

C. BARNES.

OIL PUMP.

APPLICATION FILED OCT. 28, 1908. RENEWED FEB. 6, 1911.

991,931.

Patented May 9, 1911.

2 SHEETS—SHEET 1.

Fig. 1.

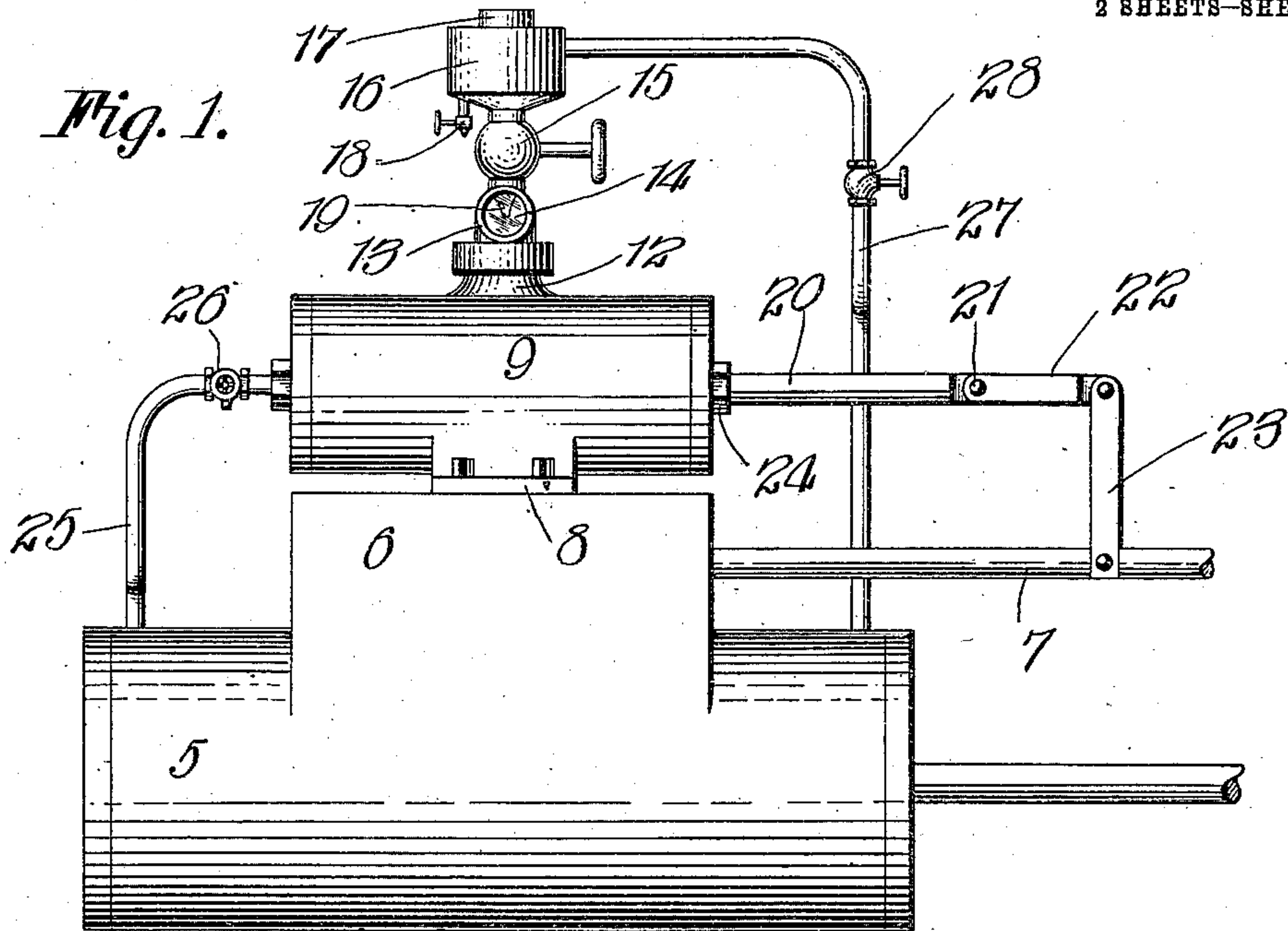
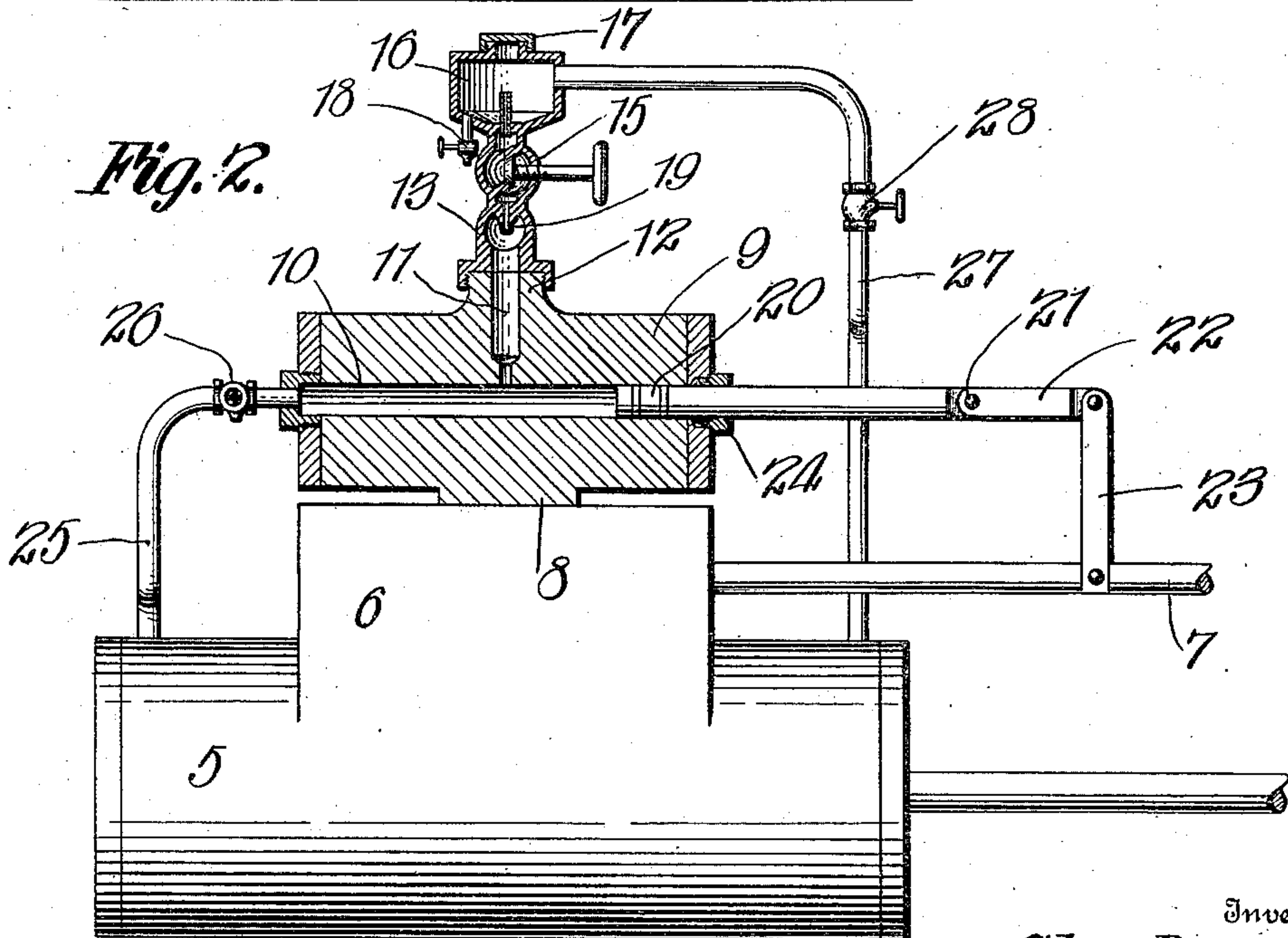


