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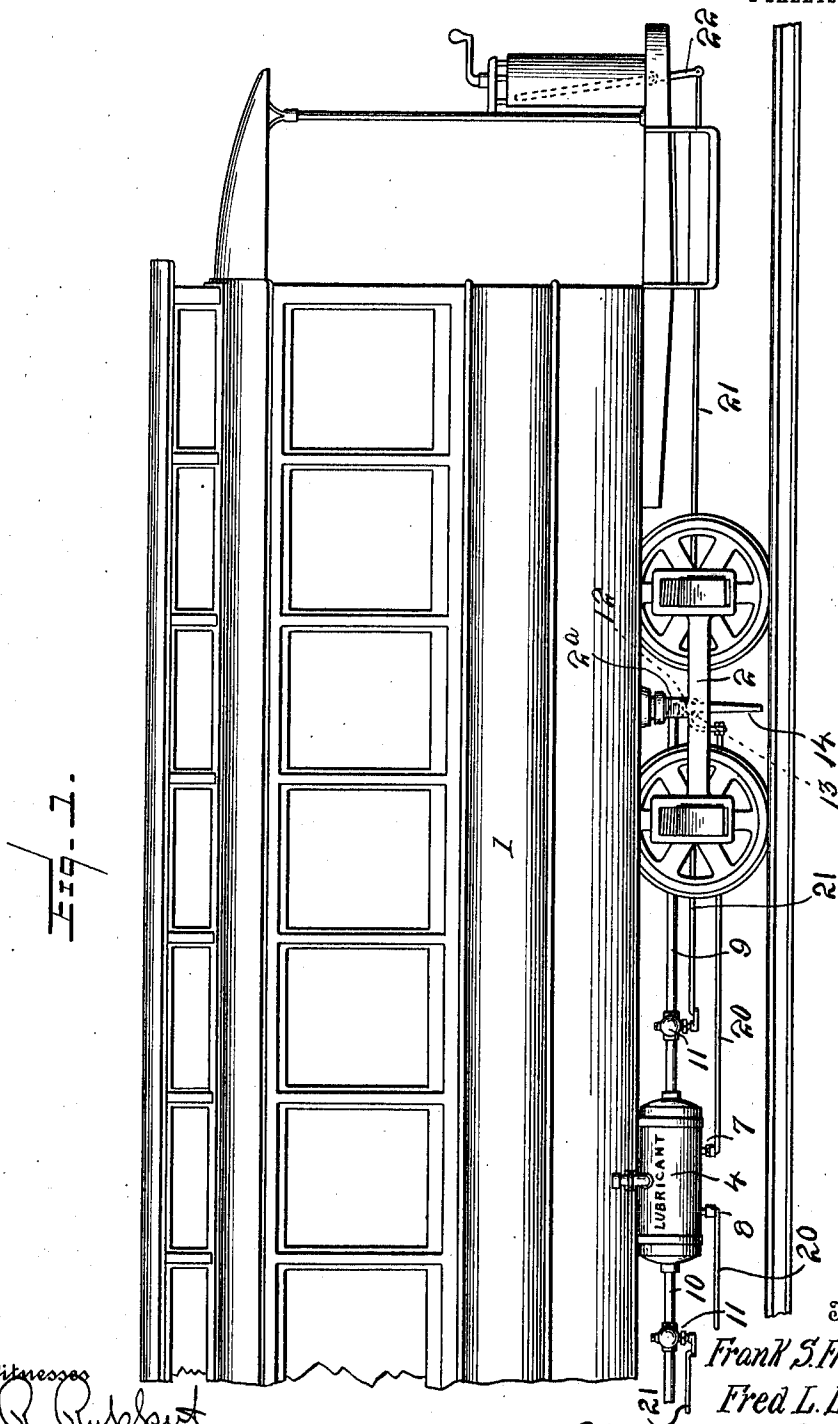
RAIL LUBRICATOR.

APPLICATION FILED APR. 27, 1910.

1,004,006.

Patented Sept. 26, 1911.

