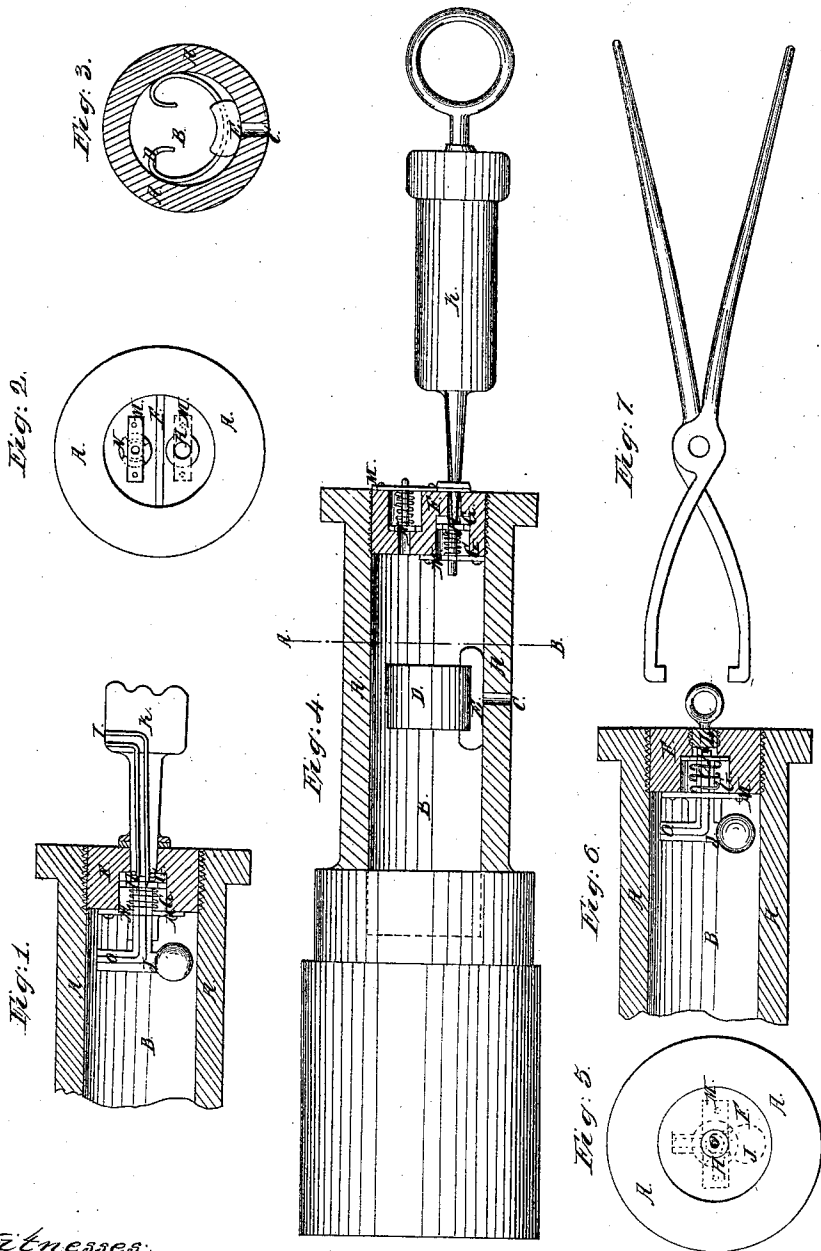


Andrews & Carr,

Journal Lubricator.

N^o 28,725.

Patented June 19, 1860.



Witnesses:
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UNITED STATES PATENT OFFICE.

E. ANDREWS AND JOHN H. CARR, OF PALO ALTO, PENNSYLVANIA.

LUBRICATING JOURNALS.

Specification of Letters Patent No. 28,725, dated June 19, 1860.

