

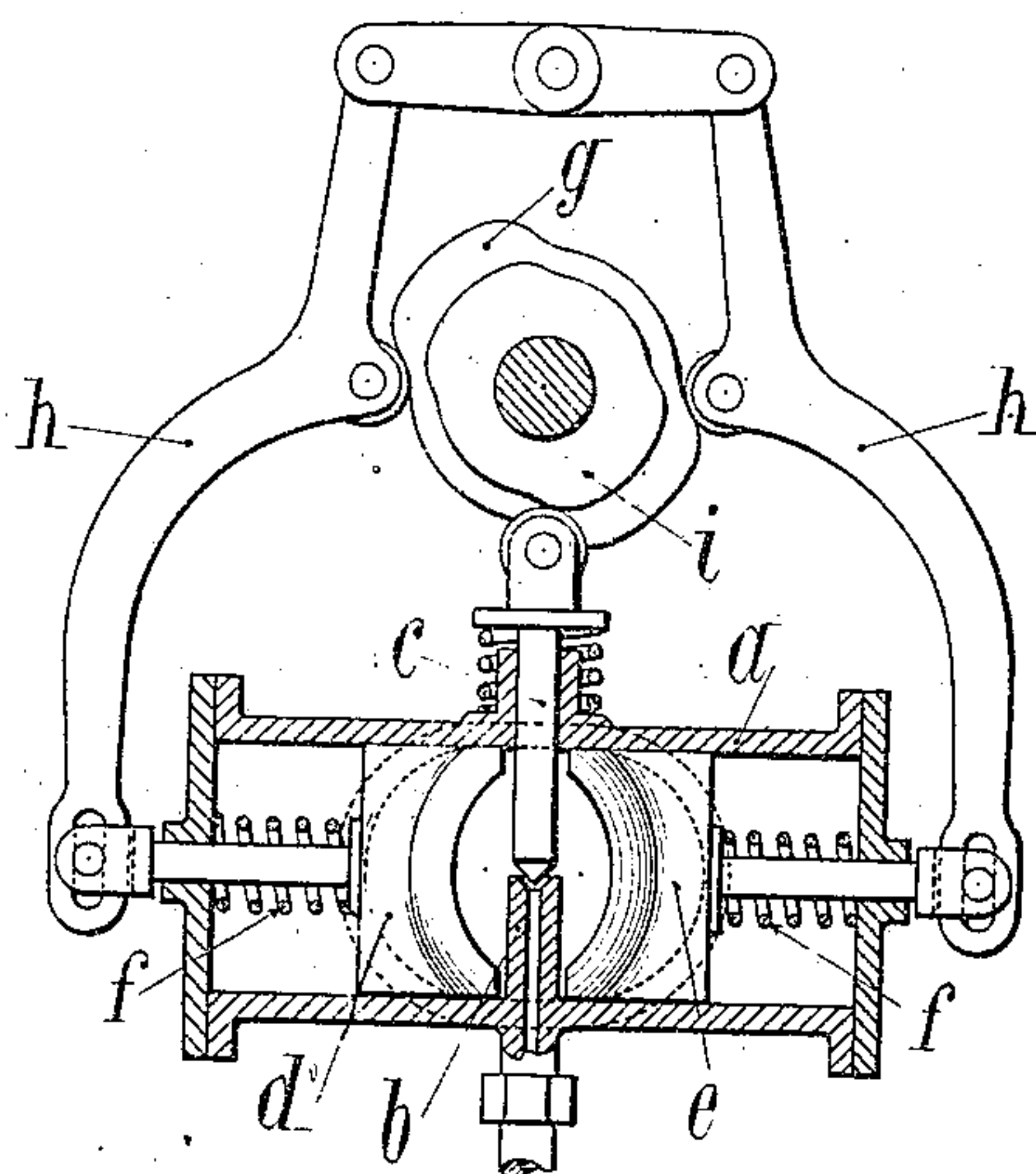
No. 868,251.

PATENTED OCT. 15, 1907.

