W. O'CONNERS.

OILING APPARATUS FOR JOURNALS.

APPLICATION FILED MAR. 9, 1911.

1,041,152. Patented Oct. 15, 1912.

Fig. 1.

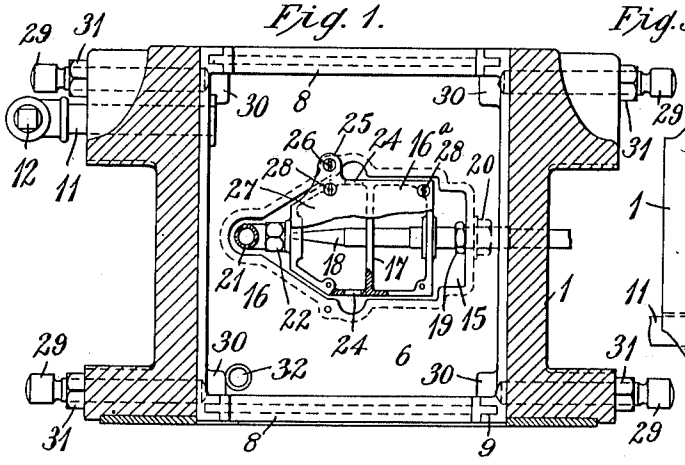


Fig. 5.

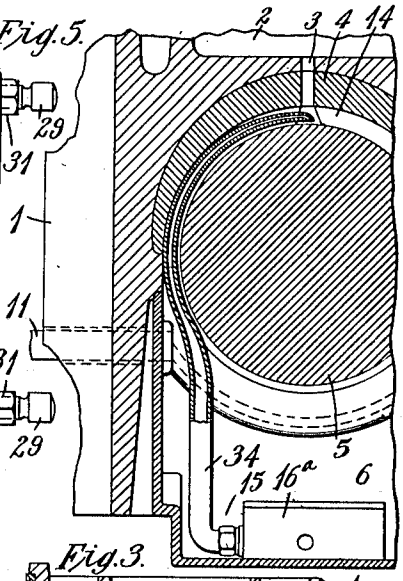


Fig. 2.

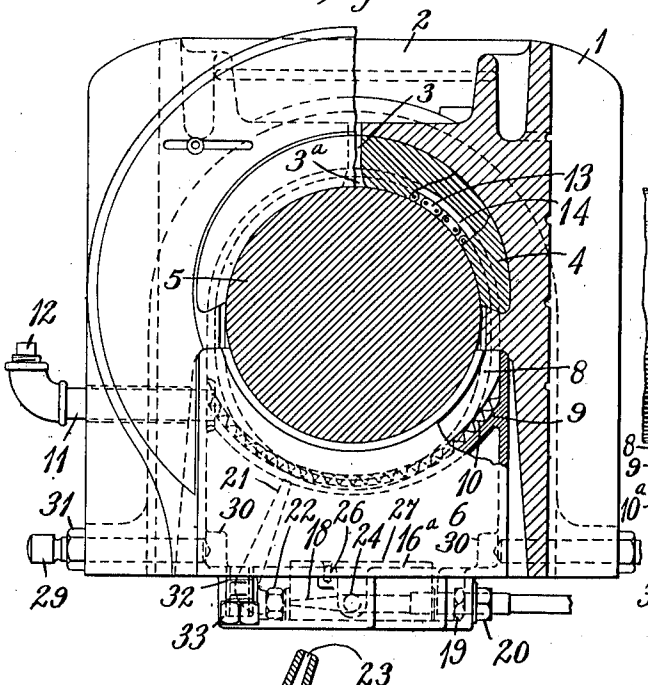


Fig. 3.

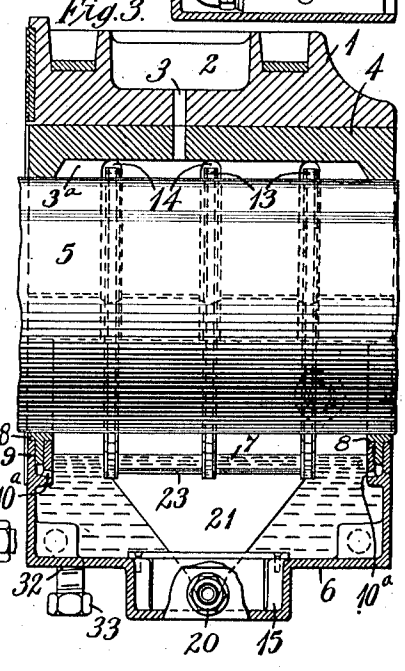
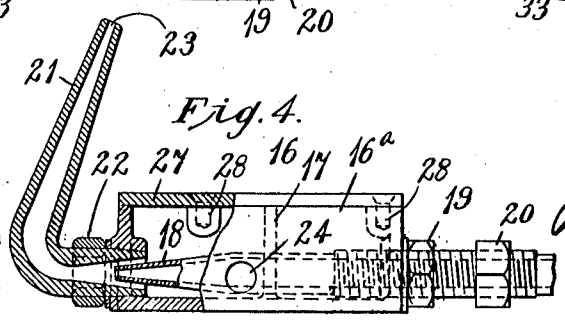


