

C. A. SIMMONS.
JOURNAL LUBRICATOR.

APPLICATION FILED MAR. 26, 1914. RENEWED JUNE 15, 1916.

Patented Jan. 23, 1917.

1,213,428.

Fig. 1,

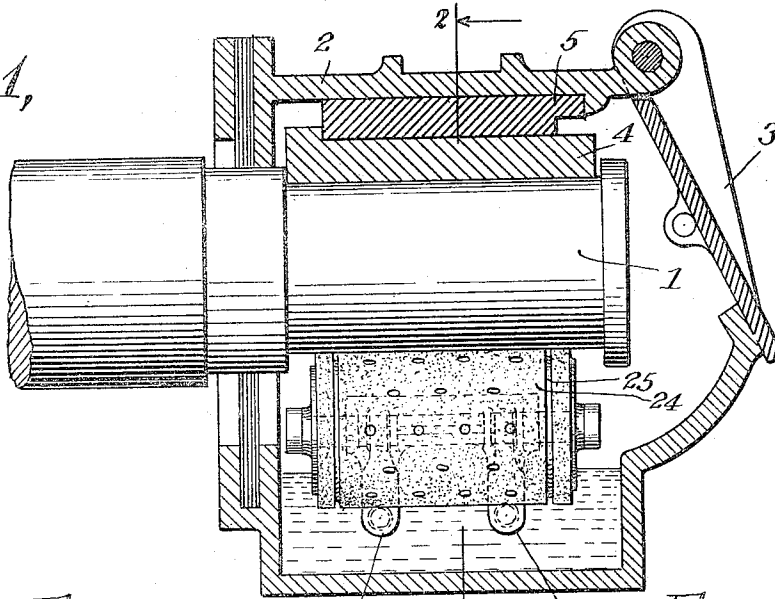


Fig. 2,

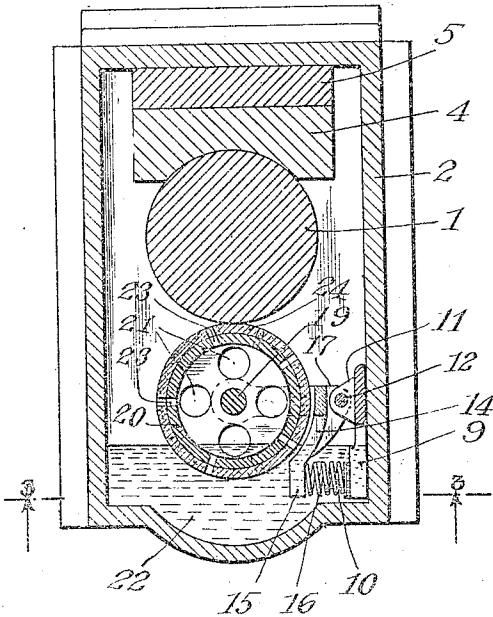
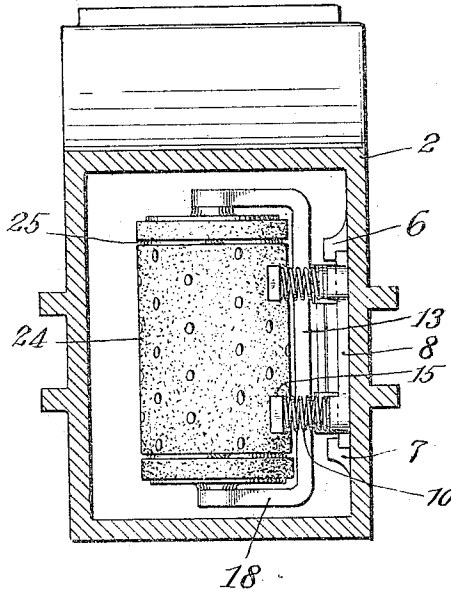


Fig. 3.



WITNESSES

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JOURNAL-LUBRICATOR.

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Application filed March 26, 1914, Serial No. 827,262. Renewed June 15, 1916. Serial No. 103,868.

To all whom it may concern:

Be it known that I, CHARLES A. SIMMONS, a citizen of the United States, residing at Albany, county of Albany and State of New York, have invented certain new and useful Improvements in Journal-Lubricators; 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.

The present invention relates to the lubrication of journals and more particularly to the lubrication of the journals of railway axles.

It is the object of the present invention to provide lubricating mechanism adapted for introduction into a standard journal box and having a drum faced with felt and arranged for rotation in contact with the under-face of the journal to carry oil from the oil well and spread it on the journal, this drum being perforated so that by centrifugal action it may throw oil against the journal.

It is a further object to provide such a mounting of the rotating drum as will insure constant and reliable pressure against the journal and at the same time leave the bottom of the journal box unobstructed from end to end to facilitate the circulation of the oil and ready cleaning of the box.

To accomplish the foregoing objects, and to secure the benefit of other advantages inhering in applicant's invention, the structural arrangement may be as shown in the accompanying drawings, wherein—

Figure 1 is a sectional elevation through the journal box; Fig. 2 is a transverse section on line 2—2 of Fig. 1, and Fig. 3 shows the lubricating drum of Fig. 1 as seen from below.

