

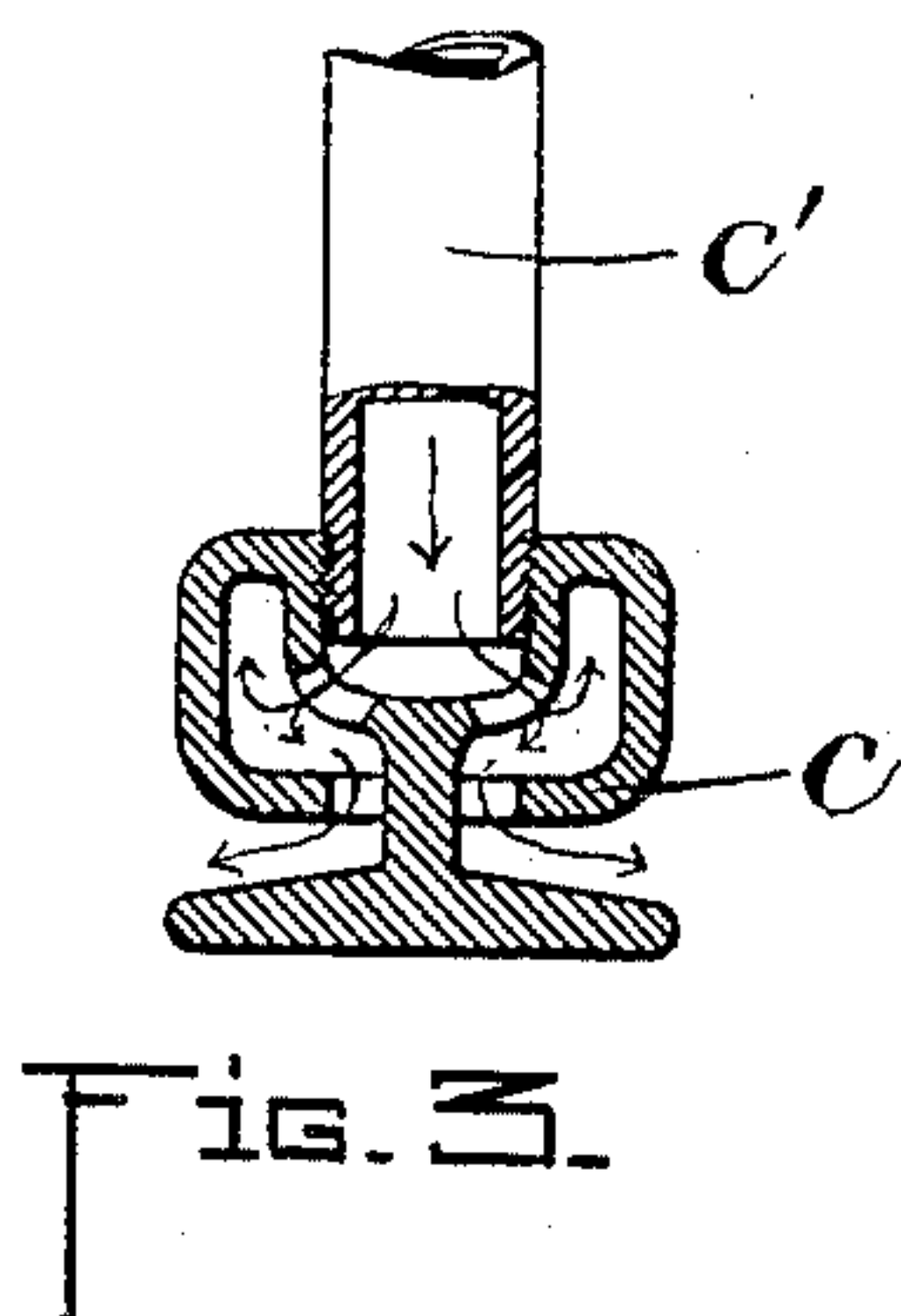
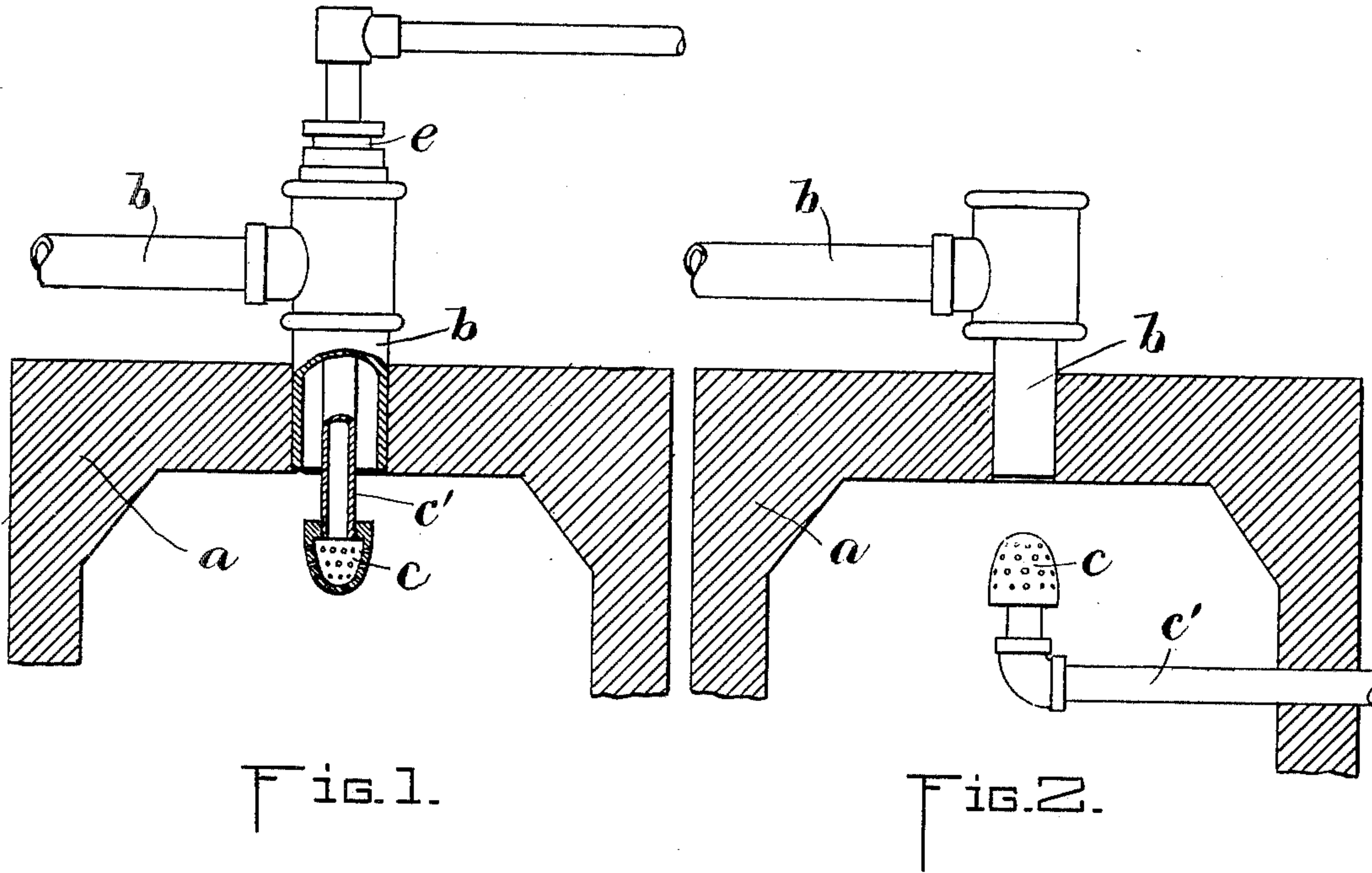
No. 675,666.

