

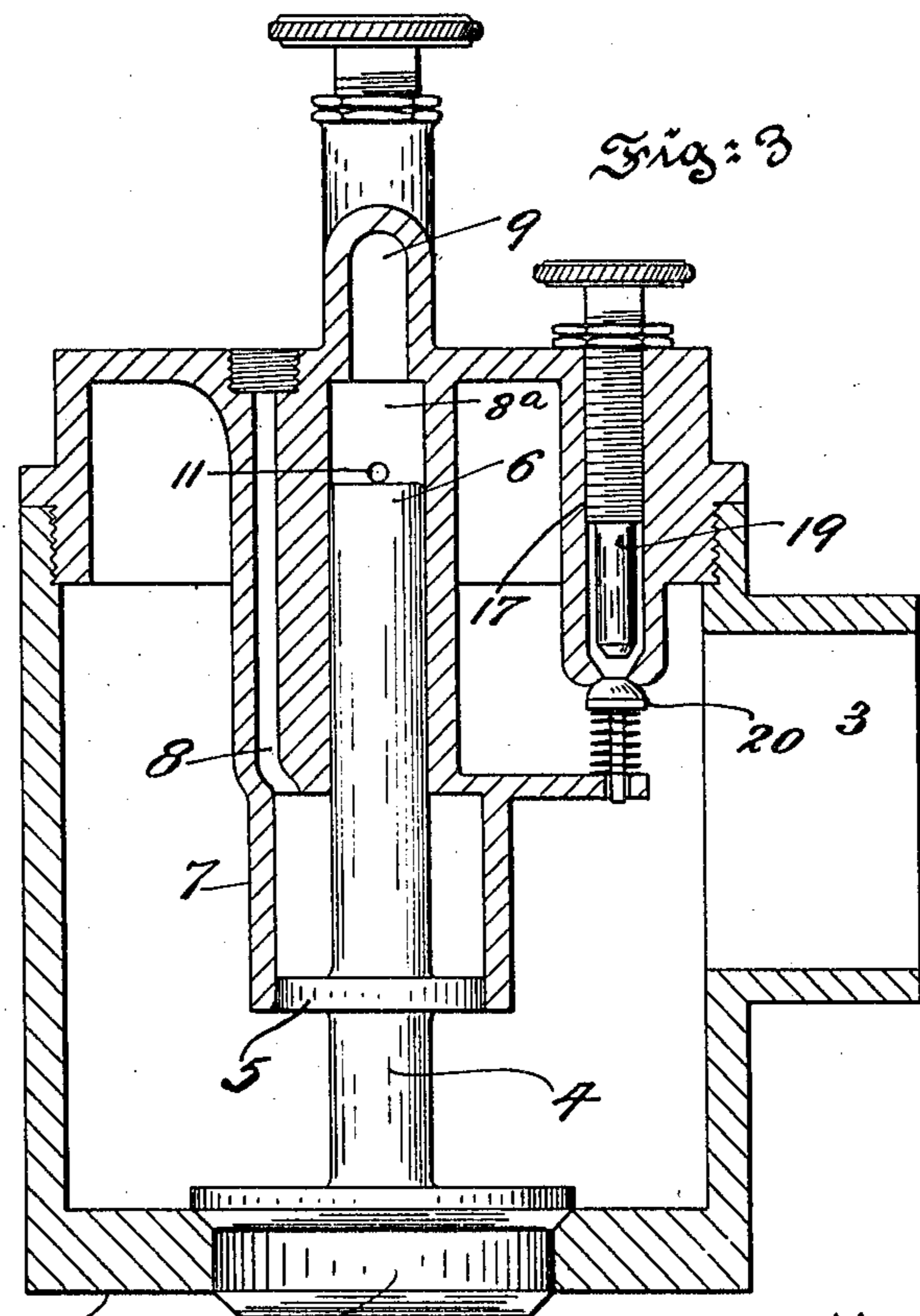
