

Feb. 4, 1969

F. G. FISHER ETAL

3,425,513

JOURNAL BOX LUBRICATOR FOR RAILWAY CARS

Filed April 14, 1967

Sheet 1 of 6

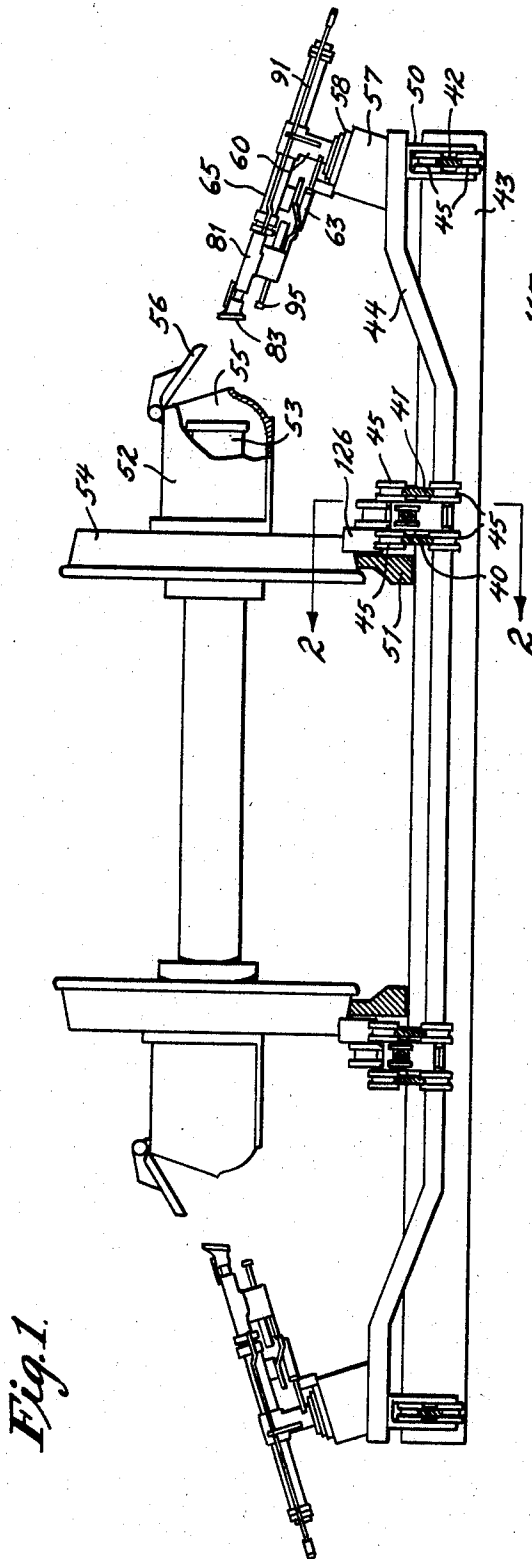
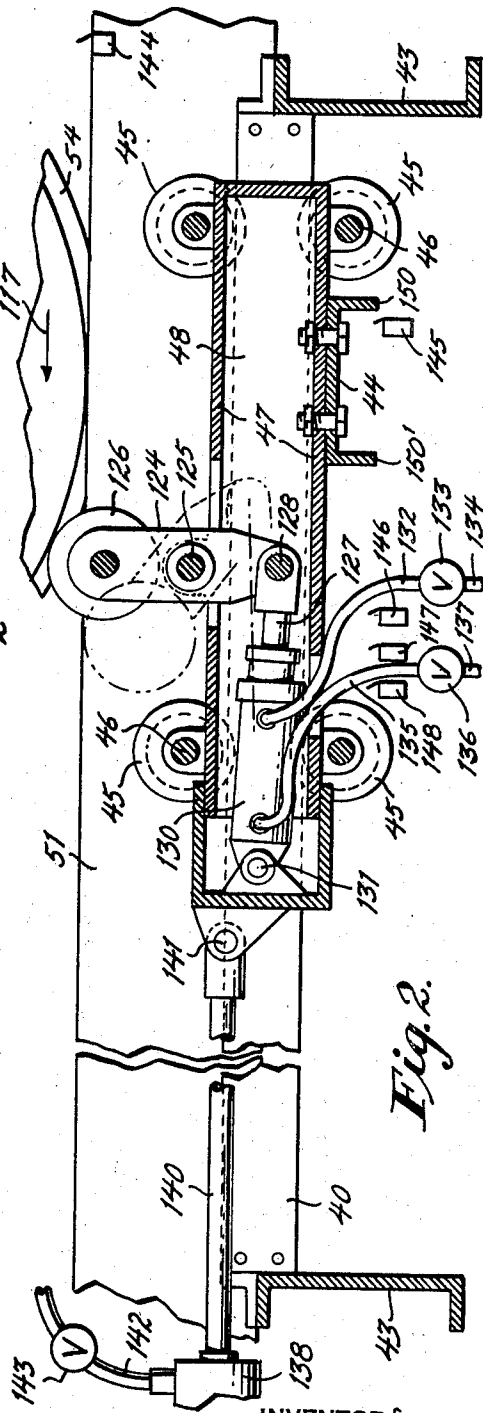


Fig. 2.

