C. A. NEVINS.

VALVE OPERATING MECHANISM.

APPLICATION FILED MAR. 6, 1916.

1,209,990. Patented Dec. 26, 1916.

FIG. 1.

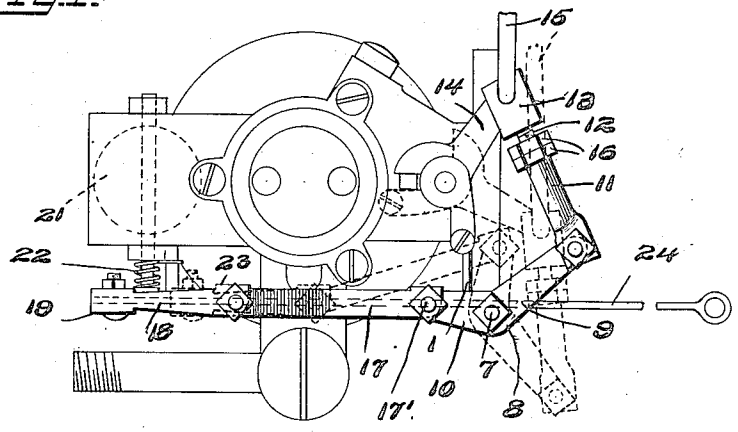


FIG. 2.

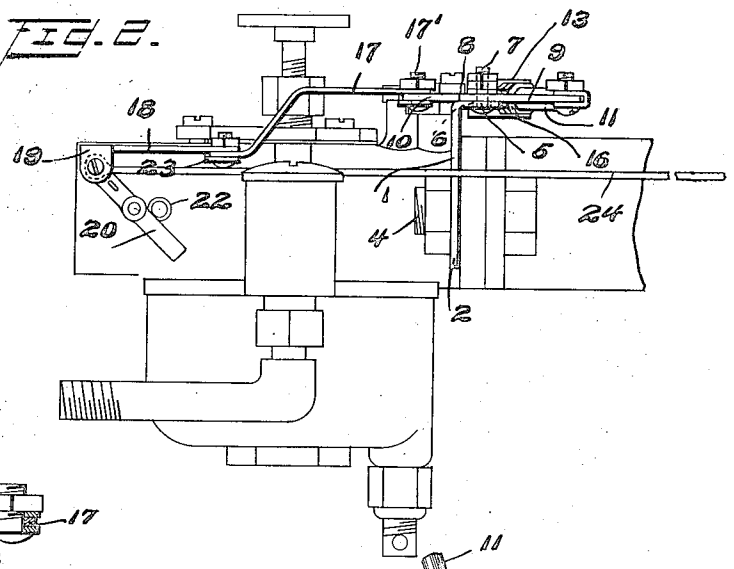


FIG. 5.

FIG. 3.

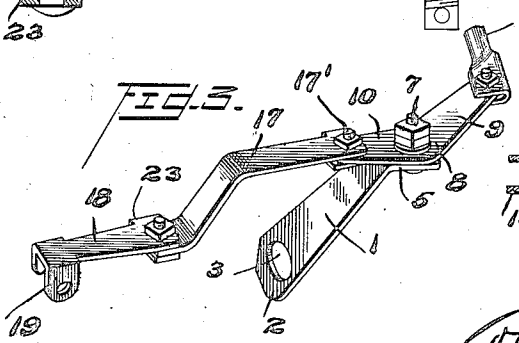
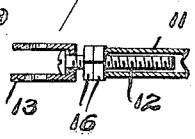


FIG. 4.



Witness

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VALVE-OPERATING MECHANISM.

1,209,990. Specification of Letters Patent. Patented Dec. 26, 1916.

Application filed March 6, 1916. Serial No. 82,447.

To all whom it may concern:

Be it known that I, CHARLES A. NEVINS, a citizen of the United States, residing at Great Falls, in the county of Cascade and State of Montana, have invented certain new and useful Improvements in Valve-Operating Mechanisms, of which the following is a specification.

My invention relates to new and useful improvements in valve operating mechanisms.

The object of my invention is to provide an attachment of this character which can be readily applied to the ordinary carbureter and which is designed to simultaneously control the supply of air with the operation of the gas control, whereby a more even mixture is obtained at all times, whether running fast or slow or on hills or level roads.