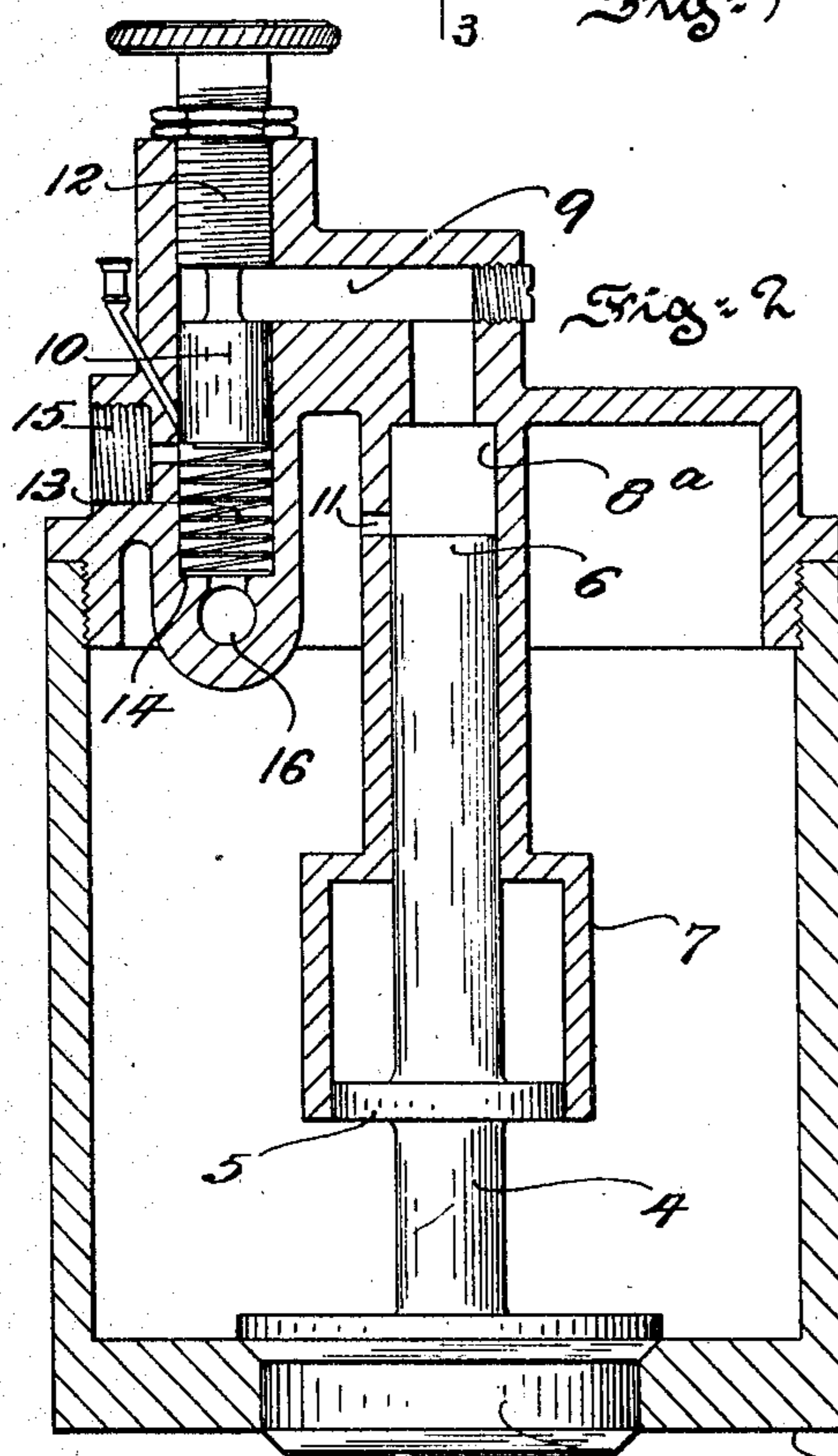
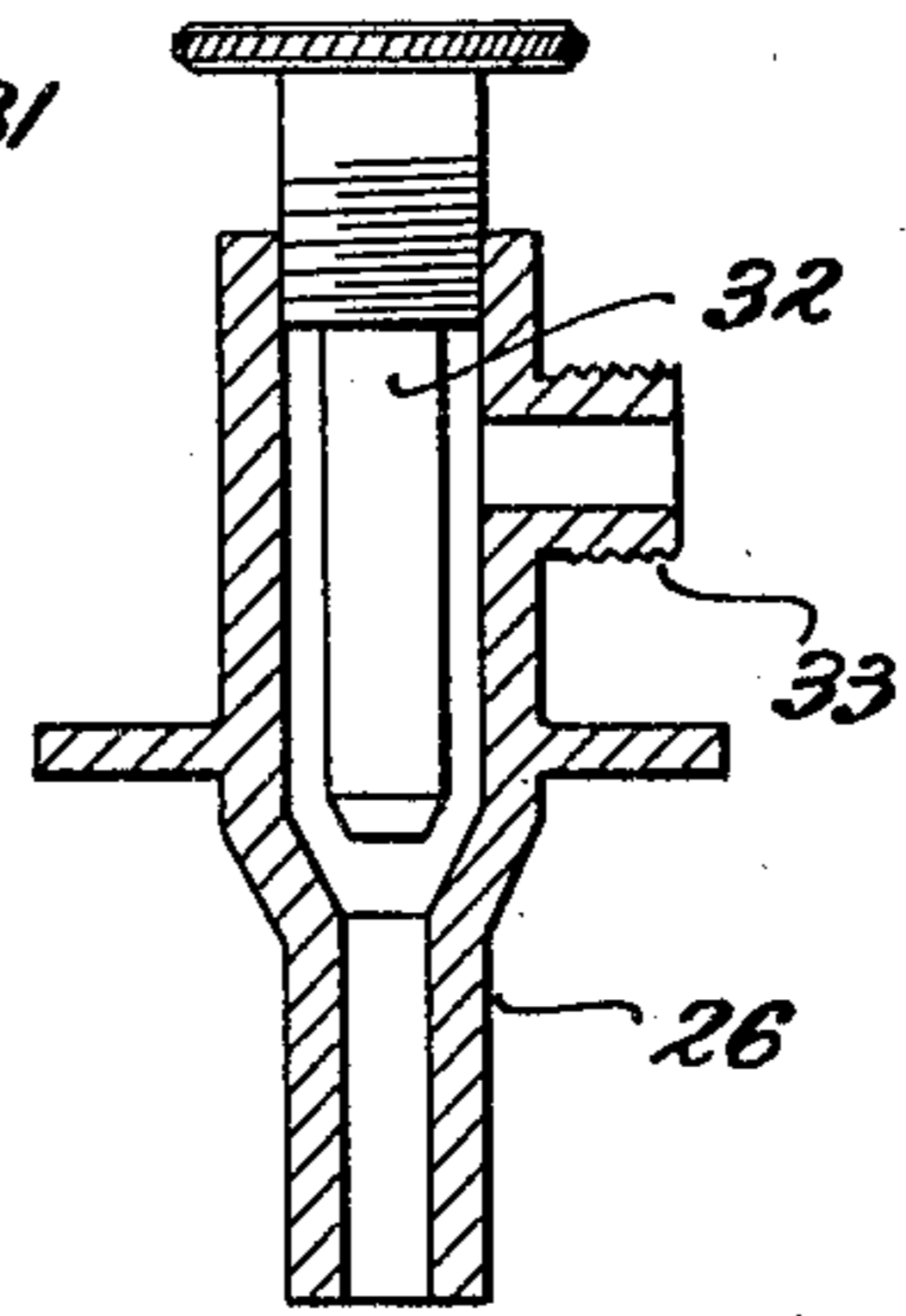