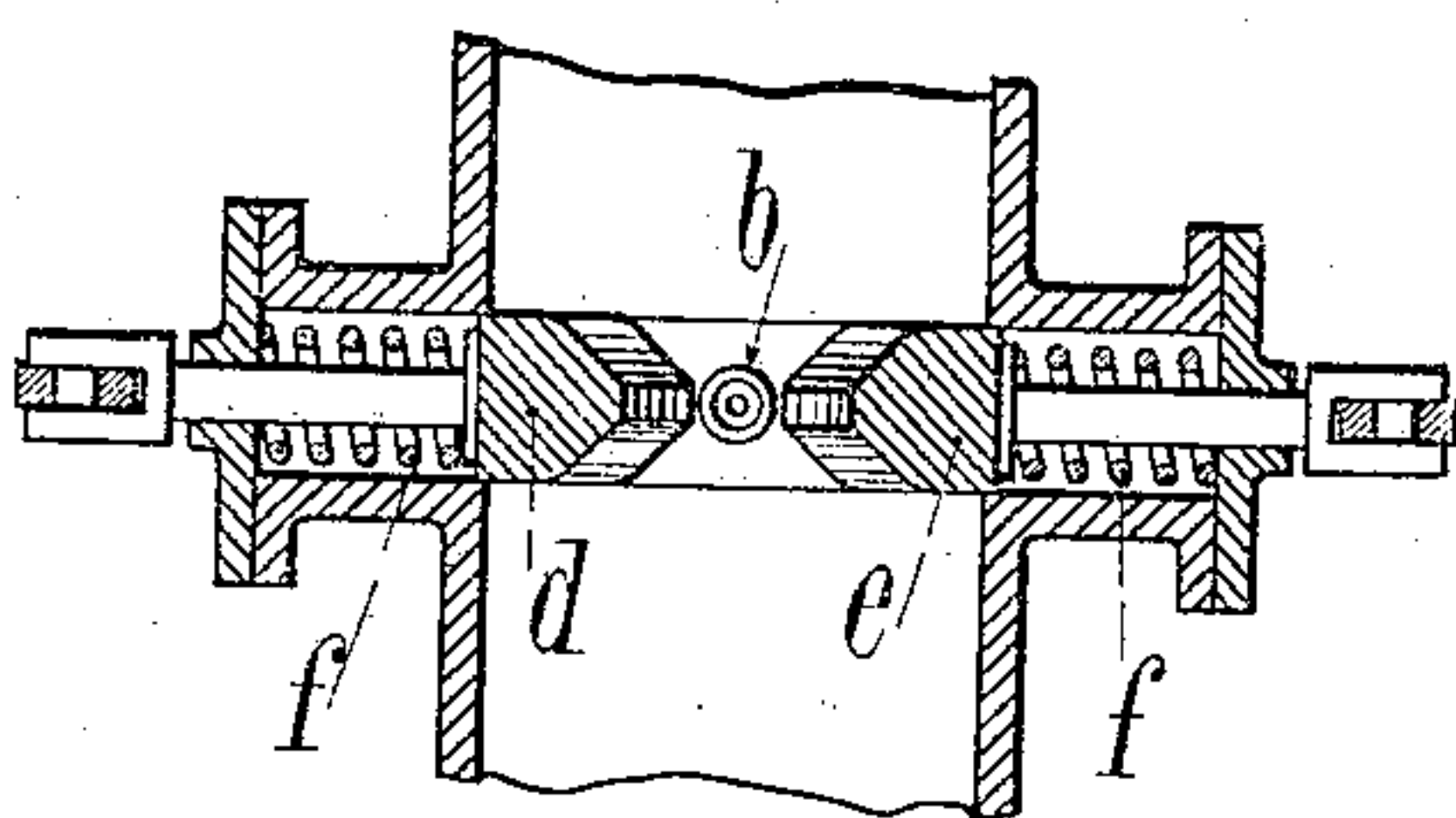
L. BOLLÉE.  
CARBURETER.

APPLICATION FILED APR. 4, 1904.

