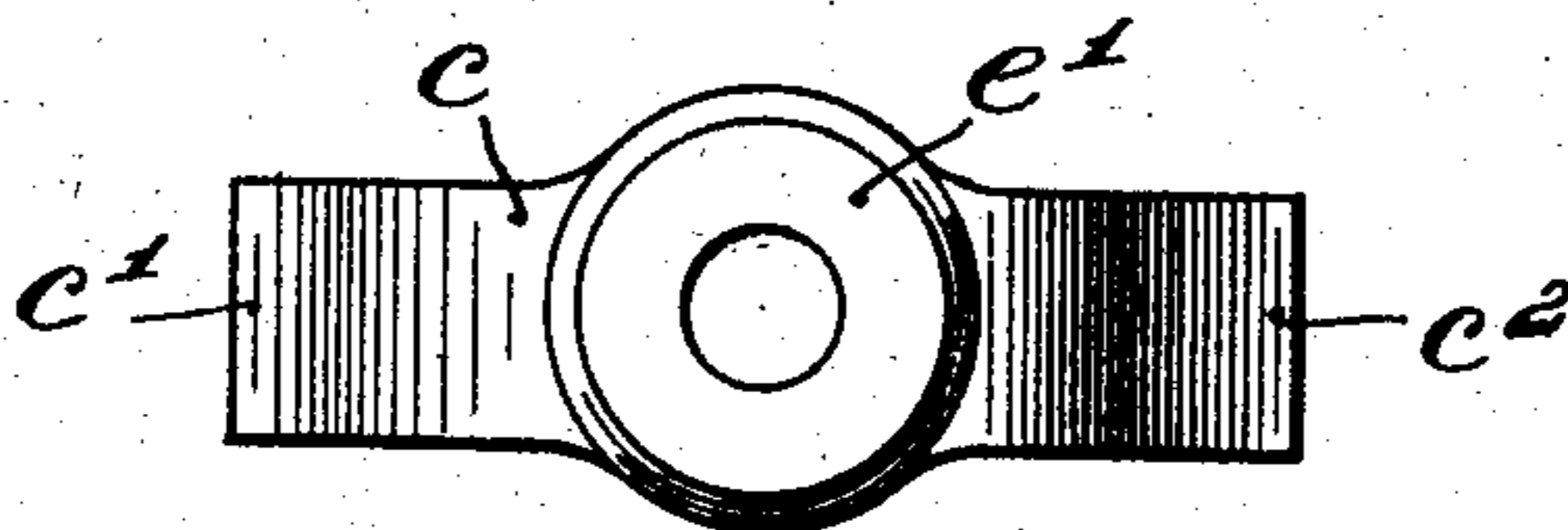


Fig. 2.



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UNITED STATES PATENT OFFICE.

ALBERT A. FREEMAN, OF GERMANTOWN, PENNSYLVANIA.

OIL-CONTROLLER FOR CAR-AXLES.

SPECIFICATION forming part of Letters Patent No. 781,335, dated January 31, 1905.

Application filed June 1, 1904. Serial No. 210,637.

To all whom it may concern:

Be it known that I, ALBERT A. FREEMAN, a citizen of the United States, residing at Germantown, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Oil-Controllers for Car-Axles, &c., of which the following is a specification.

My invention has relation to an oil-controller for supplying oil under regulation to the axles of cars or other somewhat similar applications of the same; and in such connection my invention relates to the general construction and arrangement of the oil-controller for the uses defined among others.

The nature and scope of my invention will be more fully understood from the following description, taken in connection with the accompanying drawings, forming part hereof, in which—

Figure 1 is a view, partly in section and partly in elevation, of an oil-reservoir and valve-actuating devices embodying main features of my invention; and Fig. 2 is a top or plan view of the spring-saddle of the controller.

Referring to the drawings, A is a reservoir of any suitable form provided with a perforated bottom *a*, forming a valve-seat, and with a standard *a'*.

b is a ball normally seated in the perforated bottom *a* of the oil-reservoir A.

c is a flat spring-metal perforated slip or saddle engaging the stem *b'* of the ball *b* and made, preferably, with curved feet *c'* and *c''*, adapted to contact with the bottom *a* of the reservoir. Around the upper threaded portion of the stem *b'* is coiled a spring *d*, one end of which bears against set-nuts *e* of the threaded stem of the ball *b* and the other end bearing against a seat *e'*, formed, preferably, integral with the saddle-spring *c*. Both of the springs *c* and *d* are adapted to hold the ball *b* up against its seat in the bottom of the reservoir. The flat or spanning spring *c* compensates for any uneven pressure of the coiled spring *d*, so that the stem of the ball-valve will not be subject to side thrust.

The reservoir A is adapted to contain a supply of oil and is closed by a removable cap

*a*³. By arranging the spring *d* so as to engage the set-nuts *e* and the spring spanning saddle *c* the oil by gravity or otherwise flows from the reservoir through and about the stem-bearing of the box and always around the seated ball to the part to be lubricated independent of any side thrust that the valve-stem may be subject to due to extraneous influence or other causes, and hence the flow of the oil at all times, due to the hereinbefore-described arrangement of the controller, will be uniform or positive. Moreover, the spring-saddle *c*, in conjunction with the spring *d* of the ball *b*, compensates for any lateral thrust or undue displacement of the ball seated in the perforated bottom of the oil-reservoir, due to the even distribution of pressure in the downward movement of the stem of the valve by the curved legs *c'* and *c''* against the bottom of the reservoir.

Having thus described the nature and object of my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. An oil-controller, comprising a reservoir provided with a perforated bottom, a ball normally adapted to close said perforation and having a stem held in a vertical position in said reservoir, yielding means engaging said stem and adapted to normally hold said ball against the perforation of said bottom and to permit of the downward movement in a vertical plane of the ball-stem, substantially as and for the purposes described.

2. An oil-controller, comprising an oil-reservoir having a perforated bottom forming a valve-seat and a bearing, a ball provided with a stem, said ball normally seated to said bottom and the stem extending through said bearing, a saddle-spring spanning said stem and engaging said bottom, and a spring engaging said stem and saddle, substantially as and for the purposes described.

3. An oil-controller, comprising an oil-reservoir having a perforated bottom forming a valve-seat, a ball provided with a partially-threaded stem mounted in said reservoir, a saddle-spring detachably connected with said stem and bottom, a spring coiled about said stem, and means adapted to be advanced or retracted on the threaded portion of the

stem to regulate the tension of said coiled spring, substantially as and for the purposes described.

4. An oil-controller, comprising an oil-res-
5 ervoir provided with means having a valve-seat, a ball adapted to seat with said means, said ball having a stem, a flat spring spanning said stem and a coiled spring adapted to en-
10 gage said stem and flat spring, the latter being arranged so as to compensate for side

thrust of the coiled spring in the movements of the ball-stem, substantially as and for the purposes described.

In testimony whereof I have hereunto set my signature in the presence of two subscribing witnesses.

ALBERT A. FREEMAN.

Witnesses:

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