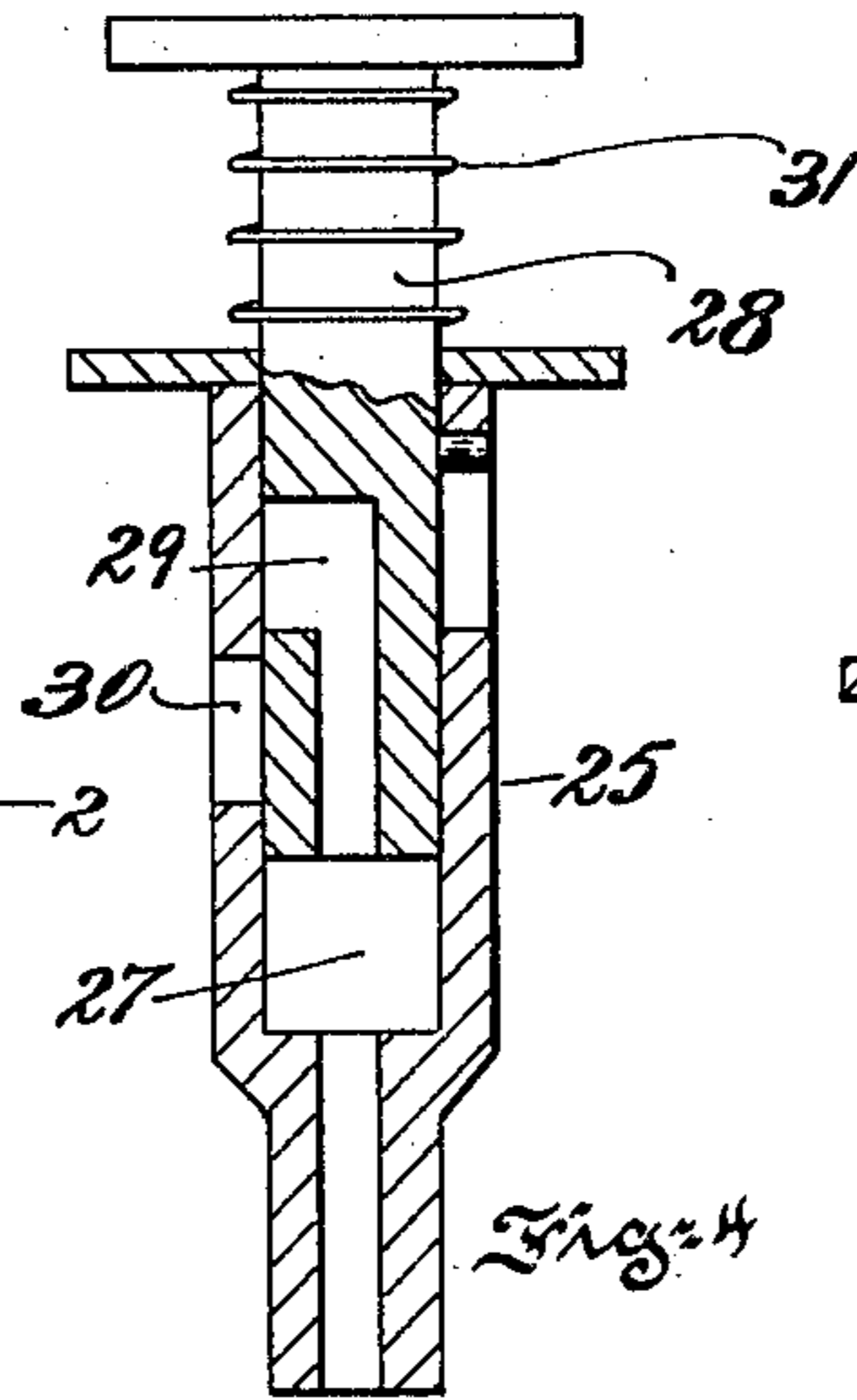
