

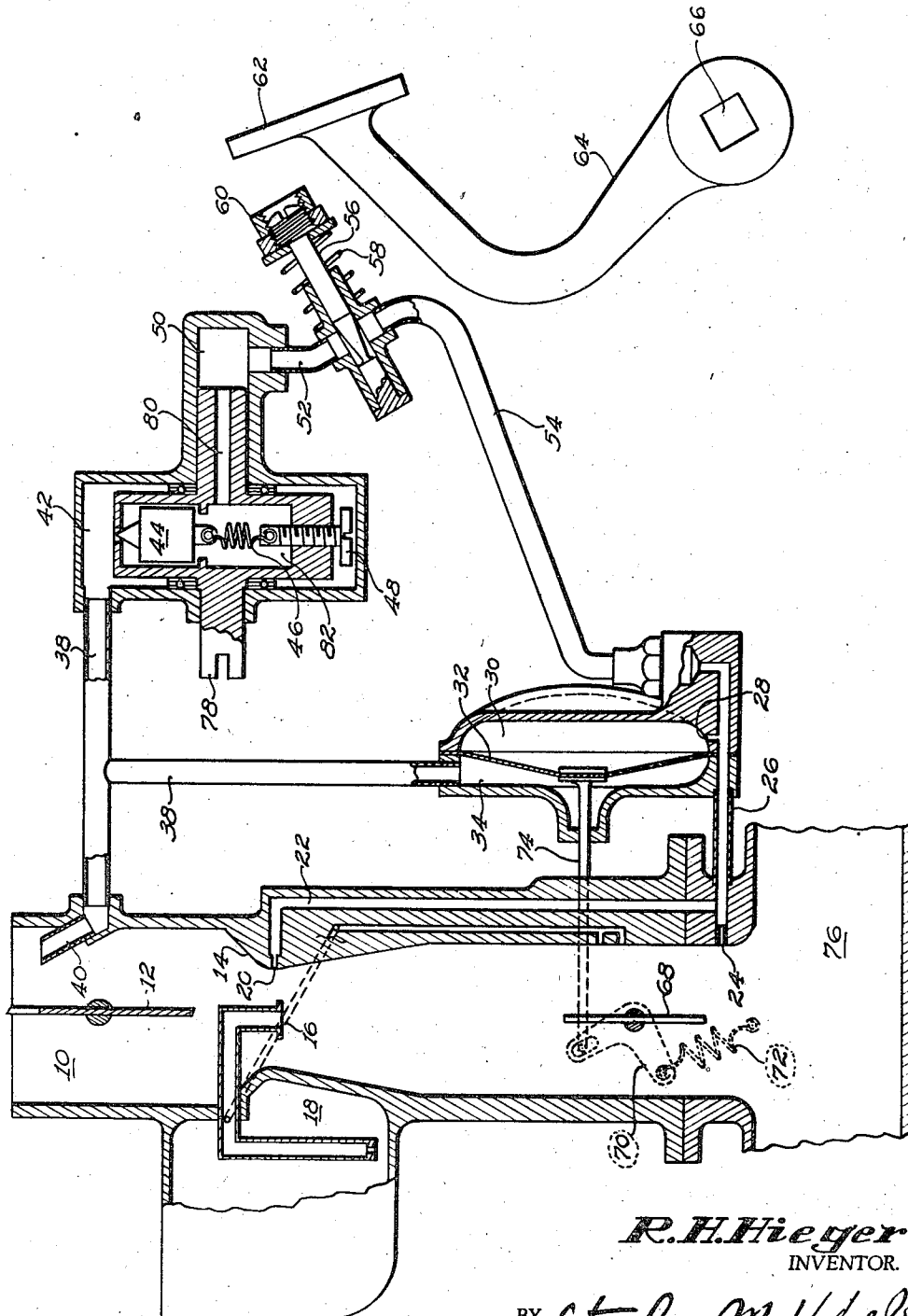
Aug. 3, 1948.

