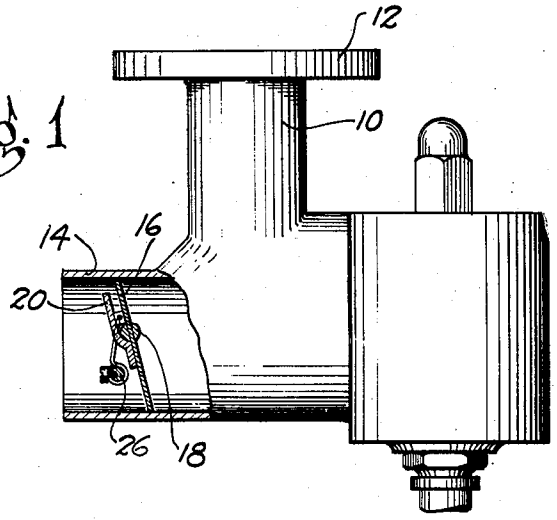
Aug. 25, 1936. F. C. MOCK 2,051,881

CHOKE VALVE FOR CARBURETORS

Filed Dec. 15, 1930

Fig. 1



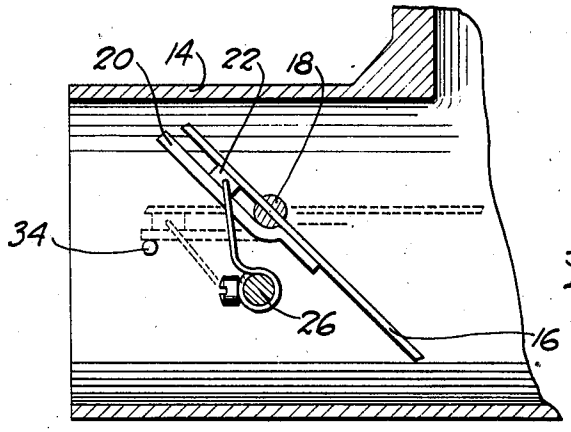


Fig. 2

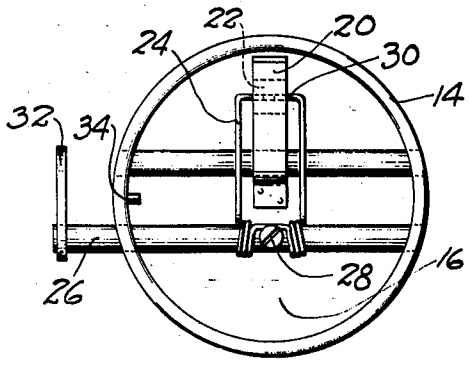


Fig. 3

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CHOKE VALVE FOR CARBURETORS

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Application December 15, 1930, Serial No. 502,346

3 Claims. (Cl. 251—125)

This invention relates to carburetor choke valves and has for its principal object the provision of a choke valve for a carburetor that may be held resiliently closed or in a full open position as desired by the operator.

An important feature of the invention relates to the connection between the manual control and the valve shaft, whereby the valve is resiliently held in position to be opened by the air flow through the carburetor.

In a preferred embodiment of the invention, the valve is unbalanced as to area on opposite sides of its axis in a manner to be opened by the inflowing air against the tension of a spring that may be varied at will. The spring is preferably secured to a rotatable shaft pivoted in the carburetor air horn adjacent the valve and has a slidable connection with the valve. Rotation of the shaft in one direction increases the tension of the spring to close the valve, thereby enhancing the resistance to opening; and rotation in the other direction decreases the tension to zero, whereupon continued rotation causes the spring to open the valve and hold it in the full open position.

Other objects and features of the invention will be apparent from the following description of one illustrative embodiment of the invention, which I have shown in the accompanying drawing, in which:

Figure 1 is a side elevation of a carburetor, partly in section, showing the improved choke valve;

Figure 2 is an enlarged view of a portion of the carburetor illustrated in Figure 1, showing the choke valve in two operative positions; and

Figure 3 is a view of the valve and control shaft as seen from the entrance to the air horn.

In the drawing, 10 is a carburetor having a flange 12 for attachment to an internal combustion engine (not shown) and an air horn 14, which constitutes the main air opening of the carburetor. Within the air horn is a choke valve 16, pivotally mounted in the opposite sides of the horn by a cross shaft 18, which is located slightly above the center line of the air opening to unbalance the valve and enable it to be opened by the inflowing air from its closed position, shown in Figure 1.

A tongue or extension 20 is secured to the rear side of valve 16 by any desired means, such as welding, and extends substantially parallel to the valve to form a guide-way for a block 22, preferably formed of a non-metallic material, such as leather, to eliminate rattles between the slidable block 22 and its guideway.

A torsion spring 24 has its mid-portion wound in several spirals about the operating shaft 26, to which it is secured by a screw 28 and the inturned ends 30 are pivotally secured to block 22. An operating lever 32 adapted to be connected to the usual choke button on the instrument panel of the vehicle, is secured to one end of the operating shaft 26 for rotating the shaft and varying the tension of the spring 24.

In the operation of the device, when it is desired to start the engine (not shown), the operating shaft 26, is turned in a clockwise direction to close valve 16 to the position shown in Figure 1. The engine is then cranked in the usual manner and the closure of the air horn 14 provides the desired rich mixture for starting.

Upon the initial firing of the engine, the increased pressure of the air upon valve 16 causes it to partially open against the tension of the spring 24 and assume the position shown in full lines in Figure 2. The position will vary in accordance with the needs of the engine because of the resilient spring 24, the tension of which may be varied at will by rotation of the shaft 26. When the engine has become sufficiently heated to require no air restriction, shaft 26 may be rotated in a counter-clockwise direction, whereupon the tension of the spring 24 will be first reduced to zero, and continued rotation of the shaft 26 will rotate valve 16 to a horizontal or full open position, shown by dotted lines in Figure 2.

In the full open position, valve 16 preferably contacts against a stop 34 against which it is held by a slight tension of spring 24 that prevents the valve 16 from being temporarily dislodged from its full open position by vertical forces arising from movement of the vehicle upon which the carburetor is installed.

While I have shown and described a preferred embodiment of the invention, it is understood that this drawing and description are illustrative only and that I do not regard the invention as limited to the form shown and described, or otherwise except by the terms of the following claims:

I claim:

1. In a carburetor for vehicles, an air inlet, a choke valve controlling said inlet and adapted to be operated by air flow, a rotatable shaft adjacent the valve adapted to be actuated manually, and a connection between the shaft and the valve operable to open and close the valve, said

connection including a torsion spring secured to the shaft and slidably connected to the valve.

2. A carburetor choke comprising a rotatable valve, a spaced extension parallel to the valve forming a guide-way, a block within the guide-way, a member pivotally connected to the block, and means to move the member to operate the valve.

3. A carburetor choke comprising a rotatable valve, a spaced extension parallel to the valve forming a guide-way, a block within the guide-way, a spring member pivotally connected to the block, and means to move the member to operate the valve.

FRANK C. MOCK.