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E. F. GEIGER

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CARBURETOR

Original Filed March 17, 1927

Fig. 1.

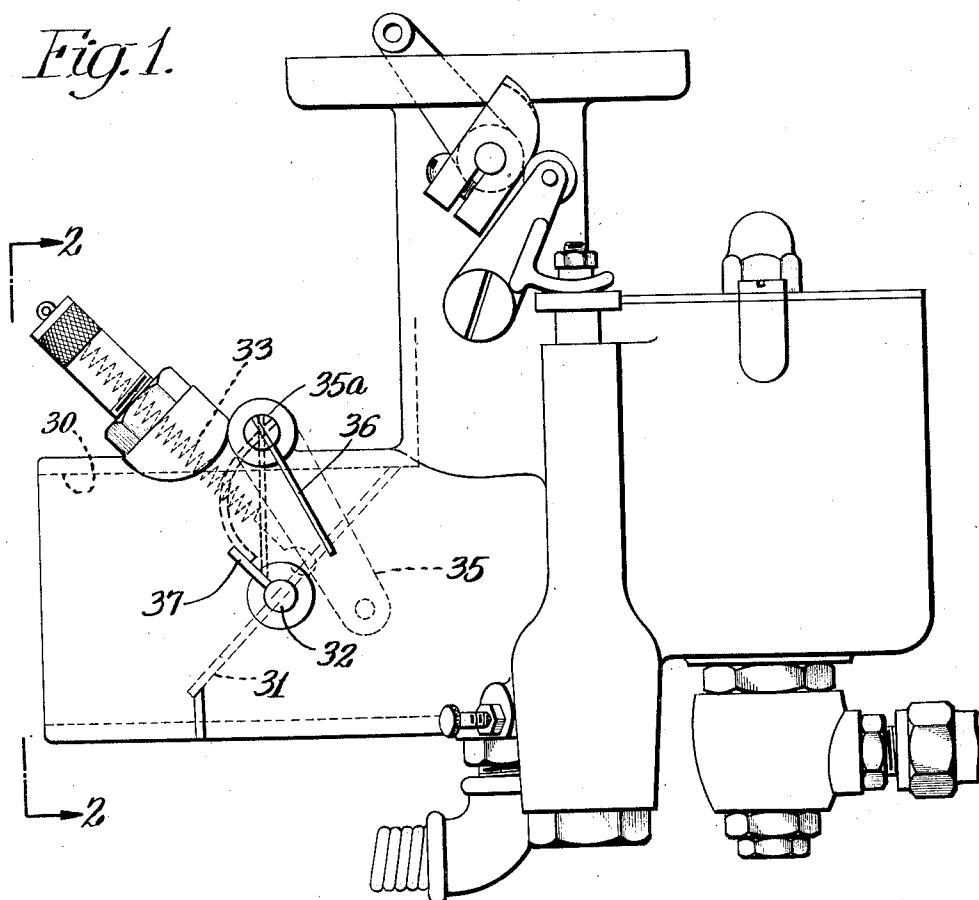
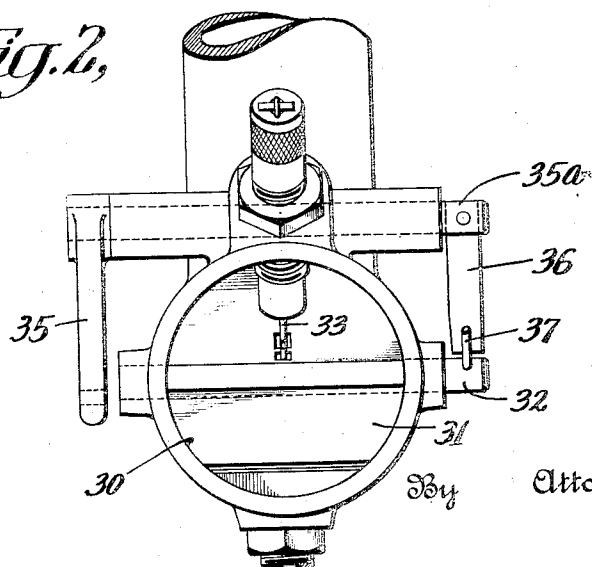


Fig. 2.



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CARBURETOR

Original application filed March 17, 1927, Serial No. 176,097. Divided and this application filed November 28, 1927. Serial No. 236,032.

The present invention has for its primary object the provision of a simple choke for a carburetor to the general end that various degrees of choking effect may be secured.

5 A further object of the present invention resides in the provision of a choke of such nature that cumulative flooding of the engine may be obviated, notwithstanding the maintenance of setting of the manipulative choke control means.

10 A further object of the present invention resides in the provision of a novel form of choke having a novel form spring device and to bring about the choking action means for operating the same.

15 A further object of the present invention resides in the provision of an extremely simple and inexpensive form of choke device for a carburetor.

20 A further object of the present invention resides in the provision of a blade-like spring means for imparting additional resistance to the opening movement of a valve which controls choking action.

25 The present application is a division of my co-pending application, Serial No. 176,097 filed March 17, 1927.

30 Further objects and advantages will be hereinafter set forth in the accompanying specification and claims and shown in the drawings which by way of illustration, show a preferred embodiment of my invention.

In the drawings,

35 Fig. 1 shows a side elevation of a carburetor embodying my invention.

Fig. 2 is a fragmentary view taken on line 2-2 of Fig. 1 and looking in the direction of the arrow.