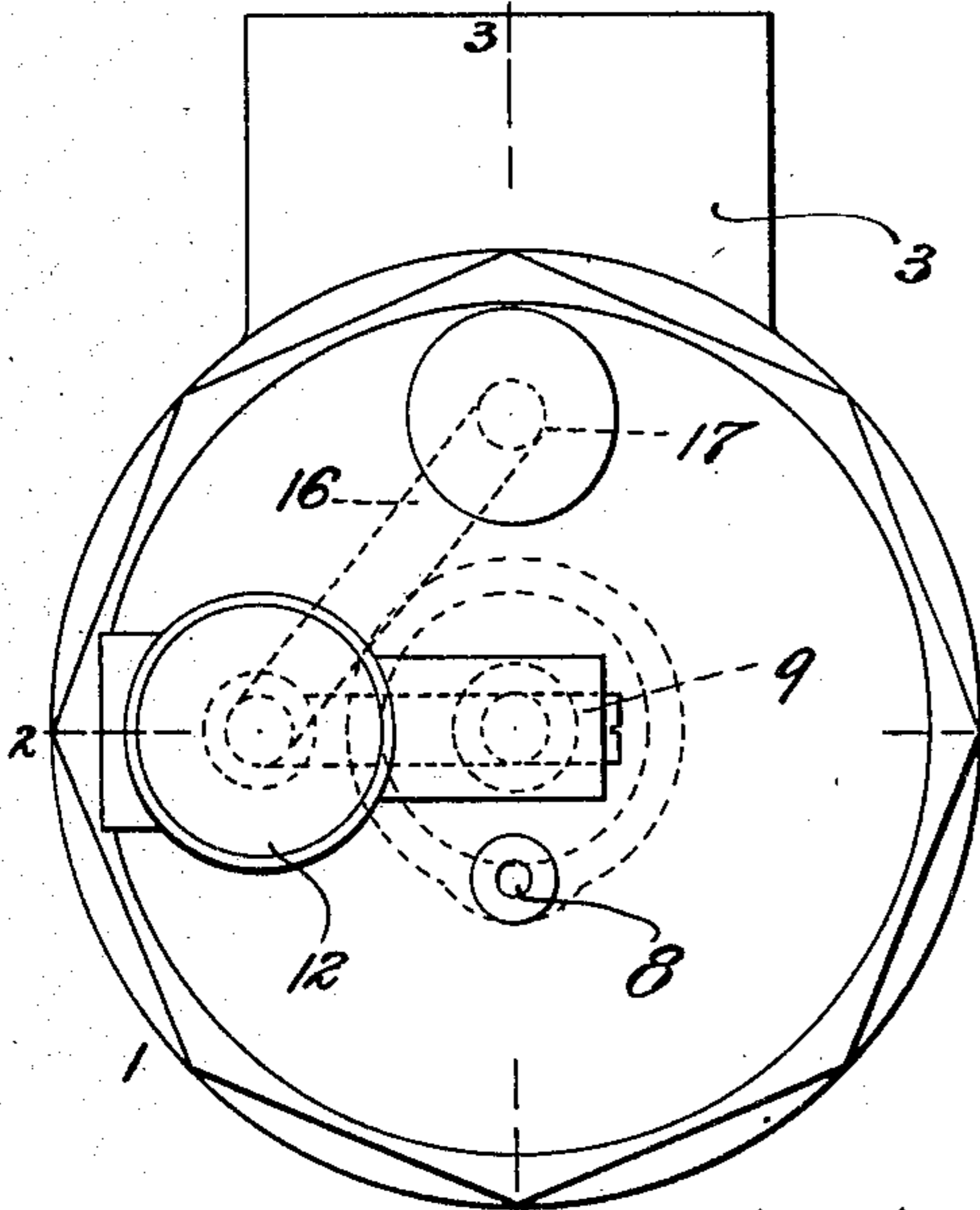
No. 871,464.

