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G. G. PEARCE

ACCELERATOR MECHANISM

Filed Aug. 6, 1923

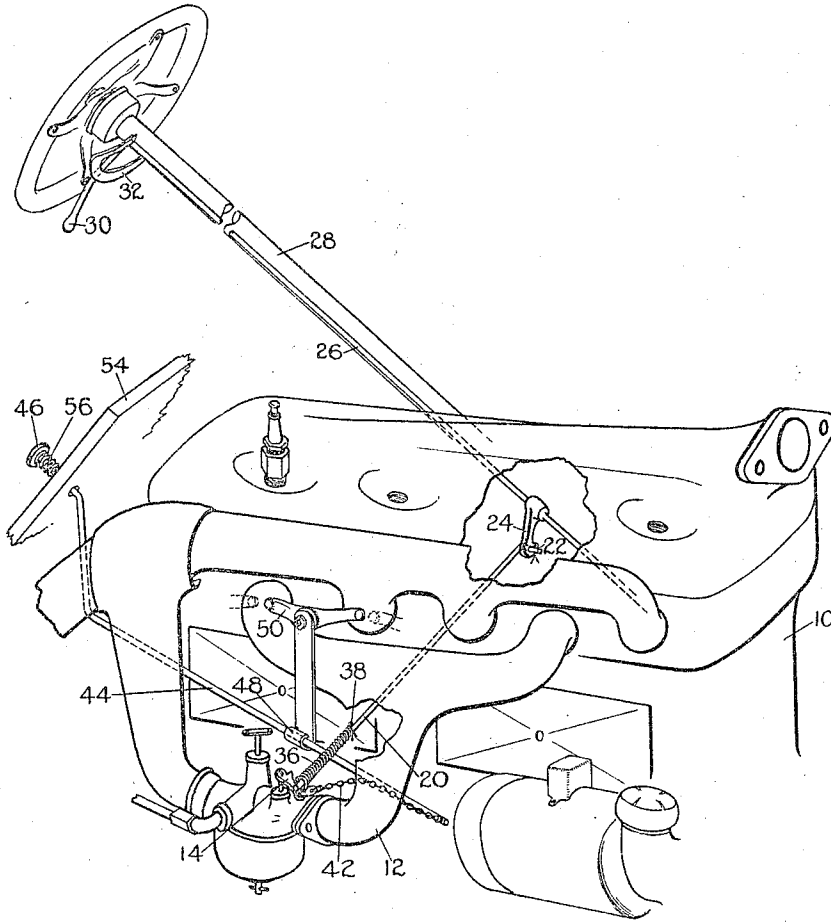


Fig. 1

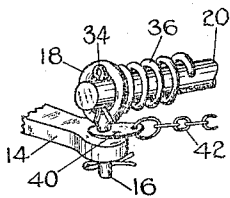


Fig. 2

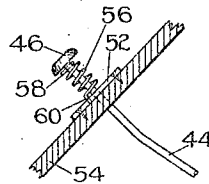


Fig. 3

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ACCELERATOR MECHANISM.

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To all whom it may concern:

Be it known that I, GEORGE G. PEARCE, a citizen of the United States, residing at New Bedford, county of Bristol, State of Massachusetts, have invented a certain new and useful Accelerator Mechanism, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming a part of this specification.

This invention relates to accelerator mechanism and is herein shown as embodied in a throttle control mechanism for regulating the supply of fuel to an internal combustion engine.

Some makes of motor cars at the present day are not provided with a foot controlled throttle and the throttle valve is controlled only by a hand lever on the steering column. This single control gets tiresome after a time and many attempts have been made to combine a foot accelerator with the hand control. These, heretofore, have been complicated and expensive and require too many changes in existing mechanism; they get out of order easily and are too troublesome to install to go into general use. An object of my invention, therefore, is to provide a foot controlled accelerator mechanism which can be easily combined with a hand controlled mechanism in a manner to avoid the above and other deficiencies.

To improve generally on devices of this nature, the invention also consists in the various matters hereinafter described and claimed. In the drawings:

Fig. 1 is a perspective view of an internal combustion engine with my improved mechanism applied.

Fig. 2 is a perspective view of a detail and

Fig. 3 is a detail.

The numeral 10 designates an internal combustion engine of well known type with an intake pipe 12, at one side, leading to the cylinders. A throttle valve controlled by a throttle arm 14 is interposed in the intake pipe, said arm having an opening at the end in which is swivelled a pin 16. The pin 16 is held in the opening by a cotter pin and at its upper end is provided with an eye or ring 18 capable of sliding

movement, under certain conditions, along a longitudinally movable rod 20 which extends across between the cylinders. This rod replaces the usual rod which, in prior apparatus, is connected directly to the throttle arm. The rod 20 has a bent end 22 pivoted to an arm 24 fixed on a rotatively adjustable shaft 26 which is journalled parallel to the steering column 28 and has a hand control lever 30 movable over a sector 32 to control the supply of fuel. Passed through one end of rod 20 is a cotter pin 34 which normally engages one side of the eye or ring 18, said ring being held against the cotter pin by a yieldable member in the form of a spring 36 coiled around the rod and secured against movement at one end by a cotter pin 38.

