(No Model.)

W. SECK.

ECCENTRIC OUTLET VALVE MOTION FOR GAS AND PETROLEUM ENGINES.

No. 555,342. Patented Feb. 25, 1896.

Fig. 1.

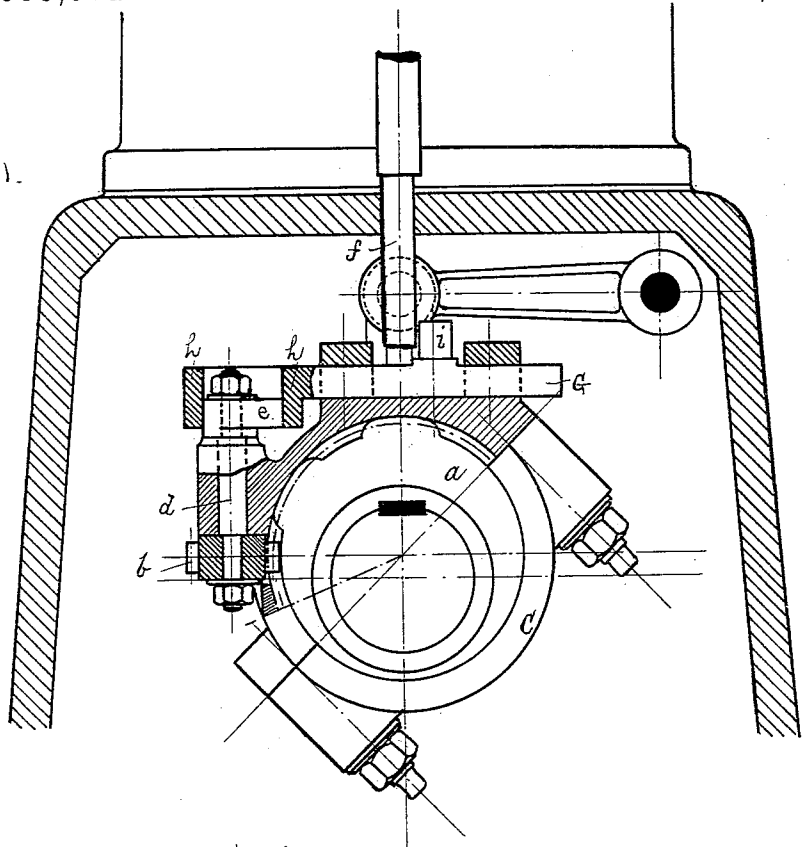


Fig. 3.

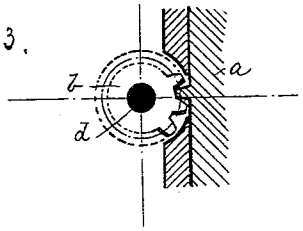
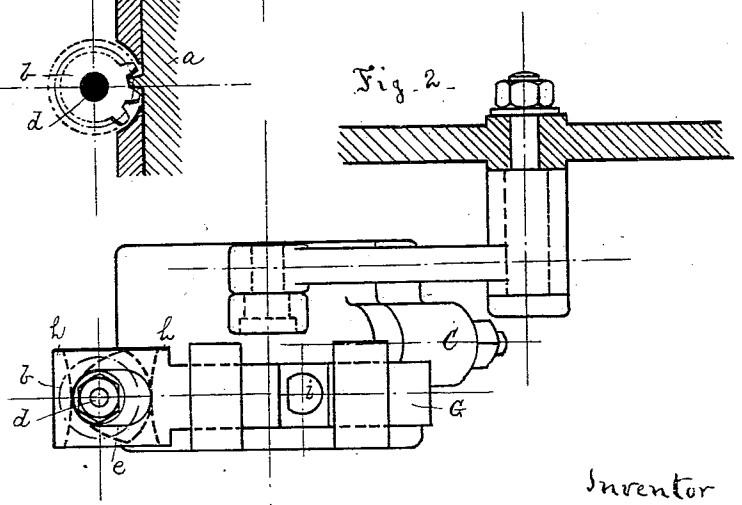


Fig. 2.



Witnesses.
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WILLY SECK, OF OBERURSEL, GERMANY.

ECCENTRIC OUTLET-VALVE MOTION FOR GAS AND PETROLEUM ENGINES.

SPECIFICATION forming part of Letters Patent No. 555,342, dated February 25, 1896.

Application filed July 8, 1895. Serial No. 555,223. (No model.)

To all whom it may concern:

Be it known that I, WILLY SECK, engineer, a subject of the German Emperor, residing at Oberursel, near Frankfort-on-the-Main, Germany, have invented certain new and useful Improvements in Eccentric Outlet-Valve Motions for Gas and Petroleum Engines; 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.

My invention relates to a new exhaust-valve gear for four-time gas and coal-oil motors.

The accompanying drawings, illustrating the novel device, show the same by Figure 1 in a partial section. Fig. 2 is a plan view, and Fig. 3 is a horizontal section, through the worm-wheel.

The eccentric or cam *a*, keyed upon the motor-shaft under suitable advance, is provided at its periphery with a number of skew-gear teeth—six, for instance—which engage into or between the teeth of the worm-wheel *b* having the double number of teeth. This worm-wheel is arranged in the ring *c* of the eccentric, the latter being suspended in the frame in any suitable manner—for instance, on arms or links, as shown in the drawings. Said worm-wheel *b* is connected with a cam *e* by means of a pin *d*, so that the revolution of the worm-wheel produced by the skew-teeth of the eccentric *a* is transmitted to said cam *e*, which plays between the bars *h h* of the slide *g*. The latter is moving in guides also secured to the ring of the eccentric and is provided with a pin *i*.

It will be readily understood from the above-described device that the slide *g* is moved to and fro only once during two complete revolutions of the motor-shaft. The cam *e* is so placed that the slide is at the end of its stroke when the eccentric *a* is in its high position. The slide remains almost stationary in the position shown and moves principally when the eccentric passes through the under half of its revolution. Thus the pin *i* evidently will strike the end of the valve-rod *f*, and consequently open the exhaust-valve only at every second revolution of the motor-shaft.

Having thus described my invention, I claim—

A valve-lifter composed of an eccentric-ring suspended below the valve-stem, to be operated, an eccentric having circumferential teeth adapted to operate in the ring, a vertical shaft journaled in one edge of the ring, said shaft provided at its lower end with a worm-wheel adapted to be operated by the eccentric, and at its upper end with a cam and a slide, adapted to be operated by the cam, said slide provided with an upwardly-projecting pin, whereby the valve-stem is operated, substantially as set forth.

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

WILLY SECK.

Witnesses:
JEAN GRUND,
ALVESTO S. HOGUE.