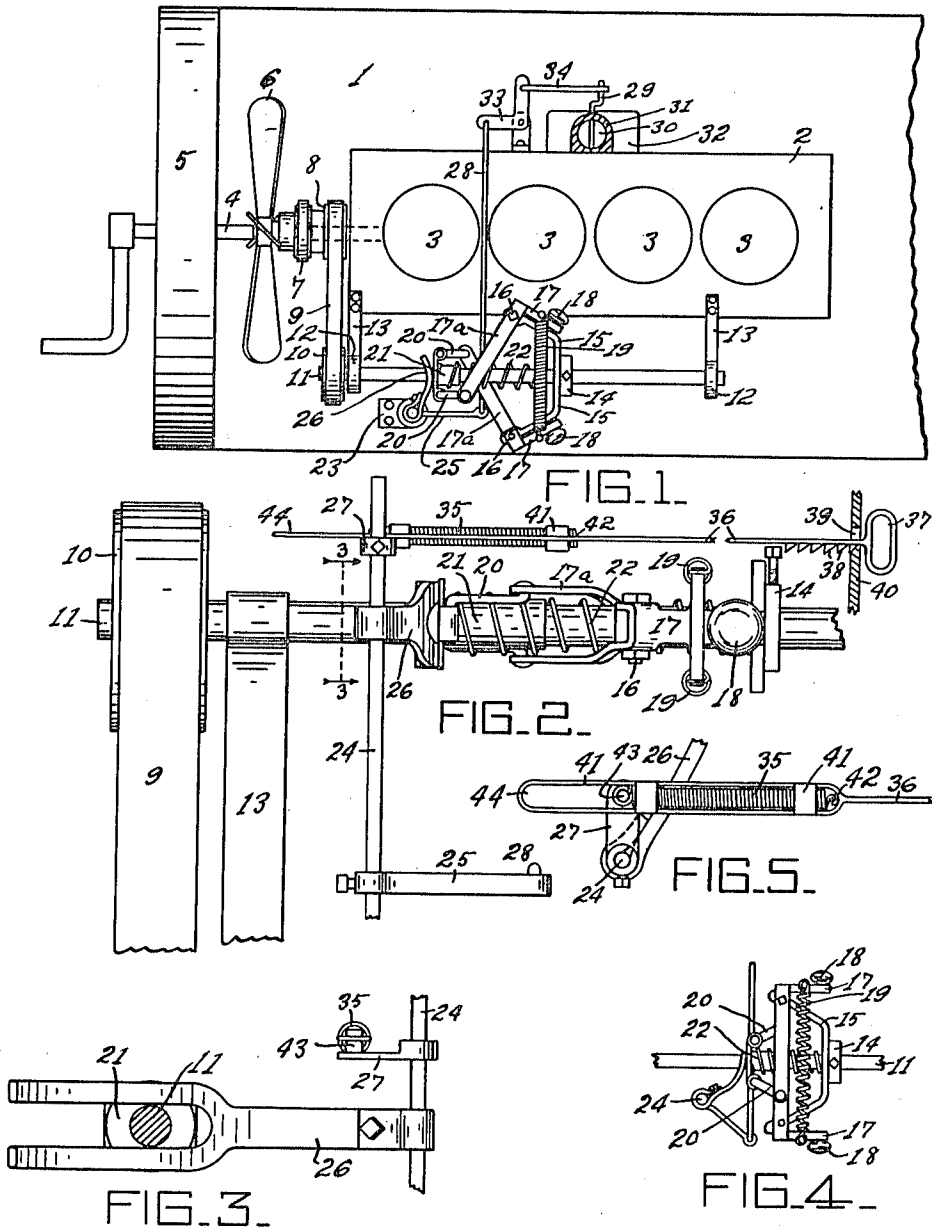


A. H. KRAFT.
GOVERNOR FOR EXPLOSIVE ENGINES.
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1,274,422.

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UNITED STATES PATENT OFFICE.

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GOVERNOR FOR EXPLOSIVE-ENGINES.

1,274,422.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, AUGUST H. KRAFT, a citizen of the United States, residing at Rosemount, in the county of Dakota and State of Minnesota, have invented a new and useful Governor for Explosive-Engines, of which the following is a specification.

My invention relates to governors for explosive engines, and the main object is to provide a practical and efficient governor, which will automatically maintain an even speed of the explosive engines used on automobiles, tractors, motor boats or for other purposes. Another object is to provide means for readily changing the regulated speed by the operating lever of the engine.

