No. 860,819. PATENTED JULY 23, 1907.

M. MILLETT.

LUBRICATING DEVICE FOR THE SURFACES OF LOCOMOTIVE DRIVING BOXES AND DRIVING WHEEL HUBS.

APPLICATION FILED OCT. 8, 1906.

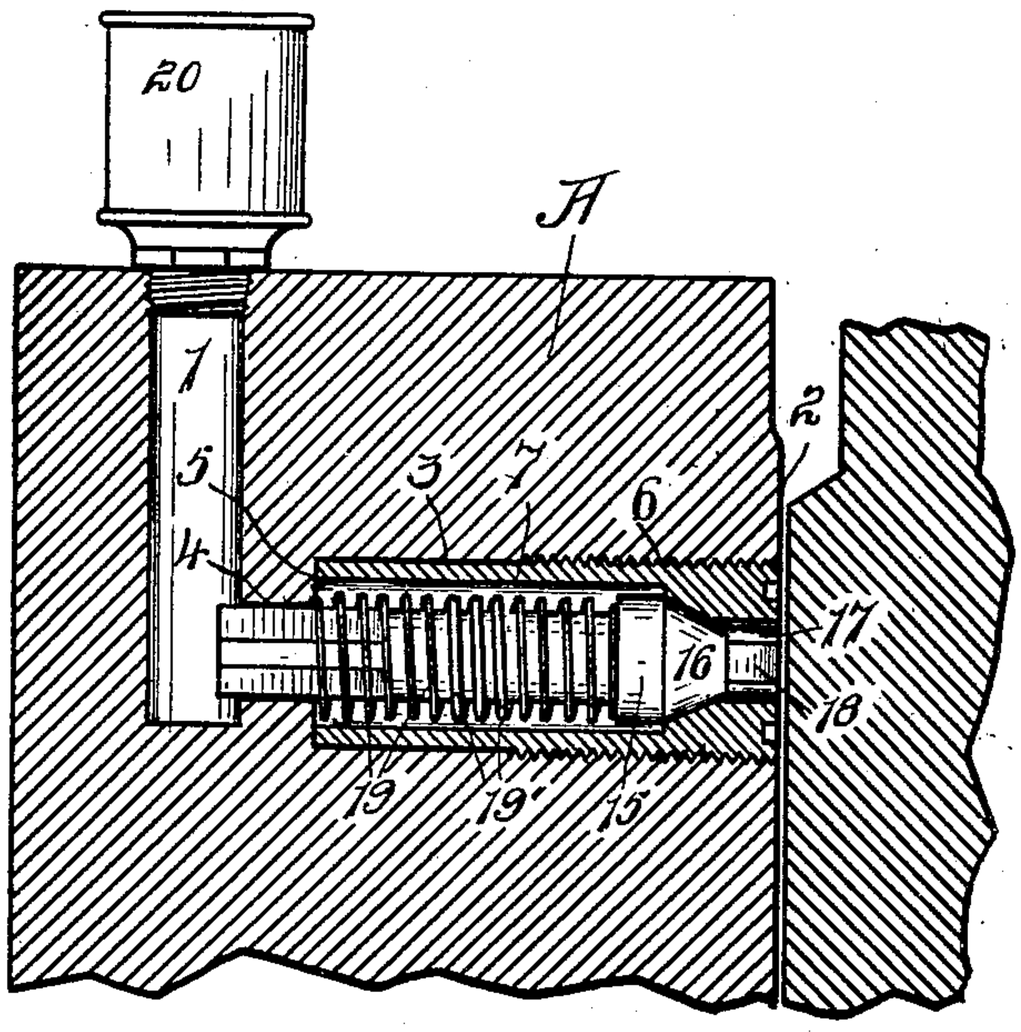

FIG. 1.