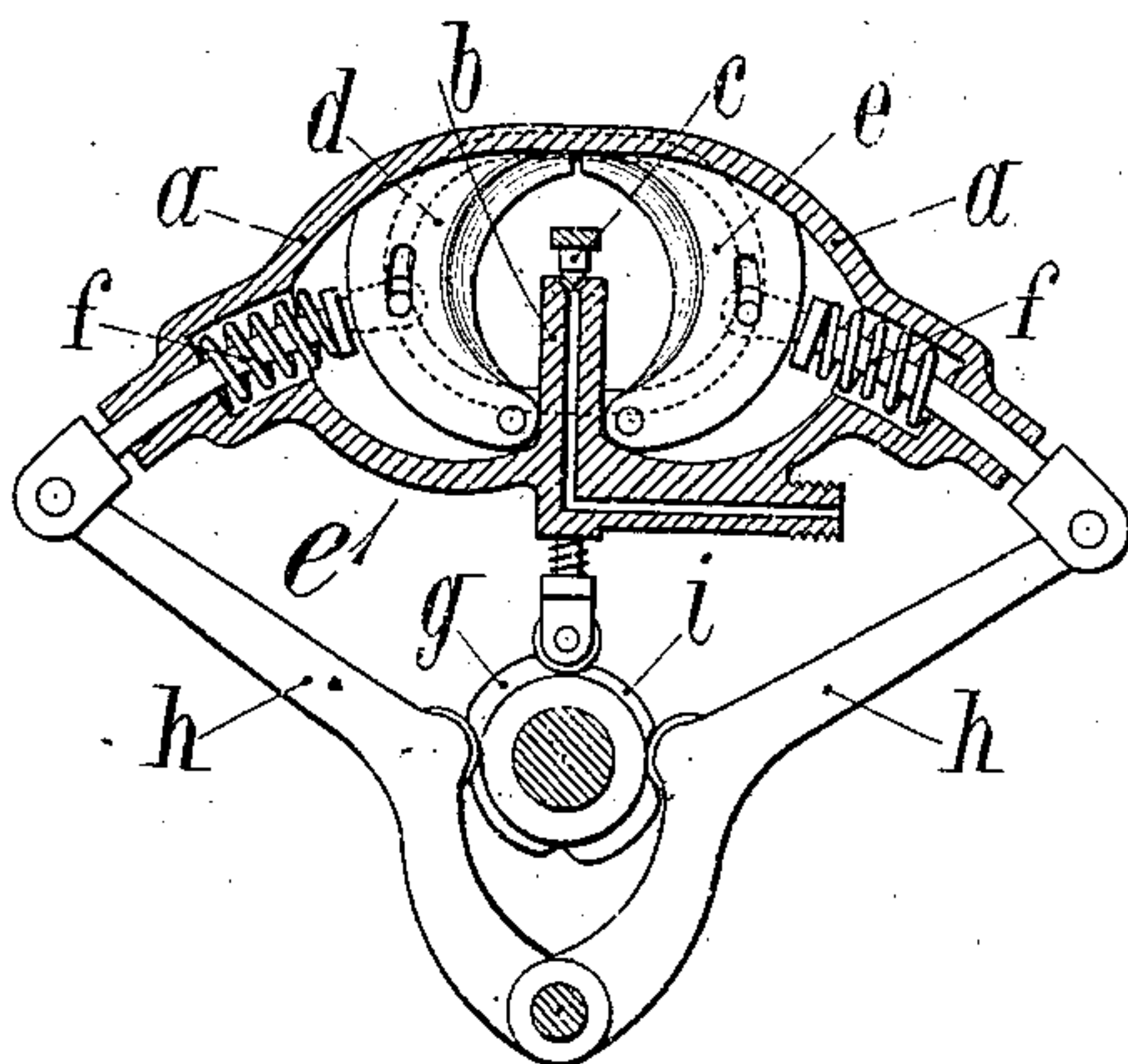
2 SHEETS—SHEET 1.