Patented June 4, 1901.

W. E. McKAY.
OIL DISTRIBUTER FOR CARBURETERS.

(Application filed Aug. 23, 1900.)

(No Model.)



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UNITED STATES PATENT OFFICE.

WILLIAM E. MCKAY, OF BOSTON, MASSACHUSETTS.

OIL-DISTRIBUTER FOR CARBURETERS.

SPECIFICATION forming part of Letters Patent No. 675,666, dated June 4, 1901.

Application filed August 23, 1900. Serial No. 27,793. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM E. MCKAY, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Oil-Distributing Apparatus for Carbureters, of which the following is a specification.

This invention relates to a carbureter having an admission-chamber, into which oil is delivered in the process of making gas.

The object of the invention is to provide an efficient, simple, durable, and relatively safe means for the distribution of the oil within the admission-chamber, said means being independent of the oil-supply pipe and enabling the latter to discharge the oil in an undistributed stream through a relatively large opening and under a relatively low pressure.

In apparatus of this character it is common to distribute the oil by means of a nozzle forming a part of the oil-supply pipe, the nozzle having a plurality of small apertures, which subdivide the stream of oil before it emerges into the carbureter. In some cases the nozzle is formed to deliver the oil in thin sheets or films; but in all cases the oil has to pass through a contracted passage or series of passages in a distributing-terminal on the supply-pipe. In some of the apparatus of this character the oil has been fed through a contracted outlet or series of outlets forming the distributing-terminal by means of pressure externally applied, the contracted terminals alone being relied upon to effect the distribution of the oil. In others the distribution of the oil is effected by a fluid under pressure crossing the path of the oil as it emerges; but in this last form, so far as I am aware, the oil issues through a contracted or constricted terminal, the action of the fluid under pressure being that of the ordinary atomizer. The said contracted passage or passages is or are liable to be obstructed by solid matter coked from the oil or carried by it, the delivery of the oil being thus impeded or interrupted to the disadvantage of the process. To insure the delivery of the oil through the said contracted openings, the oil-pressure must be relatively high. Moreover, an irregular effect results from the use of a perforated nozzle or disk on the end of the admission-pipe if portions of the oil are by preheating vaporized or gasi-

fied, as variations in volume immediately result from transforming the liquid into gas or vapor.