INVENTORS
FRANKLIN G. FISHER
LUTHER LEWIS BOLLINGER, SR.
BY 
ATTORNEYS

Feb. 4, 1969

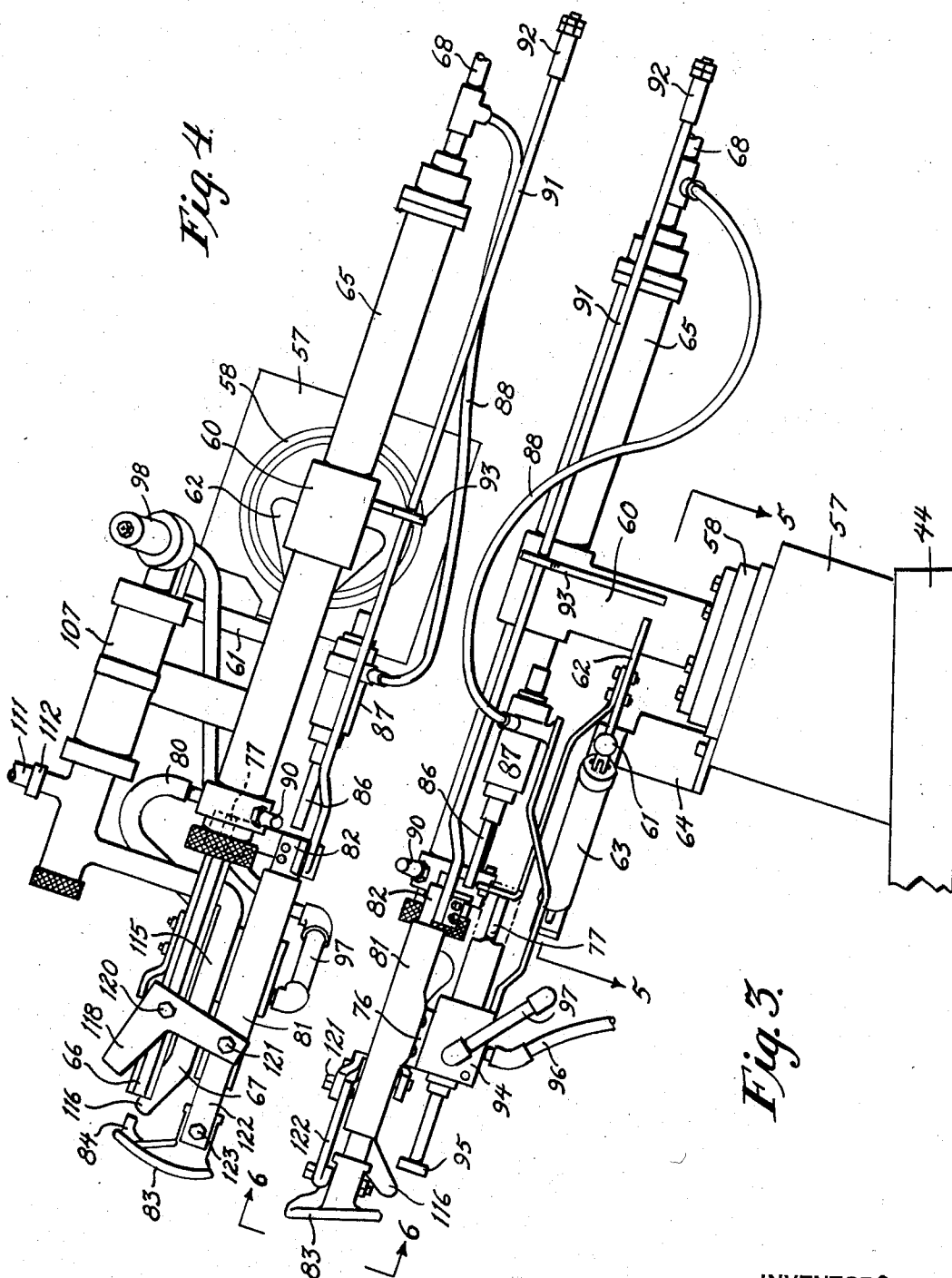
F. G. FISHER ETAL

3,425,513

JOURNAL BOX LUBRICATOR FOR RAILWAY CARS

Filed April 14, 1967

Sheet 2 of 6



INVENTORS
FRANKLIN G. FISHER
LUTHER LEWIS BOLLINGER, SR.
BY
[Signature]
ATTORNEYS

Feb. 4, 1969

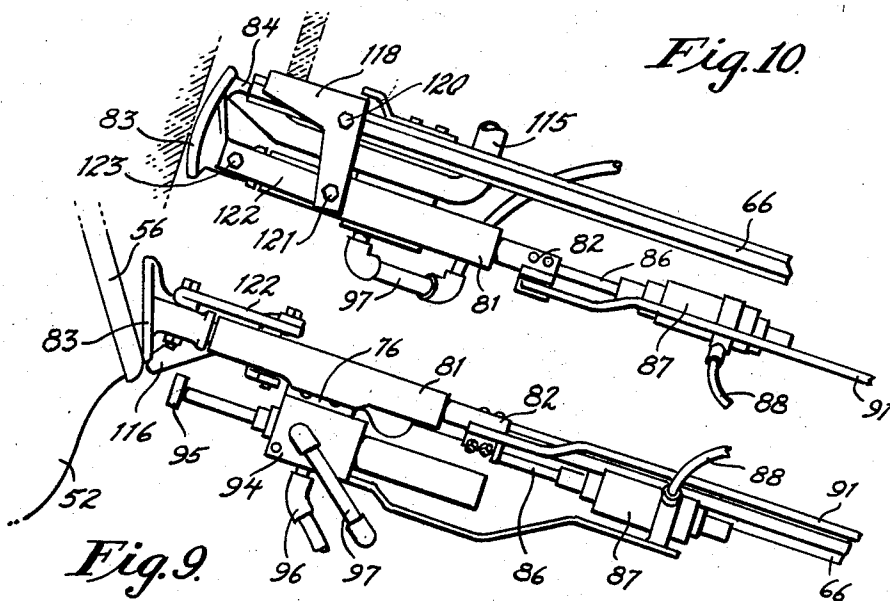
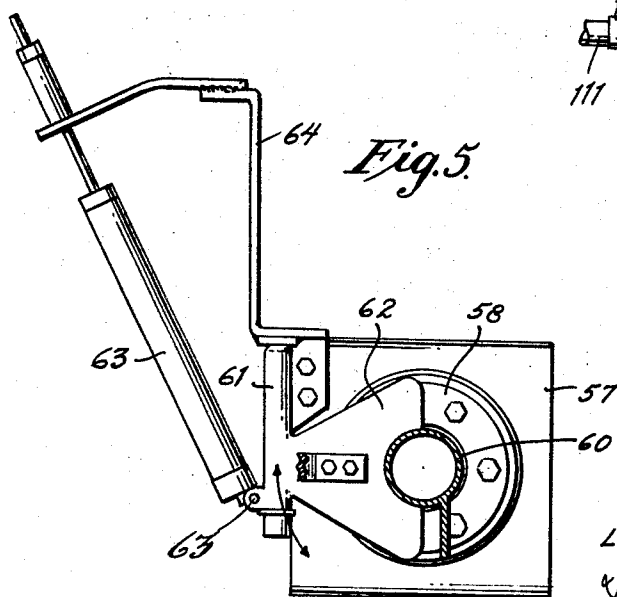
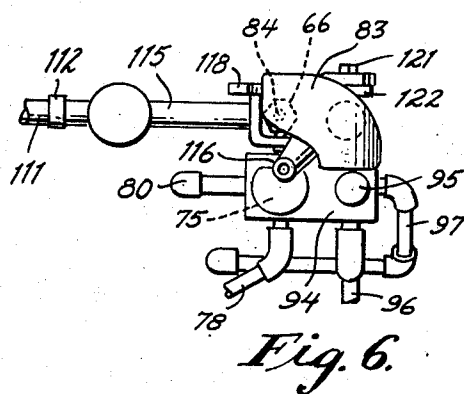
F. G. FISHER ET AL