Fig. 4.



WITNESSES:

Fred. H. Miller

B. B. Hines

INVENTOR

William O'Conners

BY

Wesley & Carr

ATTORNEY

UNITED STATES PATENT OFFICE.

WILLIAM O'CONERS, OF NEW CASTLE, PENNSYLVANIA.

OILING APPARATUS FOR JOURNALS.

1,041,152. Specification of Letters Patent. Patented Oct. 15, 1912.

Application filed March 9, 1911. Serial No. 613,371.

To all whom it may concern:

Be it known that I, WILLIAM O'CONERS, a citizen of the United States, and a resident of New Castle, in the county of Lawrence and State of Pennsylvania, have invented a new and useful Improvement in Oiling Apparatus for Journals, of which the following is a specification.

My invention relates to oiling apparatus for journals and it has particular reference to devices for use in connection with the journal boxes of railway locomotive drivers, though not restricted in its application to such specific relations.

The object of my invention is to provide an inexpensive and effective means for continuously applying oil to a journal in such manner as to insure effective lubrication at any and all speeds of rotation of the journal and in such manner as to economize, in a marked degree, the use of the oil employed as a lubricant, since the oil may be repeatedly used, and in such manner as to avoid the collection of impurities therein and evaporation thereof.

In the accompanying drawing illustrating my invention, Figure 1 is a horizontal section through a journal box equipped with my invention; Fig. 2 is a view partially in end elevation and partially in section of a journal and a journal box having my invention embodied therein; Fig. 3 is a centrally vertical section of the structure shown in Fig. 2; Fig. 4 is a detail view, partially in side elevation and partially in section, of the oil-spraying device which is partially shown in the other figures of the drawing, and Fig. 5 is a sectional detail view of a portion of a journal box embodying a modification of my invention.

My invention may be adapted for use in connection with a journal box of any known type or it may be used in connection with a journal box specially designed for it. For the purpose of indicating that my invention may be applied to one well known form of standard journal box without material change in the structure of such box, and either by itself or in conjunction with the oil devices which have heretofore been employed, I have illustrated a journal box of the Pennsylvania Railroad type in which the main portion 1 of the box is provided with a top recess 2 to receive a mass of oil-impregnated waste and from which extends a hole or passage 3 through the brass 4 to a longitudinal groove 3^a therein above the journal 5.

In place of the ordinary cellar containing oil-impregnated waste to engage the underside of the journal 5, I provide a cellar 6 which is designed to be partially filled with a body of oil 7 and at the respective ends of which are located segmental brasses 8 of T shape in cross-section, the bottom portion of the brasses fitting into semi-annular grooves 9 in the bottoms of which are located helical springs 10 in order to hold the brasses against the journal 5. The devices 8 are employed mainly for the purpose of preventing the escape of oil from the cellar, any oil which finds its way into the recess 9 being led back into the cellar through the passages 10^a.

Oil is supplied to the cellar through a pipe 11, which may be closed by a screw plug 12 when not in use in order to prevent the entrance of dirt or other foreign matter. Oil may be supplied to the journal from the cellar 6 by means of rings or chains, chains 13 being here indicated for that purpose and grooves 14 being provided in the brass 4 for the purpose of providing spaces over the top of the journal for such chains.

