

F. BAVEREY.
 BUTTERFLY VALVE SYSTEM FOR CARBURETERS.
 APPLICATION FILED JULY 30, 1914.

1,167,145.

Patented Jan. 4, 1916.

Fig. 1.

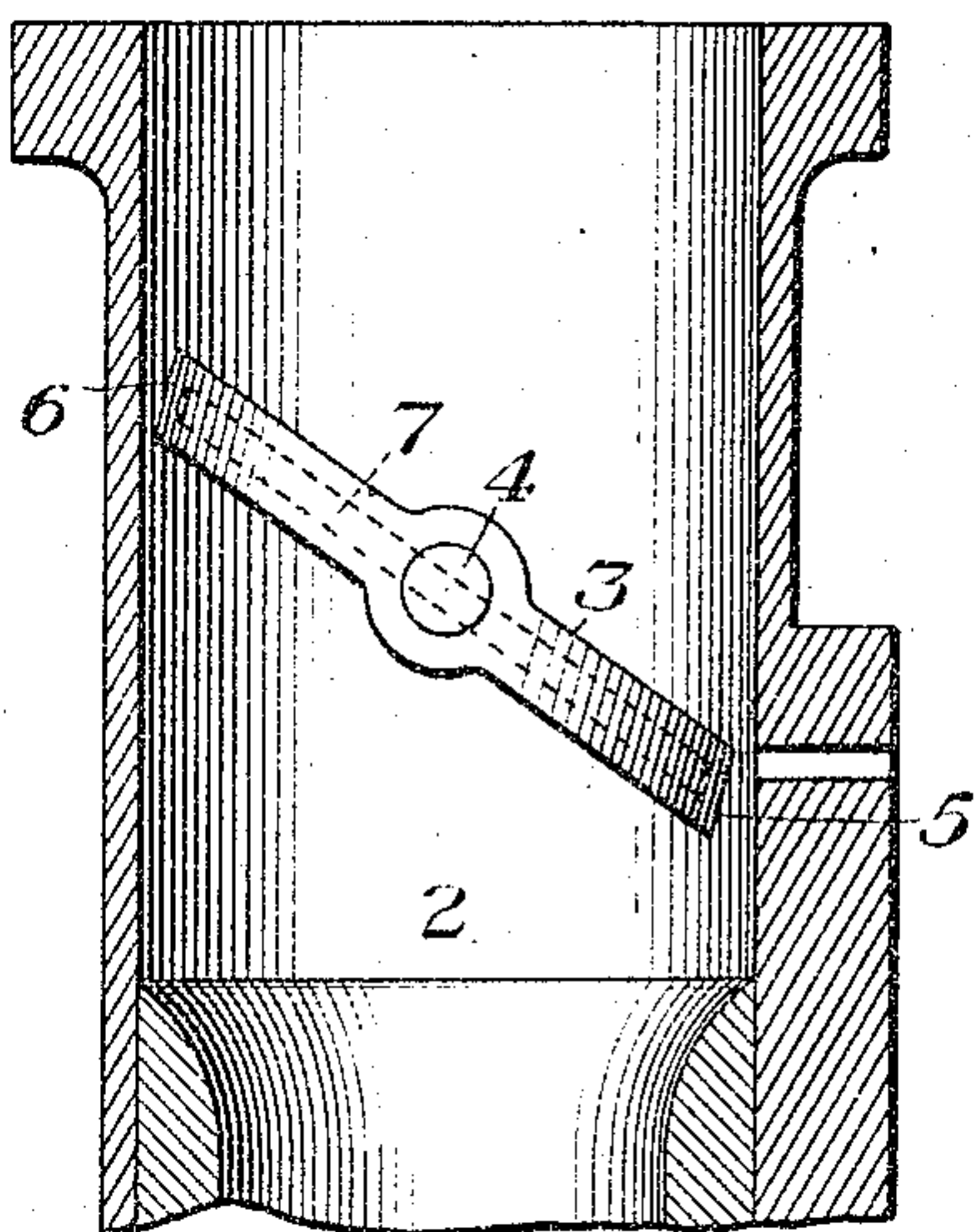


Fig. 4.