In the accompanying drawing, Figure 1 is a top or plan view of the front portion of an auto-vehicle having an explosive engine equipped with my improved governor of which the arm 27, spring 35 and rod 36 are omitted. Fig. 2 is an enlarged side elevation of the governor and some of the other parts shown in Fig. 1. Fig. 3 is a section on the line 3—3 in Fig. 2. Fig. 4 is a portion of Fig. 1 showing the governor in the position it assumes when rotated at a considerable speed. Fig. 5 is a detail top view of a portion of Fig. 2.

Referring to the drawing by reference numerals, 1 designates the front portion of an automobile having a gasoline engine 2, with cylinders 3, shaft 4, radiator 5 and a cooling fan 6. The latter is mounted as usually and driven by a belt.

Fixed on the main engine shaft, or on any other shaft operatively connected with the engine shaft, is a pulley 8 driving by a belt 9 a pulley 10 which is fixed on the governor shaft 11. Said shaft is journaled in boxes 12, which are mounted on the engine by means of suitable brackets 13.

The governor proper is composed of said shaft 11, and a hub 14 fixed thereon, and having two oppositely arranged arms 15 to each of which is pivoted at 16 a lever 17 carrying a weight 18. 19 are two coil springs arranged to normally close the weighted arms 17 against the arms 15 and to yieldingly resist the tendency of the weighted arms to spread by centrifugal force when the governor is rotated.

The longer arms 17^a of the levers 17 are connected by links 20 to a collar 21, which is slidable on the governor shaft and resisted

by a spring 22 which is auxiliary to the springs 19.

Mounted in suitable bearings, one of which is shown at 23 in Fig. 1, is a vertical shaft 24 on which are fixed three radial arms 25, 26, 27 (the latter is omitted in Fig. 1). The arm 25 is connected by a rod 28 with a crank 29 of a valve 30 in the intake manifold 31 which is partly shown in Fig. 1 as extending up from the carbureter 32. In some makes of engines this connection is direct but in others a bell-crank lever as 33 and link 34 as shown in Fig. 1, may be required.

The arm 26 is a fork straddling the governor shaft 11 and bearing against the collar 21. The third arm, 27, is comparatively short and is connected by contracting coil spring 35 to a rod 36 having a handle 37 near the operator and is provided with teeth 38 adapted to take hold of the lower terminal of a slot 39 in a stationary bracket or like object 40. The spring 35 is arranged in a yoke 41 of the rod and attached with one end at 42 in the yoke and with the other end to a pin 43 in the arm 27. By which arrangement the operator may pull the rod 36 and let such of its teeth 38 engage as will suitably resist the tendency of the springs 19 and 22 to open the valve 30, or in other words, the farther he pulls the handle 37, the more he aids the governor in spreading its weights and reducing the speed of the engine, and if he pulls so far that the terminal 44 of the yoke engages the pin 43 a further pulling will cause the governor to spread to its limit and shut off the valve 30, and the engine will stop. And if the greatest possible speed is desired the handle 37 is pushed close to the bracket 40. Thus in going down a hill or on an extra smooth road the engine cannot give the vehicle an undue speed, and when more or less than ordinary speed or force is required the same is obtainable by manipulating the operating rod 36. And where the engine is a stationary one or otherwise operates through the medium of a belt or chain and such connection should break or get out of order the engine will not attain a speed which might cause damage.

What I claim is:—

1. In a speed governor for explosive engines, suitable frame work, a shaft mounted therein and operative connection for rotating said shaft by the engine, a collar fixed on the shaft and provided with two opposite

radial arms, an angular lever fulcrumed on each of said arms and having a short arm with a weight on it, and a longer arm with a link at the end of it, a collar slidable on the shaft and connected to said links, springs arranged to normally close the weighted arms, a shaft mounted near the governor and having three radial arms, one of said arms acting on the slidable collar to aid the centrifugal force in spreading the weights of the governor, the second arm having operative connection with the gas in-

take valve of the engine, a spring connected with the third arm and an operating rod connected with said spring, and means for holding the operating rod in different positions so as to vary the tension of the spring. 15

2. The structure specified in claim 1, and means for rendering the action of the operating rod positive relative to the arm to which it is connected. 20

In testimony whereof I affix my signature.

AUGUST H. KRAFT.