No. 864,163. PATENTED AUG. 27, 1907.

L. D. GROSCH.

OILING DEVICE.

APPLICATION FILED JUNE 16, 1906.

Fig. 1.

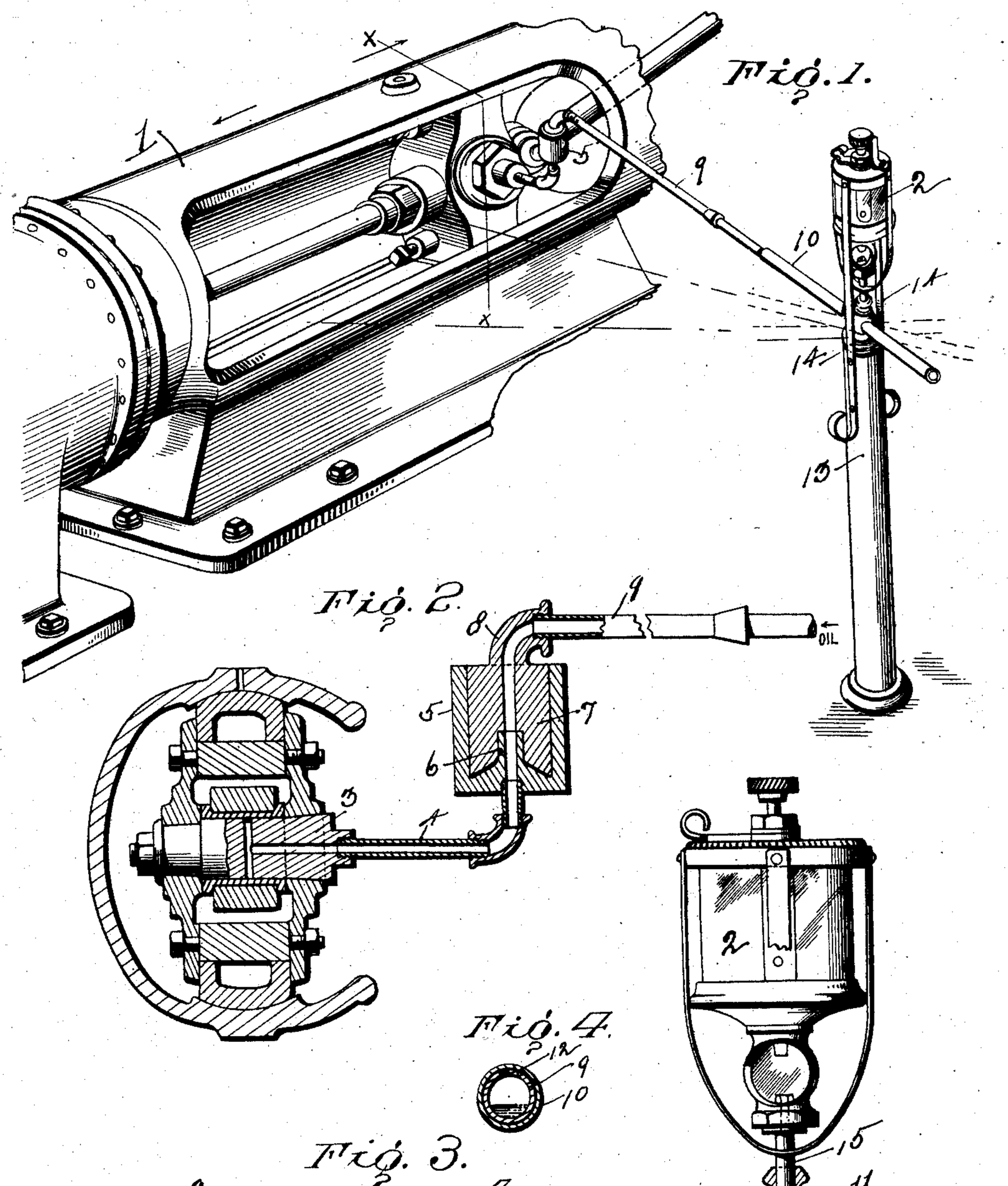
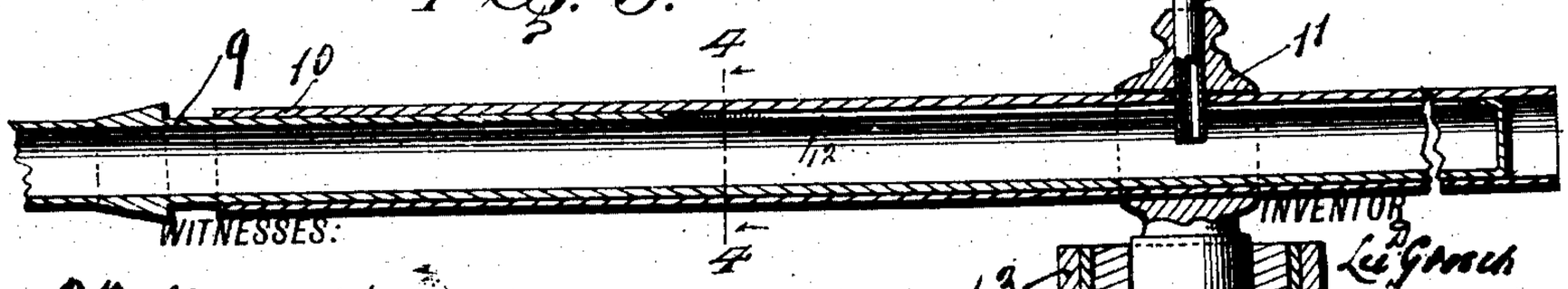