3,425,513

JOURNAL BOX LUBRICATOR FOR RAILWAY CARS

Filed April 14, 1967

Sheet 3 of 6



INVENTORS
FRANKLIN G. FISHER
LUTHER LEWIS BOLLINGER, SR.
BY
[Signature]
ATTORNEYS

Feb. 4, 1969

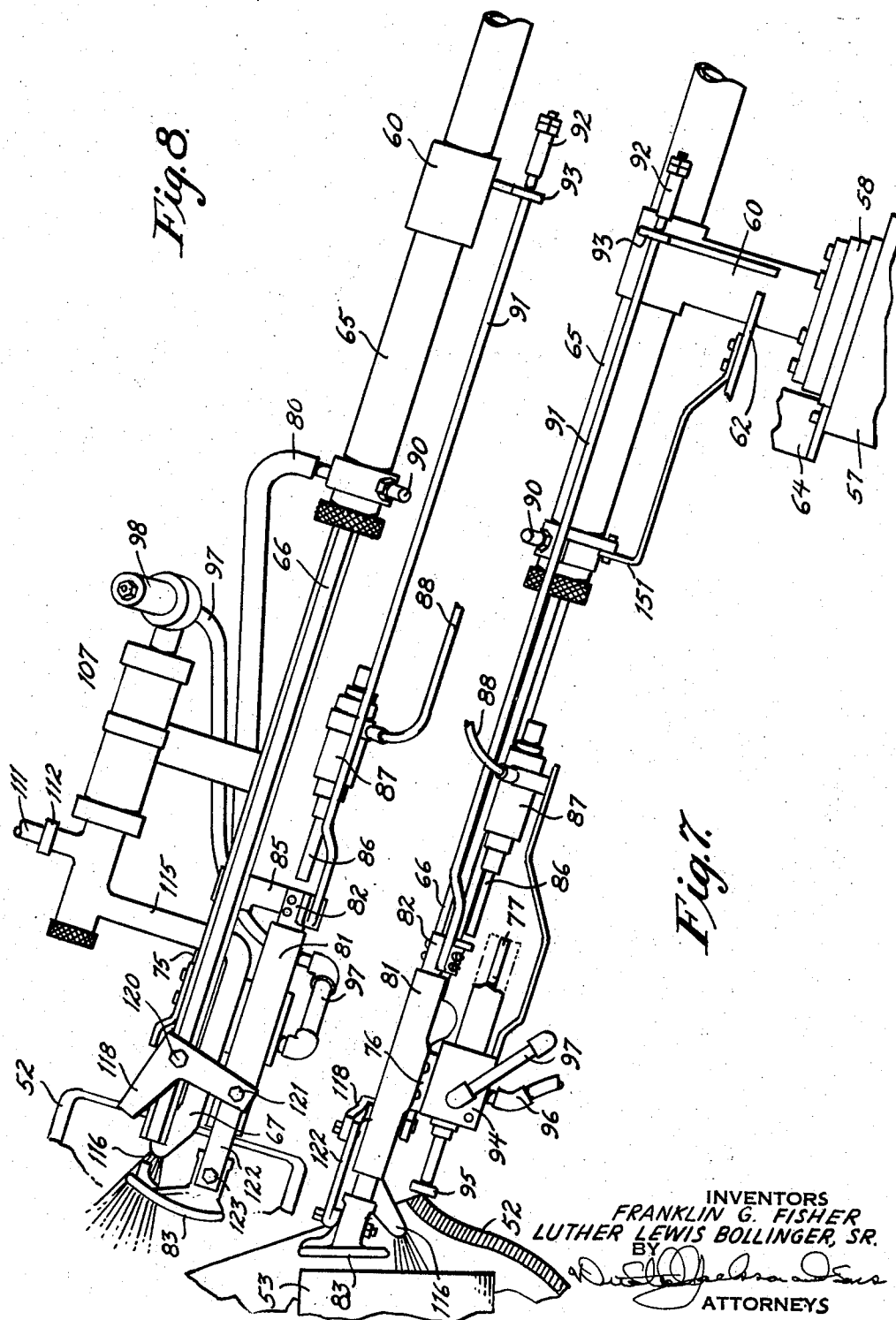
F. G. FISHER ET AL

3,425,513

JOURNAL BOX LUBRICATOR FOR RAILWAY CARS

Filed April 14, 1967

Sheet 4 of 6



Feb. 4, 1969

F. G. FISHER ETAL

3,425,513

JOURNAL BOX LUBRICATOR FOR RAILWAY CARS

Filed April 14, 1967

Sheet 5 of 6