PATENTED NOV. 19, 1907.

C. C. WALTER.
CARBURETER.

APPLICATION FILED SEPT. 7, 1906.

2 SHEETS—SHEET 1.



Witnesses:
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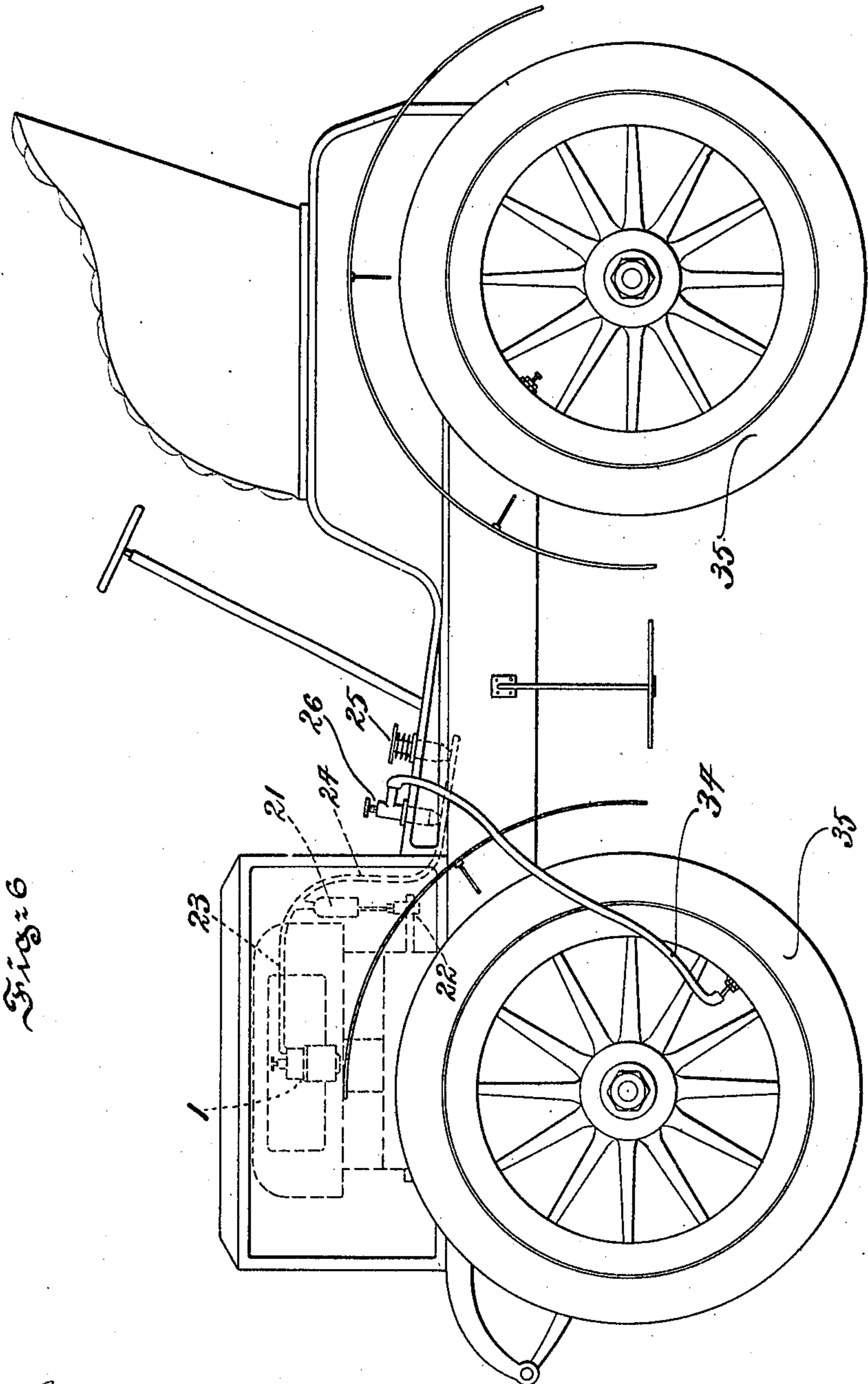


Fig. 6

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UNITED STATES PATENT OFFICE.

CARL C. WALTER, OF PHILADELPHIA, PENNSYLVANIA.

CARBURETER.

No. 871,464.

Specification of Letters Patent.

Patented Nov. 19, 1907.

Application filed September 7, 1905. Serial No. 277,373.

To all whom it may concern:

Be it known that I, CARL C. WALTER, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia, State of Pennsylvania, have invented certain new and useful Improvements in Carbureters, of which the following is a specification.

Objects of the invention are to provide a simple, reliable and efficient carbureter, well adapted for use in connection with automobiles; to provide simple and reliable means for throttling an internal combustion engine; to provide for automatically proportioning the air and oil or gasoline feeds; to provide for spraying the oil or gasoline feed into the air under considerable pressure; to provide for using some of the attachments of the carbureter for inflating the vehicle tires; and to provide for controlling the carbureter by means of the foot when the vehicle is running, and by means of the hand when it is desired to start the vehicle.

To these and other ends to be hereinafter set forth the invention comprises the improvements to be presently described and finally claimed.

