

Oct. 23, 1923.

F. E. FERRIS

STOP LEVER

Filed Aug. 10, 1922

1,472,000

Fig. 2.

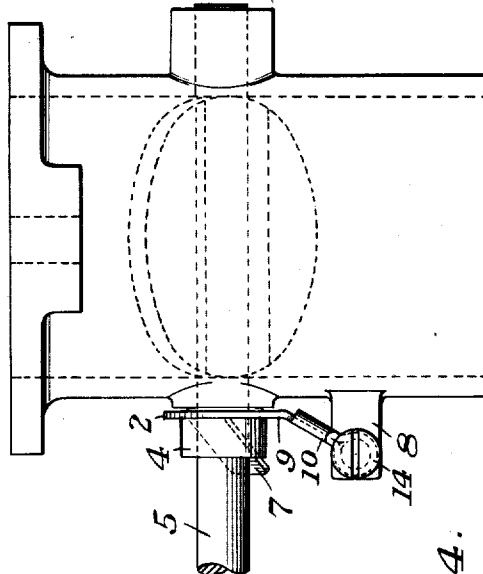


Fig. 1.

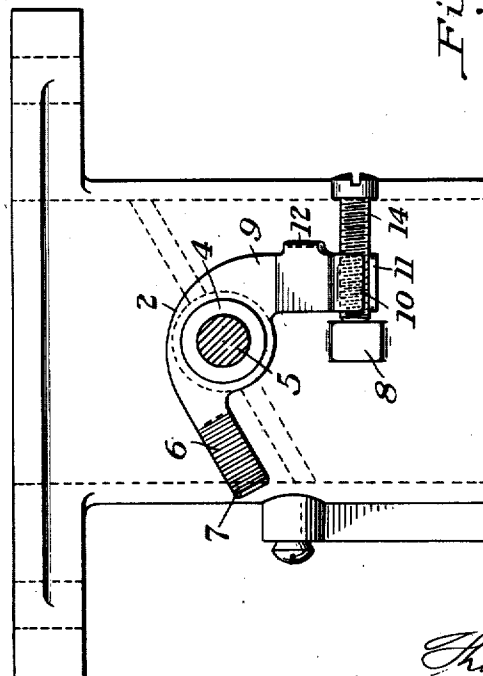


Fig. 4.

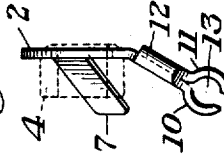


Fig. 5.

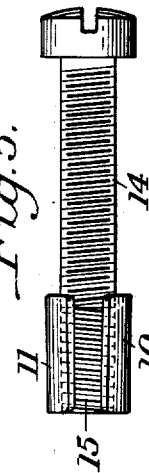
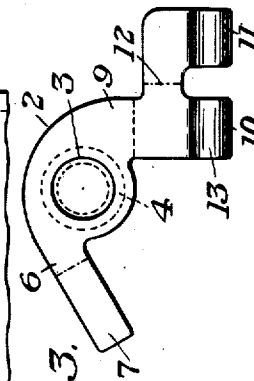


Fig. 3.



INVENTOR

Frank C. Ferris,
by Byrne, Stebbins & Partridge,
his atty

Patented Oct. 23, 1923.

1,472,000

UNITED STATES PATENT OFFICE.

FRANK E. FERRIS, OF DETROIT, MICHIGAN, ASSIGNOR TO SOCIÉTÉ DU CARBURATEUR, OF LYON, FRANCE, A CORPORATION OF FRANCE.

STOP LEVER.

Application filed August 10, 1922. Serial No. 580,900.

To all whom it may concern:

Be it known that I, FRANK E. FERRIS, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented a new and useful Improvement in Stop Levers, of which the following is a full, clear, and exact description.

The present invention relates generally to carburetors, and more particularly to stop levers for use therewith and adapted to be operatively secured to the throttle valve shaft.

At the present time there is a decided trend in this art toward simplicity of construction with decreased manufacturing cost. It has heretofore been customary to provide more or less complicated stop lever constructions, usually having independent means for maintaining the adjustable stop screw in the desired position. Such constructions, besides being cumbersome and expensive, are sometimes somewhat difficult to adjust. By the present invention there is provided a simple, inexpensive, and efficient stop lever construction which may be easily adjusted as may be required, and which will remain in adjusted position.

In the accompanying drawings there is illustrated a preferred embodiment of the present invention, it being understood that the drawings do not define the limits of this invention, as changes may be made in the construction and operation disclosed without departing from the spirit of my invention or scope of my broader claims.

In the drawings,—

Figure 1 is a side elevation of a portion of a carburetor construction showing the improved stop lever in position on the throttle shaft;

Figure 2 is a side view of the construction shown in Figure 1; and

Figures 3, 4 and 5 are detail views of the stop lever.