In the embodiment illustrated, a car journal 1 is inclosed in a rectangular journal box 2 of standard design, and having the usual side cover 3. The bearing block 4 and wedge 5 are of usual construction.

On one side of the journal box and preferably cast integral therewith are a pair of lugs 6 and 7 (Fig. 3) under-cut to form a vertical guideway, and within this guideway and slidingly mounted therein is a platform 8 of such dimensions that it may be introduced through the opening of cover 3 when the journal box is being assembled.

Platform 8 has a pair of downwardly extending legs 9 each provided with a transversely projecting stud or shoulder 10, and at the top of the platform are a pair of ears 11 arranged to serve as supports for a transverse pivot bar 12 whereon the supporting frame of the rotating drum is pivotally mounted.

The drum frame 13 has a pair of downwardly extending curved arms 14 each terminating in a straight finger 15 forming a seat for a helically coiled horizontal spring 16 which seats against the opposing leg 9 of the platform and is held in position thereon by shoulder 10. The frame is also provided with laterally extending ears 17 through which the pivoted bar 12 is passed so that the frame may swing about said bar. The swinging frame is provided with a pair of horizontal arms 18 (Fig. 3) forming a yoke and each shaped at its end to serve as a bearing for a transverse shaft 19 which passes through the drum from end to end.

The drum 20 is of cylindrical outline and preferably made of a single brass casting, and is closed at its ends except for a series of openings 21 through which the oil 22 in the lower part of the box may gain access to the inside of the drum. The drum is provided with a plurality of perforations 23 and is covered with a layer of felt 24, or other suitable yielding and absorbent material, and this layer of felt has perforations meshing with those in the metal drum. The felt may be held in place by encircling wire bands 25 (Fig. 3) lying in slots or depressions in the felt.

With the arrangement above described, the drum presses yieldingly against the journal and is rotated thereby, and the felt covering of the drum carries up oil from the oil well and spreads it on the journal, but in addition to this the oil runs in through the end openings 21 of the drum and is thereafter forcibly thrown by centrifugal action through the perforations 23, thus spattering oil freely on the journal and in a measure increasing the delivery of oil to the journal in proportion to the speed of rotation. Also the drum with its felt covering acts as a buffer to polish the journal and keep it free from grit and bits of metal. The springs 16 are of such form as to occupy but little space, and their shape and

position is advantageous for holding the drum to its work irrespective of irregularities in the track or jars and vibrations transmitted to the journal box. By making the
 5 springs in helical form, fatigue of the metal is in large measure averted, and by providing a plurality of springs each effectively positioned to swing the drum-supporting yoke about its pivotal center, a weakening
 10 or failure of one spring does not render the oil device inoperative.

With the arrangement described, the mechanism is entirely supported from the side of the journal box and leaves the oil
 15 well substantially unobstructed from end to end, so that it may be readily scraped out and cleaned when necessary.

I claim:

1. The combination with a car journal
 20 and a journal box, of a lubricating drum having an absorbent covering and engaging with the under-face of said journal, said drum being hollow and provided with end openings for the admission of oil, and a
 25 frame pivotally mounted for support by the side of the journal box and carrying said drum, said frame having downwardly extending arms, and helically coiled springs bearing horizontally against said arms to
 30 hold said drum yielding against its journal.

2. The combination with a car journal and a journal box, of a platform detachably supported by a side wall of said box, said
 35 platform serving as a support, a drum having an absorbent covering and bearing against the lower face of said journal, a frame supporting said drum and pivotally mounted on said platform, said frame hav-
 40 ing downwardly extending integral arms, and helically coiled springs arranged horizontally in engagement with said arms to

control the pressure with which the drum bears against its journal.

3. The combination with a car journal and a journal box of a platform removably
 45 mounted against the side of said journal box to serve as a pivotal support, a frame pivoted to said support and having downwardly extending arms, coiled springs engaging said arms and bearing horizontally
 50 against the lower ends of said platform, a drum with an oil-absorbent face mounted to turn in said frame, said drum being hollow and having perforations through which oil
 55 may be thrown from the inside of the drum against the journal to be lubricated.

4. The combination with a car journal and a journal box of lugs on the side of the journal box forming a vertical guideway,
 60 a platform slidably mounted in said guideway and having legs and ears, a pivot bar supported by said ears, a swinging frame mounted on said pivot bar and having
 65 downwardly extending arms, a spring between each of said arms and a leg of said platform, said frame being shaped to form a yoke, a rotating drum mounted in said
 70 yoke and provided with an absorbent covering held in yielding engagement with said journal by said springs, openings in the end of said drum and perforations through
 75 the cylinder face of said drum and its felt covering, whereby oil may be thrown by centrifugal action from the inside of the drum through said perforations against the journal to be lubricated.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES A. SIMMONS.

Witnesses:

CHARLES J. TOBIN,
 JOHN L. MOURNIGHAN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."