

No. 661,181.

Patented Nov. 6, 1900.

J. W. LAMBERT.

SPEED REGULATOR FOR GAS ENGINES.

(Application filed Dec. 23, 1899.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

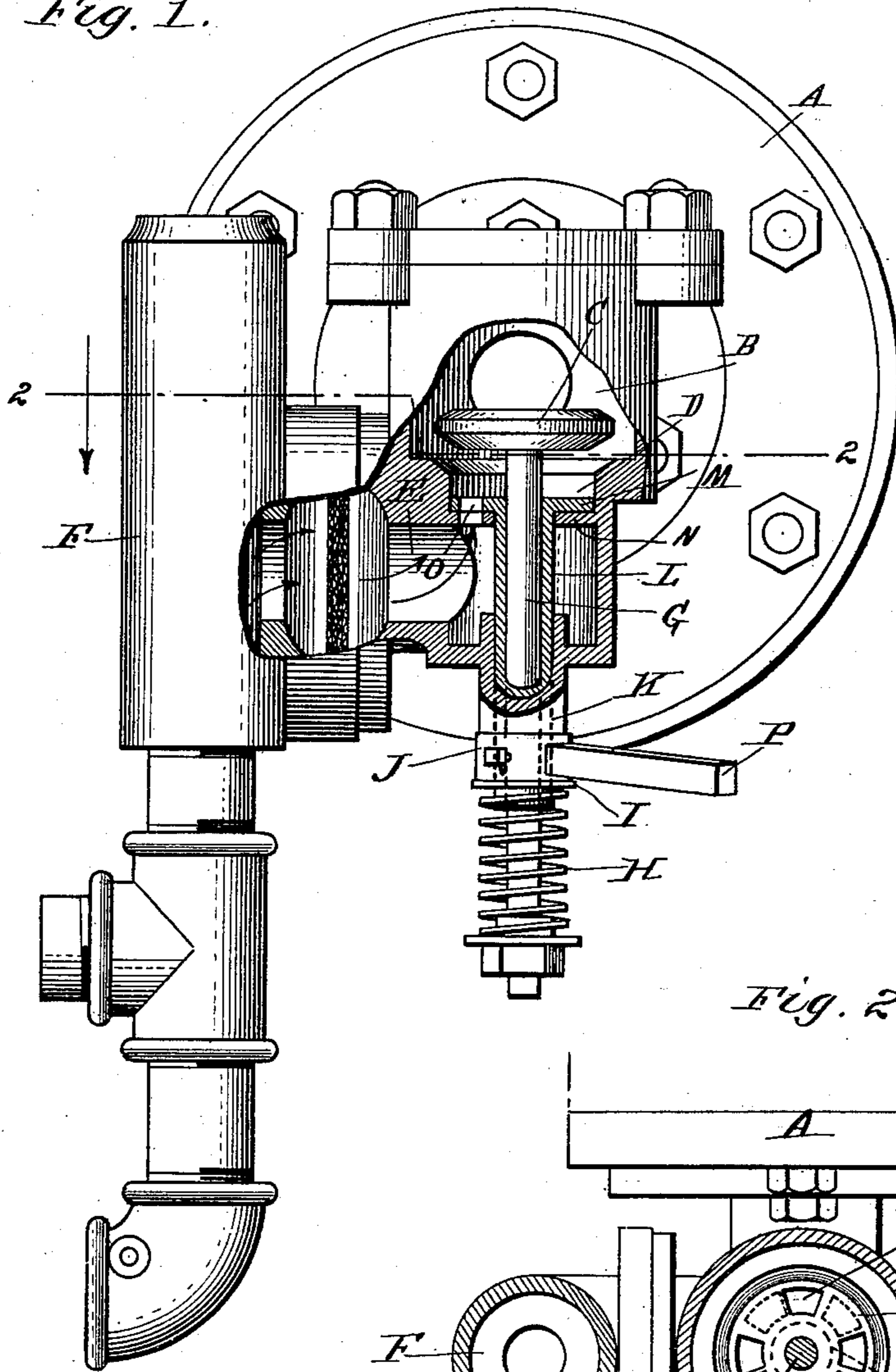
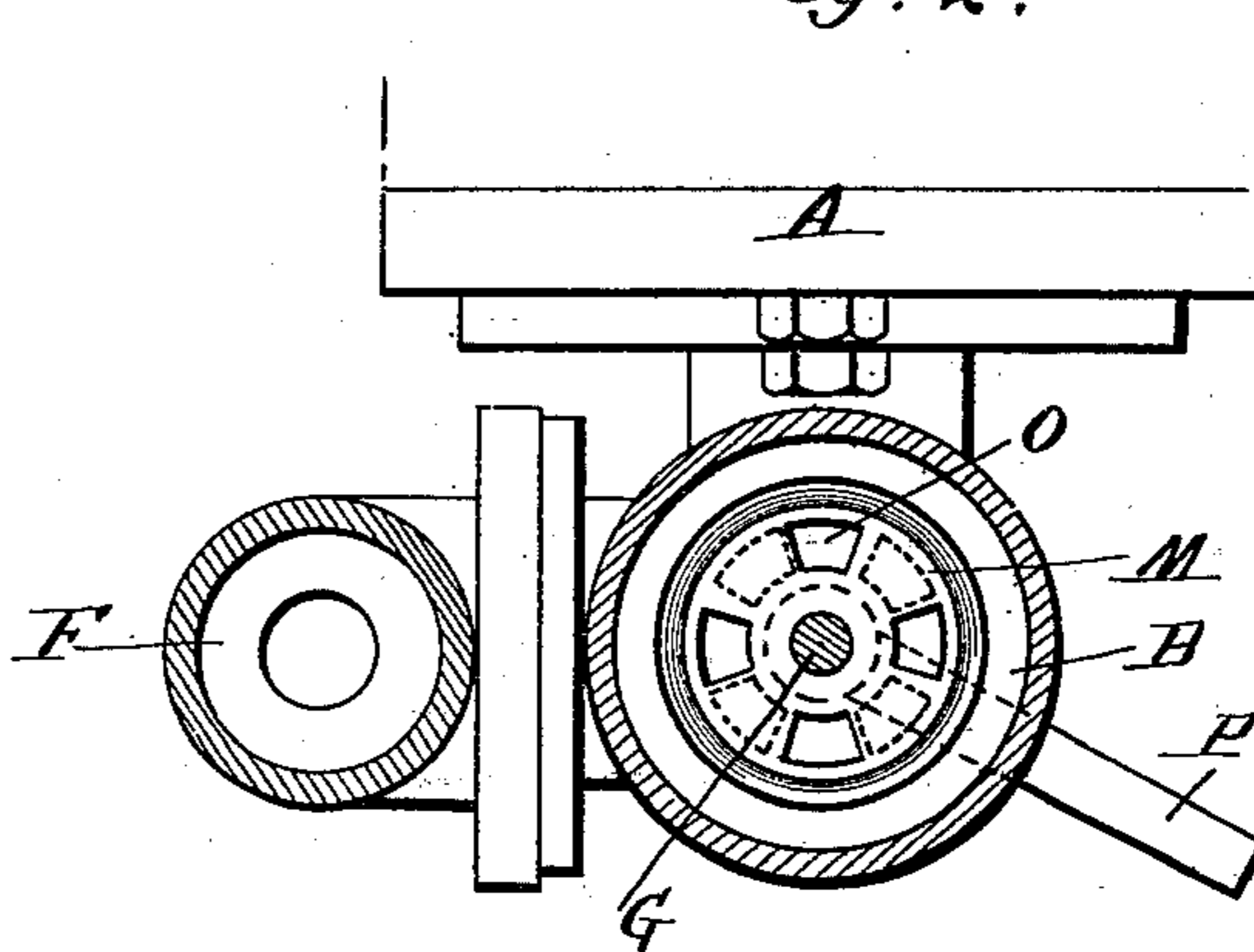