2 SHEETS—SHEET 1.



Witnesses
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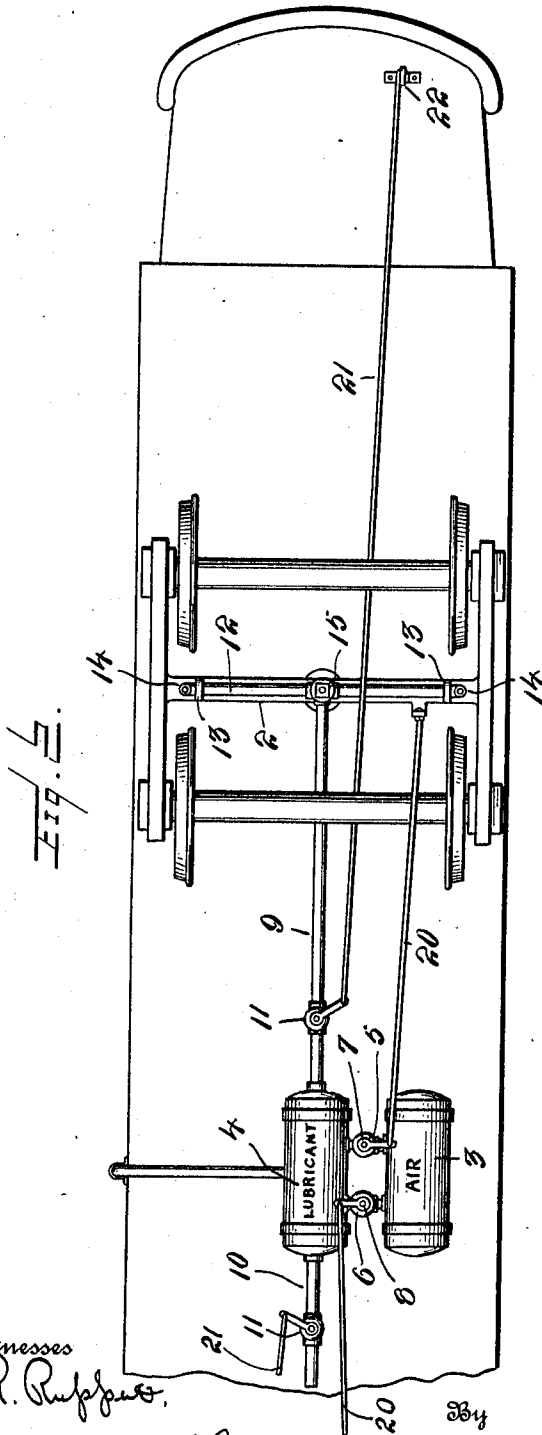
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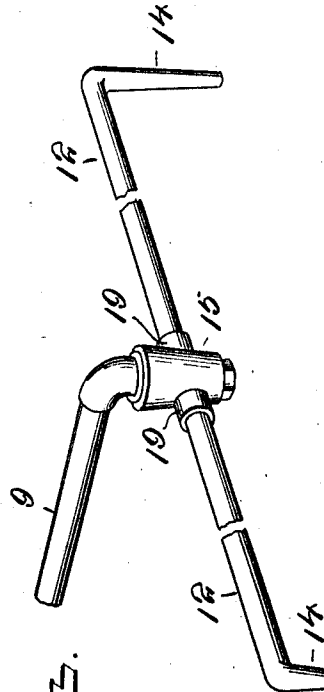
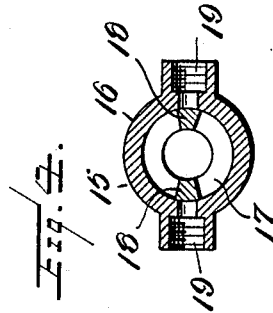
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UNITED STATES PATENT OFFICE.

FRANK S. FREEMAN AND FRED L. DOKE, OF CORSICANA, TEXAS.

RAIL-LUBRICATOR.

1,004,006.

Specification of Letters Patent.

Patented Sept. 26, 1911.

Application filed April 27, 1910. Serial No. 557,892.

To all whom it may concern:

Be it known that we, FRANK S. FREEMAN and FRED L. DOKE, citizens of the United States, residing at Corsicana, in the county of Navarro and State of Texas, have invented new and useful Improvements in Rail-Lubricators, of which the following is a specification.

This invention relates to a lubricating apparatus for use upon street and other cars for lubricating the track when the car rounds a curve, to reduce the friction between the wheel flanges and rails and the objectionable noises arising from the grinding contact between unlubricated surfaces.

The object of the invention is to provide a simple, efficient and inexpensive apparatus of this type which is automatic in action and at the same time under the complete control of the motorman of the car.

The invention consists of the features of construction, combination and arrangement of parts hereinafter fully described and claimed, reference being had to the accompanying drawings, in which:—

Figure 1 is a side elevation of a portion of a car and showing the application of the invention thereto. Fig. 2 is a bottom plan view of the same, showing the parts in normal or cut-off position. Fig. 3 is a perspective view of the supply and feed pipes and the feed valve connected therewith. Fig. 4 is a horizontal section through the feed valve.

