

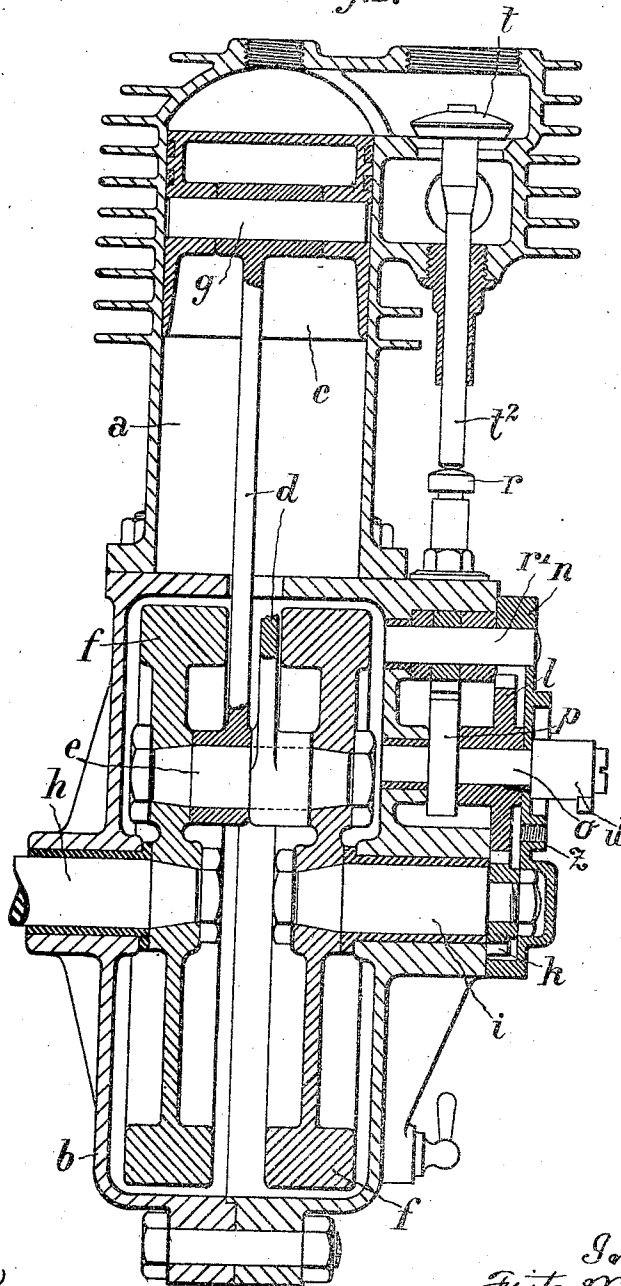
No. 872,571.

PATENTED DEC. 3, 1907.

F. MOSER.
INTERNAL COMBUSTION ENGINE.
APPLICATION FILED DEC. 14, 1906.

3 SHEETS—SHEET 1.

Fig. 1.



Witnesses:
William O'Drane
R. C. Braddock.

Inventor.
Fritz Moser,
By James Hamilton
his attorney.

