

No. 772,979.

PATENTED OCT. 25, 1904.

B. VAURS.
CARBURETER FOR HYDROCARBON ENGINES.

APPLICATION FILED FEB. 16, 1903.

NO MODEL.

fig. 1

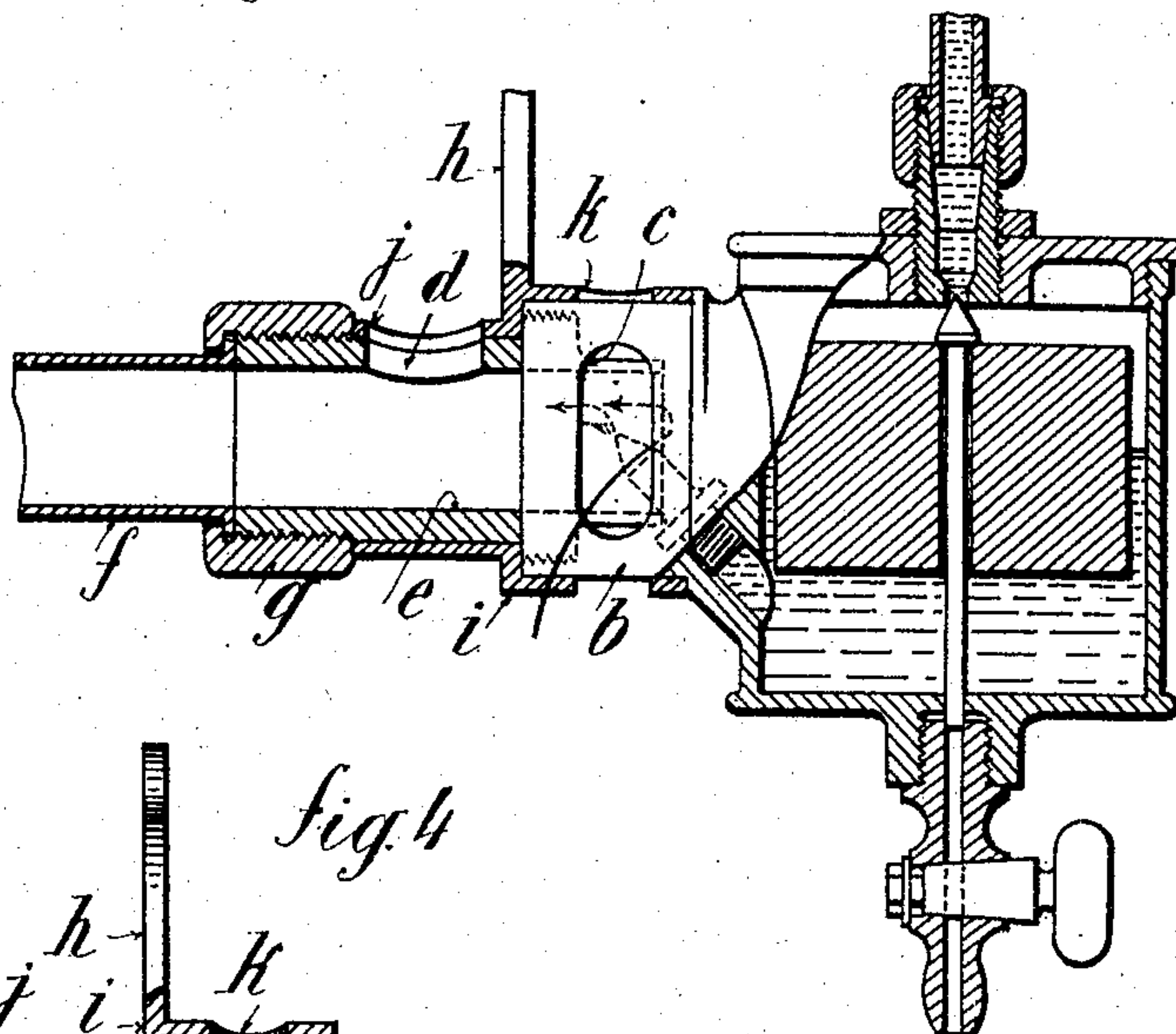


fig. 3