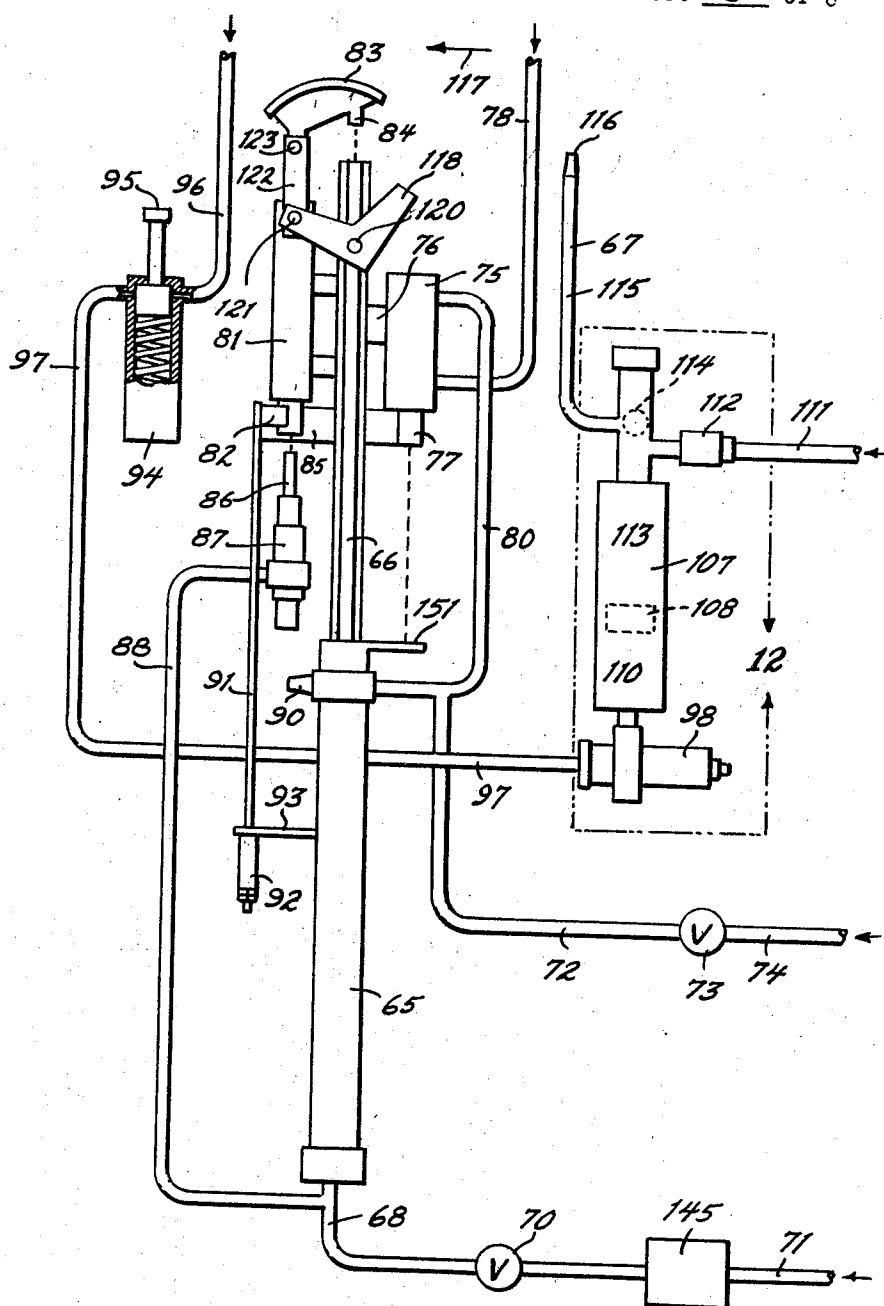


Fig. 11.

INVENTORS
FRANKLIN G. FISHER
LUTHER LEWIS BOLLINGER, SR.
BY
[Signature]
ATTORNEYS

Feb. 4, 1969

F. G. FISHER ETAL

3,425,513

JOURNAL BOX LUBRICATOR FOR RAILWAY CARS

Filed April 14, 1967

Sheet 6 of 6

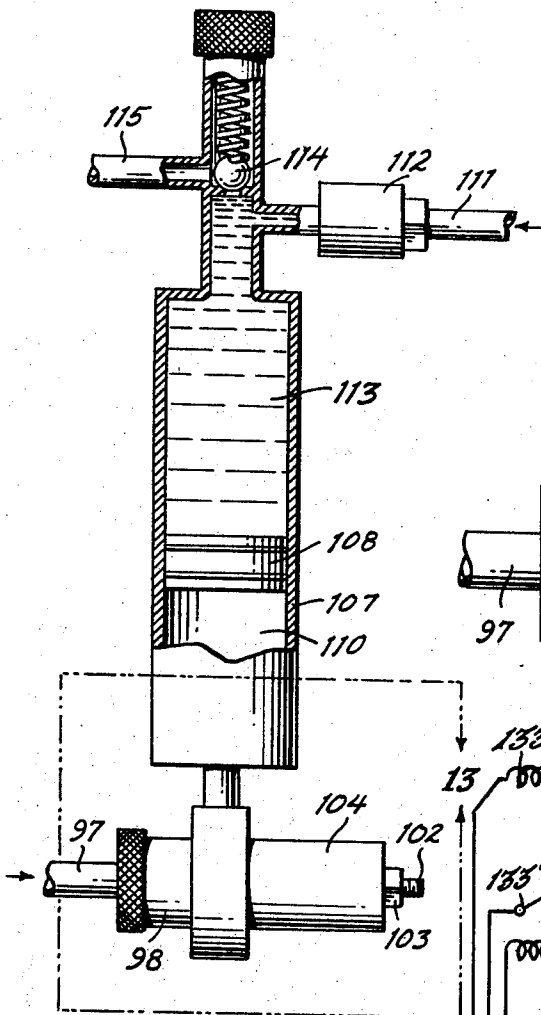


Fig. 12.

Fig. 13.

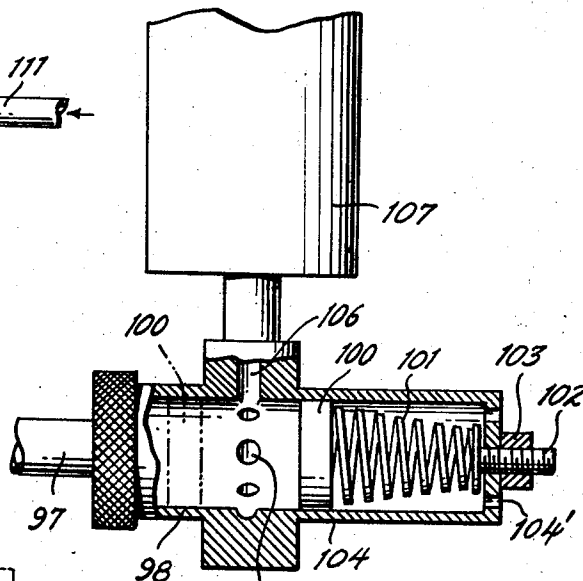
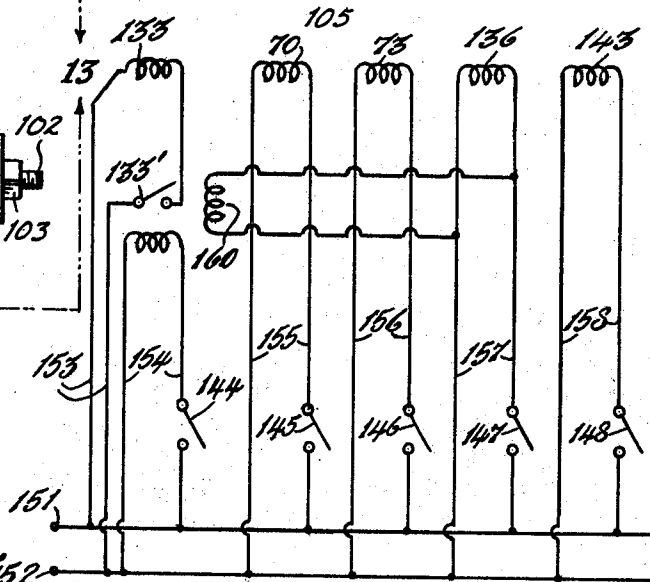


Fig. 14

INVENTORS
FRANKLIN G. FISHER
LUTHER LEWIS BOLLINGER, SR.

