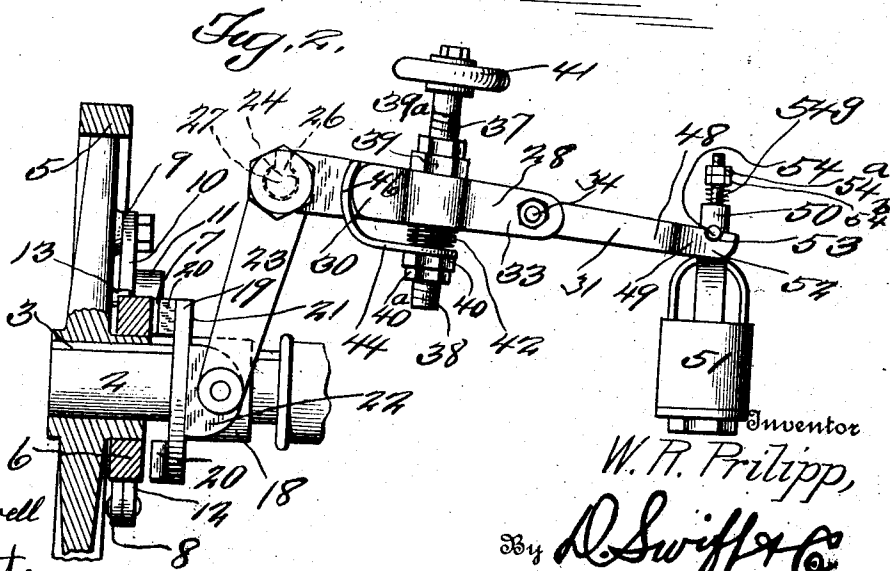
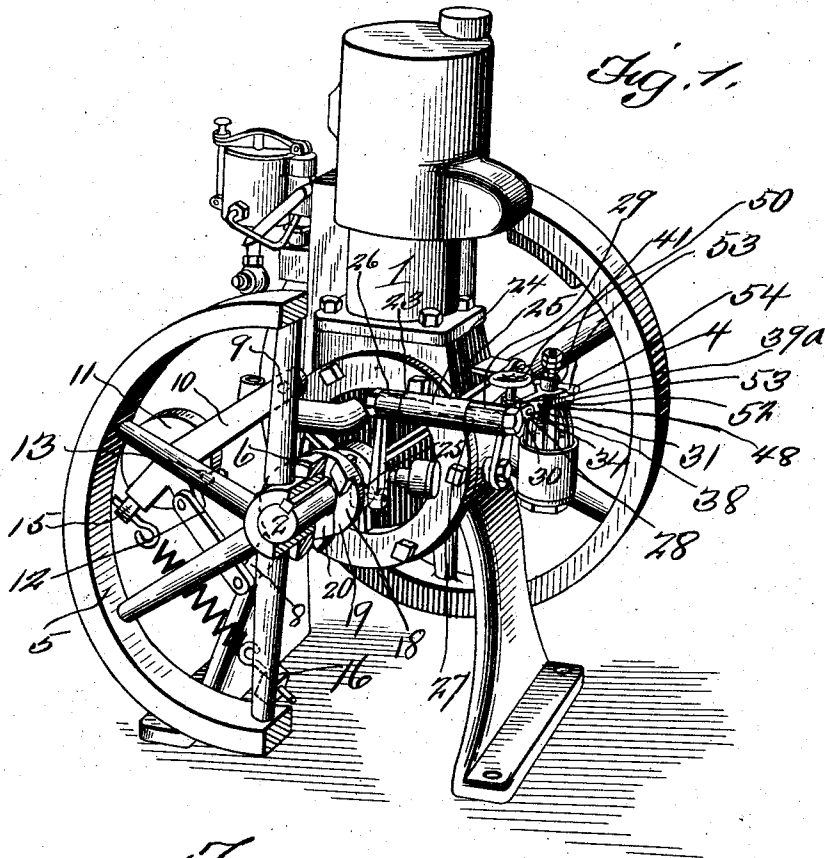


W. R. PRILIPP.
GOVERNOR MECHANISM FOR EXPLOSIVE ENGINES.
APPLICATION FILED MAY 9, 1912.

1,054,985.

Patented Mar. 4, 1913.
2 SHEETS—SHEET 1.



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Fig. 3.

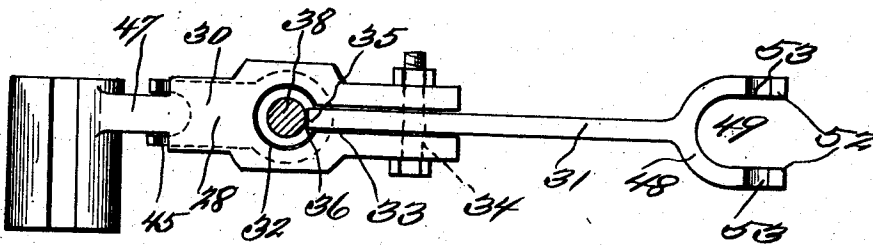


Fig. 4.

