

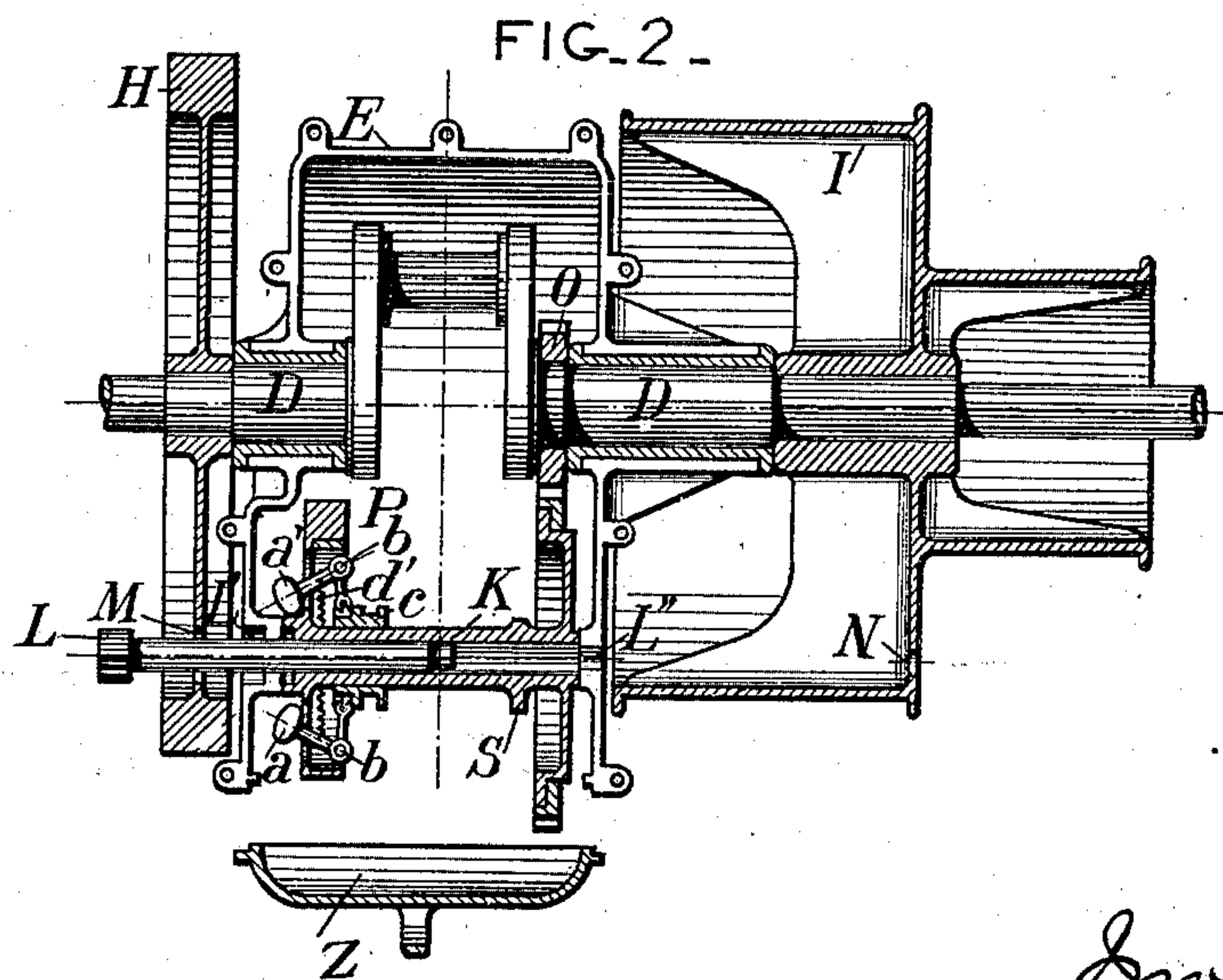
