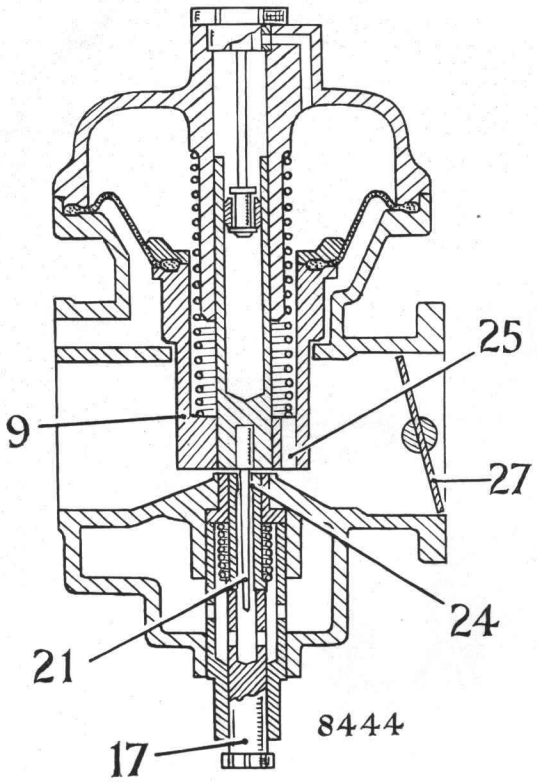

Fig. 4. *Slow running operation*

Slow running (See Figs. 1 and 4)

There is no separate idling circuit on this carburettor. Fuel is supplied by the jet (24) which is positioned by the jet adjustment (17) so that the annular space, between the needle (21) and jet (24), gives the correct fuel discharge for idling when the engine has reached its normal operating temperature.

In this condition the piston air valve (9) rises a small amount from the carburettor body as shown in Fig. 4, and the amount of air passing under the air valve piston (9) and quantity of mixture used by the engine depends on the throttle opening which is set by the slow running speed adjustment screw shown in Fig. 2.

Part and full throttle driving (See Figs. 1, 5, 6 and 7)

When the throttle is opened the air valve piston (9) and needle (21) rise with increase of engine speed to allow the supply of an increased quantity of fuel/air mixture to meet engine requirements.

Air flow is controlled by the throttle and the air valve piston (9) which acts as a variable choke. Fuel metering is controlled by the varying diameters of the needle (21) which controls the annular discharge area of the jet to give the amount of fuel needed for any position taken by the air valve piston (9), as it rises and falls with increasing or decreasing engine speed.

Whenever the air flow under the air valve piston (9) reaches a certain speed a low enough depression is created above the diaphragm (3), through the two holes (25), for atmospheric pressure; acting on the underside of the diaphragm, to lift the air valve piston assembly so that it "floats" on air pressure.

When the throttle is opened from the idling position, some inlet manifold depression passes to the carburettor side of the throttle. This raises the air speed under the air valve piston (9) to the point when it creates the necessary depression above the diaphragm (3) for air pressure acting on the underside of the diaphragm to lift the air valve piston assembly a small amount. The

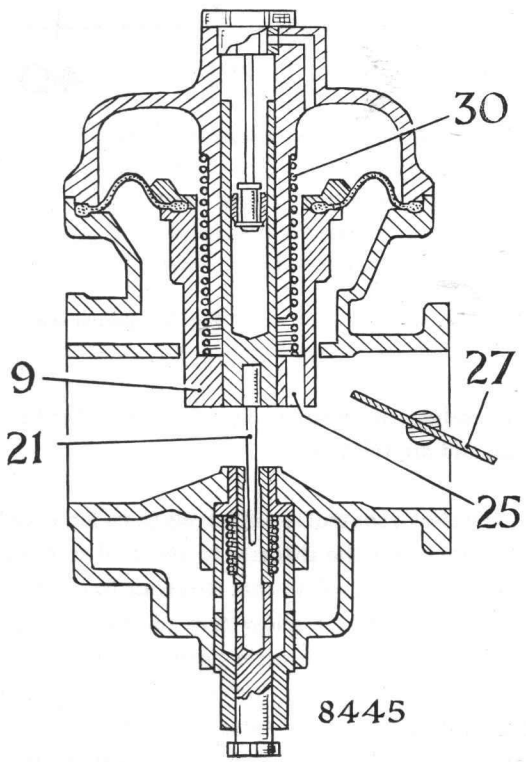

Fig. 5. *Part throttle operation—moderate engine speed*