

No. 891,119.

PATENTED JUNE 16, 1908

J. WEISENBORN.
ENGINE.

APPLICATION FILED DEC. 26, 1907.

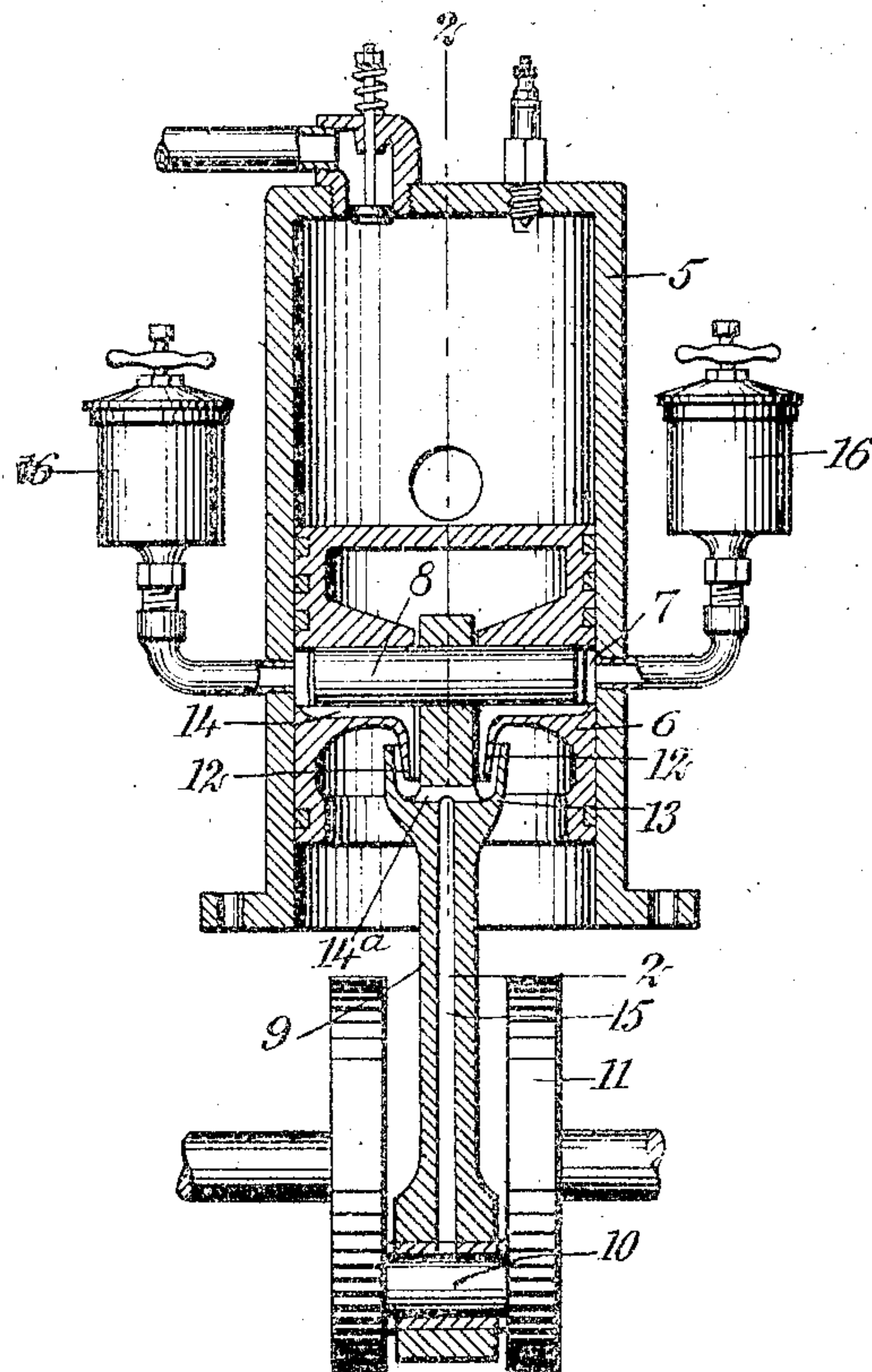


Fig. 1.