The nature, characteristic features and scope of the invention will be more fully understood from the following description taken in connection with the accompanying drawings, forming part hereof, and in which

Figure 1 is a top or plan view of a carbureter, embodying features of the invention, Fig. 2 is a section taken on the line 2—2 of Fig. 1, Fig. 3 is a sectional view taken on the line 3—3 of Fig. 1. Fig. 4 is a sectional view illustrating a foot-actuated controlling valve. Fig. 5 is a sectional view illustrating a hand-actuated valve, and Fig. 6 is an elevational view illustrating an automobile provided with attachments embodying features of the invention.

In the drawings 1 is the casing of the carbureter and it is shown as consisting of two parts detachably connected together, 2 is the air intake valve, and 3 is the off-take connection from the carbureter to the engine. The stem 4 of the valve 2 is provided with a retarding piston 5, and its upper end 6, constitutes a compression piston.

7 is a cylinder provided with a duct 8, for the fluid as air with which it is supplied. 8^a is a cylinder which coöperates with the end 6 of the valve stem and it in turn communicates by way of the opening 9 with another

cylinder containing a piston 10 and it is also vented as at 11. The piston 10 is permitted to move in respect to its adjustable back stop 12 and against the force of a spring 13. This piston 10 coöperates with a cylinder 14, to which oil is supplied, as by means of an intake 15 and from which oil is forced under pressure through a duct or passage 16, Fig. 1, that leads to the nozzle 17, Fig. 3, from which it is sprayed into the air.