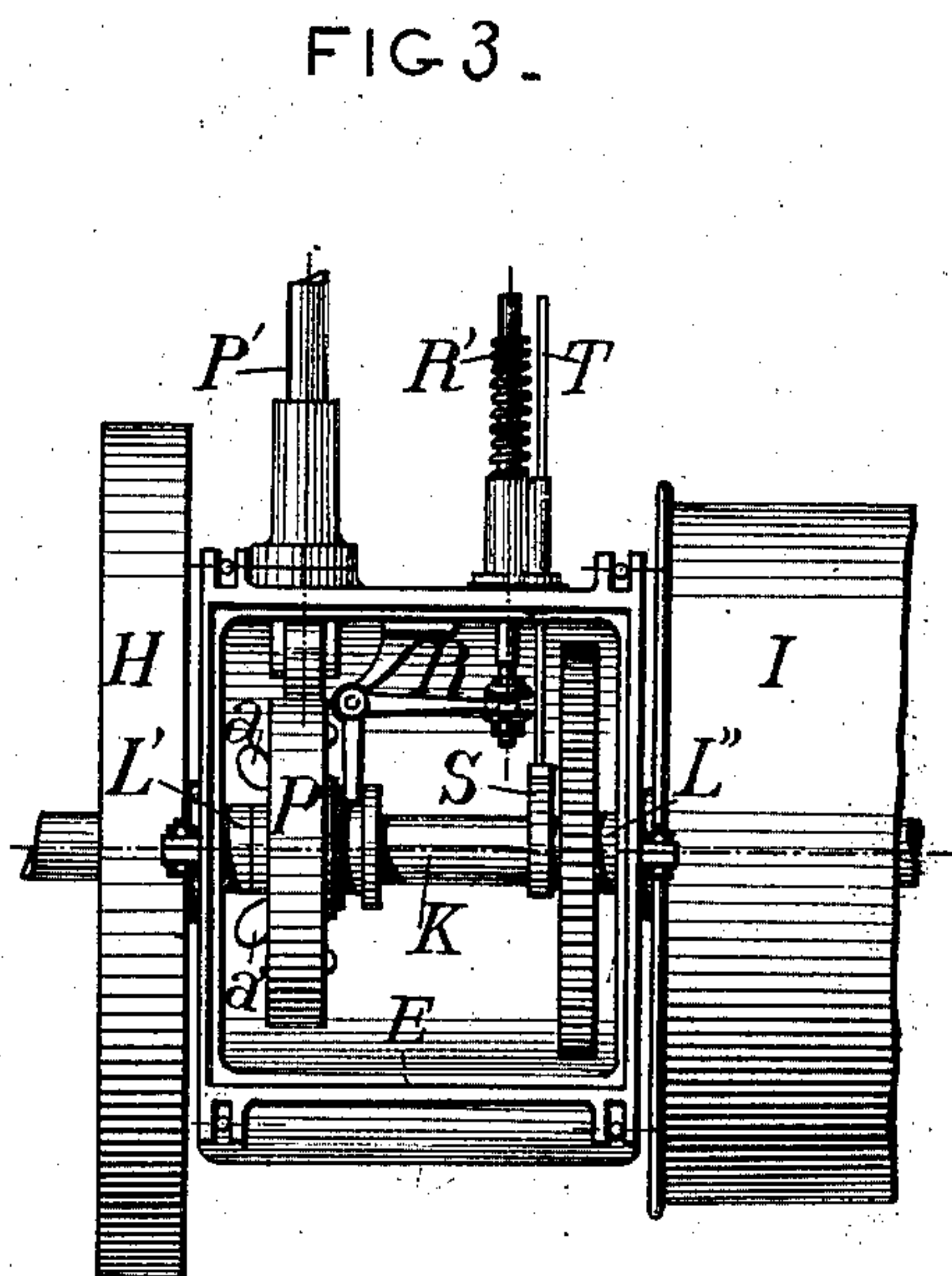
