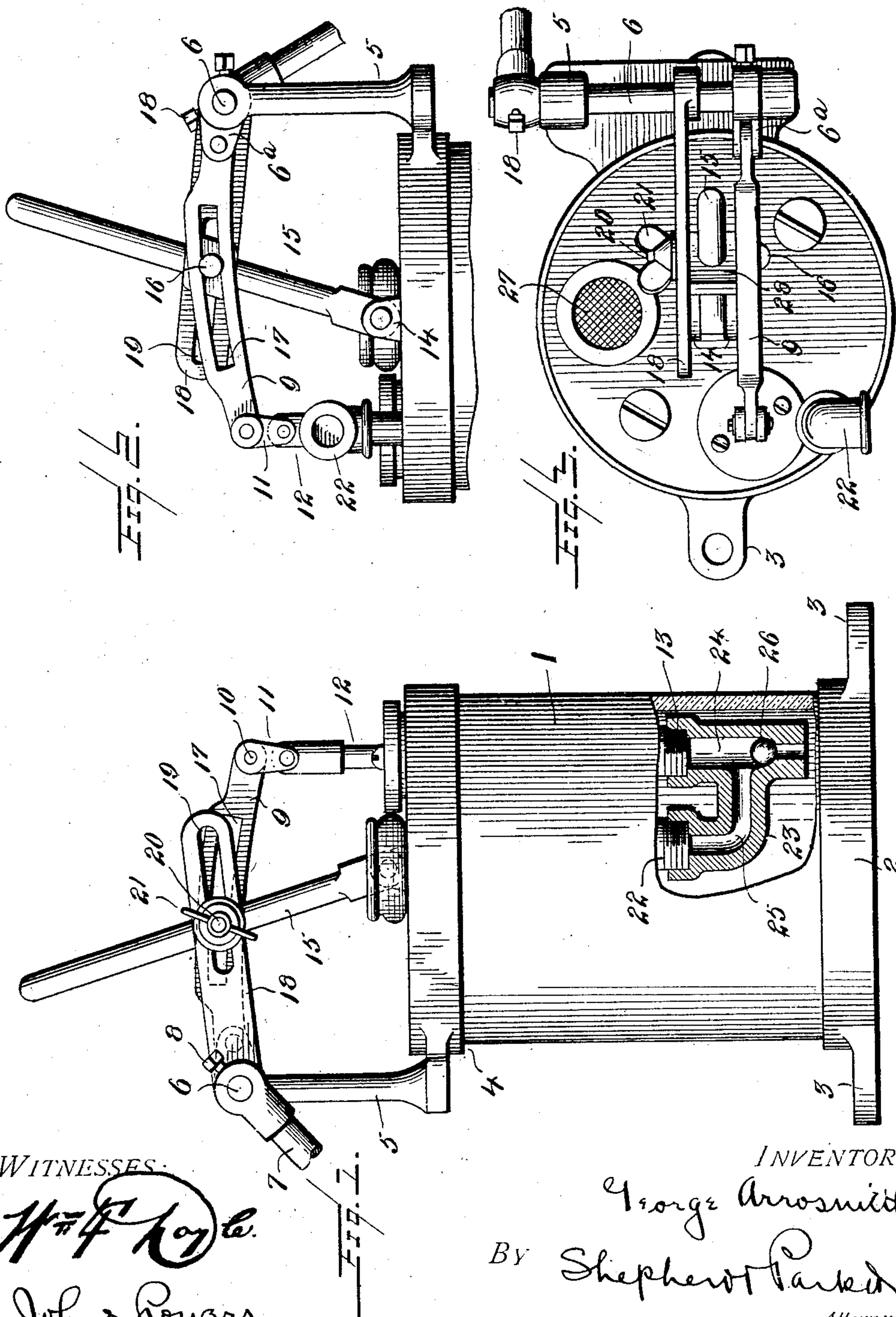


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G. ARROSMITH.
OIL PUMP.

APPLICATION FILED DEC. 17, 1906.



WITNESSES:

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GEORGE ARROSMITH, OF TERRE HAUTE, INDIANA.

OIL-PUMP.

No. 865,558.

Specification of Letters Patent.

Patented Sept. 10, 1907.

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To all whom it may concern:

Be it known that I, GEORGE ARROSMITH, a citizen of the United States, residing at Terre Haute, in the county of Vigo and State of Indiana, have invented certain new and useful Improvements in Oil-Pumps, of which the following is a specification.

This invention relates to new and useful improvements in lubricating mechanisms and it has particular reference to an oil pump for steam engines.

The invention aims as a primary object to provide novel means actuated from a movable part of the engine for supplying lubricating material at regular intervals and in uniform quantities to the cylinder or other parts of said engine or other device in connection with which the invention is employed, such as a pump, and similar mechanism.

The detailed construction will appear in the course of the following description in which reference is had to the accompanying drawings forming a part of this specification, like characters of reference designating similar parts throughout the several views, wherein,

Figure 1 is a side elevation, partly in section, of an oil pump constructed in accordance with my invention. Fig. 2 is a similar view of the pumping mechanism as seen from the reverse side of Fig. 1, and Fig. 3 is a top plan view thereof.