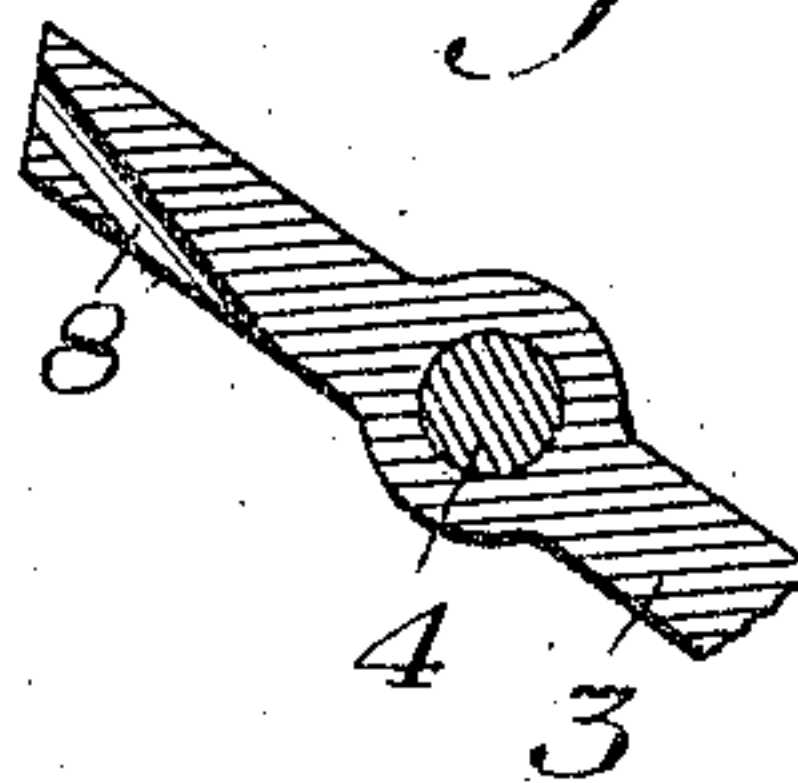


Fig. 2.