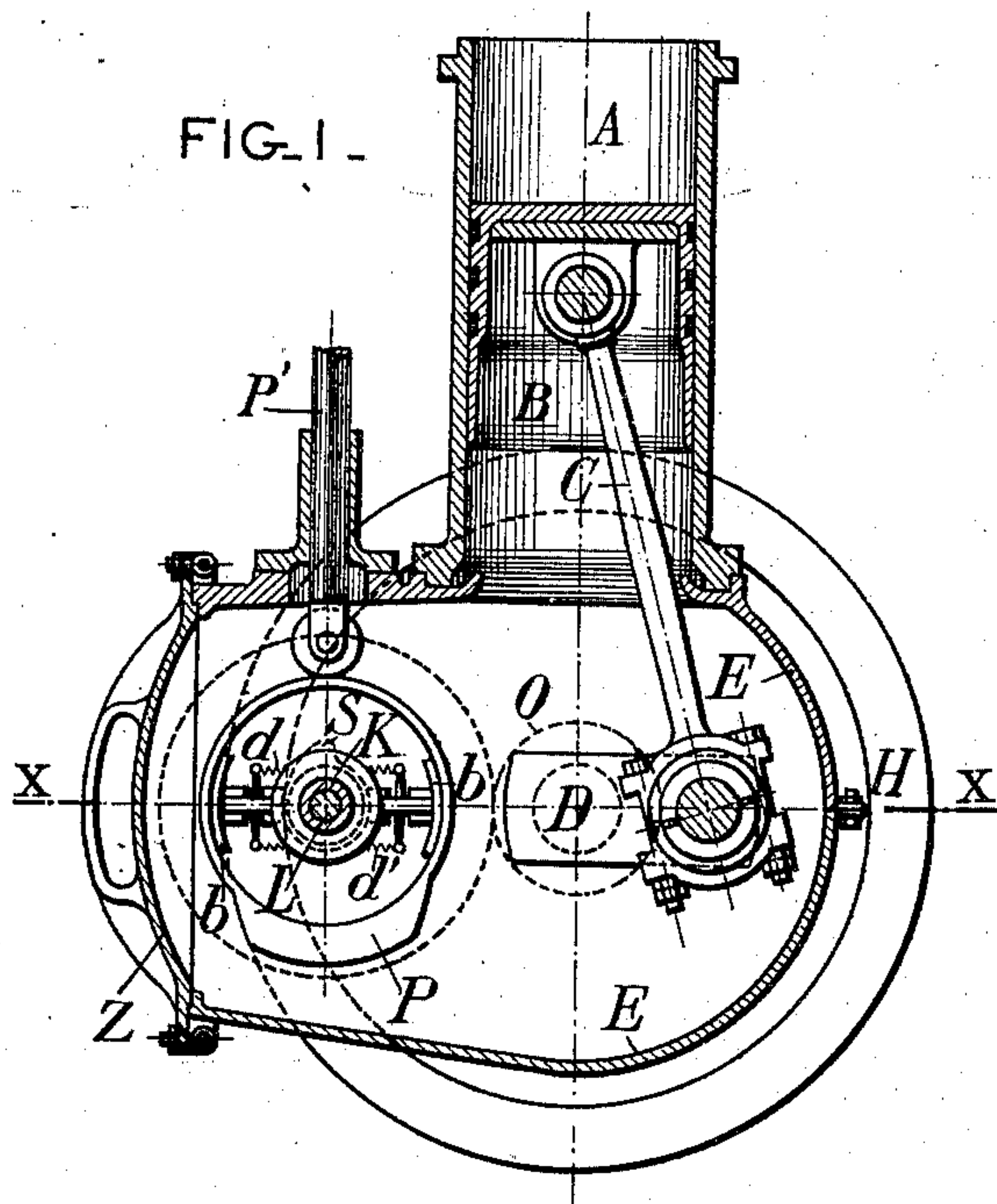
No. 671,160.

