

No. 822,045.

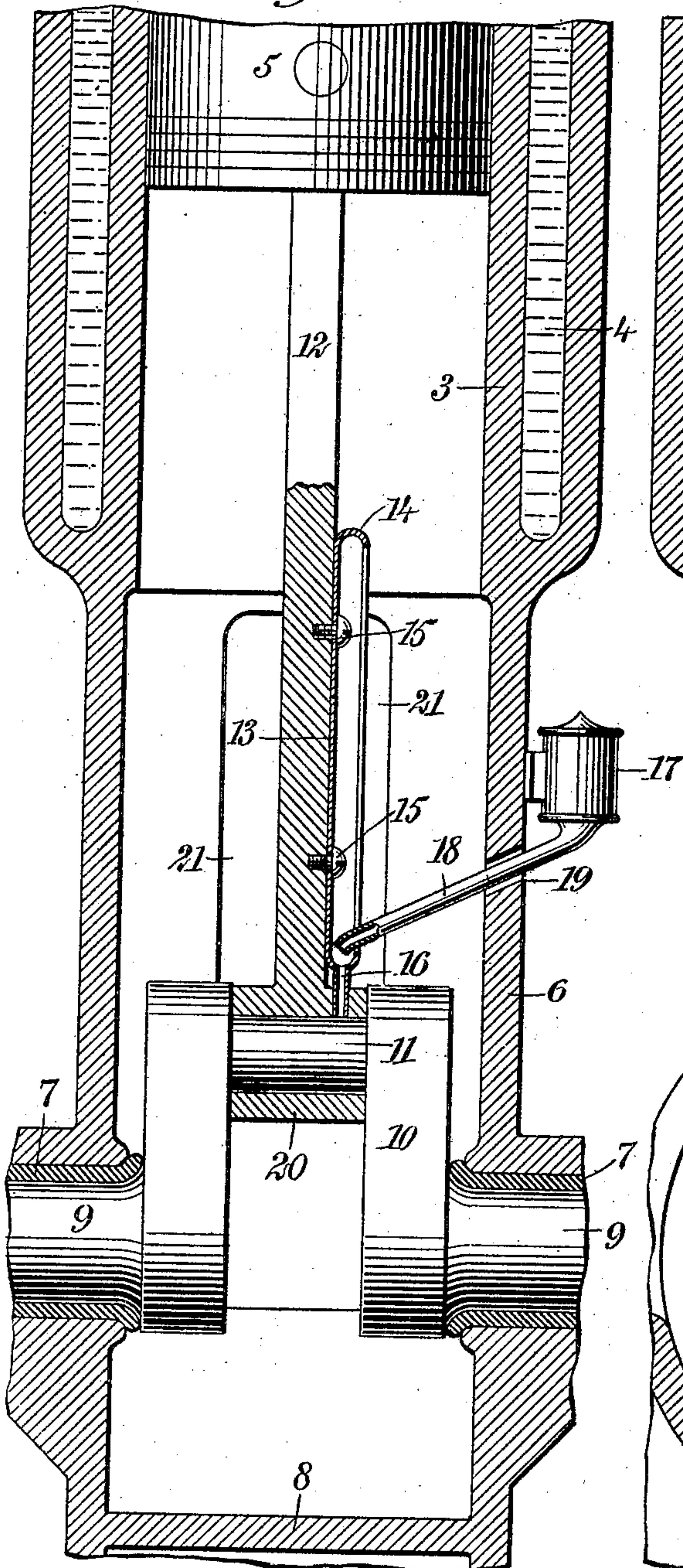
PATENTED MAY 29, 1906.

D. HERRMANN.

OILER.

APPLICATION FILED AUG. 19, 1905.