Fig. 2.



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2 SHEETS—SHEET 2.

Fig. 4.

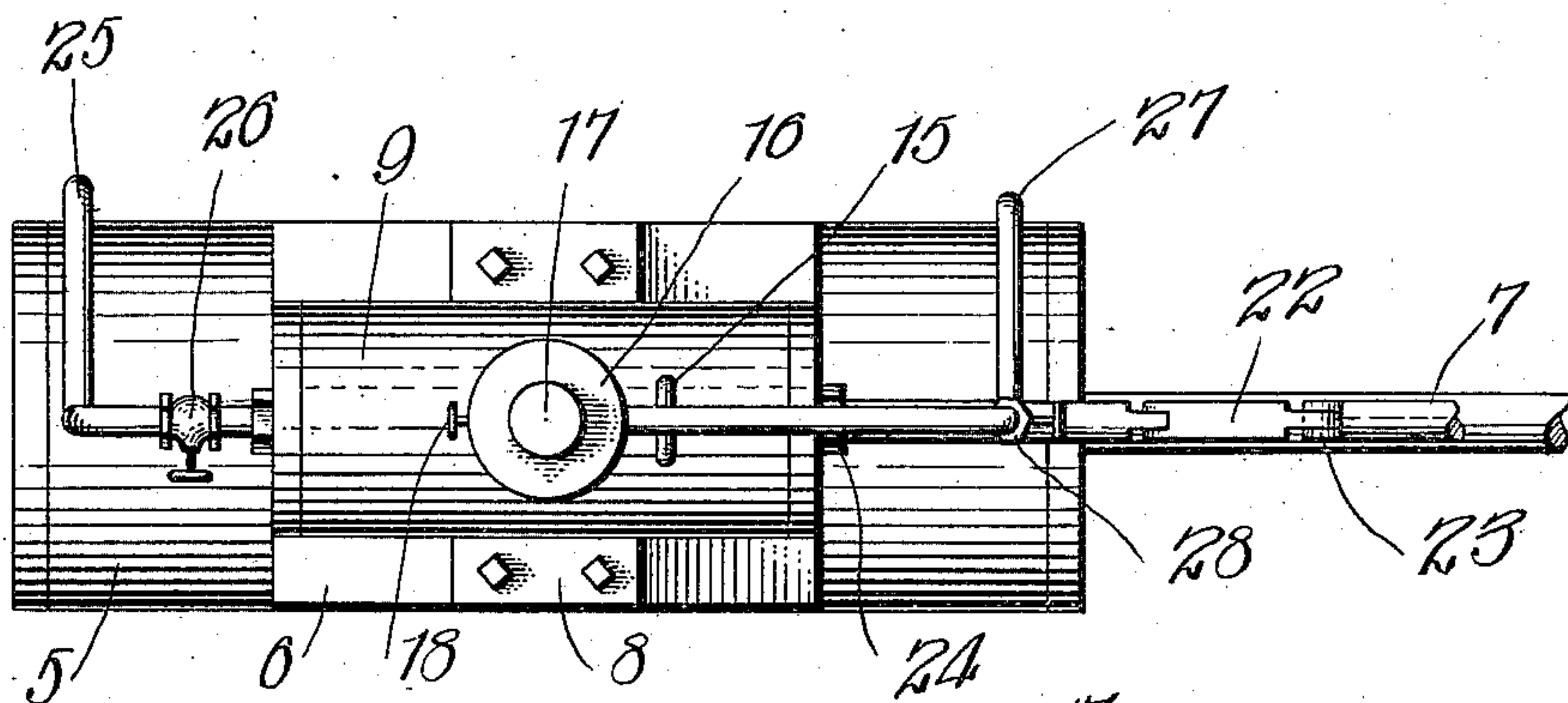
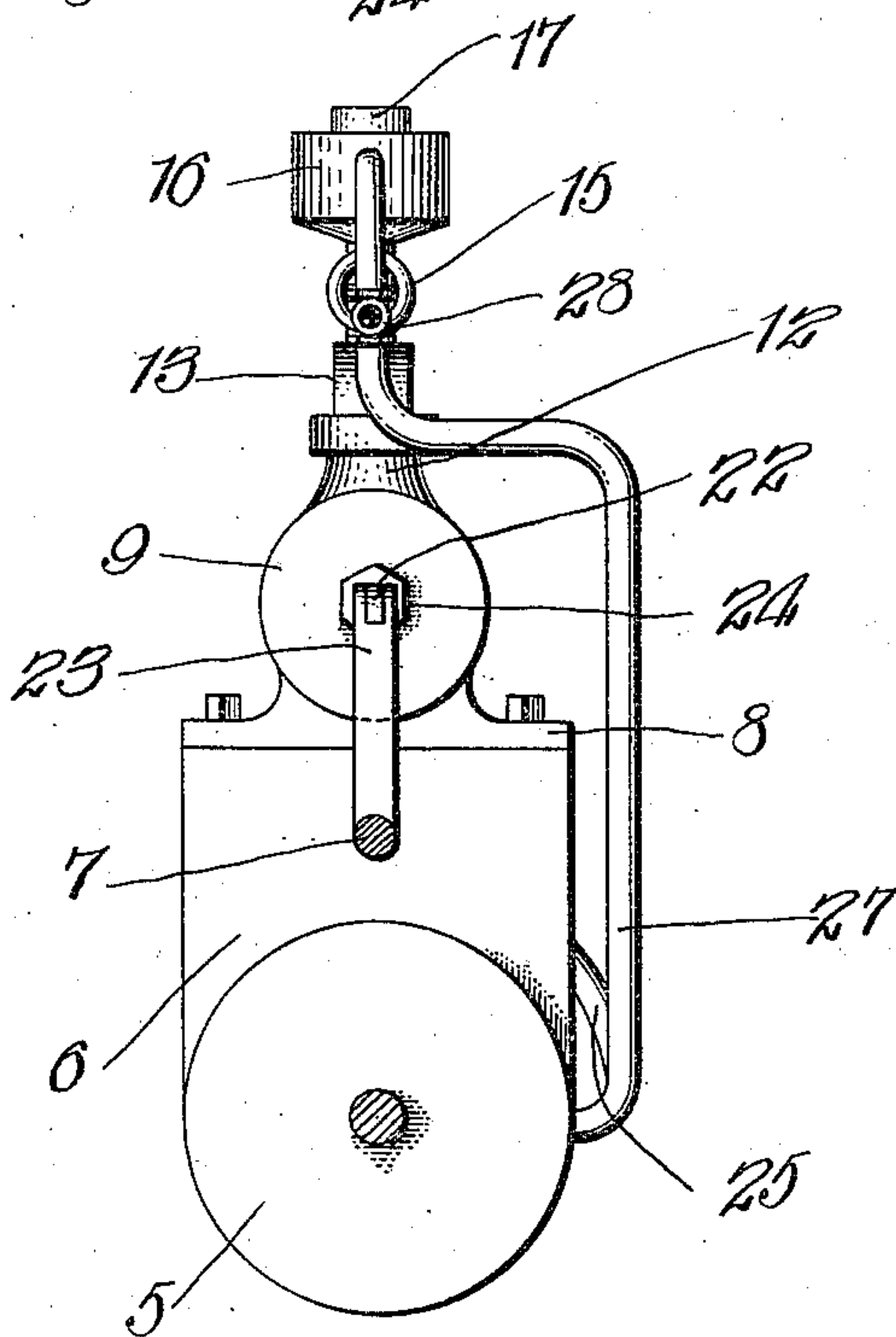