In the practical embodiment of my invention I employ a cylinder 1, constructed of glass and constituting an oil receptacle. The cylinder 1 carries at its base a collar 2 having apertured lugs 3 by means of which the structure is secured to a stationary supporting object and at its upper end a collar 4 upon which certain of the operating parts are mounted. The collar 4 at one side is provided with a vertical post 5, in the upper portion of which is journaled a rock shaft 6. A lever 7 has its one end fixed to the shaft 6 by a set screw 8 and its other end operatively connected in any suitable manner with a reciprocating part of the engine, such as the cross head. The shaft 6 carries an adjustably positioned arm 6^a which has pivotal connection with an arm 9, the latter in turn being pivoted at its other end as at 10 to a link 11, pivoted to a plunger 12 which carries the pump piston and works in a pump barrel 13 projecting downwardly into the cylinder 1. The top of the cylinder 1 is provided with lugs 14, to which is pivoted a post 15, having at an approximately central point a stud 16. The arm 9 is formed with a longitudinal slotted opening 17, into which the stud 16 projects and in such disposition said stud constitutes an adjustable stationary pivot for the arm 9, whereby the swinging movement of said arm may be multiplied or decreased at will.

Loosely mounted on the shaft 6 is a second arm 18 having a longitudinal slotted opening 19. The arm 18 constitutes a brace for the post 15 in any adjustment thereof. To this end said post has a stud 20 which pro-

jects through said slot 19. The post 15 is held against movement by a thumb nut 21 threaded upon the stud 20 and frictionally binding the parts.

Within the cylinder 1 there is a discharge barrel 22 which projects through the top thereof and is designed to be connected with an oil conductor. The barrels 13 and 22 at their lower ends have connection with a casting 23 having an axial passage 24 communicating with the barrel 13 and with the cylinder 1 and having an angular branch passage 25 communicating with the barrel 22 and with the passage 24. The passage 24 is of reduced diameter at its lower end to afford a seat for a ball valve 26 operating upon the well known gravity check principle. For the purpose of admitting air to the cylinder 1, the upper part of said cylinder is provided with an opening which is spanned by a strainer 27 of foraminous material. It is preferred to mount a spacing collar 28 upon the post 15 between the arms 9 and 18 and to form the studs 16 and 20 upon said spacing collar.

The manner of use will be readily apparent from the foregoing description. Each movement of the reciprocating part of the engine above referred to oscillates the lever 7 and rocks the shaft 6. This rocking action of said shaft is transmitted through the arm 6^a to the arm 9 and the plunger 12 is reciprocated in its barrel 13 by said arm 9. The degree of movement of the arm 9, about its stationary pivot 16 will of course regulate correspondingly the degree of movement of the plunger 12, and the quantity of lubricating material fed will depend on the degree of movement of such plunger. Hence when the post 15 is moved towards the post 5, the amplitude of movement of the arm 9 will be increased and the feed of lubricating material will be correspondingly increased in the manner described. In like manner when the post 15 is moved towards the other side of the cylinder 1, that is toward the plunger 12, the amplitude of movement of the arm 9 will be decreased, and the feed of lubricating material will be correspondingly decreased.

Owing to the adjustable connections between the various parts it will be readily apparent that a pumping mechanism constructed as above described is adapted for use on oil cylinders of varying sizes, without affecting the mode of operation. It is in such adjustments that the spacing collar or block 28 is of advantage, since by raising or lowering said spacing collar with relation to the post 15, the pivot 16 will be moved correspondingly to compensate for the varying widths of the oil cylinders.

It will be apparent that a lubricating mechanism embodying the features of construction and arrangement, herein detailed will be simple in construction, inexpensive to manufacture and practical and efficient in use.

While the elements herein shown and described are well adapted to serve the functions set forth, it is ob-

vious that various minor changes may be made in the proportions, shape and arrangement of the several parts without departing from the spirit and scope of the invention as defined in the appended claims.

5 Having fully described my invention I claim:

1. An oil pump of the type set forth comprising a rock shaft, motor controlled operating means therefor, an arm carried thereby, a second arm, a stationary pivot for said arm and a pivotal connection between said arms, an
10 oil receptacle and a pumping mechanism in said oil receptacle actuated from said second arm.
2. In an oil pump the combination with an oil cylinder and pumping mechanism therein, of a rock shaft, motor controlled means for operating the same, an arm carried
15 by said shaft, a second arm pivoted to said arm, a pivot for said second arm, means for setting said pivot stationarily at any selected point with relation to said second arm and connections between said second arm and said pumping mechanism.
3. In an oil pump the combination with an oil receptacle and pumping mechanism therein, of a rock shaft, motor controlled means for actuating the same, a pivoted arm, operative connections between said arm and said shaft
20 and between said arm and said pumping mechanism and means for adjustably varying the amplitude of operative movement of said arm.
4. In an oil pump the combination with an oil receptacle and pumping mechanism therein, of a rock shaft, motor controlled means for actuating the same, a pivoted arm, operative connections between said arm and said shaft
25 and between said arm and said pumping mechanism, a pivoted post, a pivot for said arm carried by said post, and means for holding said post against movement from

any position to which it may be set with relation to said arm.

5. In an oil pump the combination with an oil receptacle and pumping mechanism therein, of a rock shaft, motor controlled means for actuating the same, a pivoted arm, operative connections between said arm and said shaft, and between said arm and said pumping mechanism, and
35 40 means for adjustably setting the pivot of said arm at any selected position.

6. In an oil pump the combination with an oil receptacle and pumping mechanism therein, of an arm, having operative connection with said pumping mechanism, a pivot
45 for said arm, actuating means for said arm, and means for setting said pivot at any selected vertical or horizontal position and for operatively connecting said arm therewith.

7. In an oil pump the combination with an oil receptacle and pumping mechanism therein, of a pivoted arm, operative connections between the same and said pumping mechanism, means for actuating said arm, said arm having
50 a longitudinal slot, a pivoted post, a block slidable thereon, a pivot for said arm carried by said block, said pivot being received within said slot at any selected point with relation to said arm, means for setting said pivot at any
55 selected horizontal or angular adjustment and means for holding said post against displacement from any position to which it may be moved.

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

GEORGE ARROSMITH.

Witnesses:

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