Fig. 2.

Fig. 4.

Fig. 3.



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OILING DEVICE.

No. 864,163.

Specification of Letters Patent. Patented Aug. 27, 1907.

Application filed June 16, 1906. Serial No. 322,113.

To all whom it may concern:

Be it known that I, LEE D. GROSCH, a citizen of the United States, residing at New Orleans, in the parish of Orleans and State of Louisiana, have invented certain new and useful Improvements in Oiling Devices, of which the following is a specification.

The object of my invention is to provide an oiling attachment for moving parts of an engine or other machinery, and is an improvement on the oiling attachments for engines shown in United States Patents No. 502,139 and No. 521,958.

A preferred embodiment of my invention is shown in the accompanying drawings in which

Figure 1 is a view in elevation showing the oiling attachment applied to the cross head of a reciprocating engine. Fig. 2 is a view of a cross section along the line x—x of Fig. 1. Fig. 3 shows the oil cup and its attachment to the oil tube. Fig. 4 is a view of a cross section on the line 4—4 in Fig. 3.

Referring to the drawing, reference character 1 indicates the engine and 2 a sight feed oil cup; as the construction of these parts forms no part of my invention and as the same is well known in the arts a further detailed description of the same is deemed unnecessary except to state that character 3 indicates the wrist pin of the cross head having the end of the pitman connected thereto. This wrist pin is bored to provide oil ducts to the bearing parts and is threaded for attachment thereof to the pipe 4 which sustains the oil joint cup 5. This oil joint cup has a perforate bottom threaded to the tube 4 and upstanding sides providing a circular cavity. The bottom of the cup is coned upwardly in the center and terminates in the circular extension 6 through which extends the perforation in the bottom of the cup. The plug 7 fits accurately within the sides of the oil cup and is bored at its lower end to receive the coned bottom of the cup and its upstanding extension 6. The plug has an upwardly extending neck 8 threaded to receive the oil tube and is perforated with the oil duct which extends through such neck centrally and downwardly of the plug to register with the duct in the extension 6.

It is to be noted that the plug 7 fits accurately within the cup 5, but is permitted to turn therein. The greater portion of the oil flows through the oil ducts to the parts of the engine to be lubricated, but a very small portion escapes beneath the bottom of the plug and serves to lubricate such plug in its turning movement within the cup; any dust or grit which enters the cup is retained in the bottom thereof, the cone of the cup bottom and the extension 6 preventing the entrance of such dust into the oil ducts.