A stop lever constructed in accordance with the present invention preferably comprises a main body 2 of sheet material adapted to be easily stamped, and formed with a central opening 3. This opening is adapted to have secured therein in any desired manner a hub 4 by means of which the stop lever may be secured in the desired position on the throttle shaft 5.

Extending outwardly from the hub por-

tion of the lever is an arm 6, the outer end 7 of which is preferably bent outwardly to form a fixed stop adapted in the open position of the throttle valve to engage the stop 8 projecting from the body of the carburetor. A second arm 9 also extends outwardly from the hub portion of the stop lever and at an angle to the arm 6. The outer end of this arm is also preferably bent outwardly similar to the end portion 7, and is formed by providing a blank, as illustrated in Figure 3, having portions 10 and 11 adapted to be bent into overlapping relationship by bending along the line 12. This line of bending preferably extends substantially parallel to the length of the arm 9 and substantially at right angles to the axis of the opening 13 formed by the overlapped portions. As the line of bending is adjacent one end of the opening 13, it will be obvious that the opposite ends of the portions 10 and 11 are relatively unsupported, whereby yielding side walls for the opening 13 are provided.

The portions 10 and 11 are preferably curved, as shown, whereby the opening 13 is substantially circular, to provide an effective holding means for the adjustable stop screw 14. During the bending operation, the portions 10 and 11 are preferably so bent that they extend out of parallelism, thereby providing a slightly tapered opening. This opening is then tapped to provide internal screw threads 15 adapted to cooperate with the threaded body of the stop screw. During the tapping operation, the sides of the opening will be slightly forced outwardly, but they will exert a wedging action or binding action on the tap. When the tap is removed, the portions 10 and 11 will tend to resume their original positions, whereby when the screw 14 is inserted the wedging action will again take place.

This construction has been found to be very advantageous, as the resultant clamping and wedging action exerted on the stop screw effectively holds it in adjusted position, while permitting easy adjustment thereof, as may be found necessary. This obviates the use of a separate holding or clamping means for the adjusting screw.

The advantages of the present invention arise from the simplicity of the construction provided and from the effective manner of holding the stop screw in adjusted position

while permitting the desired adjustment thereof.

I claim:

1. In a stop lever, a main body having
5 an arm comprising overlapped portions extending out of parallelism and forming a tapered opening for an adjustable stop, the portions forming the walls of said opening being capable of a greater yielding movement at the small end of said opening than
10 at the large end thereof, substantially as described.

2. In a stop lever, a main body having an arm comprising overlapped portions extending out of parallelism and formed with curved sides providing a substantially circular tapering stop-receiving opening, the portions forming the walls of said opening being capable of a greater yielding movement at the small end of said opening than
20 at the large end thereof, substantially as described.

3. In a stop lever, a main body having an arm comprising overlapped portions connected at one end and relatively free at the opposite end and extending out of parallelism and forming an opening, said opening being threaded to receive a stop screw, and a stop screw in said opening, substantially
30 as described.

4. In a stop lever, a main body having an arm comprising overlapped portions extending out of parallelism and forming an opening, said opening being threaded to receive a stop screw, and a stop screw in said opening, said portions being bent into overlapping relationship along a line extending at substantially right angles to the axis of said screw, substantially as described.
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5. In a stop lever, a main body having an
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arm comprising portions overlapped along a line extending substantially parallel to the length of the arm to provide a stop receiving opening, substantially as described.

6. In a stop lever, a main body having
45 an arm comprising portions overlapped along a line extending substantially parallel to the length of the arm, said portions extending out of parallelism to provide a tapered opening therebetween, substantially
50 as described.

7. In a stop lever, a main body having an arm comprising curved portions overlapped along a line extending substantially parallel to the length of the arm to provide a
55 circular opening, the walls of said opening being tapered, and a stop screw adjustably threaded in said opening, substantially as described.

8. In a stop lever, a main body having
60 an arm comprising portions overlapped to provide an opening, said portions being overlapped by bending along a line adjacent one end of the opening and extending at substantially right angles to the axis thereof, substantially as described.
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9. In a stop lever, a main body having an arm comprising portions overlapped to provide an opening, said portions being overlapped by bending along a line adjacent
70 one end of the opening and extending at substantially right angles to the axis thereof, and an adjustable stop screw in said opening, said portions exerting a binding action on said screw, substantially as described.
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In testimony whereof I have hereunto set my hand.

FRANK E. FERRIS.

Certificate of Correction.

It is hereby certified that the assignee in Letters Patent No. 1,472,000, granted October 23, 1923, upon the application of Frank E. Ferris, of Detroit, Michigan, for an improvement in "Stop Levers," was erroneously described and specified as "Societe du Carburateur," whereas said assignee should have been described and specified as *Societe du Carburateur Zenith*, as shown by the records of assignments in this office; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 27th day of November, A. D., 1923.

[SEAL.]

KARL FENNING,
Acting Commissioner of Patents.