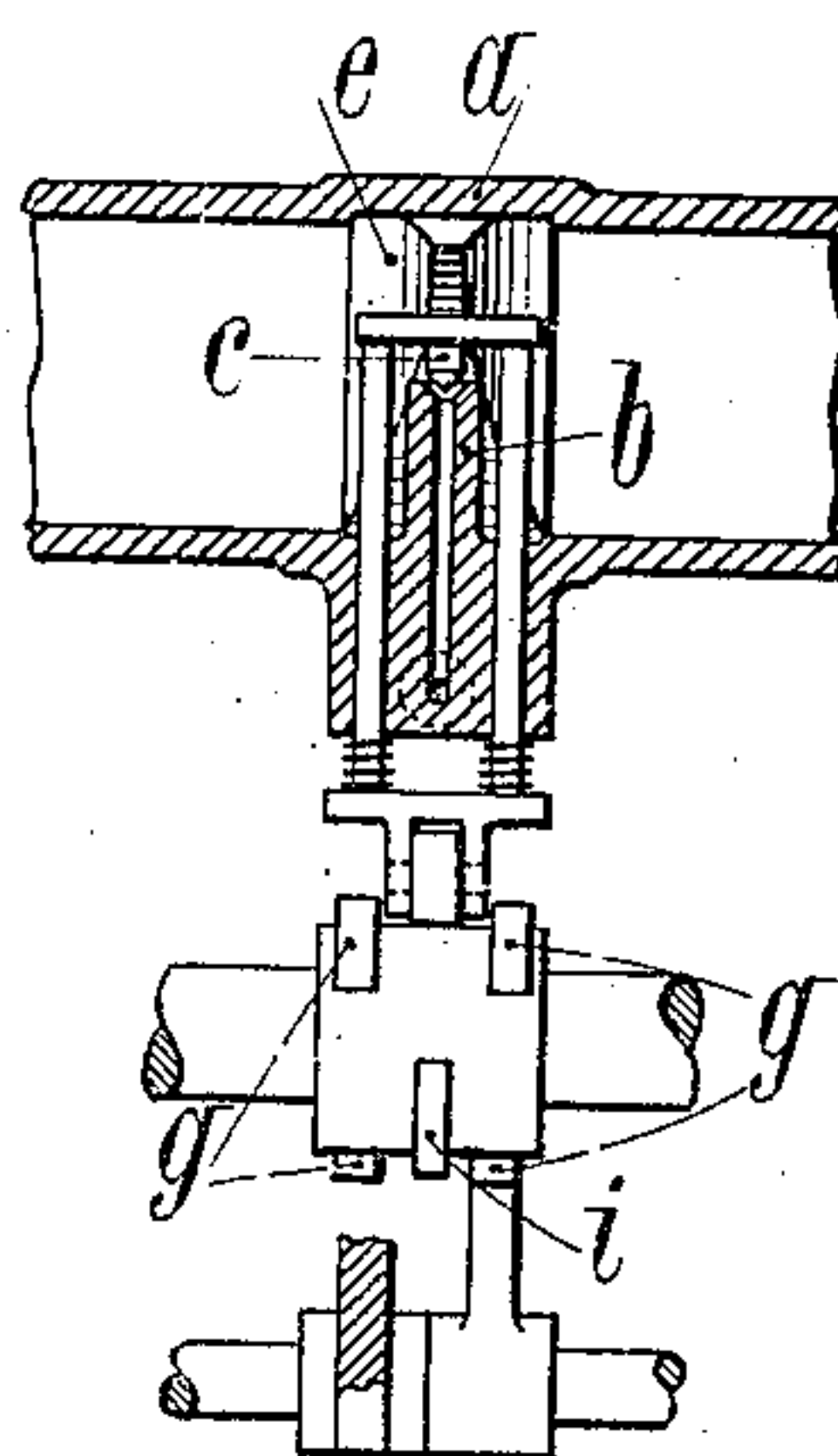
*Fig. 1.*



*Fig. 2.*



*Fig. 6.*



*Fig. 7.*

Witnesses:

W. K. Bullen

*L. H. Thompson*

Inventor:

*Léon Bollée*

By *Wm. E. Boulter*  
Attorney

No. 868,251.

PATENTED OCT. 15, 1907.

L. BOLLÉE.  
CARBURETER.

APPLICATION FILED APR. 4, 1904.

2 SHEETS—SHEET 2.

FIG. 4.