19 is a needle valve for regulating the size of the discharge orifice of the nozzle 17.

20 is a spring supported baffle arranged opposite the discharge end of the nozzle and it serves to spray the fluid as it is discharged.

The purpose of the vent 11 is to permit of the passage of air to and from the cylinder 8^a and duct 9, so that air may not become trapped therein. When the valve 2 is opened, for example, by the suction of the engine, the end 6 of the valve stem compressing air in the cylinder 8^a and duct 9 forces the piston 10 downward so as to expel from the cylinder 14, oil or fluid under pressure by way of 16 to the nozzle 17, where it is discharged in the form of spray and mingles with the air. By opposing more or less pressure in the cylinder 7 to the piston 5, it is possible to accurately control the extent of the opening of the valve 2, and consequently the force of the movement of the piston 10, so that not only is the intake of air adjusted, but also is the feed of oil adjusted.

21 is a pump for supplying the fluid as air under pressure through the duct 8 to the piston 5. This pump is geared so as to be driven with the engine and, as shown, this is accomplished by means of an eccentric and eccentric rod 22.

23 is a pipe that leads from the pump to the duct 8, and it is also extended, as at 24, for a purpose to be presently described. If the pump were delivering its full pressure upon the piston 5, the valve 2 would not be properly operative. However, the pipe 24 is provided with vent devices 25 and 26 by means of which an adjustable portion of the pump pressure is allowed to escape and thus the movement of the valve 2 accurately regulated. The vent device 25, Fig. 4, is designed to be operated by the foot. The portion 27 of it is in communication with the pipe 24 and the movable part 28 has a port 29 which serves to bring the opening 27 into more or less perfect communication

with the outlet 30 according to the position of the part 28, which is determined by the foot of the operator acting in opposition to the spring 31. To start the engine when it is not convenient to place the foot upon the device 25, the device 26 is provided. This device 26 communicates with the pipe 24 and is provided with a needle valve 32, which can be operated by hand, so as to bring the pipe 24 into more or less perfect communication with the fitting 33. The latter ordinarily communicates with the air, but it may be used in connection with a hose 34 that can be connected to the tire 35. When so used the pump serves to inflate the tires. Ordinarily, however, the fitting 33 communicates with the air, and the needle valve 32 is used to relieve the pump pressure so as to permit the valve 2 to open in starting the engine. After the engine is started the needle valve may be closed and the necessary throttling of the engine accomplished by means of the foot-actuated device 25.

It will be obvious to those skilled in the art to which the invention relates that modifications may be made in details without departing from the spirit thereof, hence the invention is not limited, further than the prior state of the art may require, but

Having thus described the nature and objects of my invention, what I claim as new and desire to secure by Letters Patent is:

1. A carbureter provided with a fluid fuel feeding piston and its cylinder, an air valve having a stem provided with a retarding piston, a cylinder cooperating with the end of the valve stem and having connections to the first mentioned cylinder, a cylinder

cooperating with the retarding piston, and means for creating variable pressure in the last mentioned cylinder, substantially as described.

2. The combination in a carbureter of a piston and cylinder and their connections for spraying fluid fuel, an air valve, a second cylinder, connections between the first and second cylinders, and a piston connected with the air valve and arranged in the second cylinder and adapted to operate the first mentioned piston, substantially as described.

3. In a carbureter the combination of a fluid fuel feeding cylinder, a piston having a retracting spring, connections to said cylinder, connections from said cylinder including a spraying device, an air valve, and a vented cylinder cooperating with the stem of the air valve and communicating with said piston, substantially as described.

4. The combination of a gas engine, a pump driven thereby, a carbureter provided with a fluid fuel feeding piston and cylinder and a spraying device, an air valve, a cylinder for the stem of the air valve and having connection with the cylinder of the oil feeding piston, a piston and cylinder for retarding the opening of the air valve, connections between the last mentioned cylinder and the pump, and a device for venting the last mentioned connections, substantially as described.

In testimony whereof, I have hereunto signed my name.

CARL C. WALTER.

Witnesses:

S. E. PATTERSON,
H. E. MORRIS.