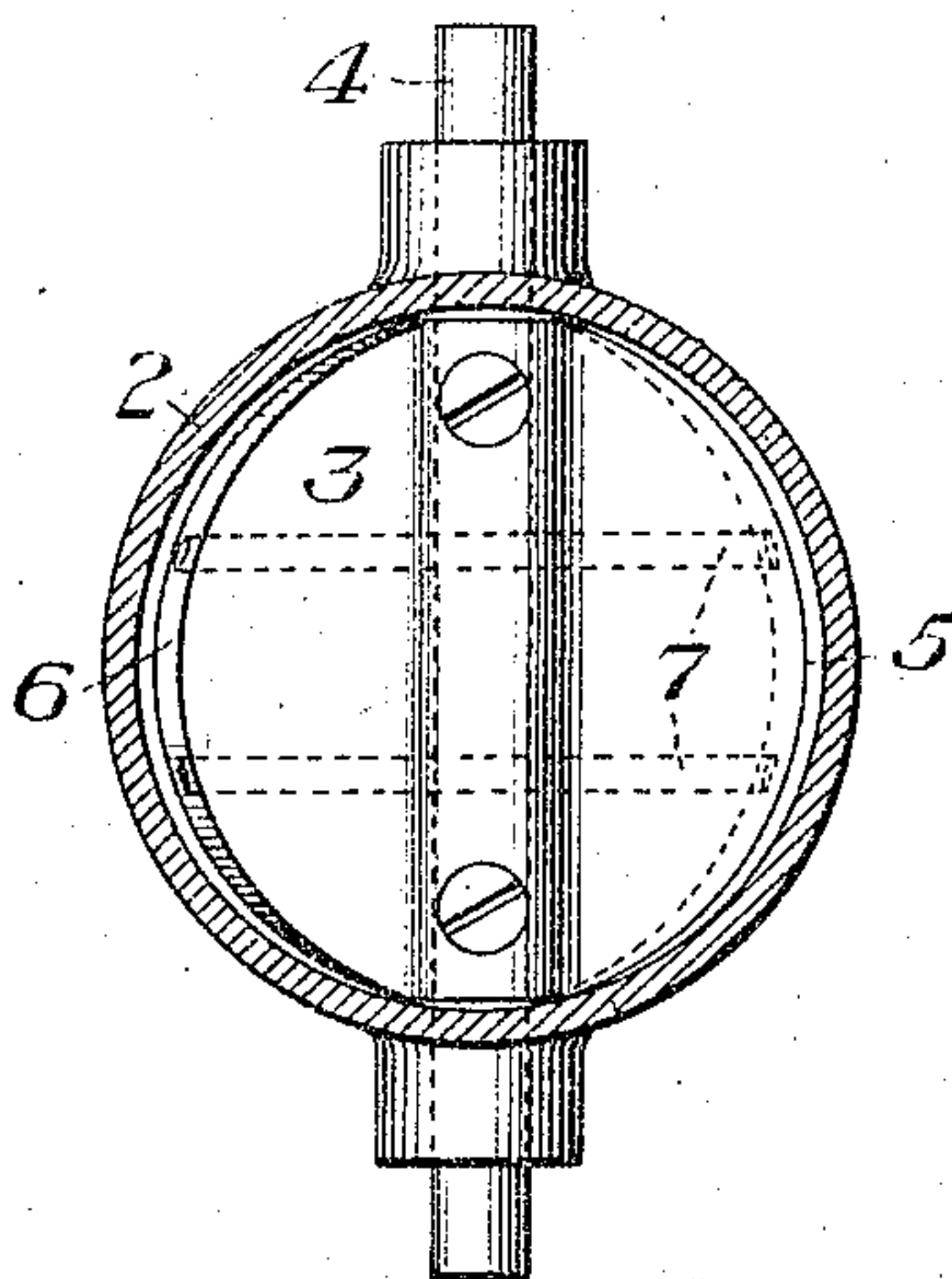
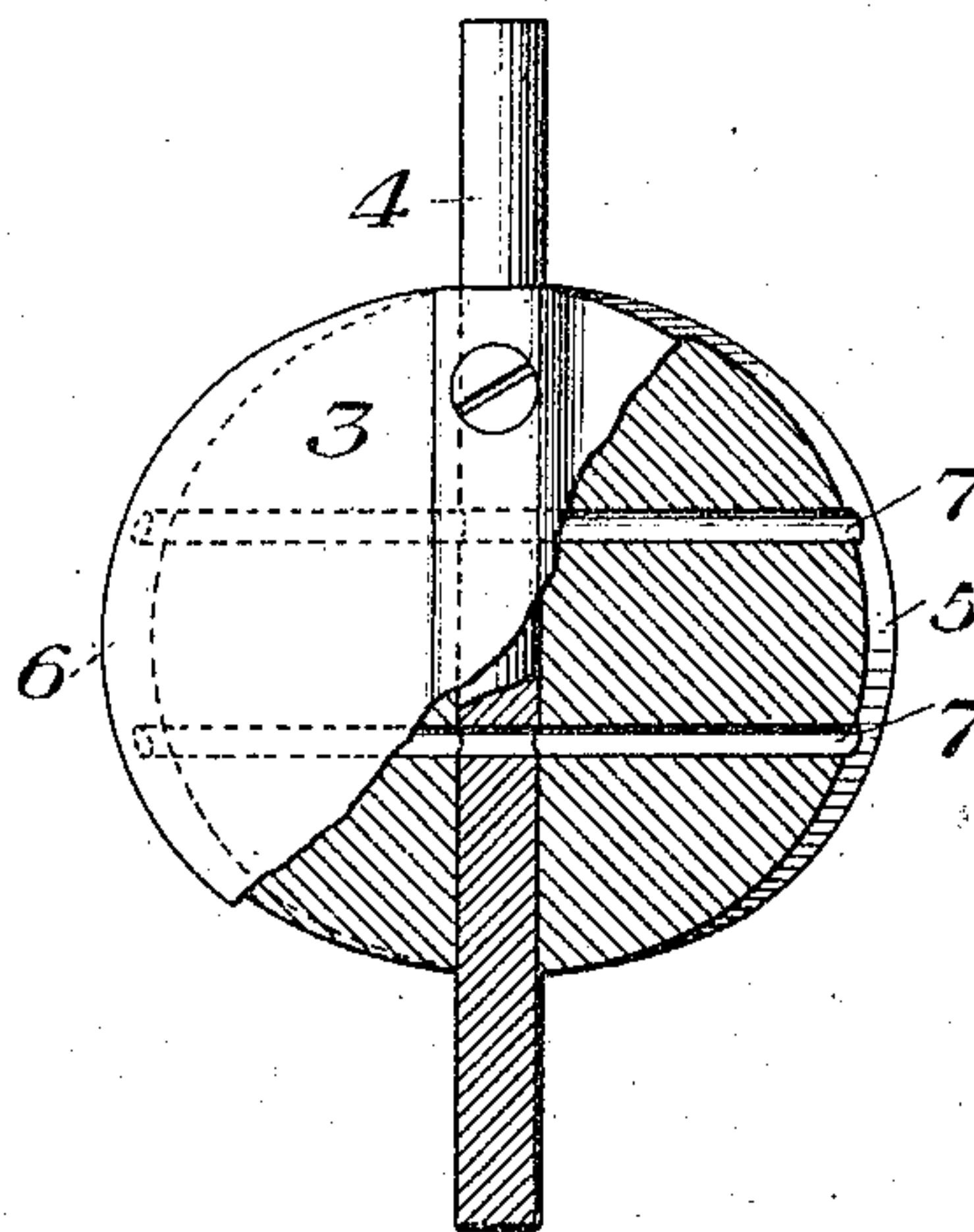


Fig. 3.