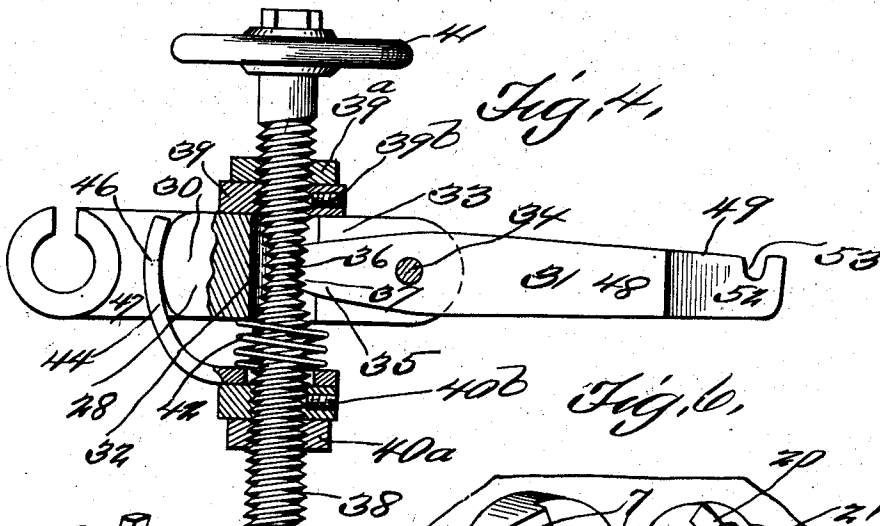


Fig. 6.

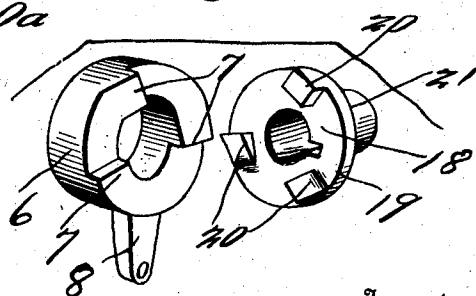
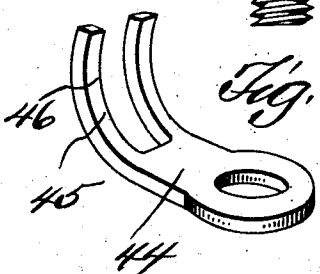


Fig. 5.



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UNITED STATES PATENT OFFICE.

WILLIE R. PHILIPP, OF MESERVEY, IOWA.

GOVERNOR MECHANISM FOR EXPLOSIVE-ENGINES.

1,054,985.

Specification of Letters Patent.

Patented Mar. 4, 1913.

Application filed May 9, 1912. Serial No. 696,143.

To all whom it may concern:

Be it known that I, WILLIE R. PHILIPP, a citizen of the United States, residing at Meservey, in the county of Cerro Gordo and State of Iowa, have invented a new and useful Governor Mechanism for Explosive-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.

This invention relates to a new and useful governor mechanism for explosive engines, and particularly to a lever arranged between the air inlet valve and the mechanism operated by the centrifugally operated device carried by one of the fly wheels of the engine.

The principal object of the invention is to provide such a lever comprising two sections, one of which is provided with means for adjusting the other for regulating the air inlet valve, so as to more efficiently govern and regulate speed of the engine.

The invention comprises further features and combination of parts, as hereinafter set forth, shown in the drawings, and claimed.

In the drawings:—Figure 1 is a view in perspective of an explosive engine, showing the improved governor mechanism including the improved sectional lever, as applied thereto. Fig. 2 is a view of one of the fly wheels showing the centrifugally operated device carried thereby which operates a ring on the fly wheel hub, which in turn forces a ring on the crank shaft against a shoe of an arm of a rocking pin mounted in a bearing and adapted for raising the sectional lever. Fig. 3 is a plan view of the sectional lever. Fig. 4 is an elevation of the sectional lever. Figs. 5 and 6 are detail views.

Referring to the drawings 1 designates the usual form of explosive engine, the interior structure of which forms no part of the present invention, therefore not disclosed. The engine may be of any desired horse-power.