BY *[Signature]*
ATTORNEYS

1

2

3,425,513

JOURNAL BOX LUBRICATOR FOR RAILWAY CARS
Franklin G. Fisher and Luther Lewis Bollinger, Sr., Reading, Pa., assignors to Reading Company, Philadelphia, Pa., a corporation of Pennsylvania

Continuation-in-part of application Ser. No. 385,882, July 29, 1964. This application Apr. 14, 1967, Ser. No. 630,868

U.S. Cl. 184-2

12 Claims

Int. Cl. F16n 29/02, 7/38, 13/18

ABSTRACT OF THE DISCLOSURE

A lubricator which is capable of entering and depositing lubrication in an open journal box, but which will retract without discharging lubricant in case it encounters the closed cover of a journal box or encounters a roller bearing. In case the lubricator head moves laterally with respect to the journal box so that a safety lever mounted on the lubricator head contacts the journal box, the lubricator head also will retract by operating retracting mechanism. In case the lubricator head does not encounter a journal box, it will retract.

Description of the invention

The present application is a continuation-in-part of our copending application, Ser. No. 385,882, filed July 29, 1964 for Journal Box for Lubrication for Railway Cars now abandoned.

The present invention relates to an automatic railway car journal box oiler.

A purpose of the invention is to facilitate and simplify the lubrication of railroad car journal boxes by accomplishing this automatically.

A further purpose is to avoid the possibility of human error in lubricating railway car journal boxes.

A further purpose is to provide a railroad journal box lubricator which will prevent the discharge of lubricant in case a closed journal box or a roller bearing journal is encountered.

A further purpose is to prevent unintended discharge of lubricant at the point of lubrication by making the control of the lubrication operation by contact of the lubrication device with the journal box, providing a feeler which will prevent the lubrication control from contacting the journal box if the journal box is closed or if a roller bearing journal is present.

A further purpose is to prevent damage to the lubricator by motion of the car against the lubricator, by permitting retractive actuation by engagement of the journal box with the side of the lubricator and also by permitting resilient pivoting of the lubricator in the direction in which the car is moving.

A further purpose is to provide for retraction in case no car is present when the lubricator is projected forward.

In the drawings we have chosen to illustrate one only of the numerous embodiments in which the invention may appear, selecting the forms shown from the standpoints of convenience in illustration, satisfactory operation and clear demonstration of the principles involved.

FIGURE 1 is a front elevation of a railway car approaching the lubricators on the track, showing the lubricators of the invention in side elevation. The various rails are sectioned transversely, one of the journal boxes is broken away to show the axle, and the superstructure of the car has been eliminated.

FIGURE 2 is an enlarged fragmentary section of FIGURE 1 on the line 2-2.

FIGURE 3 is an enlarged front elevation of a lubricator according to the invention in retracted position.

FIGURE 4 is a top plan view of the lubricator of FIGURE 3, taken transverse to the axis of the lubricator.

FIGURE 5 is a section on the line 5-5 of FIGURE 3.

FIGURE 6 is a front view of the lubricator of the invention taken on the line 6-6 of FIGURE 3.

FIGURE 7 is a front elevation of the lubricator of the invention in forward position actually depositing lubrication in a journal box whose lid is open, the journal box being broken away.

FIGURE 8 is a top plan view of FIGURE 7, the view being taken transverse to the axis of the lubricator.

FIGURE 9 is a fragmentary front elevation of the lubricator of the invention in forward position having encountered an obstruction, in this case the closed lid of a journal box.

FIGURE 10 is a top plan view of the device of FIGURE 9, the view being taken transverse to the axis, and the journal box being shown in phantom.

FIGURE 11 is a diagrammatic view showing particularly the hydraulic layout and the feeler mechanism.

FIGURE 12 is an enlarged elevation of a portion of FIGURE 11 as indicated, partly in axial section.

FIGURE 13 is an enlarged elevation of a portion of FIGURE 12 as indicated, partly in section through the axis of the valve.

FIGURE 14 is an electric circuit diagram of the device of the invention.

In the prior art devices have been developed for lubricating railroad car journal boxes.

Some of these devices require manual discrimination so that they will not discharge lubricant when a closed journal box lid or roller bearing journal is encountered. Some of these other devices required that the train move very slowly in order that the device can operate and one of the advantages of the present device is that it can operate without untoward effect when the train is moving at much higher speed and with safety to the mechanism and to the train.

Some of the other devices have been extremely complicated and likely to require servicing.

Some of the other devices were entirely track controlled for oiling and had to be manually operated if all boxes were not conventional journal boxes with the lids open.

The present device eliminates prior art restrictions on the speed of operation of the train.

The present device also avoids the necessity for manual discrimination as to whether the bearing is a standard railway journal bearing or a roller bearing and whether the lid is open or not.

The present device greatly simplifies the mechanism and makes it more foolproof.

Positioned at the side of the track on which the cars will move in a direction from right to left in FIGURE 2, and extending longitudinally with respect to the track, are three rails 40, 41 and 42 (FIGURES 1 and 2) mounted at the ends on suitable supporting structure 43. A suitable carriage 44 is mounted to roll along the rails suitably on top and bottom rollers 45 mounted on suitable axles 46 which are supported on the carriage at one end by plates 47 interconnected by suitable attachments 48 and mounted at the other end by a yoke 50 secured to the carriage 44. The nearest railroad rail is shown at 51. On the carriage there is a base 57 at a suitable point conveniently located with respect to a journal box 52 of a car having an axle 53, a car wheel 54, a journal box opening 55, and a lid 56.