40 In more detail the carburetor is shown provided with an air intake conduit 30 having disposed therein an unbalanced valve 31 supported on a shaft 32 which is pivotally supported in any desired manner in the conduit. As shown it will be noted that valve 45 31 is pivoted off center so as to open under the influence of engine suction. A spring 33 normally retains the valve 31 in closed position and yields as suction is imposed by the engine operation.

50 The foregoing parts function during the

operation of the carburetor in the manner more fully set forth in my co-pending application above referred to.

To provide for choking, I utilize the valve 31 and modify its action as follows:

Part 35 is a crank arm which is fixed to a shaft 35^a mounted in any desired manner for a rotatable or rocking movement. The arm 35 can connect to any suitable dash board control and may be manipulated manually in the usual manner. Fixed to shaft 35^a is a blade spring 36 which extends in proximity to a pin 37 carried by shaft 32. By rocking the bell crank 35, the blade spring 36 may be brought from its full line position of Fig. 1 into contact with the pin 37 and may thereafter be so positioned as to yieldingly exert varying degrees of pressure as indicated by the dotted line positions of the blade spring.

It will be understood that with parts 35 and blade spring 36 in normal position as shown by the full lines that the blade spring will be wholly out of co-operation with pin 37 so that the controlling valve 31 can move wholly independently of any controlling action from the choke device. By manipulating the bell crank 35 in the manner above indicated, various degrees of resistance may be provided to oppose the opening movement of valve 31. Thus the suction in the carburetor may be increased for the desired choking action.

It will be understood that the construction of the device is such that the valve 31 will not be rigidly maintained in closed position notwithstanding the possible maintaining of the control arm 35 in fixed position.

It will be understood that even after the blade spring 36 contacts with pin 37 that further engine suction can cause the blade spring to be distorted to an extra amount, thus permitting a further opening movement of valve 31. Accordingly, after choking, if the engine starts up the spring 36 will yield if necessary, under the influence of engine suction and in this way cumulative flooding action is obviated. Such action would occur if the valve 31 were fixedly maintained in closed position by the choke control device.

What I claim is:

1. An air choke for a carburetor comprising a valve member which is spring restrained against a pivotal opening movement under the influence of engine suction, a pivot shaft mounting for said valve member, a manipulative member, an arm fixed to the aforesaid pivot shaft and a yielding blade-like spring intermediate the manipulative member and the said arm for effecting varying degrees of restraint to the opening movement of the valve under the control of the manipulative member.
2. An air choke for a carburetor comprising a pivotally mounted valve member which is tiltably opened under the influence of engine suction, a resilient means for restraining such opening movements of the valve member, a manipulative member and a second blade-like spring operated thereby and adapted to impose a cumulative resistance with that of the aforesaid spring to opening movement of said valve for the purpose described.
3. An air choke for a carburetor comprising a valve member disposed in the intake conduit of the carburetor which leads to the fuel supplying means and which valve is adapted to open under the influence of engine suction, a choke means disposed to normally effect no restraint to the opening movement of said valve irrespective of its extent of movement, said choke means including a resilient means adapted to be displaced to various points to exert varying degrees of resistance to opening movement of said valve.
4. An air choke for a carburetor comprising a valve member disposed in the intake conduit of the carburetor and adapted to open under the control of a yielding restraining means under the influence of engine suction, a choke means disposed to normally effect no restraint to opening movements of the aforesaid valve and to leave the latter under the sole control of its yielding restraining means irrespective of the extent of opening movement of said valve, said choke means including supplementary yielding restraining means adapted to be brought into operation by a manual manipulation to effect additional restraint to opening movements of said valve, said yielding means further permitting wider opening of the valve under the influence of increased engine suction.
5. An air choke for a carburetor having a suction controlling valve, means for controlling the action of said valve comprising a choking means which normally is wholly out of cooperation with said valve so as to in no way impede its movement and irrespective of the extent of movement of said valve, manipulative means for bringing said choking means into cooperation with said valve to impose a yielding restraint to opening movement of the valve, said last mentioned means having provisions to permit further opening of the valve upon a fixed setting of the manipulative means.
6. An air choke for a carburetor comprising an unbalanced valve pivoted off its center and intermediate its ends on a shaft in the intake conduit, a member carried by said shaft, a second shaft adapted to be rocked by a control member and a blade spring carried by the said last mentioned shaft and adapted itself for displacement upon the rocking of the shaft into cooperation with the member carried by the valve shaft.
7. A choke valve for a carburetor comprising a valve member pivotally mounted intermediate its ends and disposed in the primary air intake of the carburetor and adapted to tiltably open under the control of a yielding restraining means under the influence of engine suction, a choke means disposed to normally effect no restraint to opening movement of said valve, said choke means including a blade spring adapted to be displaced to various points and to be flexed to different extents to thereby exert varying degrees of resistance to the opening movement of the said valve.
8. An air choke for a carburetor comprising a tiltably mounted air control valve having a pivotal shaft, an arm on said shaft which is movable with the valve and shaft, a manipulative member, and a blade spring connected thereto and adapted by the adjustment of the manipulative member to be itself brought from a position out of cooperation with the arm to a position in cooperation with the arm and to be put under varying extents of flexure to provide variable degrees of restraint to a tilting opening movement of the valve.
9. An air choke for a carburetor having a valve of the unbalanced butterfly type disposed in the primary air intake thereof and adapted to progressively open under the influence of engine suction, means for normally yieldingly restraining such valve against such opening movement and supplementary means including a blade spring means adapted to be brought into action to impose a further yielding restraint to opening movement of said valve under the influence of engine suction whereby choking effects in the primary air intake may be secured.

In testimony whereof I hereto affix my signature.

EDWARD F. GEIGER.