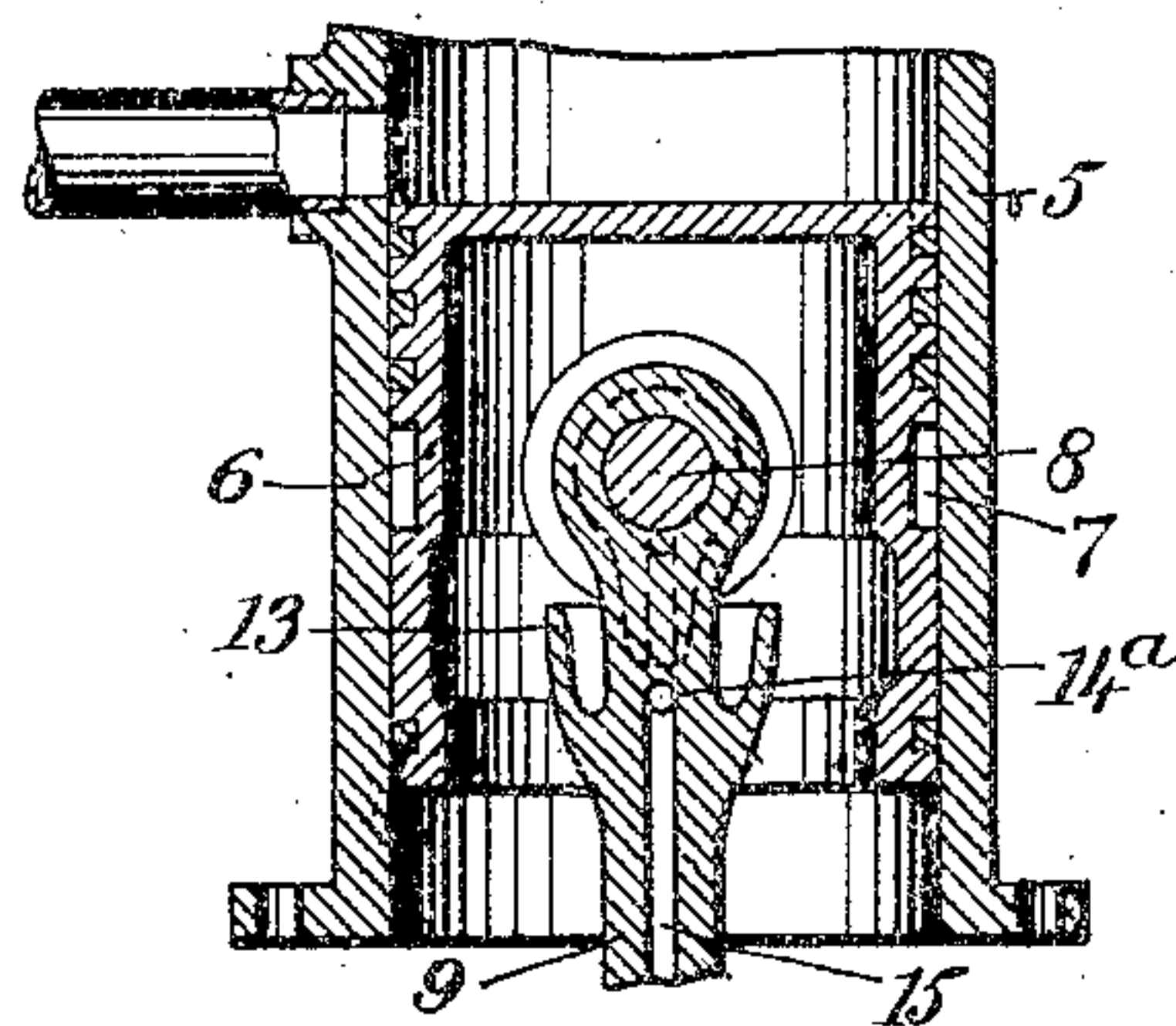


Fig. 2.

WITNESSES
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JOHN WEISENBORN, OF QUINCY, ILLINOIS.

ENGINE.

No. 291,119.

Specification of Letters Patent.

Patented June 16, 1908.

Application filed December 26, 1907. Serial No. 407,397.

To all whom it may concern:

Be it known that I, JOHN WEISENBORN, a citizen of the United States, and a resident of Quincy, in the county of Adams and State of Illinois, have invented a new and Improved Engine, of which the following is a full, clear, and exact description.

This invention is an improvement in engines, relating primarily to internal combustion engines of the two-cycle type, and having in view the provision of an engine construction by which perfect lubrication of all working parts is effected; this being accomplished in a manner both economically and automatically.

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 views.

Figure 1 is a central vertical section through a two-cycle internal combustion engine constructed in accordance with my invention; and Fig. 2 is a similar fragmentary section substantially on the line 2-2 of Fig. 1.