Fig. 3.



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UNITED STATES PATENT OFFICE.

CLEO BARNES, OF MELROSE, IOWA.

OIL-PUMP.

991,931.

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Patented May 9, 1911.

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To all whom it may concern:

Be it known that I, CLEO BARNES, a citizen of the United States, residing at Melrose, in the county of Monroe, State of Iowa, have invented certain new and useful Improvements in Oil-Pumps; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The invention relates to oil pumps and more particularly to the class of oil pumps adapted to feed and supply oil to a steam engine cylinder.

The primary object of the invention is the provision of an oil pump in which the lubricant is forced from a reservoir or source of supply to a steam engine cylinder by novel means of a piston actuated from the valve stem of the steam chest of the steam engine.

Another object of the invention is the provision of an oil pump having a valve mechanism for closing the passage from the reservoir to the piston chamber and preventing the filling of the latter with oil.

A further object of the invention is the provision of an oil pump comprising an oil reservoir, a casting supporting the same and having a chamber or passageway in communication therewith, pipe connections between the casting and the steam engine cylinder to deliver oil thereinto, a piston working in said passageway to force the oil from the reservoir to the steam cylinder, a connection between the valve rod of an engine to control or actuate the said piston, and a steam connection between the steam cylinder and the oil reservoir to admit steam into the latter for maintaining the oil warm.

The invention has reference to certain details of construction all of which will be hereinafter described and claimed, reference being had to the accompanying drawings, in which the preferred adaptation is shown.