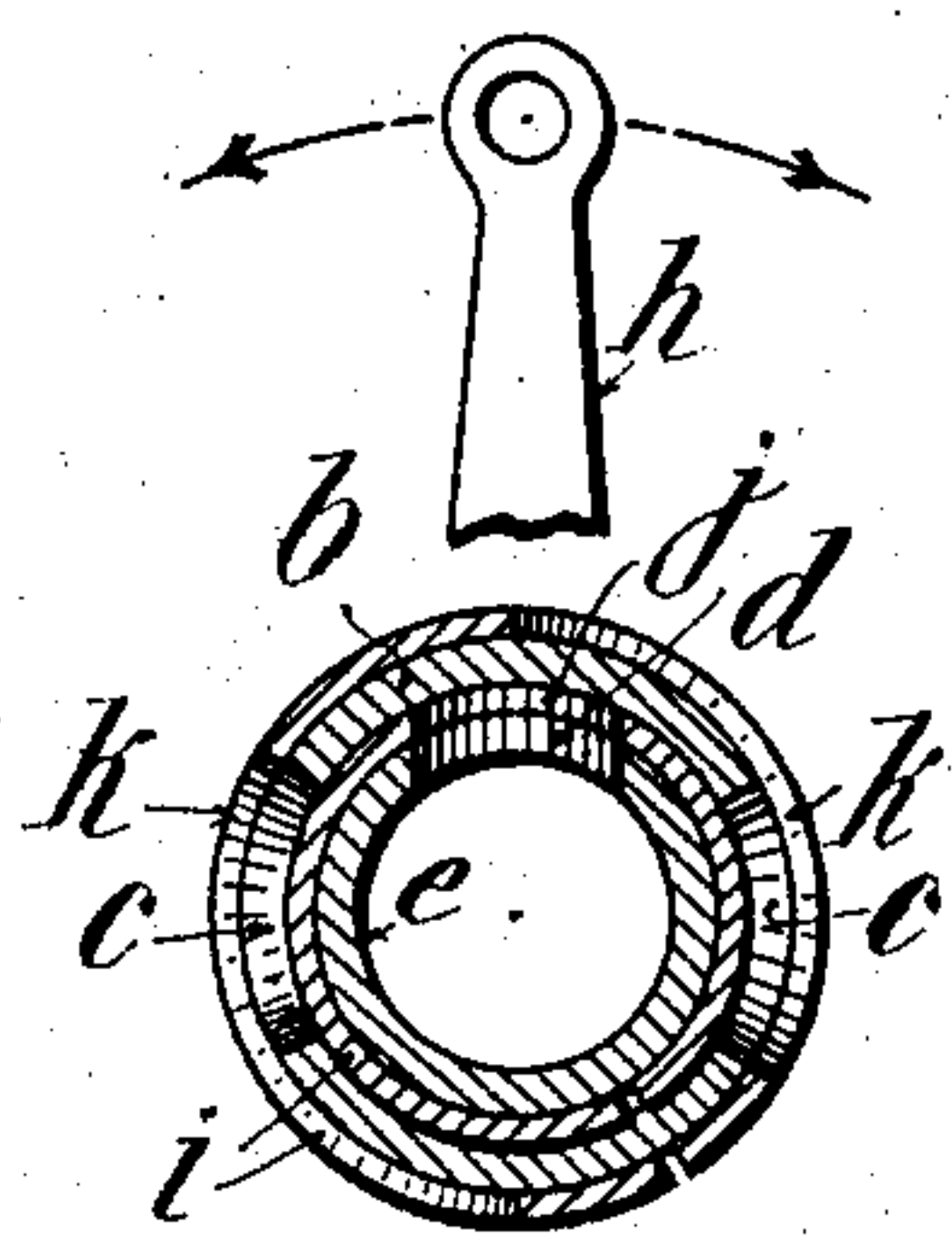


fig. 4

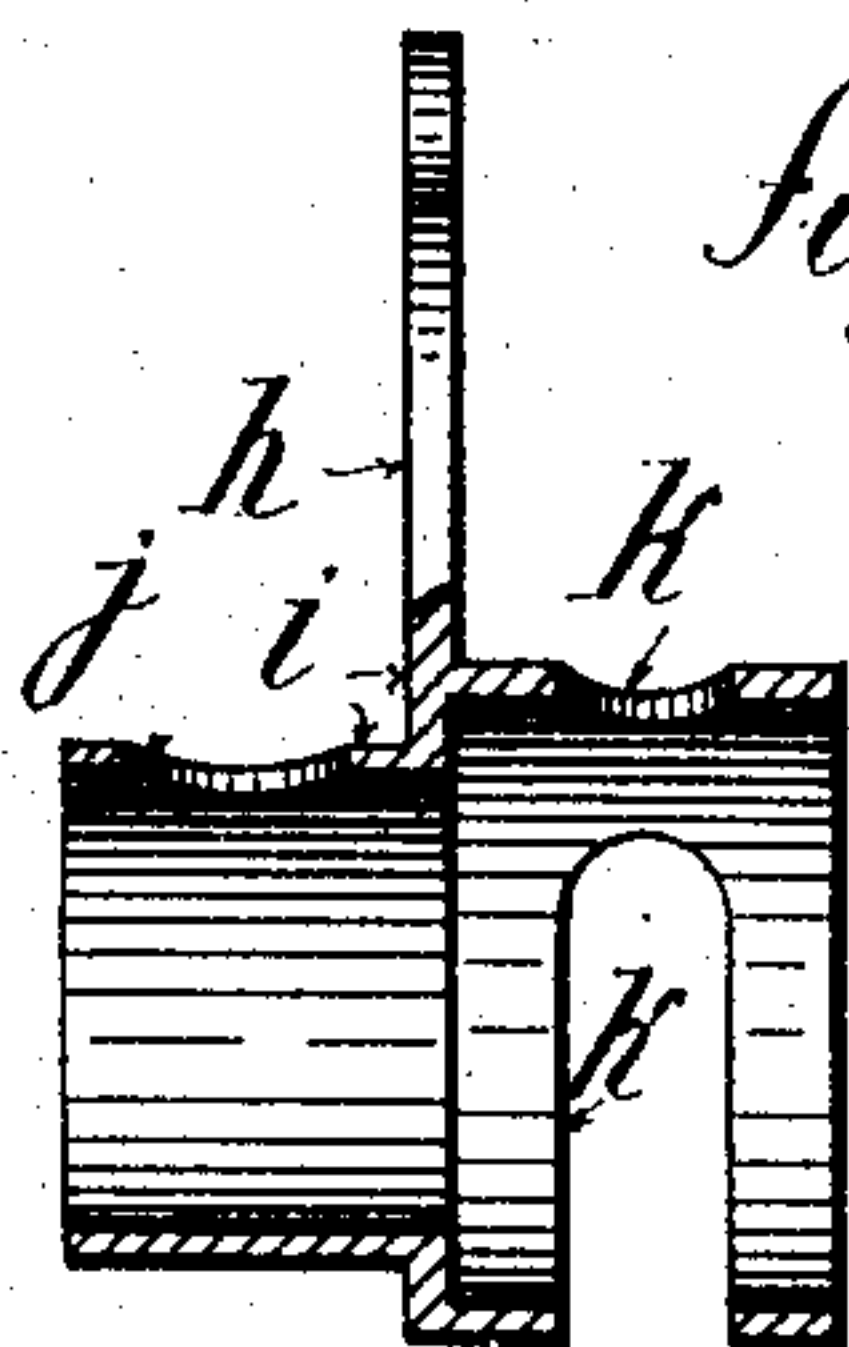


