Aug. 12, 1924. 1,504,968

F. OWENS

ENGINE GOVERNOR

Filed July 23, 1921

Fig. 1.

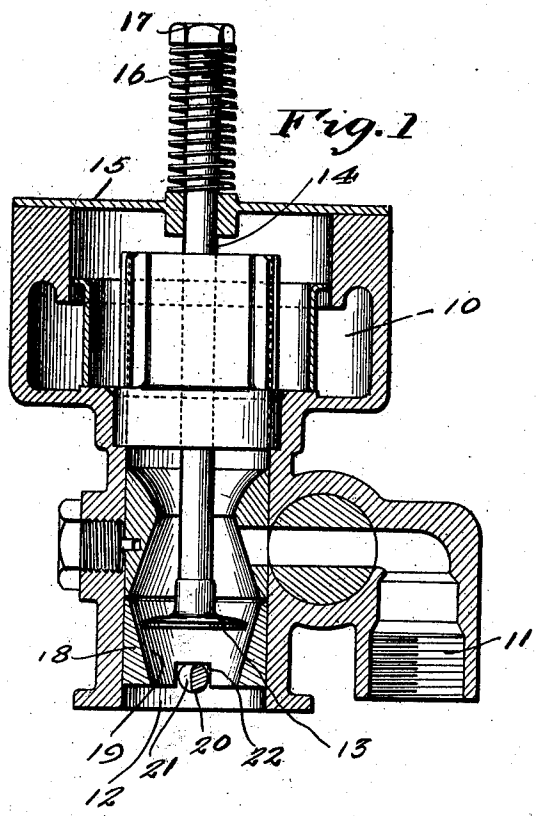


Fig. 3.

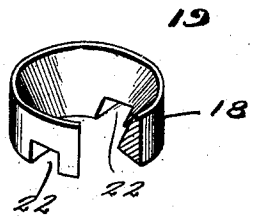


Fig. 2.

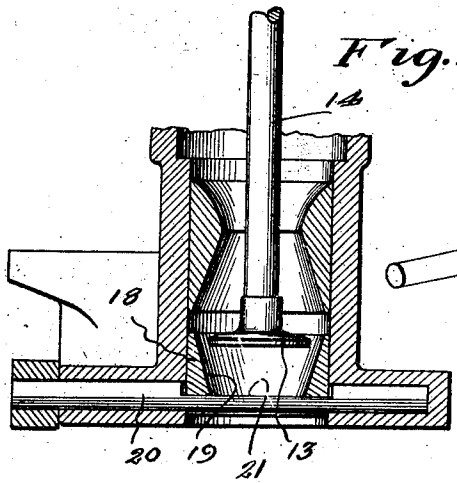
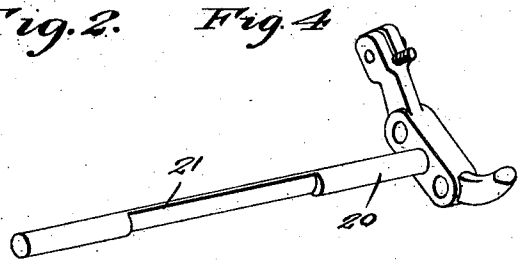


Fig. 4



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WITNESSES

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UNITED STATES PATENT OFFICE.

FRED OWENS, OF SOMERSET, KENTUCKY.

ENGINE GOVERNOR.

Application filed July 23, 1921. Serial No. 487,165.

To all whom it may concern:

Be it known that I, FRED OWENS, citizen of the United States, residing at Somerset, in the county of Pulaski and State of Kentucky, have invented new and useful Improvements in Engine Governors, of which the following is a specification.

This invention relates to means for automatically governing the speed of operation of an internal combustion engine.