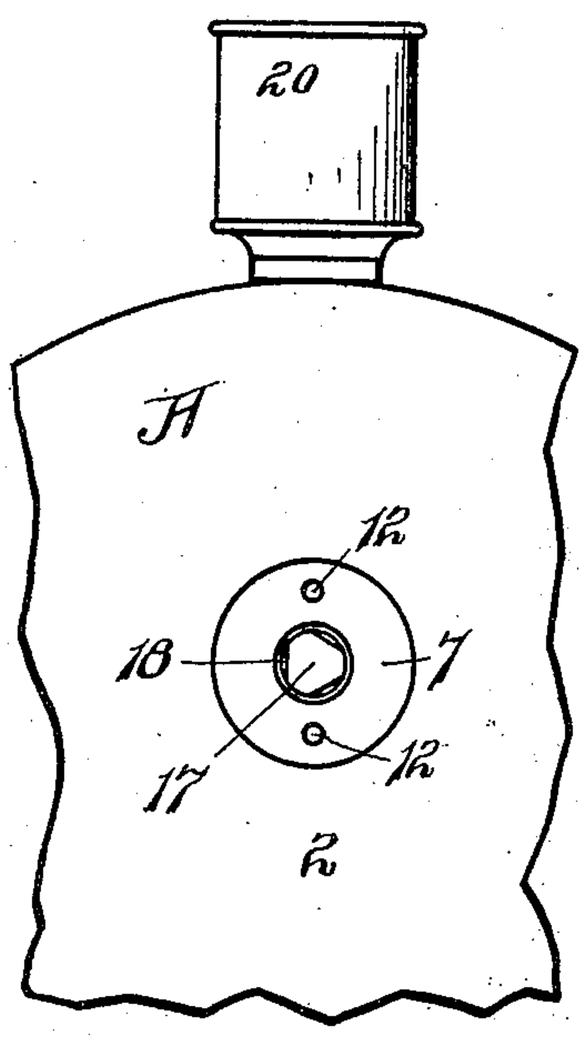

FIG. 2.

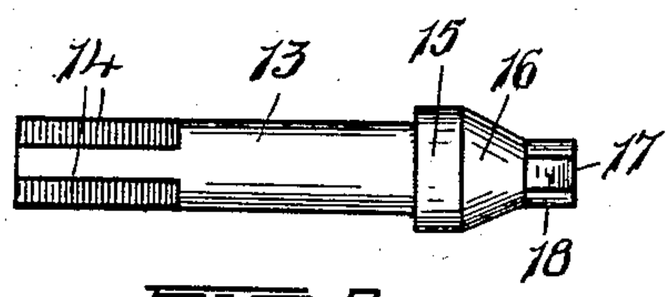

FIG. 3.

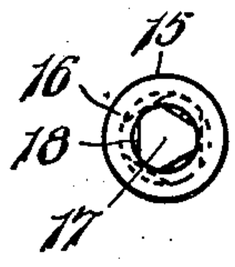

FIG. 4.

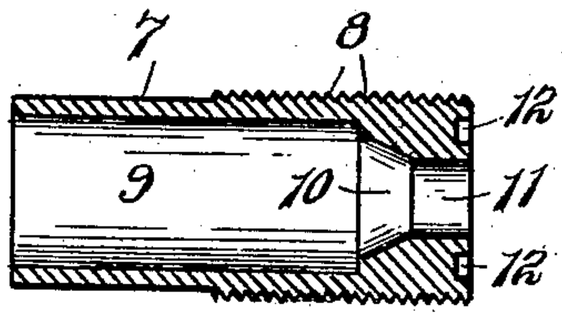

FIG. 5.

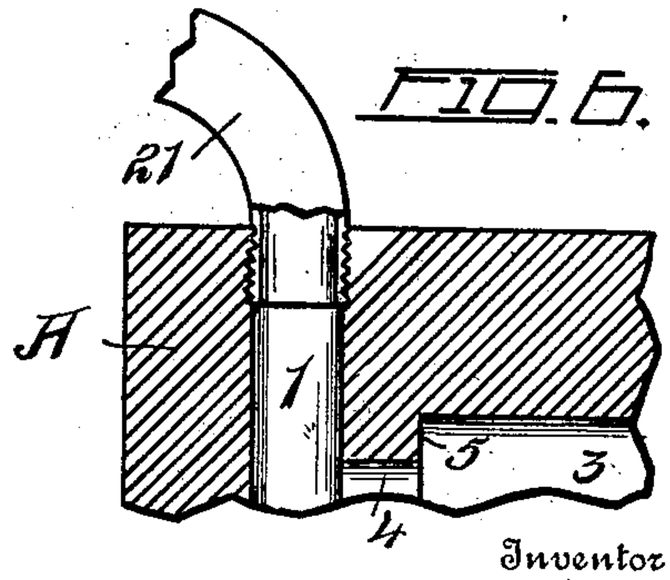

FIG. 6.

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LUBRICATING DEVICE FOR THE SURFACES OF LOCOMOTIVE DRIVING-BOXES AND DRIVING-WHEEL HUBS.

No. 860,819. Specification of Letters Patent. Patented July 23, 1907.

Application filed October 8, 1906. Serial No. 337,886.

To all whom it may concern:

Be it known that I, MICHAEL MILLETT, a citizen of the United States, residing at Omaha, in the county of Douglas and State of Nebraska, have invented certain new and useful Improvements in Lubricating Devices for the Surfaces of Locomotive Driving-Boxes and Driving-Wheel Hubs, of which the following is a specification.

My invention relates to certain new and useful improvements in lubricating devices for the surface of locomotive driving-boxes and driving-wheel hubs, and has for its object to provide a device of this character that can be applied to any locomotive driving-box or trailer-box to prevent their getting hot and cutting.

With these and other objects in view, as will pertain to a device of this character, my invention consists in the novel construction and arrangement of parts, which will be hereinafter fully described and pointed out in the appended claims.