fig. 2

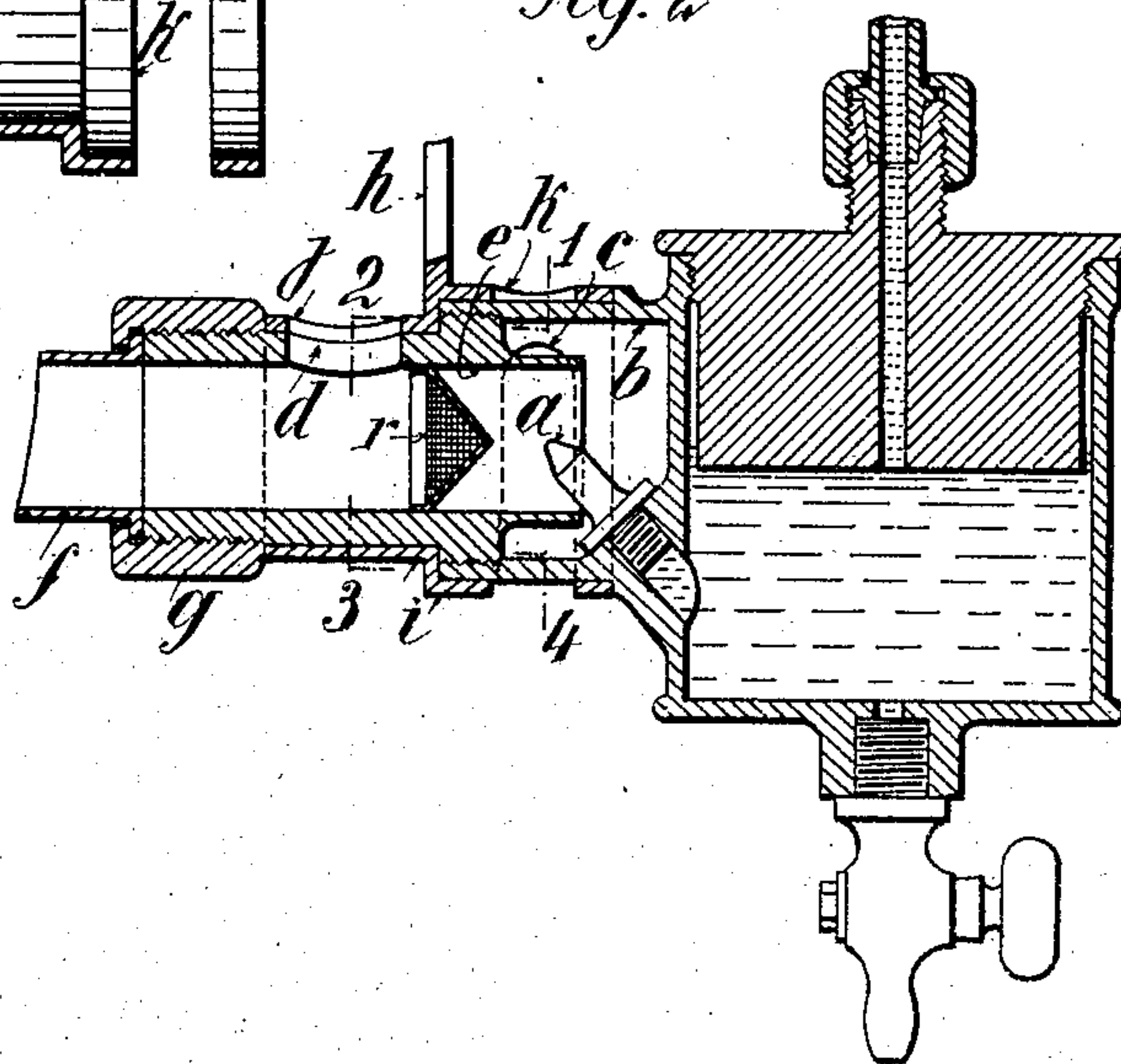
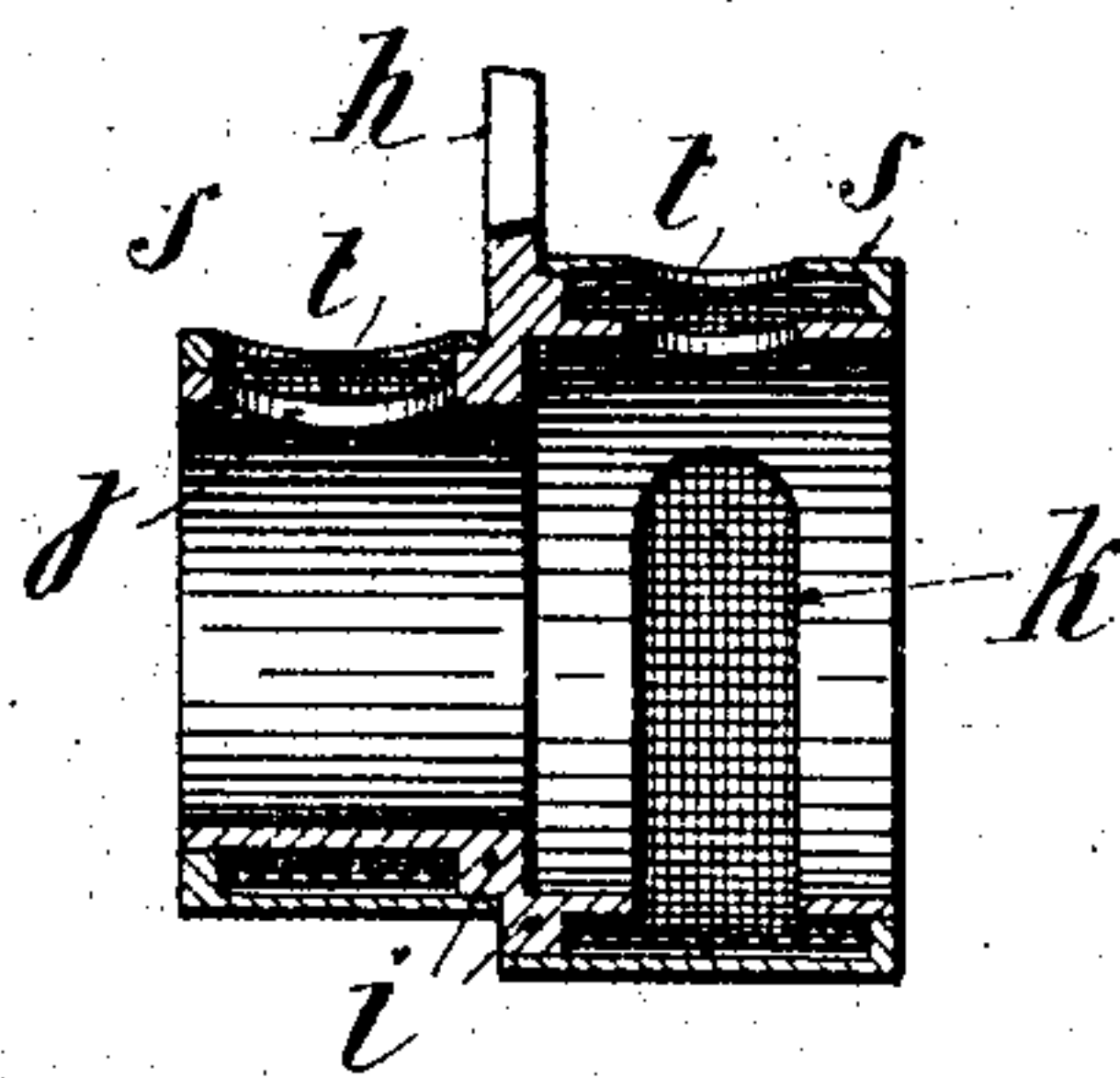