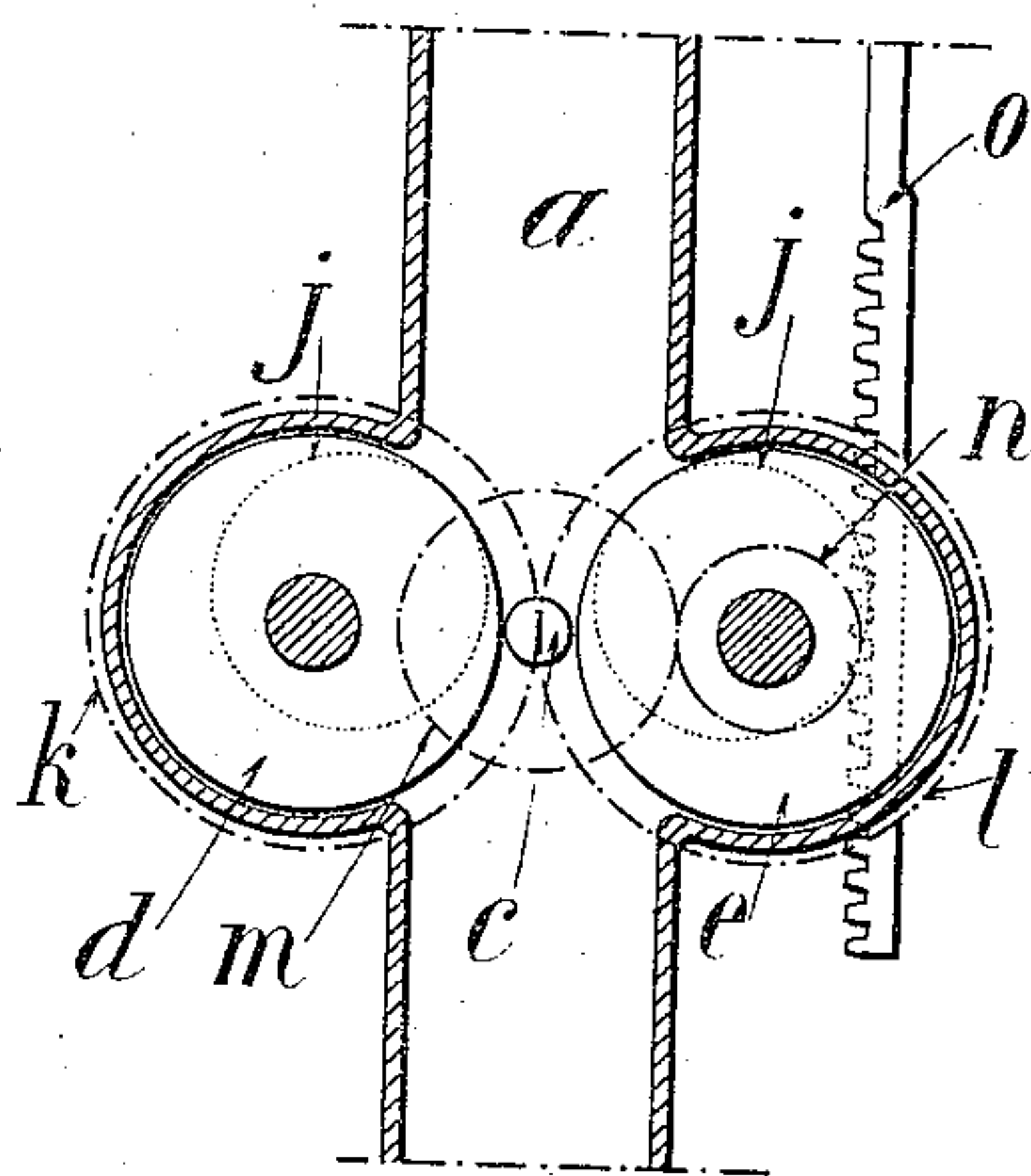


FIG. 3.