To all whom it may concern:

Be it known that we, EDWARD ANDREWS and JOHN H. CARR, of Palo Alto, in the county of Schuylkill and State of Pennsylvania, have invented a new and Improved Mode of Lubricating Journals; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1, is a longitudinal section of our invention. Fig. 2, is an end view of Fig. 4. Fig. 3, is a sectional view of Fig. 4, at the line A, B. Fig. 4, is a longitudinal section showing a modification. Fig. 5, is an end view of Fig. 1. Fig. 6, is a section view same as Fig. 1, with the charging syringe or pump removed and showing the filling hole closed with the plug L. Fig. 7, is a view of a pair of tongues for removing the spring pad.

Similar letters of reference indicate corresponding parts in the figures.

This invention consists in an arrangement of spring valve or valves for filling an air-tight chamber in the center of the journal with a lubricating material; an escape for the air while filling; and a spring pad over an aperture to the air tight chamber to prevent the too free passage of the lubricating material to the surface of the journal.

To enable others skilled in the arts to make and use our invention we will proceed to describe its construction and operation with reference to the drawings.

Into the journal A, is drilled a chamber B, in diameter and depth in proportion to the size of the journal.

C, C is a small hole leading from the chamber B, to the surface of the journal. This hole serves to conduct the lubricating material from the chamber B, to the journal. A spring D, on which is fastened a cotton pad E, covers this hole and prevents the lubricating material from being fed too rapidly to the journal, as in practice it is found almost impossible to make this opening C, small enough to prevent too rapid a feed.

F, is a plug screwed into the end of the chamber B. G, is an opening in this plug which opening is covered by the valve H. This valve closes from the inside and is held in position by a coil spring. The stem of

this valve projects inward through the guard piece M and has secured to its end the cross piece J, one end of which is ball shaped to give it weight. The other end is a simple round and has drilled through its length a small hole O, which hole communicates with a similar hole through the valve and valve stem. This hole serves to let the air in the chamber B, escape when filling with the lubricating material.

K is a syringe for filling the chamber B. Through the tube of this syringe passes a smaller tube which smaller tube when filling enters the air hole in the valve and allows the air to pass out through the opening I, in the side of the syringe.

L, Fig. 6, is a screw plug to insert into the charging opening when the chamber B is filled.

Fig. 4 is a modification in which the air escapes through a second valve N, opening outward. It however often happens that this opening is at the bottom of the chamber when for instance as in the journal of a rail road car it may stop with this opening down in which case the air cannot escape unless the car is moved so as to bring the opening on top which is not always convenient.

The manner of operation is as follows: The chamber B and hole C having been formed in the journal the spring D and pad E are inserted (by means of the tongues, Fig. 7, catching into the hooked ends of the spring) so as to bear fairly on the opening C. The plug F is now screwed into the end of the chamber B and the journal is ready for the lubricating material. For this purpose the syringe K is provided, filled with any lubricating material and inserted into the charging opening until it presses the valve from its valve seat, the inner air tube at the same time entering the air hole in the valve. The valve H, in a state of rest has the ball end downward and consequently the air hole through the valve will be at the top of the chamber B. By giving the piston of the syringe a plunge the lubricating material will escape through the round openings at the end of its tube into the chamber B, and the expelled air passes through the air tube o and escapes at i. When the chamber B is filled the syringe is removed the valve coming to its seat and no lubricating material can escape except through the air hole in the valve. This is however prevented by the

screw plug L. The advantages of this mode of lubricating journals will be sufficiently understood when it is stated that 4 cubic inches of sperm oil lubricated a locomotive tank journal three and one fourth inches in diameter and six inches long for thirteen days running daily 62 miles or a total of eight hundred and six miles. Contrary to all expectations the small hole C does not clog and measures such as herein described must be taken to prevent too rapid a discharge of oil, it being found that sufficient lubricating material will find its way through the cotton pad E to the surface of the journal through the small hole C.

Having thus fully described our invention

what we desire to secure by Letters Patent is—

1. The pad E and spring D when used for the purpose as herein fully specified and described.

2. The combination and arrangement of the plug F, valve H, cross piece J, air escape O, and guard piece M, constructed and operated substantially as and for the purpose specified.

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