fig. 5



Witnesses
Edwin D. Bartlett
Albert V. Teale.

Inventor
Baptiste Vauris
per A. Sefton Jones
Attorney

UNITED STATES PATENT OFFICE.

BAPTISTE VAURS, OF PARIS, FRANCE.

CARBURETER FOR HYDROCARBON-ENGINES.

SPECIFICATION forming part of Letters Patent No. 772,979, dated October 25, 1904.

Application filed February 16, 1903. Serial No. 143,683. (No model.)

To all whom it may concern:

Be it known that I, BAPTISTE VAURS, a citizen of the Republic of France, residing at No. 33 Rue Quincampoix, Paris, in the Department of Seine, France, have invented new and useful Improvements in Carbureters for Hydrocarbon-Engines, of which the following is a specification.

The present invention relates to a novel arrangement for effecting the admission of carbureted air into gas-engines making use of the so-called "pulverization-carbureters."

One of the features of this invention consists in the employment of a single handle with double regulating-ring, which allows of varying the carburization by acting as requisite and with the same stroke upon the air-ports, some arranged in front of and others behind the pulverization apparatus, the respective position of these ports admitting of a perfect regulation. It is found that the explosive mixture must be very dry for making effective explosions and that the absolute dryness of this mixture is only obtained by admitting air in considerable proportions through the ports situated in front of the pulverization concurrently with a simultaneous admission of air through the carburization-ports situated at the rear of this apparatus. It is obvious that the air admitted through the ports behind the pulverization apparatus is carbureted from the time of its passage over the said apparatus and carries over the liquid in the state of tiny drops; but the mixture thus formed does not become really rich and dry until it is met by a large and measured quantity of fresh air coming from the ports situated in the front of the apparatus. This being ascertained, it has been found advantageous to arrange on the double regulating-ring and on the parts which it covers air-ports in the front of and at the rear of the pulverization apparatus in connection with one another in such a manner as to fulfil the following working conditions: First, the simultaneous opening of the ports at the front and the rear; second, the progressive regulating of the port at the front, the ports at the back being kept

fully opened; third, the simultaneous closing of the ports both at the front and the rear. 50

