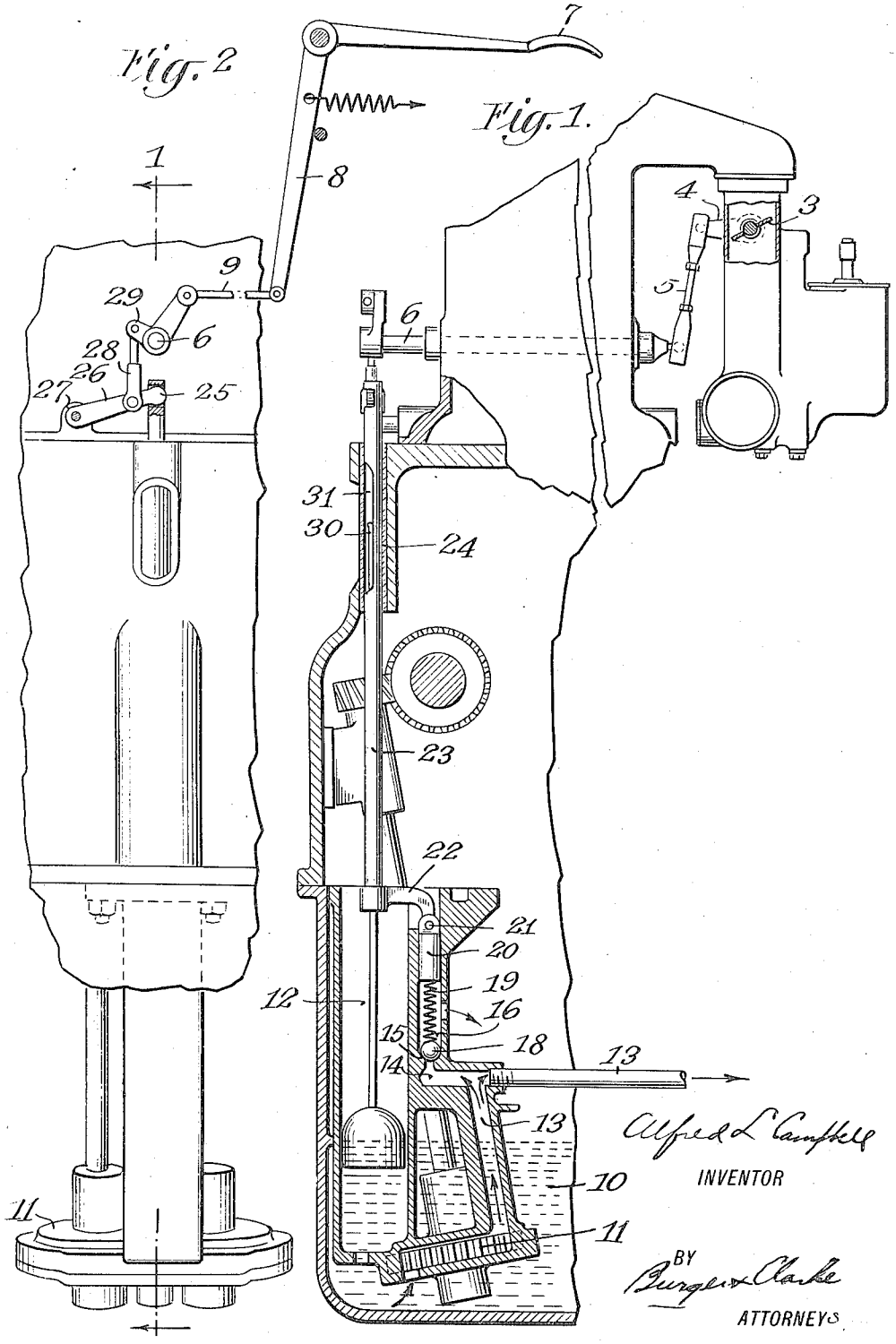
A. L. CAMPBELL.

LUBRICATING DEVICE FOR MOTOR CARS.

APPLICATION FILED AUG. 22, 1916.

1,208,286. Patented Dec. 12, 1916.



UNITED STATES PATENT OFFICE.

ALFRED L. CAMPBELL, OF ELMHURST, NEW YORK, ASSIGNOR TO BREWSTER & CO., A CORPORATION OF NEW YORK.

LUBRICATING DEVICE FOR MOTOR-CARS.

1,208,286. Specification of Letters Patent. Patented Dec. 12, 1916.