Another object of my invention is to provide an attachment of this character which will save fuel and having certain details of structure and combination of parts hereinafter more fully set forth.

In the accompanying drawings—Figure 1 is a top plan view of my attachment applied to a Holley carbureter, showing in dotted lines the closing of the valve with the shutting off of the gas; Fig. 2 is a side elevation of Fig. 1; and Fig. 3 is a detached perspective view of my attachment. Fig. 4 is a sectional view of one end thereof, and Fig. 5 is a sectional view of the same adjacent to the opposite end.

Referring now to the drawings, 1 represents the standard or post of my improved attachment, which is preferably made of sheet metal and provided at its lower end 2 with an opening 3, through which passes the outside bolt 4 of the carbureter. The bolt 4, as is readily understood, is the means by which the carbureter is connected to the intake manifold. The upper end of the post or standard is provided with a laterally turned portion 5 arranged in a horizontal plane and provided with a vertical opening 6 through which loosely passes the bolt or pivot 7.

Mounted upon the bolt or pivot is the rocker arm 8 which is formed of a long arm 9 on one side of the bolt or pivot 7 and a short arm 10 on the opposite side of the said bolt or pivot 7. Pivotally connected to the long arm 9 of the rocker arm is a sleeve 11, which extends parallel with the movement of the said rocker arm. The sleeve has loosely entering the same a screw threaded rod 12 which carries at its outer end a yoke 13 which is adapted to straddle the throttle lever 14 and the operating rod 15 passes downwardly through the yoke and lever and secures them together. The rod 12 is longitudinally movable in the sleeve and is provided with lock nuts 16 which are adapted to abut the end of the sleeve and move the same. The nuts are adjustable on the rod, so that the movement of the sleeve is adjusted.

The short arm 10 of the rocker arm 8 is connected to the link 17 which has pivotally connected at its outer end the link 18, which is provided on its lower face and at its outer end with the yoke 19 which straddles the lever 20 of the butterfly air valve 21 of the carbureter. This valve lever is normally held by a spring 22 in such a position that the valve is in a horizontal or open position. The link 18 at one side is provided with a stop 23 which engages the link 17 and prevents the relative movement of the two links in but the one direction, as shown in dotted lines in Fig. 1.

The butterfly valve 21, as heretofore described, is normally held in the position shown in full lines in Fig. 1 of the drawings and thus the valve is full open. When in this position, it will be understood that the throttle is wide open. As the throttle closes the nuts engage the end of the sleeve and move the rocker arm in the position shown in dotted lines in Fig. 1, which in turn pulls upon the links 17 and 18 and the butterfly valve is gradually closed with the closing of the gas throttle and thereby the air and gas supply of the carbureter is proportionately controlled.

The slip-joint between the sleeve and rod allows the priming rod 24 to be operated without affecting the gas and thus allows the starting of the engine. After the engine is started the final adjustment is made by adjusting the nuts 16, so that the proper proportion of air and gas is obtained to most efficiently run the engine. The slip-joint, as will be seen, when opening the gas does not move the rocker arm, but the spring of the butterfly valve moves the same and the movement of the butterfly valve is limited by the movement of the gas throttle, the valve being moved by the spring which normally holds the same open.

While I have shown my attachment applied to a Holley carbureter, it will be understood that the same could be applied to any carbureter, without departing from my invention.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:

1. A lever mechanism for operating a plurality of control devices, comprising a member adapted to be secured in fixed position, a rocker arm pivoted to said member, a link pivoted to one end of said rocker arm, a second link pivoted to the first link and having a limited movement in one direction, attaching means on the outer end of said second link, a sleeve pivotally connected to the opposite end of the rocker arm, a rod carried in said sleeve and nuts on said rod for regulating the movement of the sleeve, substantially as described.

2. A lever mechanism for operating a plurality of control devices, comprising a member adapted to be secured in fixed position, a rocker arm pivoted to said member, a link pivoted to one end of said rocker arm and having attaching means on its outer end, a sleeve pivoted to the opposite end of the rocker arm, a rod carried therein having attaching means on its outer end, and a slip joint connection with said sleeve on its outer end, substantially as described.

In testimony whereof I herewith affix my signature in presence of two witnesses.

CHARLES A. NEVINS.

Witnesses:

EDYTH CALOTT,

JAMES W. FREEMAN.