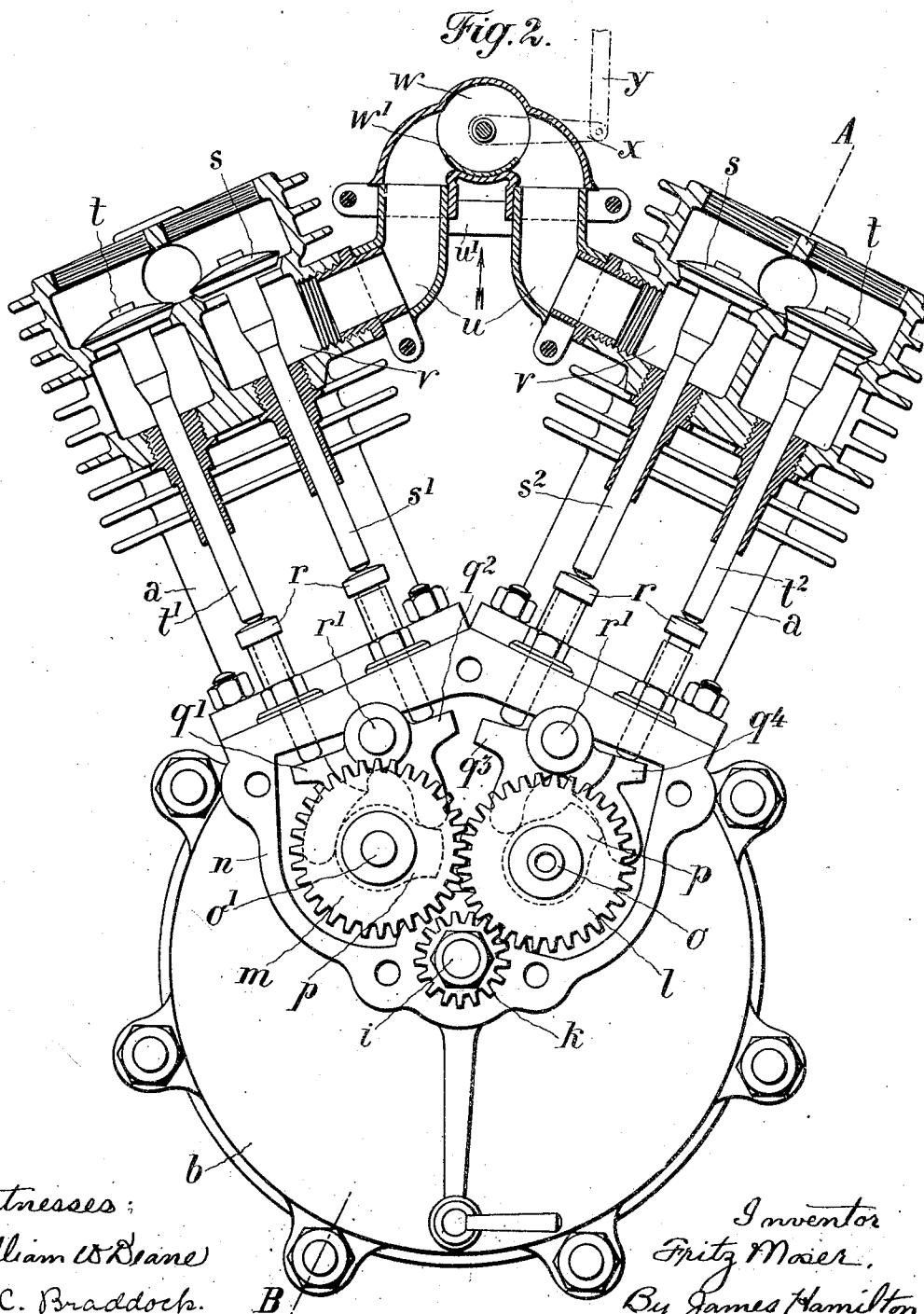
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3 SHEETS—SHEET 2.



Witnesses;
William W. Brane
R. C. Braddock.

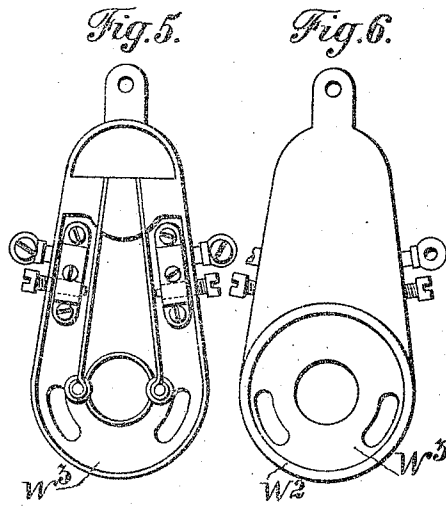
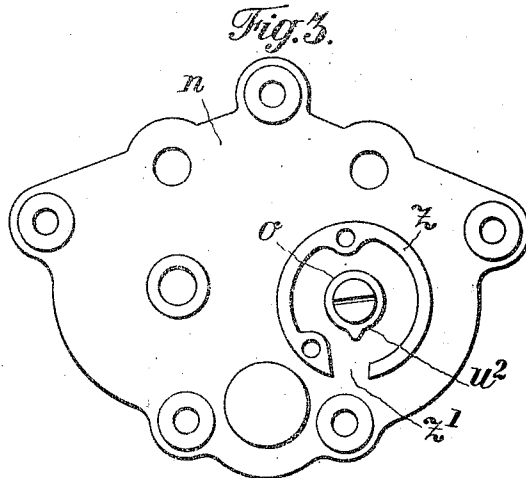
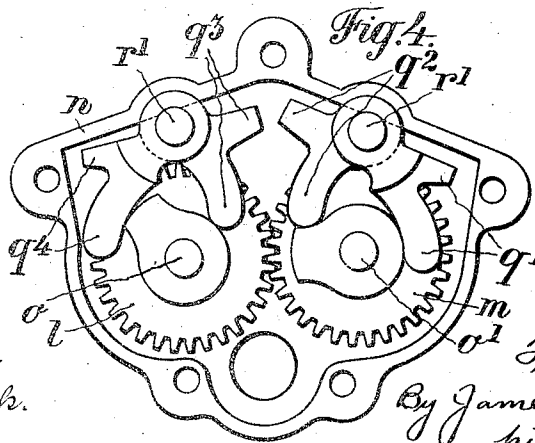
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3 SHEETS—SHEET 3.