In the construction of an engine in accordance with my invention, I employ an upright cylinder 5 of the usual or other preferred type, having any desired character of fuel admission exhaust and sparking device, and provided with a piston-head 6, which is constructed with a circumferential groove 7, passing around the body thereof at substantially the center. Journalled in the piston in the plane of the groove 7 is the usual cross or connecting-pin 8, rigidly attached intermediate its length to a pitman 9, the latter being journalled at its lower end on the crank-pin 10 of the crank 11. The lower portion of the piston-head, as shown in Fig. 1, is extended at the opposite sides of the pitman to provide extending bearing surfaces 12, which pass into a cup 13 formed integral with or otherwise rigidly attached to the pitman 9, and are provided with oil or lubricating passages 14, which lead from the circumferential groove 7 underneath the end portions of the cross-pin 8; this construction of the oil-ways obviously effecting lubrication between the piston-head and cylinder, the piston-head and cross-pin, and the piston-head and bearing surfaces of the pitman. The cup 13 at its bottom connects with a passage 14^a passing transversely through the pitman, which in turn communicates with a passage 15 passing longitudinally through the pitman to the crank-pin.

At the opposite sides of the cylinder, the discharge pipes of suitable lubricating cups 16 connect; the connection of these pipes being of such an elevation as to register with the circumferential groove 7 when the piston and connected parts are at the lowest position of their movement. As engines of this character when stopped usually stop on the lower center, the discharge from the oil-cups will be in register with the oil passages, which will fill up during the time the engine is idle, or, if the engine does not stop on its lower center, it may be moved to this position and the several oil passages placed in communication with the oil-feed. The oil as it passes from the piston-head and drips in the cup of the pitman is fed through the pitman to the crank-pin, and thus repeatedly and hence economically, used. During the running of the engine, the lubrication may obviously be continued, a small quantity of the lubricant passing into the circumferential groove at each complete stroke of the piston. By arranging the oil-cups at opposite sides of the cylinder, the feed is much more uniform about the piston than would otherwise be the case, and since the connections of the oil-feed pipes are in a plane with the cross-pin, the flow of the lubricant under this pin will not be impaired by the clogging up of the circumferential groove.

The invention as shown and described while being the preferred embodiment of my improved lubricating arrangement, the same may nevertheless be modified within the scope of the claims annexed.

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

1. In an engine, an upright cylinder, a piston movable therein, having a circumferential lubricating groove and provided with lubricating passages leading through the bottom thereof from the groove, a crank having a crank-pin, a pitman connecting the piston with the crank-pin between said passages and contiguous thereto, and a cup carried by the pitman under the oil passages, discharging through a passage in the pitman to the crank-pin.

2. In an engine, a piston-head having a circumferential lubricating groove, a cross-pin journalled in the head, and a pitman fixed to the cross-pin, said piston-head having oil-ways passing from the groove under the opposite ends of the pin and contiguous thereto,

and thence passing through the bottom of the piston contiguous to the opposite faces of the pitman.

3. In an engine, an upright cylinder, a piston movable therein having a circumferential oil-groove and provided with oil-ways leading through the bottom thereof from the groove, a crank having a crank-pin, a pitman connecting the piston with the crank-pin between said oil-ways and contiguous thereto, a cup carried by the pitman under the oil-ways, discharging through a passage in the pitman to the crank-pin, and lubricating feeding means carried by the cylinder, adapted to register with the circumferential groove of the piston when the piston is in its lowest position of movement.

4. In an engine, a piston having a circumferential groove, a cross-pin journaled in the piston in the plane of said groove, and a pitman fixed intermediate the length of the cross-pin, said piston having lubricating passages passing under the opposite ends and contiguous to the cross-pin from said groove, and thence discharging through the bottom of the piston contiguous to the adjacent bearing faces of the pitman.

5. In an engine, a piston-head having a circumferential groove, a cross-pin journaled in the head, a crank having a crank-pin, a pitman fixed to the cross-pin and journaled on the crank-pin, said piston-head having

lubricating passages passing from the groove under the opposite ends of the pin and contiguous thereto, and then discharging through the bottom of the piston contiguous to the opposite faces of the piston, and a cup carried by the pitman, located under the discharge of said passages and having a passage leading to the crank-pin.

6. An engine comprising a cylinder, a piston movable therein having a cross-pin, a crank-pin, a pitman connecting the cross-pin and crank-pin, and means for feeding a lubricant between the cross-pin and piston to the crank-pin through the pitman.

7. In an engine, a cylinder having a piston movable therein, a cross-pin journaled in the piston, having a pitman fixed intermediate its length, and means for feeding a lubricant between the piston and cross-pin to the opposite bearing faces of the pitman.

8. In an engine, a crank-pin, a pitman journaled on the crank-pin, and a lubricating cup surrounding and secured to the pitman, having a passage leading through the pitman to the crank-pin.

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

JOHN WEISENBORN.

Witnesses:

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E. W. MOORE.