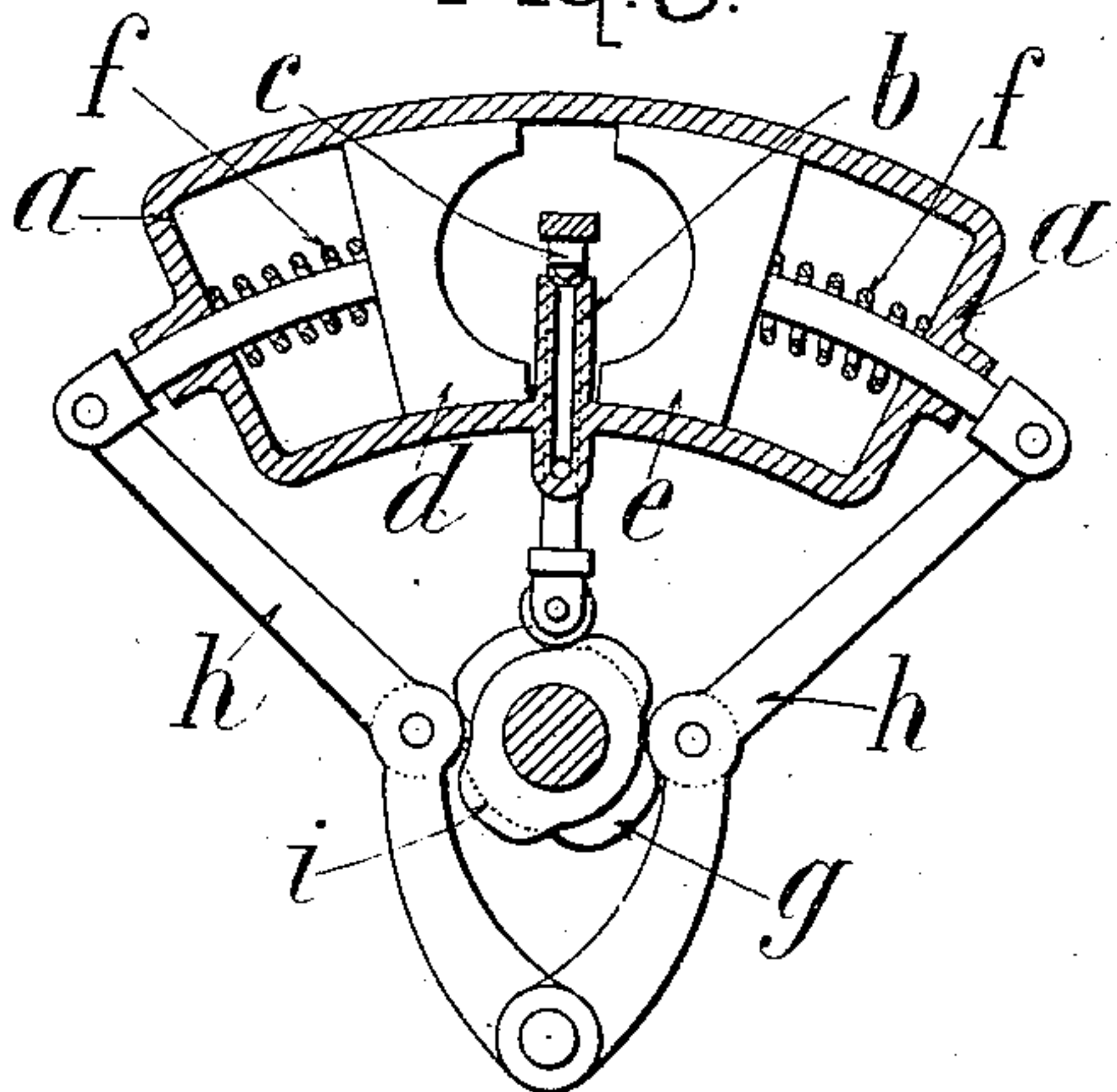
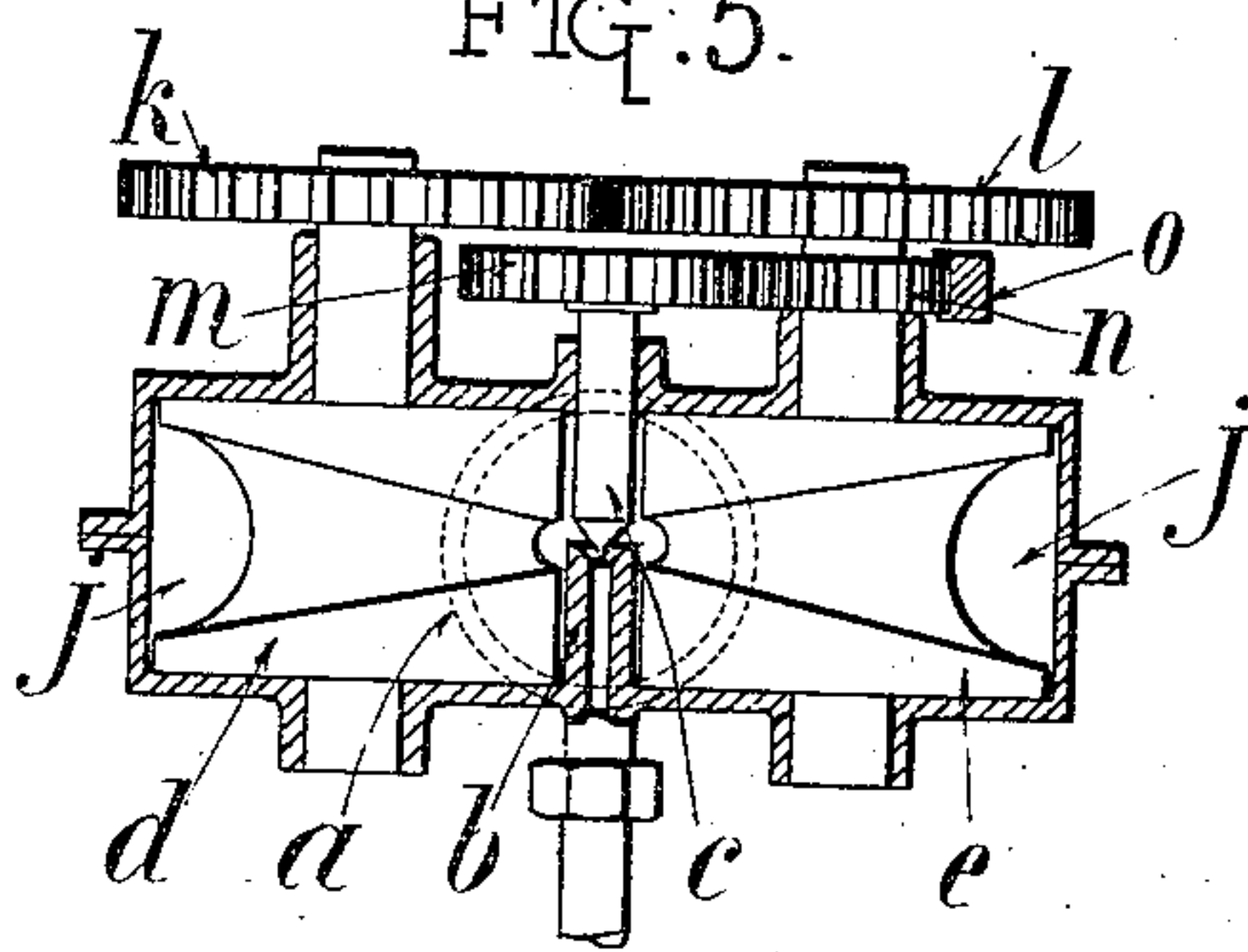


