

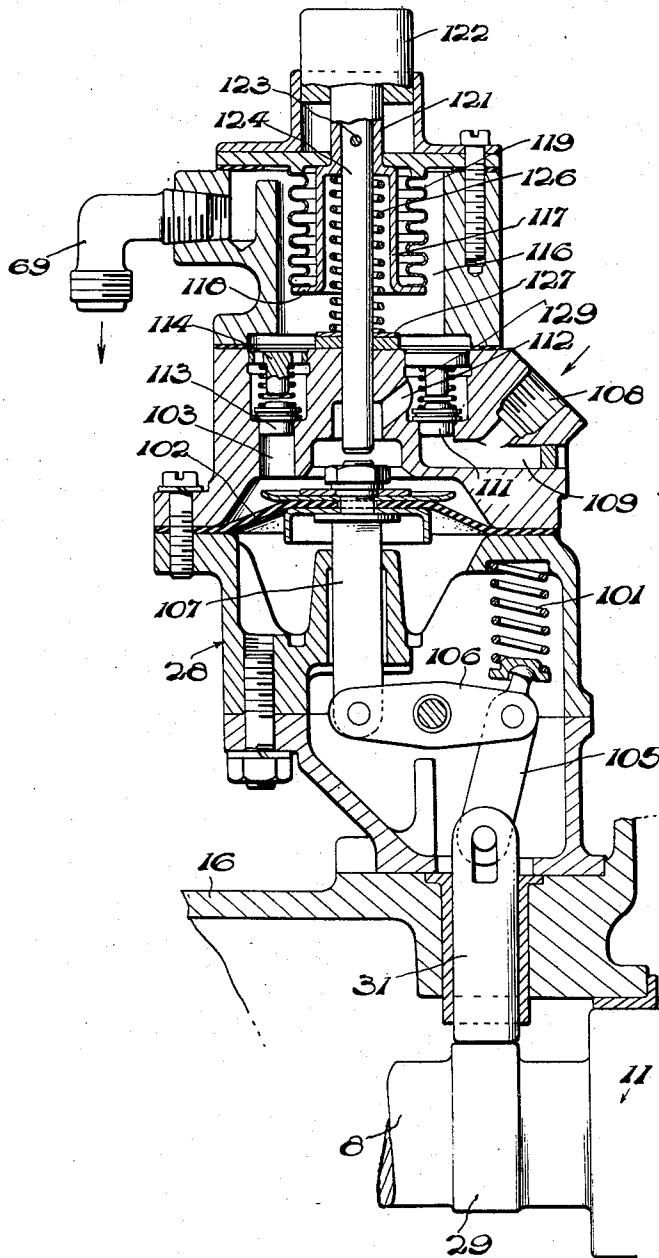
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FUEL FEED PUMP FOR INTERNAL-COMBUSTION ENGINES

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FUEL FEED PUMP FOR INTERNAL-COMBUSTION ENGINES

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1 Claim. (Cl. 103—207)

This invention relates to internal combustion engines, and particularly to the delivery of fuel thereto, and the combustion thereof.

This application is a division of my application No. 306,158, filed November 25, 1939, now Patent No. 2,243,645 granted May 27, 1941.

An object of the invention is to improve the fuel pumping mechanism for delivery of fuel to the engine.

Another object is to provide novel control means for regulating the fuel delivery.

Further objects will become apparent from inspection of the following specification when read with reference to the accompanying drawing wherein is illustrated the preferred embodiment of the invention. It is to be expressly understood, however, that the drawing is for the purpose of illustration only, and is not designed as a definition of the limits of the invention, reference being had to the appended claim for this purpose.

In the drawing, the single view illustrates a longitudinal section of the fuel pump.

As illustrated in the drawing, the fuel pump 23 has incorporated therein a spring 101 and a diaphragm 102, the delivery stroke of the pump being produced by the spring acting on one side of the diaphragm to expel liquid fuel from the pump chamber 103. The pump is equipped with cam-operated linkage 31, 105, 106 and 107 which moves the diaphragm against the action of the spring 101 to energize said spring and produce a suction stroke by which additional liquid fuel is brought into the chamber 103, by way of inlet passages 108 and 109, perforated valve 111 (having the usual pressure responsive cover adapted to open against spring 129) and port 112. The liquid

expelled past a similarly constructed perforated outlet valve 113 and a second ported member 114 enters outlet chamber 116 with which novel elements, now to be described, are associated.

To impart initial head to the liquid fuel supply, chamber 116 is provided with a "priming" plunger 117 having a flange 118 at its base to receive a bellows element 119, and a neck portion 121 to receive a manually operable knob or head 122. A pin 123 extends through the neck 121 to receive a rod 124 whose lower end is engageable with the upper extremity of the diaphragm assembly to cause downward movement of the said assembly. Spring 126 abuts a fixed plate 127 at one end, and bears upon plunger 117 at its upper end to return the plunger to the position shown after each priming stroke. If the priming action should proceed long enough to create more pressure than is desired, such excess pressure will prevent further lifting of valve 111, and therefore intake of fuel through passage 108 will cease, until such time as the pressure is relieved by way of carbureter supply line 69, due to the starting of the engine. Bellows 119 serves to seal the unit against the possibility of escape of fluid by any path other than the normal outlet 69.

What is claimed is:

In a fuel pump for an internal combustion engine, the combination with an outlet chamber, of a pump chamber, a diaphragm therein, and a manually operable diaphragm-engaging plunger passing through said outlet chamber, and means movable with said plunger to seal the outlet chamber against leakage past said plunger.

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