In tractors of the above type, it is important in the proper care of the engine, that the latter be not operated to exceed a predetermined number of R. P. M., for example 1000 R. P. M. Speed in excess of this number of revolutions, will tend to shorten the life of or injure the engine, and to prevent this, the present invention aims to provide means whereby the carbureter may be adjusted to maintain a predetermined speed for the engine under a given load and in the event of a decrease of load, without further adjustment of the carbureter, the latter will automatically operate to prevent any increase of speed of the engine.

With the above and other objects in view, the invention further includes the following novel features and details of construction, to be hereinafter more fully described, illustrated in the accompanying drawings and pointed out in the appended claims.

In the drawings:—

Figure 1 is a central vertical sectional view through a carbureter of the "Holly" type with the invention applied thereto.

Figure 2 is a fragmentary sectional view taken at right angles to Figure 1.

Figure 3 is a detail view of the manually operated throttle valve.

Figure 4 is a similar view of the cam shaft, by means of which the above mentioned valve is controlled.

Referring in detail to the drawings, wherein like characters of reference denote corresponding parts, the reference character 10 indicates the mixing chamber of a carbureter of the type used on "Fordson tractors." This carbureter includes a kerosene inlet 11, which is connected to a suitable source of supply, and a fuel outlet 12, which is connected to the usual manifold for conducting the fuel mixture to the engine cylinders. All of the foregoing is of the usual construction.

The invention includes means controlled by the suction of the engine cylinders for regulating the speed of the engine and for this purpose there is provided a disk valve 13, which is carried by a stem 14. This stem extends upward through the cover plate 15 of the mixing chamber 10 and is surrounded by a spring 16, the tension of which is adjusted by means of a nut 17.

The valve 13 cooperates with a conical valve seat provided in a member 18, positioned within the carbureter, adjacent the fuel outlet 12. This member is in the form of a sleeve having a sliding fit within the mouth of the fuel outlet 12 and having a conical bore 19, the walls of which cooperate with the valve 13, the space between the walls of this bore and the edge of the valve 13 forming an annular passage for the fuel mixture to the engine.

By means of the nut 17, which is threaded upon the upper end of the stem 14, the valve 13 may be moved relatively to the conical seat 19 so as to provide for a predetermined speed of the engine under a given load. Any tendency to increased speed, will increase the suction from the engine cylinders and draw the valve member 13 downward toward the seat and reduce the supply of fuel mixture. The engine will thus be maintained at practically the speed for which the valve is set.

The invention further provides means by which the engine may be accelerated through the use of the usual manually operated throttle lever. For this purpose the member 18 is slidable within the mouth of the fuel outlet 12 and rests upon a transversely arranged rod or shaft 20. This shaft is cut away as indicated at 21 so as to provide a cam surface within the mouth of the fuel outlet and the member 18 is oppositely notched as shown at 22 to receive the cam 21.

When the engine is idling, or running at the speed for which the valve 13 has been set, the member 18 will be at its highest point and the cam 21 will be in the position shown in Figure 1 of the drawings, so as to provide a restricted space between the conical valve seat 19 and the valve 13. When the throttle is opened, this space will be increased by the downward movement of the member 18. This movement is effected through the rotation of the shaft 20, which permits the member 18 to rest upon the reduced or flattened surface of the cam 21. The fuel passage around the valve 13, will

thus be increased, as shown in Figure 2 of the drawings.

The invention is susceptible of various changes in its form, proportions and minor details of construction and the right is herein reserved to make such changes as properly fall within the scope of the appended claim.

Having described the invention what is claimed is:—

In combination with the fuel passage of an internal combustion engine, a governor comprising a sleeve located at the outlet end of the passage, said sleeve having a tapered bore with the restricted end of said bore disposed toward the outlet end of said passage and having diametrically spaced notches at its restricted end defining seats, a cylindrical rock-shaft extending transversely through the fuel passage within said seats and supporting said sleeve and a reduced flattened portion provided upon the shaft at its point of engagement with the seats, whereby rotation of the shaft will regulate the position of the sleeve.

In testimony whereof I affix my signature.

FRED OWENS.