FIG. 5.



Witnesses:

W. R. Boulton

W. Boulton

Inventor:

Leon Bollée

By W. R. Boulton

Attorney



# UNITED STATES PATENT OFFICE.

LEON BOLLÉE, OF LE MANS, FRANCE.

## CARBURETER.

No. 868,251.

Specification of Letters Patent.

Patented Oct. 15, 1907.

Application filed April 4, 1904. Serial No. 201,549.

*To all whom it may concern:*

Be it known that I, LEON BOLLÉE, a citizen of the Republic of France, residing at Le Mans, in France, have invented certain new and useful Improvements in or  
5 Relating to Carbureters, of which the following is a specification.

Experience has shown that a carbureter cannot supply a perfect mixture unless there is a suitable relation not only between the openings for the air and for the  
10 fuel, but also between the cross-section of the passage for the mixture at the place where it is formed, and the openings just mentioned, and also as regards the quantity of the mixture supplied. It follows, therefore, that, if that quantity of the mixture is modified, it is  
15 necessary to modify at the same time, in order to work under the most perfect conditions, the passages for the fuel, air and mixture, at the point where the latter is formed. We will designate in the following description the point in question by the name of "carbureting  
20 chamber."

The invention is illustrated by way of example in the accompanying drawings in which

Figure 1 shows a sectional view of a device according to this invention, Fig. 2 being a horizontal section  
25 thereof through the center of the carbureting chamber. Fig. 3 shows a sectional view of a modified construction: Figs. 4 and 5 illustrate a further modified construction of the invention. Figs. 6 and 7 show sections of a construction having hinged walls for the carbureting chamber.  
30 ber.