Patented Apr. 2, 1901.

G. L. V. CHAUEAU.
GAS ENGINE OR MOTOR.

(Application filed June 5, 1900.)

(No Model.)



Witnesses
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UNITED STATES PATENT OFFICE.

GUSTAVE LÉON VICTOR CHAUEAU, OF PARIS, FRANCE.

GAS ENGINE OR MOTOR.

SPECIFICATION forming part of Letters Patent No. 671,160, dated April 2, 1901.

Application filed June 5, 1900. Serial No. 19,126. (No model.)

To all whom it may concern:

Be it known that I, GUSTAVE LÉON VICTOR CHAUEAU, engineer, a citizen of the French Republic, residing at 29 Rue des Belles-Feuilles, Paris, France, have invented a new and useful Improvement in Gas Engines or Motors, of which the following is a specification.

The object of my invention is to provide a motor which is simple in construction, compact, light, easily kept in order and examined, and of great durability.

To secure the above results, I constitute a simple and fast-running motor in which all the distributing, regulating, and transmitting parts are arranged in a single closed casing containing a quantity of oil which secures perfect lubrication by dipping. The parts thus contained in the casing can be quickly inspected, an easily-removable door giving access to the interior through a large opening reserved in the said casing. Such of the said parts as are delicate can also be easily taken out of the casing to be examined or repaired, if necessary.

In the accompanying drawings I have shown a motor incorporating my invention.

Figure 1 is a vertical section. Fig. 2 is a horizontal section on the line xx , Fig. 1; and Fig. 3 is a side view, the door of the casing being removed.

In the said drawings, A represents the cylinder of the motor; B, the piston; C, the pitman; D, the driving-shaft; E, the casing in two parts; H, the fly-wheel; I, an operating-drum; K, the counter-shaft, on which are fixed the distributing, regulating, and other devices, the said shaft K being operated by the driving-shaft by means of a pair of toothed wheels loosely mounted on a fixed axis or spindle L, supported by the casing at L' L'' and held in place or clamped by the two parts of the casing and by a square head which fits into the recess L' and which also prevents the said spindle from turning. It will be seen that the said axis or spindle L can be readily removed by pushing the end L'' by means of a small bar or other convenient instrument introduced through the hole N in the drum I and afterward drawing it out by its head through the hole M made in the fly-wheel H for this purpose, Fig. 2, which shows the spindle partially removed. In this way after re-

moving a door Z and also the spindle L the intermediate or counter shaft K, together with the devices carried by the same, can be easily taken out at once by hand.

The motor or engine shown in the accompanying drawings is a four-stroke cycle explosion-engine having electric igniter, automatic inlet-valve and operated exhaust-valve, and any suitable regulating device.

The shaft K is in this case operated by the pinion O, fixedly mounted on the driving-shaft and having half the radius of the toothed wheel fixedly mounted on shaft K.

The exhaust-cam (shown at P) operates the exhaust-valve through the medium of a rod P'. The said cam P is hollow and serves as a support for the different parts of a ball-governor comprising two ball-carrying levers a a' , pivoted to supports b and operating a sleeve c , which is made in two parts for convenience of fitting. The said levers are connected by two springs d d' , fixed to balance-beams. One of the latter is movable about the ball-carrying lever, so as to obtain equal tension of the two springs. The said sleeve c , through the medium of a lever R for that purpose and of a bar R', controls the regulating devices. The springs d d' may be replaced by a single spring, drawing the bar R' outward, and thus tending to bring the balls of the governor together.

S designates the igniting-cam. Ignition can be effected in any convenient manner by the rod T.

The above description is only given by way of example. The principle of my invention can be applied just as well to a double-acting engine or one having several cylinders, whether vertical or horizontal, driven by steam or any other fluid, with or without a regulator, the igniting-tube being either automatic or operated, having several valves or other distributing devices automatic or operated, with automatic or mechanical carbureter, pump, &c. The number of cams may be increased for that purpose. Either the dimensions or the form may be modified. The cams may be replaced by ratchet-wheels or other devices, so as to operate all the parts for the purpose for which they are intended.

I claim—

1. The combination with the casing, of the

driving-shaft, the tubular counter-shaft geared to the driving-shaft, and the spindle extending through the counter-shaft and removably supported in bearings in the casing, 5 substantially as set forth.

2. The combination with the casing, of the driving-shaft supported in bearings therein, the tubular counter-shaft geared to the driving-shaft and carrying the distributing and 10 regulating devices, the spindle extending through the counter-shaft and removably supported at its ends in bearings in the casing, and means to hold the spindle against turning, substantially as set forth.

15 3. The combination of the driving-shaft,

the tubular counter-shaft, the governor or regulator carried by the latter, the gearing connecting said shafts, the surrounding casing having a removable door adjacent to the counter-shaft, and a spindle extending 20 through the counter-shaft and removably supported in the casing, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of 25 two subscribing witnesses.

GUSTAVE LÉON VICTOR CHAUVÉAU.

Witnesses:

CLAUDIUS LUSSON,

EDWARD P. MACLEAN.