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2,446,329

ENGINE THROTTLE CONTROL

Filed Aug. 17, 1946



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UNITED STATES PATENT OFFICE

2,446,329

ENGINE THROTTLE CONTROL

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Application August 17, 1946, Serial No. 691,195

1 Claim. (Cl. 192—.01)

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The object of this invention is to modify the governor control of an ordinary truck engine when the clutch is released. Ordinarily when the clutch is released the engine runs at its governed speed so that when the clutch is re-engaged the engine will not stall. If the throttle is closed during the time the clutch is released the throttle must be opened just before the clutch is re-engaged.

The object of this invention is to automatically reduce the speed as the clutch is disengaged and when the clutch is re-engaged to automatically and promptly restore the engine to its governed speed.

The figure shows diagrammatically all the essential elements of my invention.

In the figure 10 is an air entrance, 12 is a choke valve therein, 14 is a venturi, 16 is a fuel nozzle discharging into said venturi, 18 is the float bowl from which the nozzle 16 draws its supply of fuel. 20 is a restriction in the wall of the throat of the venturi 14, 22 is a passage leading to a restriction 24 communicating with a chamber 30 through a passage 26 and an opening 28. The restriction 24 communicates with the engine suction in the inlet manifold 76.

The suction thus transmitted is applied to a diaphragm 32, the other face of diaphragm 32 is subjected to the pressure of the atmosphere transmitted through the impact tube 40 and pipe 38. The pipe 38 also communicates with the annular chamber 42 containing the governor mechanism 44—46—48—44, which mechanism controls the opening between the passage 30, the governor inner chamber 82 and the governor outer chamber 82. The shaft 78 may be driven at engine speed.

The right hand end of passage 80 communicates through chamber 50, through the short pipe 52 with the pipe 54 which is connected to the passage 26.

The valve 56, held in the open position by a spring 58, is closed by a foot pedal (the clutch pedal) 62. When the clutch pedal 62 is pressed down to declutch the engine the nut 60 is engaged by the pedal 62. The passage between pipes 52 and 54 is thus closed. Then the suction in the inlet manifold 76 closes the throttle by acting on the diaphragm 32.

The closing means for the throttle are the lever 70, and the rod 74 connected to the diaphragm 32. The chamber 34, to the left of the diaphragm 32, is connected through the pipe 38 to the impact tube 40 in the air entrance 10. Manual means, not shown, close the throttle 68 at will.

A spring 72 pulls the throttle open when there

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is no suction in the chamber 30 and when the manual closing means are not operative.

Operation

The cap screw 48 is adjusted to apply a tension on the spring 46 and the weight 44 is pulled towards the center of rotation in the chamber 82 and the opening into the chamber 42 is enlarged. A free path then exists from impact tube 40 to chamber 30. There is no pressure in chamber 30 below atmospheric, hence the throttle 68 is wide open.

At high speed the weight 44 flies out, then the opening between passage 80 and chamber 42 is restricted, and the suction from the venturi 14 and the inlet manifold 76 is applied to the diaphragm 30 and the throttle is closed.

When the clutch is declutched the lever 64 is rotated around the axis 66 and the foot pedal 62 engages with the adjustable nut 60. The valve 56 is moved down and the spring 58 is compressed. The path from pipe 52 to pipe 54 is then restricted.

The inlet suction is applied to the diaphragm 30, hence, the engine speed is reduced to idling speed during the period the engine is declutched. When the clutch is re-engaged the reverse happens.

What I claim is:

In combination an internal combustion engine, a clutch, a clutch release lever, a carburetor for said engine, a centrifugal governor driven by said engine, a throttle valve for said carburetor, throttle control means therefor, said throttle control means comprising a chamber having a moving wall, a connection from the moving wall to said throttle, a passage connecting the chamber with the engine side of said throttle, a pipe connecting said chamber to the atmosphere, a valve therein responsive to said centrifugal governor so as to close said pipe at high speed, a second valve in said pipe adapted to be closed by the clutch release lever when the clutch is released so that the engine runs at a slow speed when the clutch is released.

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