Mounted on the top of the base 57, and suitably at a convenient angle to gain access to the journal box opening 55, is provided a trunnion bearing 58 which has freedom along a generally vertical but slightly inclined axis. The trunnion bearing pivotally mounts a stub shaft 60. The stub

shaft is aligned in its preferred position by a stop 61 on a stop bracket 62 (FIGURE 5). The stop bracket is resiliently urged towards one limiting position with a stop in proper engagement by a spring device, suitably a door-check, 63, which has its plunger mounted on a fixed bracket 64 supported on the base, the bracket 64 also providing the engaging surface with which the stop makes contact when it returns to aligned position. The doorcheck cylinder is pivoted at 63' on the stop 61.

Mounted on the stub shaft 60 and extending at a generally horizontal but gradually upward sloping angle convenient to engage the journal box opening, is a double acting suitably pneumatic cylinder 65 which has a piston and ram combination 66 which on the outer end of the ram supports a lubricating head 67 for moving into forward and retracting position.

At the forward actuating end of the cylinder 65 is provided a fluid piping connection 68 (FIGURES 4 and 11) opened by a valve 70 to be described which is connected to a source of fluid (suitably air) under pressure by a pipe 71. Valve 70 is of the well known character which when not energized to open and introduce fluid pressure to the end of cylinder 65 which advances the piston and ram, connects this end of the cylinder to atmosphere and thus permits retraction by energizing and opening of retraction valve 73 even though exhaust valve 87 is not open to atmosphere. Accordingly, exhaust valve 87 operates when retraction is caused by the feeler or the safety lever, whereas valve 70 when deenergized permits retraction by allowing the forward propulsion end of the cylinder to exhaust, it being understood of course that the fluid pressure for retraction will be obtained either from valve 75 or valve 73.

At the retracting end of the cylinder 65 there is a fluid (suitably air) pipe connection 72 controlled by a valve 73 to be described, the valve being connected to a source of fluid (suitably air) pressure 74.

On the lubricator head and projected forward with it is a valve 75 (FIGURES 8 and 11) suitably supported by bracket 76 and having a stem 77 which when moved downward opens. The valve 75 has a connection 78 to a source of fluid (suitably air) under pressure and also a connection 80 running to the end of the cylinder 65 which will retract the cylinder.

The lubricator head mounts a sliding guide 81 (FIGURES 3, 7, 8, 9, 10 and 11) which mounts a feeler plunger 82 which is movable in the direction of motion of the ram 66 and which has a feeler projection 83 at the forward end which is adapted to engage the lid of a closed journal box or the end of a roller bearing journal and assure that retraction will take place without any lubricating action in that case. The feeler projection 83 suitably has an abutment 84 (FIGURES 4, 10 and 11) which engages the end of the ram in rearward relative position of the feeler.

The feeler plunger 82 carries a bracket 85 (FIGURES 8 and 11) which is fastened to the valve stem 77 of the valve 75. The feeler plunger 82 (FIGURES 3, 4, 8, 9, 10 and 11) in rearward position also engages the operating plunger 86 of an exhaust valve 87 connected by a pipe connection 88 to the end of the cylinder 65 for forward projection of the ram and adapted to connect the forward projecting end of the cylinder to atmosphere when the cylinder 65 is retracting. Plunger 86 is spring based toward closing valve 87.

At the retracting end of the cylinder 65 a spring relief valve 90 is provided to eliminate air when the ram is moving forward and also to provide a cushioning or shock absorber effect.

Rigidly mounted on the feeler plunger 82 is an extension 91 which has at its rearward end an enlarged abutment 92 which extends through an opening in a bracket 93 mounted on the cylinder 65 so that if the head is projected forward and does not encounter any opposition as by engagement of any part of a journal box, it will retract because the head tends to continue forward while the

feeler projection 83 is stopped by engagement of the enlarged rear end 92 on the walls of the bracket 93, thus starting the retracting cycle.

When the lubricating head enters an open journal box in normal operation of the device, a lubrication control valve 94 (FIGURES 3, 7, 9 and 11) which is spring biased toward closed position, is opened by its projecting plunger 95 engaging suitably on the outside of the journal box just below the opening. Valve 94 has a piping connection 96 suitably to a source of fluid such as air and a connection 97 to a valve 98 which is shown in detail in FIGURE 13 and which has a piston 100 spring biased toward one end by a helical compression spring 101, there being a screw abutment 102 and a nut 103 for adjusting spring pressure. The piston 100 is normally at the extreme left end in the cylinder 104, but can be displaced toward the right end, in which case it permits air from the pipe 97 to flow through ports 105 into connection 106 to the propulsion end of oil lubricating cylinder 107. The cylinder 107 (FIGURES 11 and 12) has a floating piston 108 which prevents the possibility that air will mix with the oil. The air is always at the end 110 of the cylinder 107.

Oil for lubrication comes under pressure through a pipe 111 and a check valve 112 (opening toward the lubrication cylinder 107 and preventing backflow), to enter the cylinder 107 and force the floating piston in the direction to permit filling the end 113 of the cylinder with oil.

When discharge is to take place it occurs through spring biased check valve 114 (opening toward the oil spray-head), and then through pipe 115 to oil sprayhead 116.

The railway car moving in the direction of the arrow 117 may cause the journal box to engage bellcrank safety lever 118 (FIGURES 4, 8, 10 and 11) pivoted at 120 on the lubrication head and pivotally connecting at the opposite end at 121 with link 122 which pivotally connects at 123 with the feeler projection 83 so that the main ram 66 will be energized for retraction if this otherwise does not take place. At the same time the entire device may pivot on trunnion bearing 58 against the action of the spring in the doorcheck device 63 as previously described.

Positioned on a suitable lever 124 pivotally mounted on the carriage at 125 (FIGURES 1 and 2) is a roller 126 which engages suitably the tread of the car wheel 54 when it is in correct position. The roller 126 is conveniently erected by a ram 127 pivoted to the lever 124 at 128, operating in a fluid cylinder 130 which is double acting and which is pivotally mounted at 131 on the carriage 44. The cylinder 130 has at the end operative to erect the roller 126 a suitably flexible connection 132 which is controlled conveniently by a solenoid valve 133 to be described which receives fluid (suitably air) under pressure through a pipe 134. At the end to retract the roller 126 there is a suitably flexible fluid connection 135 controlled by a suitably solenoid operated valve 136 to be described and which receives fluid (suitably air) under pressure through a pipe 137.