Referring to the accompanying drawings wherein like characters of reference denote similar parts through the several views:—Figure 1, is a central sectional view of a locomotive driving-box with portions thereof broken away, clearly illustrating the arrangement of the several parts embodying my invention. Fig. 2, is a fragmentary view showing the surface of the driving-box to be lubricated. Fig. 3, a side elevation of the valve-stem. Fig. 4, is an end view of the valve-head thereof. Fig. 5, is a central sectional view of the threaded-plug. Fig. 6, illustrates a modification of my invention wherein a feed-pipe which is adapted to lead from the cab, is used instead of a feed-cup as disclosed in Figs. 1 and 2.

Referring to the drawings A, designates a locomotive driving-box. In the solid boxes which have no lubricant reservoir and which are now being used by some of the roads in preference to the old style boxes having a lubricant reservoir, I drill a suitable opening 1, which can be either parallel with, or at an angle to the surface 2, of the box to be lubricated. Then I provide the driving-box A, with the horizontal opening 3, which extends nearly to the opening 1. Connecting the openings 1, and 3, is the opening 4, which is of less diameter than opening 3, thereby forming a shoulder 5, as clearly shown in Figs. 1 and 6. The opening 3, is threaded as at 6, for a suitable distance as shown in Fig. 1, to form threaded engagement with the plug 7, which plug is provided with the threads 8. The plug is further provided with the circular opening or passage 9, which extends nearly the full length of the plug and the remaining length thereof is provided with the counter-sunk opening 10, which terminates in the circular feed opening 11. The face of the plug 7, is provided with the small openings or holes 12, whereby a spanner wrench or the like may be used in screwing the plug into and out of position.

The valve-stem 13, works within the opening 9, of plug 7, and is adapted to feed lubricant automatically owing to the fact that the constant jar and lateral motion of the locomotive when in motion imparts a reciprocating motion to the driving-boxes, which in turn imparts a reciprocating motion to the valve stem thereby opening and closing the feed opening 11, and conveying lubricant to the surface 2, to be lubricated. This valve 13, is essentially of circular form in cross-section having portions at its rear, cut away to form a triangular end 14, the opposite end of the valve-stem being enlarged to form a head 15, and the remaining portion thereof designated 16, being formed of conical contour and terminating in a nose 17, which has its periphery filed away at a plurality of places designated 18, to form a triangular end to prevent any cutting or grinding of the nose 17, or the surface of the feed opening 11, by sediment which might be deposited there, by the lubricant or otherwise.

In applying my invention to a locomotive driving-box, I first place a coiled spring 19, made of fine spring wire around the shank of the valve-stem 13, and then place the same in the opening 9, of the plug 7, which plug I then screw into engagement with the horizontal opening 3, from the surface 2, as clearly shown in Figs. 1, and 2, which thus causes the triangular end 14, of the valve-stem 13, to pass through opening 4, and project into the opening or reservoir 1. It will be noticed that one end of the coiled spring 19, engages the shoulder 5, and that the opposite end engages the head 15, thus whenever the spring vibrates from the constant jar imparted to the driving-box from the movement of the locomotive when running, the conical head 15, will alternately open and close the feed opening 11.

I provide each driving-box A, at the upper end of opening 1, with a suitable cup or the like, by means of which a supply of lubricant may be kept to be fed to the surface 2. This arrangement is only used in the latest types of driving-boxes having no lubricant reservoirs.

Having fully described my invention, what I claim is:—

1. In combination with a driving-box provided with an opening and a passage connecting said opening with the surface of said box, a plug having threaded engagement with said passage, a spring controlled valve held within said plug, and the shank thereof projecting into the opening first above mentioned.

2. In combination with a driving-box provided with an opening and a passage connecting said opening with the surface of said box, a plug having threaded engagement with said passage and provided with a feed opening, a valve-stem having a head of conical contour and provided with a triangular nose held within said plug, a coiled

spring encircling said valve-stem and adapted to vibrate from the constant jar of the driving-box caused by the jarring of the locomotive while in motion thereby causing the head of the valve-stem to alternately open and close the aforesaid feed opening.

3. The herein described means for lubricating the surface of a locomotive driving-box, comprising the combination with the driving-box having a horizontal passage or opening decreasing in diameter and leading from the surface of the driving-box to be lubricated, to the lubricant reservoir, of a plug securely held in said passage or opening, a valve-stem provided with a cone-shaped head having an angular nose yieldingly held within the passage of said plug, the opposite or triangular end of said valve-stem passing through the smallest end of the aforesaid passage or opening and projecting into the lubricant reservoir, a coiled spring encircling said valve-stem to normally hold the cone-shaped head thereof in engagement with the counter-sunk seat of the plug, which valve is displaced by the jar of the driving-box caused by the jar and motion of the locomotive.

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

MICHAEL MILLETT.

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