Application filed August 22, 1916. Serial No. 116,301.

To all whom it may concern:

Be it known that I, ALFRED L. CAMPBELL, a citizen of the United States, residing at Elmhurst, Long Island, county of Queens, and State of New York, have invented a new and useful Improvement in Lubricating Devices for Motor-Cars, of which the following is a specification.

My invention relates to means for lubricating the engines of motor cars and more particularly to devices whereby the supply of lubricating oil is increased automatically as the throttle is opened, so that the oil supply is not controlled merely by the speed of the engine which drives the oil feed pump.

My invention comprises several novel features including a by-pass leading from the oil duct, through which the oil is forced by the oil pump into the motor, into the oil reservoir, a spring-pressed oil pressure-relieving valve in said by-pass, and means substantially as hereinafter described whereby the pressure of the spring on the pressure-relieving valve is increased and the relieving point of the oil supply thereby raised as the fuel supply of the motor is increased.

In order that my invention may be fully understood, I shall first describe in detail the mode in which I at present prefer to carry my invention into practice, and then particularly define the invention in the claims.

Reference is to be had to the accompanying drawings forming part of this specification in which like parts are designated by the same numerals in all the figures.

Figure 1 is a sectional elevation illustrating the essential parts of a throttle-controlled lubricating device for motor cars, embodying my invention on the line 1—1, Fig. 2. Fig. 2 is a side elevation of the same.

In the drawings, the motor throttle valve is designated by 3, the throttle valve arm by 4, the valve-operating link by 5, the valve-operating armed rock shaft by 6, the accelerator or valve-operating pedal and connections by 7, 8 and 9 respectively, the oil reservoir by 10, the oil pump driven by the motor by 11, the oil level indicator by 12, and the oil outlet duct leading to the parts to be lubricated by 13. From the oil outlet duct 13, I form a by-pass 14, leading through a valve seat 15, cylindrical valve chamber 16, and lateral orifice 17, back into the oil reservoir 10, and the valve seat 15 is opened and closed by a valve 18, which is held yieldingly on its seat by a spring 19 contained in the valve chamber 16. The spring 19 is held and compressed with variable pressure endwise by a plunger 20, working longitudinally in the cylindrical chamber 16, and connected by a pivot 21 to the rigid arm 22 of a vertical tubular rod 23, which is fitted to slide vertically in a fixed preferably glass tube acting as a bearing 24, on the motor frame. The upper end of the rod 23 is pivotally connected to the arm 25 of a lever 26, which is pivoted to a fixed bearing 27 on the motor frame, and is itself pivotally connected by a link 28 with the arm 29 of the throttle-operating rock shaft 6. By this construction and combination, when the accelerator 7 is depressed to open the throttle and increase the supply of fuel to the motor, the link 28 and the vertically sliding rod 23 are depressed to increase through the plunger 20 the pressure on the spring 19 and pressure-relieving valve 18. The pressure under which the oil can escape through the by-pass 14 is thereby automatically raised and the pressure under which the oil is fed to the motor is thus raised to correspond with the increased fuel supply and power of the motor. Thus the oil feed pressure is not limited by the speed of the engine driving the oil pump, which may decrease as in hill climbing, when more work is required of the engine, but is regulated automatically by the work put upon the engine.

The sight rod 30 of the oil level indicator 12, is for greater convenience in construction mounted to rise and fall in the tubular pressure-regulating rod 23, which is opened at 31 to show the indicating rod 30 through the glass bearing 24.

It is evident that the construction and arrangement herein shown and described may be greatly varied without departing from the boundaries of my invention, for a definition of which reference is to be had to the following claims.

I claim as my invention:

1. The combination, with the power regulating valve of a motor, the oil feed duct, a pressure-relieving valve in the oil feed duct, and a spring controlling said pressure-relieving valve, of spring-controlling means between said spring and the power regulating valve.

2. The combination, with the fuel-supply valve of a motor, the oil feed duct, and a pressure-relieving valve in the oil feed duct, of a spring acting on the pressure-relieving valve, a compressor acting on said spring, a chamber containing said spring and compressor, and an operating connection between said compressor and the fuel-supply valve.

3. The combination, with the oil feed duct of a motor, and a pressure-relieving valve in the oil feed duct, of a spring acting on said valve, a compressor acting on said spring, a motor power regulating valve, and operating connections between said valve and said compressor.

ALFRED L. CAMPBELL.