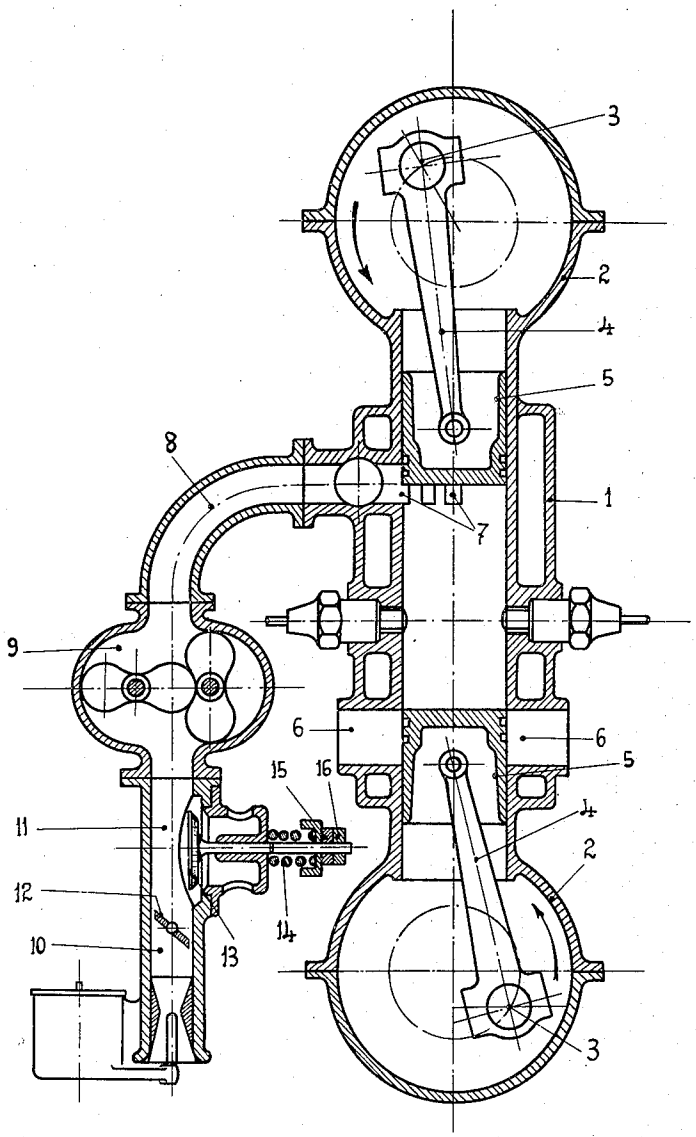
Feb. 28, 1928. 1,660,610

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SUPERFEED SYSTEM FOR TWO-STROKE INTERNAL COMBUSTION ENGINES

Filed Jan. 14. 1927



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Patented Feb. 28, 1928. 1,660,610

UNITED STATES PATENT OFFICE.

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SUPERFEED SYSTEM FOR TWO-STROKE INTERNAL-COMBUSTION ENGINES.

Application filed January 14, 1927, Serial No. 161,215, and in Italy January 20, 1926.

The two stroke engines of the kind that are superfed by means of a compressor arranged between the carburettor and the cylinders show the great inconvenience that when changing suddenly from high to low speed, an instantaneous fall of pressure takes place between the carburettor valve and the compressor and, consequently, between the compressor and the cylinders. This causes dangerous back firing in the feed tubes or conduits.

Said inconvenience, which takes place especially in engines in which the closure of the inlet ports is retarded with respect to the exhaust ports, is fully removed by the arrangement according to the present invention, which is substantially characterized by the interposition of an automatic valve between the usual carburettor valve and the compressor.

The automatic valve is so adjusted that if the carburettor valve is quickly closed while the engine is still running at the highest speed, it will open, owing to the exceptional fall of pressure produced, to admit air into the conduit, thus re-establishing at the inlet ports the lowest pressure necessary to prevent back firing. As the engine speed decreases, the automatic valve will close and the engine will continue to work at a lower speed.

The annexed drawing shows, by way of example, a diagrammatic form of construction of the arrangement applied to a two stroke engine of the opposed piston type.

Referring to the drawing, 1 is the engine cylinder block provided at its upper and lower parts with crank cases 2, 2 enclosing the crank shafts 3, 3 that are connected by means of rods 4, 4 with the pistons 5, 5.

The cylinders 1 are provided with exhaust ports 6 and with inlet ports 7. The inlet ports are fed through the tube 8 from a compressor 9 that draws the mixture from the carburettor 10 through a conduit 11 provided with a butterfly valve 12.

In this conduit is placed an automatic valve 13 arranged to open inwardly but normally seated by means of a spring 14 the tension of which can be adjusted by means of a nut 15 and lock nut 16 screwed on the stem.

If, during running at high speed, the accelerator pedal is quickly set free and therefore the butterfly valve 12 is suddenly closed, a strong fall of pressure will take place in the conduit 11 and the feed pressure in the tube 8 will be greatly decreased. This fall of pressure in the conduit 11 causes the valve 13 to open and the air thus admitted brings the pressure to a suitable value, thus avoiding back firing. Meanwhile, the speed of the engine is rapidly lowered, the compressor draws a smaller amount of mixture so that the valve 13 closes, and the feed is effected at the ordinary reduced rate.

What I claim is:

In a two-stroke internal combustion engine the combination of an engine cylinder, a compressor communicating therewith, a carburettor, a conduit connecting the latter with the compressor, a manually operated fuel control valve in the conduit, and a valve opening into the latter between the compressor and said control valve operable automatically by a fall of pressure in the conduit upon the sudden closing of the control valve, thereby admitting air for preventing back firing.

In testimony that I claim the foregoing as my invention, I have signed my name.

GUIDO FORNACA.