Referring to the drawings, 1 designates the body of a street car of any suitable type, and 2 one of the wheeled trucks thereof, which is pivoted for lateral swinging movement in the usual way to permit the wheels to travel freely around curves in the track. Mounted upon the under side of the car body is an air tank or reservoir 3 which may be supplied with compressed air from or form one of the tanks of an air brake system. Also mounted upon the under-side of the car body, adjacent the tank 3, is a tank or reservoir 4 adapted to contain a suitable liquid lubricant. The tank 4 is in communication with the tank 3 through passages 5 and 6, in which are respectively arranged rotary controlling valves 7 and 8.

Leading toward the opposite ends of the car from the opposite ends of the reservoir 4 are lubricant supply pipes 9 and 10, each of which contains a rotary cut-off valve 11. The pipes 9 and 10 respectively extend to the truck 2 at one end of the car and to the

companion truck at the opposite end of the car, a single truck and the associated connections being shown as sufficient to illustrate the application of the invention.

Extending transversely of the truck 2 is a lubricant feed pipe 12 mounted in brackets 13 on the frame of the truck, and provided at its ends with depending nozzles 14 arranged respectively between the wheels at opposite sides of the truck so as to discharge lubricant upon the track rails as the car rounds a curve. At a point intermediate of its length the pipe 12 is provided with an automatic control valve 15. The said valve comprises a casing 16 secured between the sections of the pipe 12, and a rotary plug 17 secured to the adjacent end of the pipe 9, the casing 16 thus being arranged to turn upon the plug and forming therewith a pivotal connection between the pipes 9 and 12. The plug is provided with diametrically opposite portions 18 to control passages 19 formed in the valve casing, which passages communicate respectively with the sections of the pipe 12 leading to the oppositely disposed nozzles 14, the construction being such that when the pipe 12 extends transversely of the car, as when the car is traveling on a straight track, the passages 19 will be closed, while the swinging movement of the truck in rounding a curve will adjust the pipe 12 at an angle to its normal position, thus moving the passages 19 out of registry with the cut-off portions 18 of the plug for the flow of lubricant to the nozzles.

The valves 7 and 8 have their stems provided with crank arms which are connected by rods or links 20 to the frames of the respective trucks, whereby the said valves will be normally held closed when the truck is traveling along a straight portion of the track, and will be moved in one direction or the other to an open position when the truck swings to the right or left in traveling along a curved portion of the track. It will thus be seen that normally the flow of compressed air from the tank 3 to the reservoir 4, and the flow of lubricant from said reservoir 4 to the nozzles 14 will be cut off, but that as soon as either truck swings in rounding a curve the air controlling valves will be opened for the feed of compressed air to the lubricant reservoir and for the feed of lubricant to the nozzles, the compressed air forcing a portion of the lubricant from the reservoir 4 to the nozzles for discharge.

By the construction and arrangement of parts described oil will be successively applied to the rails by lubricating devices at the opposite ends of the car when the latter is traveling around a curve, thus insuring effective and thorough lubrication. Also by this construction and arrangement of devices the rails will be lubricated irrespective of the direction of movement of the car, either end of which may travel forwardly without the loss of efficiency in the lubricating operation, as will be readily understood.

The valve 11 in each pipe 9 and 10 has its stem provided with a crank arm which is coupled by a connecting rod 21 with the lower end of a lever 22 extending upwardly through and pivotally mounted upon a platform at the end of the car adjacent the projecting end of the particular supply pipe; the upper end of the lever being so arranged as to be conveniently manipulated by the motorman, who may thus open and close the cut-off valve as occasion requires to prevent discharge of lubricant when its use is not necessary or desired.

Having thus described the invention what we claim as new is:—

1. The combination of a car having a wheeled truck pivotally mounted, a lubricant feed pipe extending transversely of and mounted for swinging movement with the truck, a lubricant reservoir, a supply pipe extending therefrom to said feed pipe, a valve forming a pivotal connection between

said pipes, said valve being governed by the swinging movement of the truck to admit or cut-off the flow of lubricant from the supply pipe to the feed pipe, automatic means controlled by the swinging movement of the truck for supplying compressed air to the lubricant reservoir, discharge devices carried by the feed pipe, a cut-off valve in the supply pipe, and means for manually operating said valve.

2. The combination of a car having a wheeled truck pivotally mounted, a feed pipe extending transversely of and mounted upon the truck to swing therewith, discharge nozzles carried by the said pipe, a lubricant reservoir, a supply pipe extending therefrom to said feed pipe, a valve forming a pivotal connection between said pipe and automatically controlled by the swinging movement of the feed pipe to cut off or admit lubricant to said pipe; an air reservoir having a valved connection with the lubricant reservoir, a connection between the valve thereof and the truck for automatically opening and closing said valve; a cut-off valve in the supply pipe, and manually operable means for controlling said valve.

In testimony whereof we affix our signatures in presence of two witnesses.

FRANK S. FREEMAN.
FRED L. DOKE.

Witnesses:

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J. MEGARTY.