The construction shown in Figs. 1 and 2, comprises a chamber *a* of rectangular cross-section, provided about the middle of its length with a fuel inlet sprayer *f* and its regulating valve or plug *c* operated by a cam *i* of suitable shape; and at each side two plates blocks or pistons *d e* preferably recessed as shown, which, under the  
35 action of springs *f*, have the tendency to come closer together and to reduce the area of the central mixing space and air supply passage. These plates can, however, be moved away from each other by means of a cam *g* acting on levers *h* to which said plates are connected. The spring plug *c* is itself controlled by a cam *i* of a suitable shape. The chamber *a* is formed as an enlargement of or is interposed in the conduit for the supply  
40 of air to be carbureted and for the delivery of the carbureted air to the engine. The cams *g* and *i* are operated either by an apparatus depending on the speed of the suction, or on the speed of the engine, or simply by hand, according to the opinion formed by the driver  
45 as to the speed of suction. Instead of causing the plates *d e* to open in rectilinear parallel directions, each plate could be hinged at one of its ends and operated by turning it about its pivot, somewhat after the manner of a bellows. Such a construction is shown in Figs. 6 and 7

wherein the plates *e* are pivoted at *e'* and are operated  
55 by means of the levers *f* and *h* as in the previous case. Or the plates could be fitted in a tubular casing of curved shape (Fig. 3).

In a modified construction, shown in Figs. 4 and 5, the plates *d e* are replaced by two cylinders *d' e'*, the  
60 circumferences of which are provided with grooves *j*, the cross-section of which gradually increases so that the size of the air supply passage round the sprayer *b* can be increased or reduced by a simple simultaneous rotation of the cylinders *d' e'* which are connected to  
65 that end by gears *k l*, one of which is driven in any suitable manner, such as, for instance, by a toothed rack *o* or some other means, controlled by the engine or driver.

The regulating plug *c* of the sprayer *f*, which is screwed into the tube or casing is operated by means of  
70 gear wheels *m n*. It would be still simpler to have the plug *c* mounted by means of a spring and operated by means of a cam secured to one of the gear wheels. It will be obvious that the area of the carbureting  
75 chamber round the sprayer could also be rendered expansible in a variety of ways other than that shown, and it is not intended to limit the scope of this invention to the construction shown and described.

What I claim as my invention and desire to secure by Letters Patent is:—

1. A carbureter comprising a variable sized mixing chamber constituted by two movable walls therein, a fuel outlet pipe extending into said variable sized chamber, and means for simultaneously and proportionately regulating the size of the mixing chamber and the opening of  
80 the fuel outlet, substantially as set forth.

2. A carbureter comprising a variable sized mixing chamber constituted by two movable walls therein, springs acting on said walls, a fuel outlet pipe extending into said variable sized chamber, and means for simultaneously and  
85 proportionately regulating the size of the mixing chamber and the opening of the outlet, substantially as set forth.

3. A carbureter comprising a variable sized mixing chamber constituted by two movable walls therein, a fuel supply pipe extending into said variable sized chamber, a  
90 valve for regulating the fuel outlet, and means outside the chamber for simultaneously and proportionately regulating the size of the mixing chamber and the opening of the fuel outlet valve, substantially as set forth.

4. A carbureter comprising a variable sized mixing chamber constituted by oppositely arranged and recessed movable walls within said chamber; a fuel supply pipe extending into said chamber between the movable walls, a valve for regulating the fuel nozzle opening, and means outside the chamber for simultaneously operating the  
100 movable walls and valve substantially as set forth.

5. A carbureter comprising a casing, a fuel supply pipe therein, an adjustable valve therefor, rotary cylinders on either side of said pipe and valve, tapering circumferential grooves in said cylinders and means outside the casing for  
105 simultaneously adjusting the fuel supply valve and the cylinders, substantially as set forth.

6. A carbureter comprising an air supply conduit, a variable sized chamber in said conduit constituted by two

spring-controlled movable walls therein, means for moving said walls from the outside and a fuel supply pipe extending into said variable sized chamber substantially as set forth.

- 5 7. A carbureter comprising an air supply conduit, a variable sized chamber in said conduit constituted by oppositely arranged and recessed movable walls within said chamber, a fuel supply pipe extending into said chamber between the movable walls, a valve therefor, and

means outside the chamber for operating the movable walls 10 and valve substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

LEON BOLLÉE.

Witnesses:

HANSON C. COXE,  
JEAN ROBELET.