Dec. 11, 1923.

1,477,397

F. UNDERWOOD

AIR CHOKE FOR CARBURETORS

Filed June 8, 1922

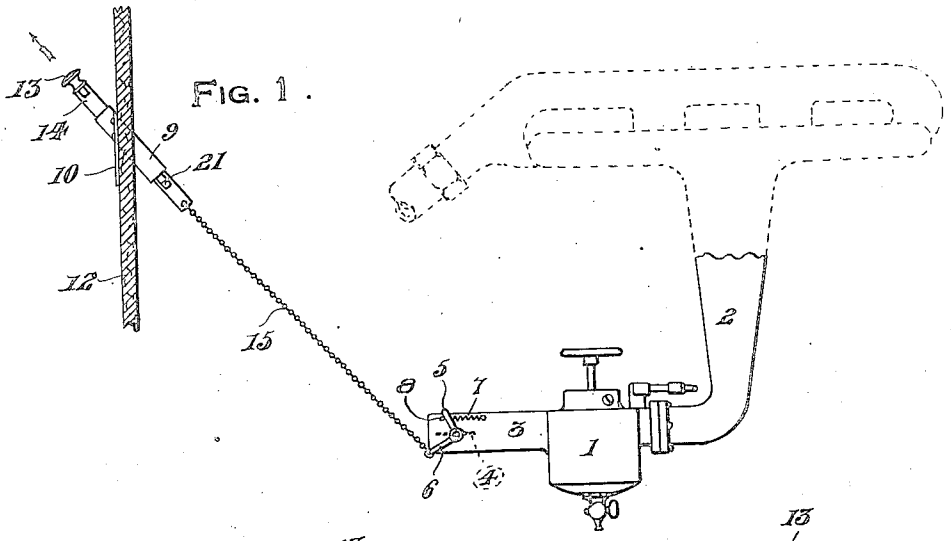


FIG. 1.

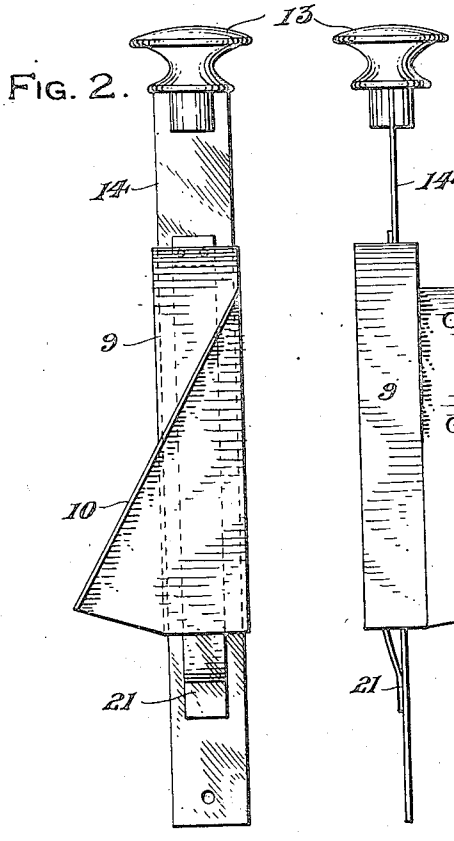


FIG. 2.

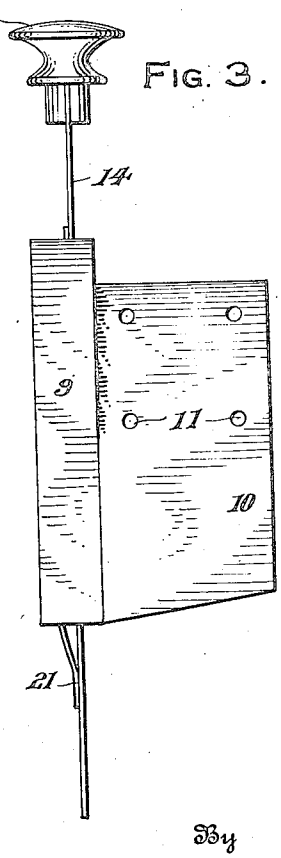


FIG. 3.

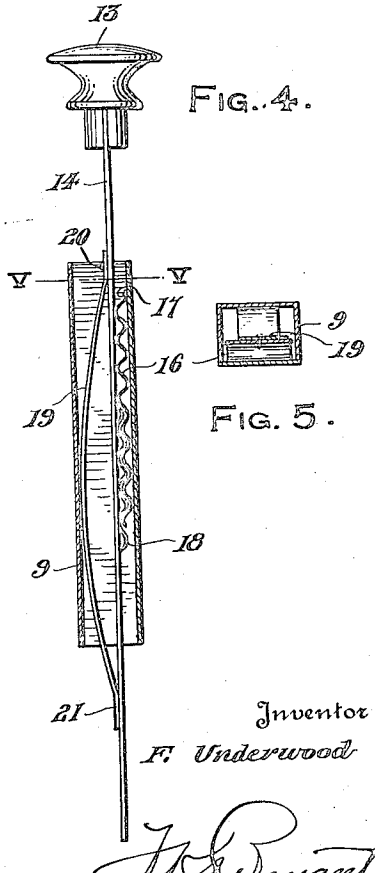


FIG. 4.

FIG. 5.