Witnesses:
William A. Drane.
R. C. Braddock.

Inventor
Fritz Moser
By James Hamilton
his attorney.

UNITED STATES PATENT OFFICE.

FRITZ MOSER, OF ST. AUBIN, SWITZERLAND.

INTERNAL-COMBUSTION ENGINE.

No. 872,571.

Specification of Letters Patent.

Patented Dec. 3, 1907.

Application filed December 14, 1906, Serial No. 347,812.

To all whom it may concern:

Be it known that I, FRITZ MOSER, mechanic, citizen of the Republic of Switzerland, residing at St. Aubin, Canton de Neuchâtel, Switzerland, have invented certain new and useful Improvements in and Relating to Internal-Combustion Engines, of which the following is a specification.

The present invention has for its object an internal combustion engine having two cylinders and being particularly applicable for use on motor cycles and motor-road vehicles generally.

The accompanying drawing shows by way of example a constructional form of motor in accordance with the present invention.

Figure 1 is a sectional view through A—B of Fig. 2. Fig. 2 is a front view in which the valve-boxes are shown in section; the cover of the box containing the valve driving device being removed. Fig. 3 is an exterior view of the said cover. Fig. 4 is an interior view of the same showing the valve driving devices. Fig. 5 is an interior and Fig. 6 an exterior view of the device carrying the electrical contacts of the firing means.

The motor shown in the drawing has two cylinders *a* radially arranged on the casing *b* in such a manner that the geometric axes of the cylinders are situated in alinement relatively to a plane passing perpendicularly through the driving shaft. Each of the cylinders as well as their relative distributing devices are symmetrical as regards a plane passing through the axis of the driving shaft; the inlet and outlet valves of the two cylinders being arranged in planes similar to the axes of the cylinders and actuated by levers arranged in pairs on stationary bolts. Each of the two pistons *c* is connected by a rod *d* with a bolt *e* connecting the parts of the double fly-wheel *f*. The rods *d* are pivoted on bolts *g* within the pistons *c*. The fly-wheel *f* which is mounted in the casing *b*, transmits its rotary movement to the driving-shaft *h* of the motor on one side and on the other to a shaft *i* provided with a pinion *k* actuating a toothed wheel *l* fixed on a shaft *o* and meshing with another toothed wheel *m* fixed on a shaft *o'*. The pinion *k* and the toothed wheels *l* and *m* are inclosed in a box closed by the cover *n* which is fixed on the casing *b*. The shafts *o* and *o'* carry each a cam *p* arranged so as to actuate suc-

cessively, the levers *q*¹ and *q*² of the valves *t*¹ and *s*¹ and the levers *q*³ and *q*⁴ of the valves *t*² *s*² by means of the rods *r*, the said cams raising alternately the inlet valves *s* and the outlet valves *t*. The levers *q* are pivoted in pairs on the bolts *r*¹.

The gases enter the cylinders through a distributing device *w* arranged between the two cylinders and joined by pipes *u* with chambers *v* provided beneath the inlet valves *s*. This distributing device, to which the mixture is conducted from the carbureter through the pipe *w*¹ in the direction shown by the arrow (Fig. 2), is provided with a slide valve *w*¹ for controlling the quantity of the gases entering the cylinders. The slide valve *w*¹ may be actuated from the seat of the driver by means of a lever *x*; a rod *y* and a handle which is not shown in the drawing.

The cover *n* of the box inclosing the valve actuating devices is provided on its outside with a ring-shaped projection *z*, interrupted at *z*¹, on which projection rests the part *w*² of the device *w*³ carrying the sparking-interrupter. This arrangement obviates the possibility of the oil within the box communicating with the parts of the sparking device which is provided with a cam *u*² carried by the shaft *o*. It is very important that the oil which drops through the cover *n* at the passage of the said shaft *o* should not penetrate the electric contacts. According to the present invention therefore the oil which penetrates into the space formed by the projection *z* between the cover *n* and the piece *w*³ flows out through the opening *z*¹, instead of passing to the other side of the device carrying the interrupter. The projection *z* may be of any form desired provided that it is so arranged as to present an interruption *z*¹. In place of two cams *p* actuating the levers, the motor may be provided with one cam, the said levers being suitably shaped for that purpose.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

In an internal combustion engine, the combination of valve-actuating devices; a shaft for operating the same; a casing for said devices; a cover for said casing, said cover being formed on its outer face with an interrupted annular rib and said shaft projecting

through said cover within said rib; an electric ignition device mounted upon said rib; and means mounted on the projecting end of said shaft for operating said ignition device; 5 the interruption in said rib permitting the oil which exudes from said casing along said shaft to flow away from said ignition device.

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

FRITZ MOSER.

Witnesses:

L. H. MUNIER,

R. DE HURSTEMBERGER.