My invention, consisting in the improvements hereinafter described and claimed, permits the oil to be admitted to the gas apparatus under very low pressure of the oil and to be delivered into the admission-chamber through a relatively large orifice either as a liquid or as a vapor or as a mixture of liquid and vapor without change in the form of the device or in the manner of its operation. The pipe conducting the oil is carried through the shell of the admission-chamber, and the oil-pipe has its inner end open and uncontracted. The distribution of the oil within the admission-chamber is effected by a fluid issuing in a thin sheet-like stream or in jets from a head on the end of a pipe which communicates with a source of supply of fluid under pressure, the said head being in the path of the stream of oil issuing from the supply-pipe. The fluid-pipe can conveniently be concentric with the oil-admission pipe and pass through a stuffing-box, so that by raising or lowering the fluid-pipe the fluid-distributing head can be elevated or depressed to adjust the delivery of the distributing-fluid agent to the oils or vapors flowing into the admission-chamber through the oil-pipe. The distributing fluid may be steam, air, or any other suitable fluid under pressure.

Of the accompanying drawings, forming a part of this specification, Figure 1 represents a sectional view of the upper portion of a carbureter admission-chamber embodying my invention. Fig. 2 represents a similar view showing a different form of fluid-distributing head. Fig. 3 represents another form of fluid-distributing head.

The same reference characters indicate the same parts in all the figures.

In the drawings, *a* represents a portion of the wall of a carbureting-chamber, and *b* represents an oil-supply pipe, which is arranged to deliver oil to the interior of the chamber and has its delivering end so formed that it is free from liability to be obstructed by impurities or sediment in the oil and delivers an undistributed stream.

c represents a head which is connected by a pipe *c'* with a source of fluid-supply under

pressure, the fluid being preferably steam. The head *c* is independent of the oil-supply pipe and is located between it and the interior of the chamber. It has suitable provisions for distributing the fluid in the path of the stream of oil, and said provisions may be a plurality of fine openings, as shown in Figs. 1 and 2. If desired, the fluid may be distributed in a thin sheet-like stream radiating from the head, the form shown in Fig. 3 being adapted to produce this result.

In Fig. 1 I show the distributing-head and its supply-pipe adjustable to vary the distance between the end of the oil-supply pipe and the head, the fluid-supply pipe passing through a portion of the oil-supply pipe and through a stuffing-box *e*, in which the fluid-supply pipe is longitudinally movable. The oil as it issues from the pipe *d* is undistributed, in the sense that it is not subdivided or changed in its form of issuing until it reaches the path of the fluid issuing from the head *c*.

In each of the forms shown the construction is such that the device for distributing the fluid under pressure is located in the center of the path of the oil delivered by the supply-pipe, and therefore the oil is annularly or divergently distributed. This insures a more perfect distribution of the oil than could be effected by a single jet of fluid under pressure acting upon one side of the stream of inflowing oil.

I claim—

1. The combination with a carbureter, and an oil-supply pipe having an uncontracted outlet communicating therewith, of means interposed between the carbureter and the de-

livering end of the supply-pipe and independent of the latter, for divergently distributing a fluid under pressure in the center of the path of the oil delivered by the supply-pipe, whereby the oil is annularly distributed.

2. The combination with a carbureter and an oil-supply pipe having an uncontracted outlet adapted to deliver an undistributed stream of oil thereto, of a head or nozzle interposed between the supply-pipe and the carbureter and independent of the supply-pipe and in the center of the path of the oil, said head being adapted for connection with a source of supply of fluid under pressure, and having provisions for divergently distributing said fluid in the path of the stream of oil delivered by the supply-pipe.

3. The combination with a carbureter and an oil-supply pipe having an uncontracted outlet adapted to deliver an undistributed stream of oil thereto, of a head or nozzle interposed between the oil-supply pipe and the carbureter and independent of the oil-supply pipe and in the center of the path of the oil, said head being adapted for connection with a source of supply of fluid under pressure, and having provisions for divergently distributing said fluid in the path of the stream of oil delivered by the oil-supply pipe, and means for adjusting said head relatively to the delivering end of the supply-pipe.

In testimony whereof I have affixed my signature in presence of two witnesses.

WILLIAM E. MCKAY.

Witnesses:

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E. BATCHELDER.