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UNITED STATES PATENT OFFICE.

FRANK UNDERWOOD, OF MEMPHIS, TENNESSEE.

AIR CHOKE FOR CARBURETORS.

Application filed June 8, 1922. Serial No. 566,839.

To all whom it may concern:

Be it known that I, FRANK UNDERWOOD, a citizen of the United States of America, residing at Memphis, in the county of Shelby and State of Tennessee, have invented certain new and useful Improvements in Air Chokes for Carburetors, of which the following is a specification.

This invention relates to certain new and useful improvements in air chokes for carburetors and has particular reference to a novel type of push button associated with the air inlet valve of a carburetor to be securely held in adjusted positions.

The primary object of the invention resides in the provision of a tensioned air inlet valve for the carburetor normally occupying an open position that has a flexible connection with a push rod, the head of which is supported on the instrument board of the automobile, a casing carried by the instrument board enclosing the push rod with cooperating devices carried by the casing and push rod for holding the latter in its adjusted position.

With the above general objects in view and others that will appear as the nature of the invention is better understood, the same consists in the novel construction, combination, and arrangement of parts hereinafter more fully described, illustrated in the accompanying drawings, and pointed out in the appended claims.

In the drawings forming a part of this application and in which like designating characters refer to corresponding parts throughout the several views:

Fig. 1 is a fragmentary side elevational view of a carburetor and intake manifold of an internal combustion engine showing the engine controlling valve for the intake of the manifold and the push button supported upon the instrument board of the automobile having a flexible connection with said valve,

Fig. 2 is a side elevational view of the push button and casing therefor detached from the instrument board,

Fig. 3 is a front elevational view of the push button shown in Fig. 2,

Fig. 4 is a longitudinal sectional view of the casing enclosing the push button carrying the coacting corrugated spring members carried by the rod of the push button and the casing for holding the push button in adjusted positions, and

Fig. 5 is a detail sectional view taken on line V—V of Fig. 4.

Referring more in detail to the accompanying drawings, and particularly to Fig. 1, there is illustrated a carburetor designated by the reference numeral 1 associated with the intake manifold 2 of an internal combustion engine, the carburetor having an air intake pipe 3 controlled by a valve 4 having angle projecting arms 5 and 6 upon one end of the valve stem, the valve 4 being normally retained in the open position illustrated by the coil spring 7, and limited in such movement against the tension of said spring by the stop pins 8.

The choke device associated with the valve 4 embodies a tubular casing 9 rectangular in cross section as shown in Fig. 5, the same being open at each end as indicated in Fig. 4 and being provided upon one side thereof with an angularly disposed plate 10 provided with a series of openings 11 as shown in Fig. 3 by which the same is secured to the instrument board 12 of an automobile. A push button 13 carrying a push rod 14 has said push rod slidably extending through the casing 9, the push rod being of greater length than said casing as illustrated and having a flexible connection 15, such as a chain extending between the lower end of the push rod and the arm 6 of the valve 4.

For maintaining the push rod 14 in different adjusted positions, an inner face of the casing 9 has a corrugated spring member 16 secured thereto at one of its ends as at 17, a similarly formed corrugated spring member 18 being secured to the adjacent face of the push rod 14 as shown in Fig. 4. To maintain engagement between the corrugated spring members 16 and 18, a flat band spring 19, arched as illustrated is secured at its upper end as at 20 to the push rod 14, while the lower end 21 thereof slidably engages the adjacent face of said push rod, the intermediate arched portion of said spring engaging the opposite wall of the casing 9 for retaining the corrugated spring strips 16 and 18 in operative relation to each other.

The type of choke device illustrated herein is adapted for association with an automobile of any type or manufacture, the valve 4 being normally retained in an open position as illustrated in Fig. 1 by the spring 7, the same will be closed upon start-

ing the engine by axially shifting the push rod 14 for closing the same, the push rod being retained in its set position by the co-operating corrugated spring members 16 and 18. The valve 4 may be partially opened and the intake of air to the carburetor 1 easily controlled, the mixture of gas and air being varied by adjustment of the push rod which will positively maintain its adjusted position regardless of shocks or vibration due to the traveling of the automobile.

While the form of the invention herein shown and described is what is believed to be the preferred embodiment thereof, it is nevertheless to be understood that various forms, modifications and arrangements of the parts may be made without departing from the spirit and scope of the invention as claimed.

What is claimed is:—

1. The combination with a spring controlled air valve for carburetors, of an instrument board having an opening, a tubular casing extending through said opening, a plate member carried by said casing on an incline to the axis of the same, a push rod slidably mounted through said casing, a flexible connection between the push rod and valve, and cooperating corrugated spring members carried by the casing and push rod for holding the latter in adjusted positions.

2. The combination with a spring controlled air valve for carburetors, of an instrument board having an opening, a tubular casing extending through said opening, a plate member carried by said casing on an incline to the axis of the same, a push rod of greater length than said casing slidably mounted therein, a corrugated spring member secured at one end to one inner face of said casing, a similar spring member secured to said push rod, an arched band spring of greater length than said casing secured at one end to said rod and engaging the opposite inner face of the casing for retaining said corrugated spring members in operative engagement with each other, and a flexible connection between said rod and valve.

In testimony whereof I affix my signature.

FRANK UNDERWOOD.