It is to be understood that changes, variations and modifications may be made such as come properly within the scope of the claim hereunto appended without departing from the spirit of the invention.

In the drawings, Figure 1 is a side elevation of a steam engine cylinder and steam chest with the invention mounted in position thereon. Fig. 2 is a similar view with

the oil pump in a central, vertical sectional elevation. Fig. 3 is an end elevation of Fig. 1. Fig. 4 is a top plan view.

Similar reference characters indicate corresponding parts throughout the several views in the drawings.

In the drawings, the numeral 5 designates the steam engine cylinder the same being of the ordinary construction and having its steam chest 6 thereon in which works the ordinary valve actuated by the valve rod 7 and mounted upon the top cover of the steam chest 6 by a bracket 8 is a casting 9 having centrally therein a longitudinal bore or passageway 10 which is intersected by a vertical duct 11 formed centrally in the casting and leading upwardly through a tubular portion 12 rising from said casting. Connected to the tubular portion 12 is a tubular extension 13 having formed therein a sight glass 14 and within the said tubular extension 13 a distance above the said sight glass is mounted a regulating or globe valve 15 to regulate or control the supply of oil from an oil reservoir or cup 16 in communication with and supported by the tubular extension. The oil cup 16 is formed at its top with a removable cap 17 whereby lubricant can be introduced into the said cup or reservoir. Leading from the bottom of the oil cup or reservoir 16 is a drain cock 18 whereby the lubricant or foreign matter can be drawn off or discharged from the cup or reservoir. Positioned within the tubular extension 13 at the point of location of the sight glass 14 is a drip nozzle 19 which will cause the lubricant or oil to be delivered in drops from the oil reservoir or cup 16 into the longitudinal channel or passage 10 formed in the casting.

Working in the longitudinal bore or passageway 10 is a feed piston or plunger 20 adapted for sliding movement and to the outer end of the plunger or piston is a wrist pin connection 21 with a link 22 the latter pivotally connected to an arm 23 formed on and projecting from the valve rod 7 of the engine and through the medium of the arm 23 the plunger or piston 20 is reciprocated in the bore or passageway formed in the casting to force the oil from the oil reservoir or cup to the engine cylinder. Surrounding the piston or plunger 20 is a packing gland or collar 24 the latter threaded into the wall of the bore or passageway 10 at one end of the casting so as to form an oil tight joint

to prevent the escape of oil from this end of the casting. Leading from the opposite end of the casting 9 and in communication with the bore or passageway 10 and the steam engine cylinder 5 is a supply pipe 25 through which the oil or lubricant from the reservoir or cup 16 passes into the said engine cylinder. Within the supply pipe 25 is located a check valve 26 which prevents steam from entering the longitudinal bore or passageway 10 from the steam cylinder of the engine.

Between the oil reservoir or cup 16 and the steam engine cylinder 5 and in communication therewith is a steam supply pipe 27 the latter adapted to deliver from the steam engine cylinder steam into the oil reservoir or cup 16 so as to maintain the lubricant or other oily fluid therein warm and thereby prevent the lubricant becoming chilled during cold weather. The said steam supply pipe 27 is provided with a cut off valve 28 whereby the supply of steam from the engine cylinder to the reservoir can be regulated or shut off at the will of the operator.

It is obvious that during the forward stroke of the valve rod 7 the piston or plunger 20 will be caused to move in the same direction so as to force oil delivered from the

reservoir into the bore or passageway 10 to the engine cylinder 5 through the supply pipe 25 leading from the casting 9 to the said engine cylinder.

What is claimed, is—

The combination with a steam engine cylinder, steam chest, and its valve rod, of a casting mounted upon the steam chest and containing a longitudinal bore, and a vertical duct intersecting the same, a tubular portion rising from said casting, an oil reservoir having a tubular extension connected with the tubular portion, a sight glass formed in the tubular extension, a regulating valve mounted in said tubular extension, a plunger slidably mounted in the bore, a link having wrist pin connection with the plunger, an arm formed on said valve rod and pivotally connected to the link, a supply pipe in communication with the bore and engine cylinder, and a valve-controlled steam supply pipe leading from the engine cylinder to the oil reservoir.

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

CLEO BARNES.

Witnesses:

J. F. COLEMAN,
JAMES CURRAN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."