Fig. 2.



Witnesses
George D. Richards
G. H. Walmsley

Inventor,
John W. Lambert,
By Daniel D. Davis,
Attorneys.

No. 661,181.

Patented Nov. 6, 1900.

J. W. LAMBERT.

SPEED REGULATOR FOR GAS ENGINES.

(Application filed Dec. 23, 1899.)

(No Model.)

2 Sheets—Sheet 2.

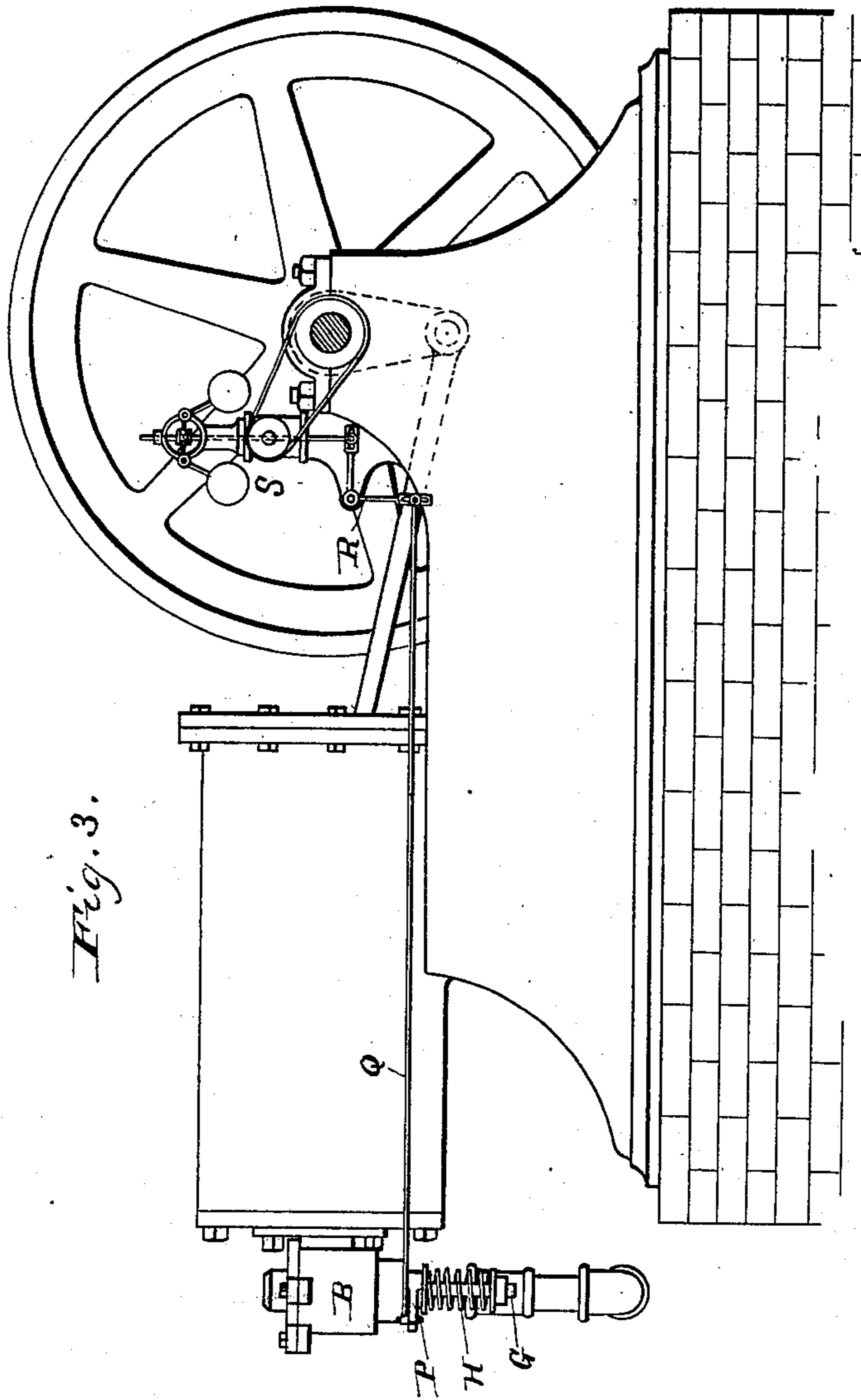


Fig. 3.

Witnesses
Gales Thorne.
B. F. Johnson

Inventor
John W. Lambert
By David Davis
Attorney

UNITED STATES PATENT OFFICE.

JOHN W. LAMBERT, OF ANDERSON, INDIANA, ASSIGNOR TO THE BUCKEYE MANUFACTURING COMPANY, OF SAME PLACE.

SPEED-REGULATOR FOR GAS-ENGINES.