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a view, partly in longitudinal section, of the regulating device applied to a pulverization-carbureter with a constant level and float. Fig. 2 is a similar view in longitudinal section of the regulating device applied to a pulverization-carbureter with a constantly-full reservoir. Fig. 3 is a transverse section on the lines 1, 2, 3, and 4 of Fig. 2. Fig. 4 is a longitudinal section of the double regulating-ring. Fig. 5 is a longitudinal section of the new double regulating-ring, which is provided with a protective jacket against dust. 60 65

The pulverization apparatus *a* opens into the pipe *b* at the commencement of the junction-piece *e*, connecting the pipe *b* to the admission-tube *f* by means of the nut *g*. The pipe *b* is provided with two ports *c* for the admission of air. The piece *e* has a single port *d*, which forms the only orifice for the admission of fresh air in the front of the pulverization apparatus. 70

The regulating-handle *h* bears the ring *i*, having two diameters. In this ring there are two apertures *k* for regulating the ports *c* and an aperture *j* for regulating the port *d*. The aperture *j* of the ring is of the same size as the port *d* of the piece *e*. On the other hand, the apertures *k* of the ring are longer than the ports *c* of the pipe *b*. The circumferential length of an aperture *k* is equal to the sum of the circumferential lengths of one port *c* and of the port *d*. It will be seen from Fig. 3 that this arrangement fulfils the requisite working conditions. In this figure the ports *c* and the port *d* are shown fully open. If the handle *h* be moved toward the right, the ring *i* begins to close the port *d* for the admission of pure air, while leaving the ports *c* fully opened. The latter only begin to close after the fresh-air port has completely closed. If the handle *h* is returned to the position shown in Fig. 3—that is to say, the ports *c* and *d* being fully opened—and if the handle 80 85 90 95

is moved to the left, the ports *c* and the port *d* are thus simultaneously closed, which gradually diminishes the speed of the motor until it stops altogether. It should be observed, 5 however, that in the position shown in Fig. 3—that is, when the ports *c d* are fully opened—the stoppage of the motor can be likewise effected by admitting fresh air without carburization, as the port *d* is arranged to suffice 10 when entirely uncovered for filling the admission-tube, which neutralizes the effect of the carburization.

Inside the junction-piece there is intended to be placed a piece of wire-gauze *r*, Fig. 2, 15 preferably cone-shaped, the point turned toward the pulverization apparatus for the purpose of assisting the mixing of the explosive mixture. There may also be placed round the regulating-ring a protective jacket for 20 preventing dust from entering into the apparatus and consisting of bushes *s*, surrounding the ring, Fig. 5, and inclosing a piece of wire-gauze *t*. These bushes are of course 25 provided with apertures corresponding with those of the ring.

This device may be suitably applied to any pulverization-carbureter. For example, Fig. 1 shows the invention applied to a pulveriza- tion-carbureter with constant level and with

float, and Fig. 2 shows its application to a 30 pulverization-carbureter with constantly-full reservoir.

What I claim is—

1. In a carbureter the combination of a mixing-chamber adapted to receive the liquid fuel, 35 a double set of air-inlets to said chamber, one set placed behind the fuel-inlet, the other set in front thereof, and a perforated controlling-ring adapted to be adjusted by hand and adapted to open and close simultaneously both sets 40 of air-inlets.

2. In a carbureter for an explosion-engine a mixing-chamber, a fuel-inlet, the controlling-ring *i*, the handle *h* on said ring, the air-inlets *k* in said ring adapted to cover or un- 45 cover the fore ports *c*, the air-inlets *j* in said ring adapted to cover or uncover the rear ports *d*, said ring and inlets being so disposed that the rear ports can be maintained fully open while the front ports are progressively 50 closed, substantially as described.

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

BAPTISTE VAURS.

Witnesses:

L. CLAQUET,
AUGUSTUS E. INGRAM.