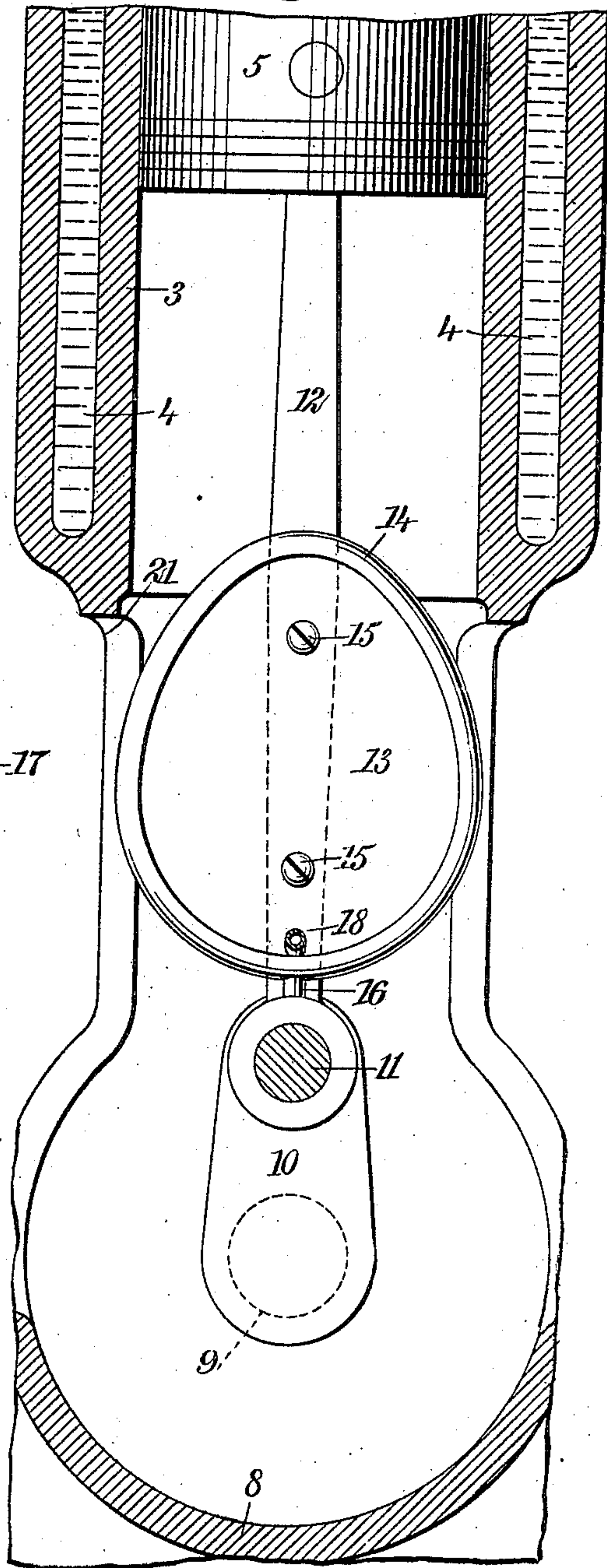
Fig. 1.



WITNESSES:

Edward Thorpe
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Fig. 2.



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DANIEL HERRMANN, OF GUTTENBURG, NEW JERSEY.

OILER.

No. 822,045.

Specification of Letters Patent.

Patented May 29, 1906.

Application filed August 19, 1905. Serial No. 274,913.

To all whom it may concern:

Be it known that I, DANIEL HERRMANN, a citizen of the United States, and a resident of Guttenburg, in the county of Hudson and State of New Jersey, have invented a new and Improved Oiler, of which the following is a full, clear, and exact description.

My invention relates to oilers and admits of general use, but is of peculiar value in relation to oiling of wrist-pins, high and low speed engines, and other prime movers.

My invention is based upon the principle that a falling liquid is unable to follow a line of continually-changing direction at high speed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in both the figures.

Figure 1 is a vertical section through a part of an engine equipped with my invention. Fig. 2 is a vertical section of the same, taken at a right angle to the view shown in Fig. 1.

The engine-cylinder is shown at 3 and is encircled by a water-jacket 4, and a piston is shown at 5. Connected with the cylinder and the water-jacket is a supporting-frame 6. Bearings are shown at 7 and a curved web integral with the frame at 8. A two-part shaft 9 9 is mounted in the bearings 7 and is provided with a double crank 10, having a wrist-pin 11. The connecting-rod is shown at 12 and is driven by the piston 5. Mounted upon the connecting-rod 12 is an oil-plate 13, provided with a cupped edge 14 and secured to the connecting-rod by means of screws 15. Leading downwardly from the lowermost portion of the cupped edge 14 is an oil-duct 16 for supplying oil to the wrist-pin 11. An oil-cup is shown at 17 and is provided with a spout 18, extending obliquely downward therefrom and passing through an aperture 19 in the frame 6, as will be understood from Fig. 1. The lower end of the connecting-rod 12 is provided with a bearing 20, which encircles the wrist-pin 11.