A cylinder 138 (FIGURE 2) is suitably rigidly mounted and has a ram 140 pivotally connected at the carriage at 141 for the purpose of retracting the carriage and there is a pipe connection 142 to the end of the cylinder 138 for retraction, controlled by a valve 143, suitably a solenoid valve, to be described. The travel of the piston and the cylinder determines the range of movement in retracting the carriage. Suitably provided along the rail for engagement by the wheel is a positioning track electric switch 144 whose function is to open the solenoid valve 133 to erect the roller 126. Positioned longitudinally along the range of carriage movement is switch 145 for positioning the oiling head into the journal box if the lid is open, a switch 146 for return of the lubrication head, a switch 147 for releasing the roller 126 from contact with the car wheel and a switch 148 for causing return movement of the carriage to its initial position as later

to be described. These switches are appropriately energized by switch operators **150** and **150'**.

The electric circuit of **FIGURE 14** shows electric leads **151** and **152** from a suitable source of electric power, conveniently 60 cycle alternating current at commercial frequency, to which are connected a plurality of circuit branches **153** to **158**, inclusive.

Circuit branch **154** includes the main coil of a latch relay **133'** and switch **144**. When latch relay **133'** is energized it closes a switch in circuit branch **153** in series with the solenoid coil of solenoid valve **133**.

circuit branch **155** includes switch **145** and the solenoid valve **70**.

Circuit branch **155** includes switch **145** and the solenoid coil of solenoid valve **73**.

Circuit branch **157** includes switch **147** which is in series with two parallel circuit branches, one of which includes the solenoid coil of solenoid valve **136** and the other of which includes unlatching coil **160** of latch relay **133'**.

Circuit branch **158** includes switch **148** and the solenoid coil of solenoid valve **143**.

In operation, starting now with the carriage retracted and the lubrication head also retracted and the oil cylinder full of oil, all valves set for forward motion of the railway car, and a railway car or a succession of cars approaching suitably from the right in **FIGURE 2**, car wheels **54** on both sides of the track encounter switches **144** of lubricators on the two sides. For the purpose of simplicity, the operation of the device on one side of the track only will be described, it being understood that on the other side of the track an opposite counterpart action is taking place.

Switch **144** closes the circuit to energize solenoid valve **133** through latch relay **133'**. This will energize solenoid valve **133** (**FIGURE 2**) to admit air to the end of cylinder **130** to cause roller **126** to erect. Solenoid valve **136** will be spring biased to a position at which pressure is cut off and connection is made to atmosphere from the opposite end of cylinder **130**.

Car wheel **54** now encounters roller **126** and begins to push the carriage **44** in the direction of motion of the railway car so that switch operator **150** engages and closes switch **145**, which opens solenoid valve **70** (**FIGURE 11**) to admit air to the forward projecting end of ram **66** in cylinder **65** and cause the lubrication head to project forward.

It will first be assumed that the lubrication head encounters an open journal box ready to receive lubrication.

As the lubrication head moves forward, the feeler projection **83** enters the journal box without encountering any obstruction, but the operating plunger **95** of valve **94** contacts the outer lower wall of the journal box, causing valve **94** to open and admitting air to valve **98**. This pushes the piston **100** in valve **98** against the action of spring **101** and causes air to enter port **106** in the air end **110** of lubrication cylinder **107**.

The air pressure raises the floating piston **108** and since oil is prevented by check valve **112** from returning to the lubrication source, it is expelled through open check valve **114** and pipe **115** to the spray nozzle **116** (**FIGURES 7, 8 and 11**) where it enters the journal box. A suitable lubricant charge is often considered to be about 4 ounces depending on operating conditions and weather conditions.

As the carriage moves slightly forward, the injection of lubrication now being complete, switch operator **150'** (**FIGURE 2**) contacts and closes switch **146** which energizes solenoid valve **73** (**FIGURE 11**) to admit air to the retracting end of cylinder **65** and cause retraction of the lubricating head. As soon as the lubricating head begins retraction, valve plunger **95** closes under the action of its spring, closing valve **94** and cutting off air from the air end **110** of lubrication cylinder **107** (**FIGURE**

12). The piston **100** (**FIGURE 13**) then moves to the opposite side of cylinder **104** under the action of spring **101** and connects the end **110** of the lubrication cylinder to atmosphere through ports **104'**. Since oil under pressure is available in lubrication line **111**, the oil flows in through check valve **112** (**FIGURE 12**) and replenishes lubrication cylinder space **113**, moving the floating piston **108** down to its lower limited position. If anything should happen to cause switch **146** to fail to operate promptly, the side of the interior of the journal box on the moving car will push safety lever **118** (**FIGURES 8 and 11**) in the direction shown by arrow **117** (**FIGURE 11**), causing the retraction of feeler plunger **82** by the action of link **122**, and feeler plunger **82** pulls on stem **77** of valve **75** to open the valve and admit fluid (suitably air) to the retracting end of cylinder **65** to retract the lubrication head, and at the same time the feeler plunger engages plunger **86** of valve **87** to open the valve and connect the opposite end of cylinder **65** to atmosphere.

Since feeler plunger **82** has moved to the rearward position in respect to the main ram, stop **151** (**FIGURE 7**) engages the feeler plunger **82** in its rearward position and pushes it to the forward position relative to the lubrication head for beginning the next cycle.

Now switch operator **150'** on further motion closes switch **147** (**FIGURE 2**) which energizes solenoid valve **136** to close off atmosphere from the retracting end of cylinder **130**, admit fluid pressure to this end, and energize the latch release of relay **133'** to allow the solenoid of valve **133** to deenergize and valve **133** to spring retract, cutting off fluid pressure from the forward end of cylinder **130** and admitting atmosphere to this end of cylinder **130**. Roller **126** is thus retracted. The carriage **44** is, however, moving forward on the basis of the impulse that it received when the car wheel first engaged the roller **126** and this causes slight further motion so that switch operator **150'** engages and closes switch **148** to open solenoid valve **143** (**FIGURE 2**) and energize cylinder **138** to retract the entire carriage to initial starting position.