The bottom of the cellar 6 is provided with a recess or chamber 15, here shown as projecting below the main bottom portion of the cellar but not necessarily in such position, it being within the scope of my invention to extend the entire body of the cellar to such point as may be necessary to make the bottom portion of the chamber 15 flush therewith or otherwise change the construction to suit the designer or builder of the apparatus. Seated in the chamber 15 is an approximately rectangular body portion 16^a of an oil-spraying device 16, a transverse partition 17 being provided therein for the purpose of partially supporting a fluid-dis-

charging nozzle 18. The nozzle 18 projects through an opening in one side wall of the box or body portion 16ª and also through an opening in the corresponding wall of the recess or chamber 15 to which it is clamped by means of nuts 19 and 20. The nozzle 18 is connected to any suitable system of piping (not shown) through which steam, compressed air or other fluid under pressure may be conducted to the nozzle, the discharge end of which is located in the inlet end of the nozzle 21 of the device 16, said inlet end being seated in the side wall of the box 16, which is opposite that supporting the nozzle 18 and being fastened therein by means of a screw thread connection and a nut 22, or otherwise, as may be found desirable and convenient. As here indicated, the nozzle 21 is bent to project upwardly toward the journal at any suitable or desired angle and is flattened to provide an elongated opening 23 at its upper end which is substantially parallel to the journal and extends over a considerable portion of the length that is included between the brasses 8.

The box or body portion 16ª is provided with openings 24 in its sides through which the oil may flow freely from the cellar and, consequently, the spraying device is always full of oil, and, although the oil is continuously forced from the outlet 23 by the fluid ejected from the nozzle 18, a continuous supply is received from the cellar, so that there is a continuous circulation throughout the operation. The box or body portion 16ª is anchored by means of laterally projecting lugs 25 and screws 26, and is provided with a cover 27 that is fastened in position by means of screws 28. The cellar 6 is fastened in position by means of bolts 29 the inner ends of which engage recesses in lugs 30 at the bottom corners of the cellar, and these bolts are locked in position by means of nuts 31. An opening 32 is provided in one corner of the bottom of the cellar, which is normally closed by means of a screw 33 and which is used for draining the oil from the cellar, when desired.

In Fig. 5 I have indicated a modification by means of which oil may be forced against the upper portion of the journal instead of against its lower portion. This means comprises one or more pipes 34 extending from the body portion 16ª of the spraying device through one or more of the grooves 14 at one side of the journal and terminating at the top of the journal, as indicated. If three pipes 34 are employed, the rings or chains will, of course, be omitted and some or all of them may be omitted in any case. The oil may be discharged from the pipe or pipes 34 into the groove 3ª through a nozzle of any suitable form and dimensions, and, in case a single pipe 34 is employed, the nozzle may be of such dimensions and be so disposed as to permit of the retention of the two end chains 13.

The specific details of the spraying apparatus, as regards form, number and location of discharge openings and the means for forcing oil through such openings, are, of course, immaterial, so far as the essentials of my invention are concerned, and I have therefore not attempted to illustrate such modifications as will readily occur to those skilled in the art.

Rings or chains may be employed as the sole means for applying oil to the journal or a pipe or set of pipes having a discharge nozzle or set of nozzles may be employed exclusively as the oiling means. I desire it to be understood, however, that the spraying apparatus may be employed in conjunction with rings or chains when the journal is operated at extraordinarily high speeds or under any other conditions, if found necessary or desirable.

It will be understood from the illustration and foregoing description that my invention may be readily applied to journal boxes already in use, without disarranging or replacing any of the parts except the cellars, and, consequently, that the change may be made at a minimum expense. In case oil-feeding chains are employed, it will, of course, be necessary to cut grooves in the brasses 4. It will also be understood that the devices which I have described are adapted to thoroughly and effectively lubricate the journals with which they are used, whatever be the vehicle or other machine and whatever may be the speeds at which the journals are driven.

Variations of the structural details which do not materially change the mode of operation or the result are within the scope of my invention and are intended to be covered by the appended claims.

I claim as my invention:

1. A journal box having a detachable cellar adapted to contain a body of oil, an oil-applying device having a discharge nozzle and a body portion provided with an inlet opening submerged in said body of oil, and a fluid-conducting pipe having its nozzle located within said device between the inlet opening and the discharge opening of the nozzle.

2. An oiling device for railway vehicle journals comprising an oil reservoir, a spraying device having a body member located in said reservoir and provided with a submerged inlet opening, a nozzle portion and means for applying fluid-pressure to the oil at a point between the inlet opening and the discharge opening of the nozzle.

3. A journal box having a cellar adapted to contain a body of oil, an oil-applying de-

vice comprising a body member having a submerged inlet opening and a nozzle member, and means within said nozzle member for forcing portions of said oil against the journal and maintaining a continuous oil circulation through said cellar, body member and nozzle member.

In testimony whereof, I have hereunto subscribed my name this sixth day of March 1911.

WILLIAM O'CONERS.

Witnesses:
M. S. THOMPSON,
WESLEY G. CARR.