The oil supply tube 9 is attached to the neck 8 of the plug 7. This tube is of a length sufficient to lead from the oil supply cup 2 to the oil joint 5, and is supported to slide within the guard tube 10 carried by a head 11 swiveled in the upper end of the standard which supports the oil supply cup 2. The oil supply tube 9 is closed at its outer end and is slotted in its upper side to provide the elongated opening 12. The guard tube 10 is mounted in the swiveled head 11 and is of a length sufficient to cover the slot 12 in the tube 9. The oil cup 2 is supported on the standard 13 by the arms 14, in such position that its oil feed stem 15 penetrates an orifice in the guard tube 10 and extends into the slot 12 in the oil supply tube 9. The head 11 which supports the guard tube 10 is a plug bored to receive the guard tube also to permit the passage of the stem of the oil cup. This head is swiveled or mounted in the upper end of the standard 13 so as to be capable of a turning movement therein. The standard 13 is of such height that the end of the oil supply tube supported thereby is elevated slightly above the plane of the oil joint cup 5 so that the oil in the tube 9 would flow by gravity to such cup. The flow of oil through the tube 9 is also facilitated by the fact that the oil duct in such tube is bored slightly slantwise to this tube, so that when such tube is horizontal the receiving end of the duct is higher than that portion adjacent the plug 7.

In the movement of the cross head of the engine relative to the stationary oil cup 2 three movements have to be provided for in the connections between such parts. Two of these movements are turning movements which are respectively provided for in the turning movement of the plug 7 within the oil joint cup 5, and the turning movement of the plug 11 within the standard 13. A third movement, a change of linear distance between the cross head and the oil cup, is provided for in the sliding of the oil supply tube within the guard tube 10, and the length of the slot 12 in the oil supply tube 9 is very slightly greater than this change of linear distance. Heretofore in the art, as in the construction shown in the patents referred to, this change in linear distance has been provided for by two tubes which form part of the oil supply duct and which telescope together, such telescoping of the tubes causing a pumping action due to the change in volume of the duct and interfering seriously with the constant flow of oil, changing what would be a constant flow into an intermittent flow, and as a consequence the flow of oil has to be most carefully regulated according to the temperature and pressure of the surrounding air in order to get the feed of the proper amount of oil. In my construction, I have obviated this difficulty and the volume of the oil duct remains constant under all conditions, there is hence no pumping action and the flow of the oil is constant and having been once regulated needs no further attention.

Having thus described my invention, I claim:—

1. In a device for supplying oil to a movable part from a stationary oil supply, an oil reservoir provided with means for feeding oil, an oil supply tube adapted to be given a reciprocating movement and also a pivotal movement, such last movement being at the point of supply of the oil to the tube, a cup arranged to receive the discharge end of the oil supply tube; and a connection from such cup to the moving part to be lubricated said parts being arranged to maintain an oil duct of constant volume between the oil reservoir and the parts to be lubricated.

2. In a device for supplying oil from a stationary oil supply to a moving part, a standard supporting the oil supply, a head pivotally mounted in such standard, an oil supply tube mounted to reciprocate in such head, a cup receiving the delivery end of such tube, and means for supplying oil from such cup to the moving part said parts being arranged to maintain an oil duct of constant volume between the oil reservoir and the parts to be lubricated.

3. In a device for supplying oil to a moving part, an oil reservoir having means for discharging oil, a standard, a head pivotally mounted therein, a guard tube carried by said head, an oil supply tube mounted to slide in said guard tube, a plug having a recessed bottom attached to the oil supply tube, a cup surrounding said plug and provided with an upwardly coned bottom and an extension to enter the recess in said plug, and a connection from such cup to the moving part to be lubricated.

4. In a device for supplying lubricant to a moving part, an oil supply cup having an oil discharge stem, a standard, a head pivotally mounted in such standard, a guard tube carried by such head, an oil supply tube slidably mounted in said guard tube and provided with a slot to receive the discharge stem of the oil supply cup, a plug having an angle bore and a recessed bottom secured to the end of the oil supply tube, a cup supported by the moving part and arranged to supply oil thereto, said cup receiving the plug on the oil supply tube and having a coned extension to fit within the recess in the bottom of said plug.

5. In a device for supplying lubricant to a moving part, an oil supply cup having an oil discharge stem, a standard, a head pivotally mounted in such standard, a guard tube carried by such head, an oil supply tube horizontally mounted in said guard tube and slidable therein, provided with a slot to receive the stem of the oil supply cup, a plug having an angle bore and a recessed bottom and secured to the end of said oil supply tube, and a cup supported by the moving part, and arranged to supply oil thereto, and having a coned extension to fit within the recess, in the bottom of said plug.

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

LEE D. GROSCH.

Witnesses:
WM. T. LUCK,
GUS. J. RICAU.