Swivelled on the pin 16 is a plate 40 having an opening in which is hooked the end link of a flexible member 42, preferably a chain. The chain is carried around the intake pipe 12 which acts as a pulley, the other end of the chain being fastened to the lower forward end of a foot controlled push rod 44 having a knob or pedal 46 at its upper extremity. The push rod is conveniently guided by the bent portion 48 of a bracket plate fastened to a bar 50 which connects the intake and exhaust manifolds. The upper end of the push rod is offset around the rear end of the engine to bring it into a convenient position for operation and is guided by an opening in a plate 52 screwed to the foot board 54. A spring 56 is coiled around the push rod, one end being inserted in an opening 58 of the rod and the other end in an opening 60 in the plate 52.

Normally, the spring 56 holds the pedal elevated such that there is no tension on the chain, the ring 18 being then held against the cotter pin 34 by the spring 36. Obviously, under these conditions, movement of the throttle lever 30 will move the throttle arm in either direction to open or close the throttle valve. Whether the valve is closed or partly open, a pull exerted on the chain by the push rod will open it further, the ring 18 then sliding along the rod 20 and the spring 36 yielding. If the foot pedal is released, the spring 56 raises the push rod and the spring 34 restores the valve to its original position by sliding

the ring 18 back against the cotter pin 34. The parts needed to adapt existing mechanisms for this improvement are easily procurable and easy to install and the advantages are apparent.

Although the invention has been described by reference to a specific apparatus, it should be understood that, in its broader aspects, the invention is not necessarily limited to the structure selected for illustration.

I claim—

1. Accelerator mechanism for internal combustion motors comprising a throttle arm, a flexible member positively connected to said arm, a foot actuated slidable push rod for actuating the arm through the flexible member, independent hand control mechanism for said throttle arm, said mechanism comprising a solid rod, a member slidable on the rod and swivelled to said throttle arm, means on the rod to engage the slidable member to actuate the throttle arm positively in one direction, and yieldable means directly engaging the slidable member to allow said throttle arm to be actuated independently by said push rod.

2. Accelerator mechanism for internal combustion motors comprising a throttle arm, a flexible member positively connected to said arm, a foot actuated push rod having its rear end offset around the motor and connected at its forward end to said flexible member for actuating the arm through the flexible member, hand control mechanism for said throttle arm, said mechanism comprising a rod, a member slidable on the rod and connected to said throttle arm, a pin on one side of the slidable member, and a spring engaging the other side of the slidable member.

3. Accelerator mechanism for internal combustion motors comprising a throttle arm, a flexible member connected to said arm, a foot actuated push rod slidable along one side of the motor adjacent to the throttle arm for actuating the arm through the flexible member, said rod having its rear end offset around the motor, hand control mechanism for said throttle arm, said mechanism comprising a rod, a pin swivelled on said throttle arm and having a ring slidable on the rod, and a spring for

urging said ring along the rod to a normal set position.

4. Accelerator mechanism for internal combustion motors comprising a throttle arm, control mechanism for the throttle arm and comprising a rod, a pin swivelled on said throttle arm and having a ring slidable on the rod, means for limiting the sliding movement of the ring in one direction, a spring engaging the ring and urging it towards said limiting means, a push rod extending forwardly beyond said throttle arm, a flexible member attached at one end to the throttle arm and at its forward end to said push rod for actuating the throttle arm independently of the first rod, and a guide for slidably supporting said push rod.

5. In accelerator mechanism for internal combustion motors, a fuel intake pipe, a throttle valve for controlling the passage of fuel and having a throttle arm, hand control mechanism for said throttle arm, a one-way yieldable connection between said throttle arm and hand control mechanism, a push rod, and a flexible connection extending from said throttle arm to the push rod, said flexible member being guided by said intake pipe.

6. In accelerator mechanism for internal combustion motors, an engine having a fuel intake pipe at one side, a throttle valve for controlling the passage of fuel and having a throttle arm, hand control mechanism for the throttle arm, a foot operated push rod extending between the intake pipe and the engine, and a flexible connection between the throttle arm and said push rod.

7. In accelerator mechanism for internal combustion engines, an engine having a fuel intake pipe at one side, a throttle valve for controlling the passage of fuel and having a throttle arm, a foot operated push rod extending between the intake pipe and the engine, a foot board having a guide plate for the rod, a second guide for the rod, a spring surrounding the rod and having one end entering a hole in the rod and the other a hole in the guide plate, and a connection between the rod and arm.

In testimony whereof I hereunto affix my signature.

GEORGE G. PEARCE.