When the feeler projection **83** encounters the cover of a closed journal box or encounters the outside of the housing of a roller bearing which does not require lubrication by this method, forward motion of the lubrication head causes the feeler plunger **82** to move relatively rearwardly with respect to the lubrication head, opening retraction valve **75** and also opening exhaust valve **87** for the opposite end of the main cylinder **65** so that retraction takes place, and at the end of retraction the feeler plunger **82** is pushed relatively forward again in position to start the next cycle by the engagement of the abutment **151** as earlier described.

In case through some inadvertence the device is projected forward and no car journal is adjacent, the lubrication head tends to overtravel until the enlarged end **92** on the prolongation **91** of the feeler plunger encounters bracket **93**, in which case the feeler plunger ceases to move forward while the lubrication assembly is moving forward and the net effect is to open retraction valve **75** and also to open exhaust valve **87** setting in motion the retraction action as previously explained.

In view of our invention and disclosure, variations and modifications to meet individual whim or particular need will doubtless become evident to others skilled in the art, to obtain all or part of the benefits of our invention without copying the structure shown, and we, therefore, claim all such insofar as they fall within the reasonable spirit and scope of our claims.

Having thus described our invention what we claim as new and desire to secure by Letters Patent is:

1. In a railroad car journal box lubrication device, a lubricator head, means for projecting the lubricator head forward into operative engagement with the journal box, feeler means mounted on the lubricator head, effective for engagement with a journal box in which lubrication

is not desired, and slidable with respect to the lubricator head in the direction opposite to the forward motion of the lubricator head, means operatively connected with the feeler means for retracting the lubricator head in response to relative rearward motion of the feeler means with respect to the lubricator head in case the feeler means encounters a journal box in which lubrication is not intended, and safety lever means pivotally mounted on the lubricator head, effective upon engagement with the side of a journal box, and operatively connected to the feeler means for deflecting the feeler means relatively rearwardly in case the journal box laterally contacts the lubricator head, thus initiating retraction of the lubricator head.

2. A device of claim 1, in combination with means limiting the forward movement of the feeler means, which when brought into operation causes movement of the feeler means relatively rearwardly with respect to the lubricator head to initiate retraction in case the lubricator head does not encounter a railroad car.

3. A device of claim 1, in combination with means engaging the feeler means when the lubricator head is retracted to push the feeler means relatively forward with respect to the lubricator head.

4. A device of claim 1, in combination with means for pivotally mounting the lubricator head and resiliently biasing the pivotal mounting means to a position transverse to the direction of car motion.

5. In a railroad car journal box lubrication device, a lubricator head, means for projecting the lubricator forward into operative engagement with a journal box, feeler means mounted on the lubricator head, adapted to engage a journal box in which lubrication is not desired to be deposited, and slidable with respect to the lubricator head in the direction opposite to the direction of forward motion of the lubricator head, means operatively connected with the feeler means for retracting the lubricator head in response to relative rearward motion of the feeler means with respect to the lubricator head in case the feeler means encounters an obstruction, and means limiting forward motion of the feeler means with the lubricator head in case the lubricator head does not encounter a car, for thus causing retraction of the lubricator head.

6. A device of claim 5, in combination with means effective on retraction of the lubricator head for pushing the feeler means relatively forward with respect to the lubricator head.

7. In a railroad car journal box lubricating device, a cylinder and ram combination, a lubricator head mounted on the ram, fluid pressure means for operating the cylinder and ram, fluid valve means controlling retraction of the ram, feeler means carried by the ram slidable with respect to the ram in the direction opposite to ram motion, and operatively connected to the fluid valve means to retract the lubrication head in case the feeler means encounters a journal box in which lubrication is not to be deposited, and a safety lever mounted on the lubrication head and interconnected with the feeler means, exposed for contact with the side of a journal box and operative to deflect the feeler means into a position to move the fluid valve means to retract the lubricator head when the safety lever encounters the side of a journal box.

8. A device of claim 7, in combination with means limiting the forward movement of the feeler means operatively engaging the feeler means to move it relatively rearwardly with respect to the lubricator head and

thus operate the fluid valve means to retract the lubricator head in case the lubrication head projects forward and does not encounter a journal box.

9. A device of claim 7, in combination with means for pivotally mounting the cylinder and resiliently biasing it towards a position transverse to the direction of car motion.

10. In a railroad car journal box lubricating device, a cylinder and ram combination, a lubricator head mounted on the ram, fluid pressure means for operating the cylinder and ram, fluid valve means controlling retraction of the ram, feeler means mounted on the lubricator head and slidable with respect to the head in the direction opposite to the motion of the ram, operatively connected to the fluid valve means to retract the lubricator head in case it encounters a journal box in which lubrication is not to be deposited, and means operatively engaging the feeler means to stop its relative forward motion and thus make it move relatively rearwardly with respect to the lubricator head in case the lubricator head projects forward and does not encounter a journal box, said means operating the fluid valve means to retract the lubricator head.

11. In a lubricator device, for a railway car journal box, a lubricator head, a cylinder containing lubricant and connected to the head, fluid means for expelling lubricant from the cylinder, a valve controlling the fluid means for expelling lubricant, having a valve operator exposed beyond the head and adapted to move the valve to expel lubricant when the head advances and the valve operator contacts a portion of the journal box, ram and cylinder means for advancing and retracting the lubricator head, the head being mounted on the ram, fluid means for operating the ram, including valve means for advancing the ram and valve means for retracting the ram, feeler means mounted on the lubricator head and operatively connected to the valve means for retracting the ram, whereby the feeler means will contact a closed journal box or a roller bearing and cause retraction of the lubricator head before the valve means for expelling lubricant can contact a part of the journal box, thus preventing unintended lubricant discharge.

12. A device of claim 11, in combination with a safety lever mounted on the lubricator head and adapted to be engaged by a side of the journal box if the lubricator head advances with respect to the journal box so as to touch the side of the journal box and operatively connected to open the valve for retracting the lubricator head.

References Cited

UNITED STATES PATENTS

2,114,723	4/1938	Paasche	118—2 X
2,164,273	6/1939	Hodson	184—29
2,701,542	2/1955	Tench	118—2
2,785,770	3/1957	LeClair	184—29 X
2,989,971	6/1961	Valentine	137—102
3,205,973	9/1965	Klatchko	184—15 X
3,224,108	12/1965	Flaming	118—2 X

LAVERNE D. GEIGER, *Primary Examiner.*

EDWARD J. EARLS, *Assistant Examiner.*

U.S. Cl. X.R.

184—15, 29