The operation of my device is as follows: Motion being communicated from the piston 5 through the connecting-rod 12 to the wrist-pin 11, the latter rotates in a circle, and the oil-plate 13 rotates substantially in the form of an ellipse. The contour of the cupped edge 14 is likewise substantially that of an ellipse. Some part of the cupped edge 14 is always maintained at a substantially con-

stant distance from the lower end of the spout 18. Oil being fed from the cup 17 through the spout 18 drops constantly into the oil-plate 13 and finds its way downward through the duct 16 to the wrist-pin 11, which is thus lubricated. No matter in what position the oil-plate 13 may be when a drop of oil issues from the lower end of the spout 18 the drop in question cannot be far from the cupped edge 14 and is brought into immediate contact with this edge by the motion of the oil-plate 13. If, for instance, the oil-plate is descending in a curve and a drop of oil is released adjacent to the cupped edge 14 at a point intermediate the top and the bottom of the latter, the adjacent portion of the cupped edge 14 necessarily moves directly against the drop—that is, assuming that the engine has a high speed.

The principle of the invention can readily be understood by assuming that the speed of the oil-plate is higher than the speed with which the drops tend to fall. Such being the case, each drop of oil when released from the shaft either falls into a portion of the cupped edge 14 immediately adjacent to the end of the spout or else some other portion of the cupped edge 14 moves quickly from above or in a lateral direction against the drop, so that in any event the drop immediately makes contact with the inner or concave surface of the cupped edge. The oil naturally gravitates downward to the oil-duct 16.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In an oiler, the combination of a connecting-rod, an oil-plate of substantially elliptical form mounted thereupon and provided with a concave edge to guide the flow of oil, said bearing-plate being further provided with a duct, a stationary oil-spout projecting to a point immediately adjacent to said edge for discharging oil thereinto, and a bearing in communication with said duct and oiled thereby.

2. In a device of the character described, the combination of a crank provided with a crank-pin, a connecting-rod provided with a bearing engaging said crank-pin, said connecting-rod being adapted to undergo a high speed, an oil-plate of substantially elliptical form connected rigidly with said connecting-rod and movable therewith in an orbit represented substantially by an ellipse, said oil-plate being provided with a cupped edge and

with a duct leading from said cupped edge to said bearing, and mechanism for discharging oil into said oil-plate immediately adjacent to said cupped edge.

5 3. In an oiler, the combination of a connecting-rod, an oil-plate mounted thereupon and adapted to move in a substantially elliptical orbit, said oil-plate being provided with a cupped edge of substantially elliptical
10 form, and a stationary spout so disposed relatively to said cupped edge as to be always immediately adjacent to some portion thereof.

15 4. In an oiler, the combination of a bearing, an oil-plate communicating therewith and provided with a cupped edge having a substantially elliptical form, a stationary spout, and means for constantly maintaining some portion of said cupped edge at a prede-
20 termined distance from said spout.

5. In an oiler, the combination of a connecting-rod having an angular movement, an oil-plate mounted upon said connecting-rod and provided with a cupped edge, a bearing
25 connected with said oil-plate, and a stationary spout projecting to a point immediately adjacent to said cupped edge.

6. In an oiler, the combination of a bearing encircling a crank-pin, a connecting-rod engaging said bearing and having an angular
30 movement, a member mounted directly upon said connecting-rod and provided with a cupped edge and with a duct leading from said cupped edge to said crank-pin, and an oil-spout projecting to a point adjacent to
35 said cupped edge for the purpose of feeding oil thereinto.

7. In an oiler, the combination of a connecting-rod adapted to move angularly, an oil-plate mounted upon said connecting-rod
40 and provided with a surface adapted to guide the flow of oil and also provided with a duct, a bearing fed by said duct, means for conferring upon said connecting-rod a comparatively high speed, and mechanism for dis-
45 charging oil immediately adjacent to said surface for guiding the flow of said oil.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

DANIEL HERRMANN.

Witnesses:

JOHN G. HESS,

HARRY R. PROSSER.