SPECIFICATION forming part of Letters Patent No. 661,181, dated November 6, 1900.

Application filed December 23, 1899. Serial No. 741,405. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. LAMBERT, a citizen of the United States, and a resident of Anderson, county of Madison, and State of Indiana, have invented certain new and useful Improvements in Speed-Regulators for Gas-Engines, of which the following is a full, clear, and exact description, reference being had therein to the accompanying drawings.

10 In Figure 1 of the drawings is represented an end view of a gas-engine cylinder having attached to it my device, the device being shown partly in section. Fig. 2 is a horizontal sectional view taken on line 2 2 of Fig. 1.
15 Fig. 3 is a side elevation of a gas-engine provided with my improvements.

The object of my invention is to provide a simple device for automatically proportioning the charge of gaseous material to the work the engine is to perform, thereby saving fuel and regulating the speed of the engine, as more fully hereinafter set forth.

Referring to the drawings by letters, A designates the engine-cylinder; B, the igniting-chamber connected to the head of the cylinder and provided with an inlet-valve C, seating over an opening D in the bottom of the chamber B, this opening being in communication with a lateral passage E, leading to a
30 suitable air and gas mixer F. The stem G of valve C depends through passage E and is adapted to be lifted to raise the valve from its seat periodically by the suction of the engine, the valve being held normally closed by a
35 spring H, surrounding the lower end of the valve-stem, and abutting at its upper end against a washer I, which in turn abuts against a collar J, abutting against the lower end of a tube K, depending from and formed
40 integral with the lower wall of passage E, said stem G depending through said tube K, as shown. Surrounding the valve-stem G is a sleeve L, provided with a disk M at its upper end, working in the valve-opening D, just
45 below valve C. The disk M rests upon another disk N, formed integral with the lower wall of the igniting-chamber and having a central opening for the passage of sleeve L, these two disks fitting each other closely and
50 being provided with correspondingly-shaped openings O, which are adapted to register

with each other to permit the inward passage of the gas and to non-register when disk M is rotated to shut off the gas. The disk M fits the depressions under the valve C nicely, and the edge of the central opening and disk N fit closely against sleeve L, so that the gas can pass said disks only through the openings O when the same register.

The sleeve L closely fits stem G and depends through sleeve-tube K, nicely fitting the same also. The collar J is secured rigidly to the projecting end of tube L, and to said collar is attached a lateral arm P, which is adapted to be attached to the governor devices of the engine, said devices being of any suitable construction that will rotate said arm P as the speed of the engine varies. For instance, as shown in Fig. 3, the arm P may be connected through the medium of a horizontal rod Q and an angular lever R to the stem of the governor mechanism S.

It will be observed that each intake of gas valve C is lifted by well-known mechanism and the gas passes into the igniting-chamber through openings O, said openings being held normally in register. Should the speed of the engine increase the governor will rotate disk M through the medium of arm P and sleeve L, and thereby decrease the supply of gas to the engine, the amount of reduction in supply being determined by the degree of increase in speed, as is obvious. As is obvious, valve C and its stem move entirely independently of the auxiliary valve or throttle devices, and that said devices are extremely simple and compact, the upper disk M being held positively to its seat on disk N by the rigidly-fastened collar J.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

In combination with a gas-engine, an igniting-chamber connected to the working cylinder thereof, a gas-supply conduit connected with the said chamber, a main valve seated over the opening therebetween, this valve being provided with a stem extending through the wall of the supply-conduit, an apertured auxiliary valve-seat between the main valve-seat and the supply-passage, an auxiliary disk valve seated on said seat, against the

face adjacent to the main valve and provided
with an aperture, a sleeve connected to said
disk valve and surrounding the main valve-
stem and extending out through the wall of
5 the gas-passage, a device for holding said
disk valve against its seat, a governor mech-
anism connected to the projecting end of said
sleeve and adapted to rotate the same inde-
pendently of the main valve-stem, and means
10 for intermittently operating the main valve

and its stem independently of the auxiliary
valve and its governor mechanism.

In testimony whereof I hereunto affix my
signature, in the presence of two witnesses,
this 13th day of December, 1899.

JOHN W. LAMBERT.

Witnesses:

G. S. KING,

HARVEY E. LONGENECKER.