Mounted upon the usual crank shaft 2, and keyed thereto as shown at 3 are the usual fly wheels 4 and 5. Partially rotatable upon the hub of the fly wheel 5 is a ring 6 having cam projections 7, and provided with a radially extending arm 8. Pivoted at 9 to one of the spokes of the fly wheel 5 is an arm 10 having a weight 11. The weighted end of the arm 10 is connected to

the arm 8 by the link 12. The weighted end of the arm 10 is normally held in contact with a pin 13 of one of the spokes of the fly wheel 5, by means of the spring 14, which connects to the weighted end of the arm 10 as at 15 and to the fly wheel as at 16. It will be seen that as the fly wheel 5 rotates with the crank shaft 2, the ring 6 rotates with it, but when by the centrifugal force, the weighted end of the arm 10 is thrown outwardly, the ring 6 is partially rotated relatively to and independently of the fly wheel 5. Keyed slidably to the crank shaft, as shown in the drawings, is a sleeve 18 having an annular flange 19, which is provided with cam projections 20. It will be observed that as the ring 6 is partially rotated relatively and independently of the fly wheel 5, its cam projections 7 cooperate with the cam projections 20 of the flange 19, so as to cause the sleeve 18 to slide, thereby causing the face 21 of the flange 19 to frictionally contact with the shoe 22, of the arm 23 of the rock pin 24, which is mounted in a rigid bearing 25 of the casing of the engine. The arm 23 does not form a part of the rock pin, but is keyed thereto, as shown at 26. Keyed to the end 27 of the rock pin is the improved sectional lever 28. The keyed connection between the lever 28 and the pin is denoted by the character 29. The improved lever 28 comprises the two parts 30 and 31, as shown clearly in the Figs. 3 and 4 in the drawings. The part 30 is provided with a non-threaded circular opening 32, and beyond this opening the part 30 is bifurcated, which bifurcation 33 adjoins the opening. The part 31 of the lever is pivoted in the bifurcation upon the pin 34, and its tail end 35 is provided with teeth 36, which are engaged by the teeth or threads 37 of the screw 38, which is mounted in the opening 32. This screw 38 is provided with nuts 39 and 40, and upon one end of the screw a hand wheel 41 is fixed. Between the nut 39 and the part 30 of the lever a coil spring 42 is interposed. However, interposed between the nut 39 and the spring and mounted upon the screw 38 is one end of an angle plate 44, the end 45 of which terminates in a forked portion 46, which arches a reduced portion 47 of the part 30 of the lever. This plate 44 is designed especially to prevent the coil spring 42 from turning with the bolt, as the same is adjusted, in order to regulate the position

of the part 31 of the lever. The end 48 of the part 31 of the lever terminates in a bifurcation 49, which receives the upper portion of the valve stem 50 of the air inlet valve 51, which is of the usual construction. The arms 52 of the bifurcated end of the part 31 are provided with notches or recesses 53, which receive the ends of the transversely disposed pin 54 of the upper end of the valve pin.

It will be observed that by the provision of the coil spring 42, the valve will not be suddenly raised, when the lever 28 is raised upon its pivot, but will be yieldably raised, and by the provision of the screw 40 and the two parts of the lever 28, the valve (not shown) may be infinitesimally regulated.

From the foregoing it will be noted there has been devised a novel, efficient and essential section lever, adapted for use in conjunction with the governor mechanism of an explosive engine, whereby the air inlet valve may be regulated to the smallest degree, and one which has been found desirable and practical.

The invention having been set forth, what is claimed as new and useful is:—

1. In an explosive engine, an air inlet valve, a governor mechanism including a rock pin, and a lever carried by the rock pin and provided with a yieldably mounted end having connection with the stem of the inlet valve.
2. In an explosive engine, an air inlet valve, a governor mechanism including a rock pin, and a lever carried by the rock pin and provided with a yieldably mounted end having connection with the stem of the inlet valve, and means for adjusting the yieldably mounted end.
3. In an explosive engine, an air inlet valve, a governor mechanism therefor in-

cluding a rock pin, a lever carried by the rock pin and comprising two sections fulcrumed together, one of the sections being connected to the stem of the inlet valve, means for adjusting one of the sections, and yieldable means between the first means and the section connected to the valve, whereby the valve is yieldably raised as the governor mechanism operates.

4. In an explosive engine, an inlet valve, a governor mechanism therefor, and connections including yieldable means between the mechanism and the valve whereby the valve is yieldably raised as the governor mechanism operates.

5. In an explosive engine, an inlet valve, a governor mechanism therefor, and connections including yieldable means between the mechanism and the valve whereby the valve is yieldably raised as the governor mechanism operates, and means for adjusting the connections.

6. In an explosive engine, an air inlet valve, a governor mechanism therefor including a rock pin, a lever carried by the rock pin and comprising two sections fulcrumed together, one of the sections being connected to the stem of the inlet valve and having its tail end terminating in teeth, a screw mounted in one of the sections adapted to engage the teeth for adjusting the section having the teeth, and yieldable means carried by the screw so that one of the sections yieldably raises the inlet valve.

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

WILLIE R. PRILIPP.

Witnesses:

CHARLIE SMITH,
THEODOR WENDEL.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."