WITNESSES

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BUTTERFLY-VALVE SYSTEM FOR CARBURETERS.

1,167,145.

Specification of Letters Patent.

Patented Jan. 4, 1916.

Application filed July 30, 1914. Serial No. 854,104.

To all whom it may concern:

Be it known that I, FRANÇOIS BAVEREY, a citizen of the Republic of France, residing at Rue Pasteur No. 36, Oullins, France, have invented a new and useful Butterfly-Valve System for Carbureters, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a sectional side elevation showing my butterfly valve system in the outlet of a carbureter. Fig. 2 is a sectional plan view of the same. Fig. 3 is a plan view of the butterfly valve, partly broken away, and Fig. 4 is a detail view of a modified form.

The type of butterfly throttle valve now commonly used in the passage from a carbureter to an internal combustion engine is objectionable in that it produces an audible noise, especially when the throttle is slightly open.

The object of my invention is to lessen, if not entirely suppress this disagreeable noise.

To that end the invention consists in providing a fluid supply channel which will have an additional supply of gaseous fluid to the point where the noise occurs and yet will be closed when the throttle is closed. I have found that this noise is caused by the varying area at the edge of the valve when partly opened, owing to the sudden increase in speed at the edge nearest the carbureter, followed by a decrease in speed of the fluid at the edge farthest away from the carbureter, this being due to the necessary shape of the butterfly valve edges to properly close the passageway; and by bringing an additional quantity of fluid to this point I can decrease, if not suppress this noise.

In the drawings, 2 represents the outlet portion of a carbureter having the usual butterfly valve 3 carried on the shaft or trunnion 4 extending through the sides of the outlet. This butterfly valve is of the usual form, its edges being properly beveled or shaped to fit the cylindrical passageway when closed. This butterfly valve may close at any desirable angle and may be shaped in any desirable manner. When this valve is slightly open as shown in Fig. 1 the

lower edge of the portion 6 of the valve will cause a sudden increase in speed of the gases flowing past that portion. This increase will be followed by a decrease of speed at the upper edge of this portion 6. These sudden variations in velocity cause the whistling noise.

In accordance with my invention, I provide the butterfly valve with a passage or passages leading to the edge portion of the valve. In Figs. 1, 2 and 3 this is shown as consisting of a pair of holes or conduits 7 drilled through the valve and stem leading from one side to the other, thus supplying additional gaseous fluid to the portion 6 of the valve. In Fig. 4 this additional supply is obtained by the passageway 8 leading from the lower surface of the valve to the edge portion referred to.

The advantage of the invention results from the supplying of additional fluid to the region where whistling noise occurs, thus reducing the vacuum which tends to form at this point and reducing or doing away with the noise.

Many variations may be made in the form of the butterfly throttle, the fluid passageway, etc., without departing from my invention.

I claim:

1. A butterfly throttle valve for internal combustion engines, having its upper edge arranged to leave the wall on the first opening movement of the valve, and a fluid conduit leading to and having an outlet in said upper edge portion, substantially as described.

2. A butterfly throttle valve for internal combustion engines, having its upper edge arranged to leave the wall on the first opening movement of the valve, and an inclosed fluid conduit leading to and having an outlet in said upper edge portion, substantially as described.

3. A butterfly throttle valve for internal combustion engines, having its upper edge formed substantially as a section of a cylinder, said valve having a fluid conduit leading to and having an outlet in the upper edge portion, substantially as described.

4. A butterfly throttle valve for internal combustion engines, having an inclosed hole

leading to its upper edge portion, substantially as described.

5 A butterfly throttle valve for internal combustion engines having an inclosed hole leading from the body of the valve to the upper edge thereof, substantially as described.

In testimony whereof, I have hereunto set my hand.

FRANÇOIS BAVEREY.

Witnesses:

GASTON JEANNIAUX,
MARIUS MERMAZ.