(No Model.)

P. KELLER.

CARBURETOR.

No. 528,882. Patented Nov. 6, 1894.

Fig. 1.

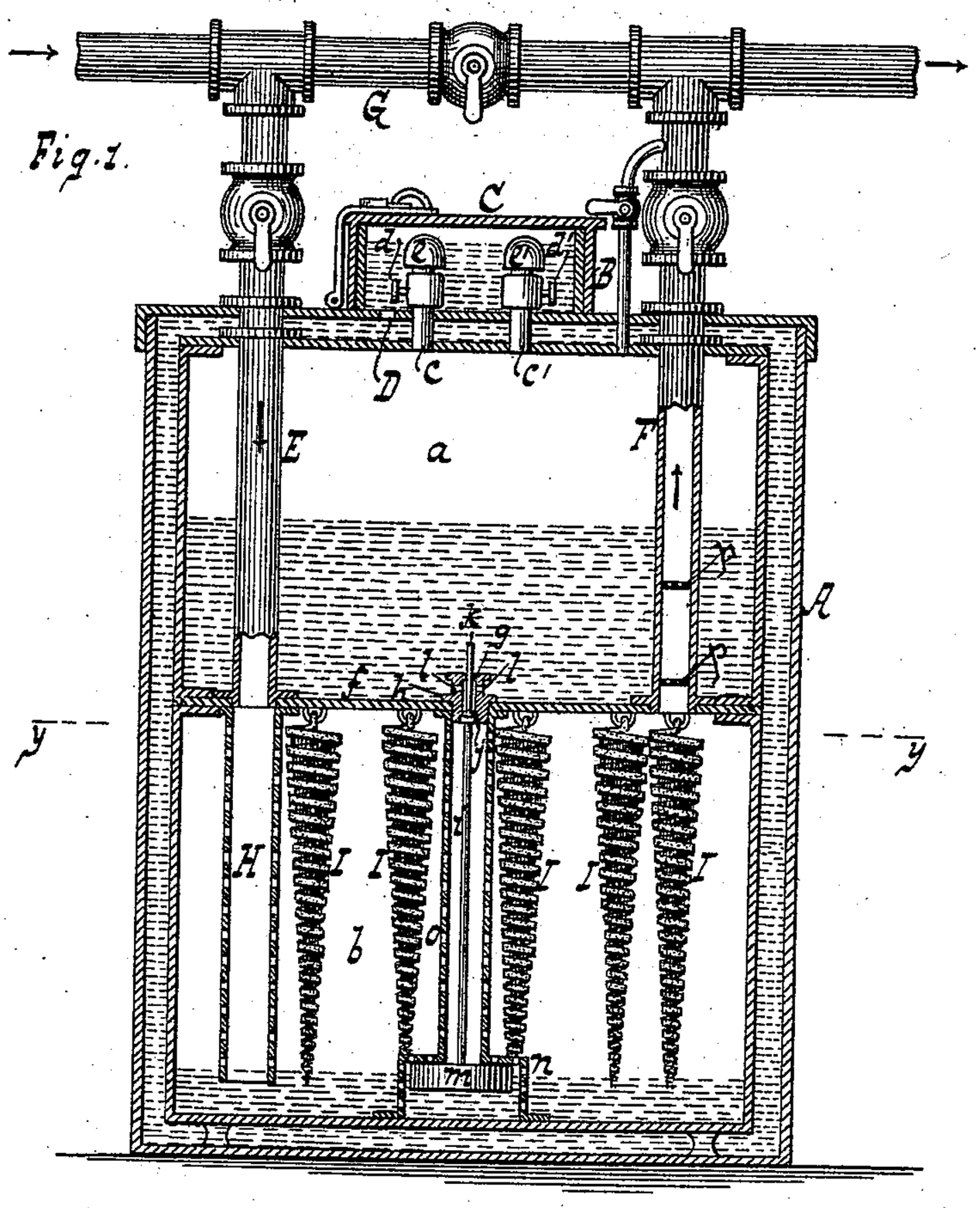
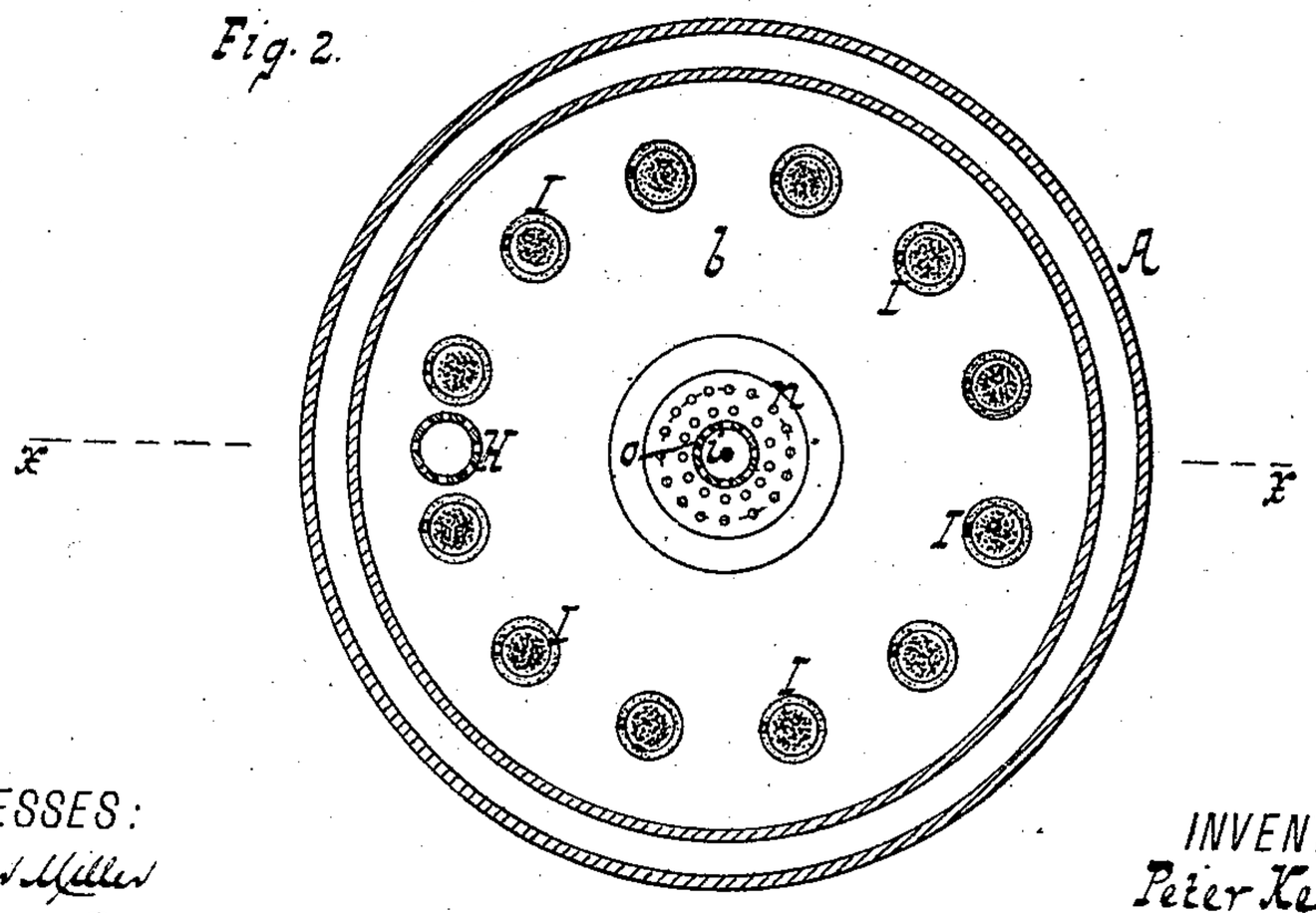


Fig. 2.



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PETER KELLER, OF CHICAGO, ILLINOIS.

CARBURETOR.

SPECIFICATION forming part of Letters Patent No. 528,882, dated November 6, 1894.

Application filed June 14, 1894. Serial No. 514,588. (No model.)

To all whom it may concern:

Be it konwn that I, PETER KELLER, a citizen of the United States, residing at Chicago, in the county of Cook, in the State of Illinois, have invented new and useful Improvements in Carburetors, of which the following is a specification.

This invention relates to certain improvements in carburetors for supplying illuminating gas with the vapor of hydro carbon liquid and the invention consists in the peculiar and novel combination of the different parts of the carburetor as pointed out in the following specification and claims and illustrated in the accompanying drawings, in which—

Figure 1 represents a vertical central section in the plane *x x* Fig. 2. Fig. 2 is a horizontal section in the plane *y y* Fig. 1.

The principal aim of my present invention is to produce a practically uniform mixture of gas and hydro carbon vapors and to reduce to a minimum the deposit of hydro carbon liquid in the circulating pipes.

In the drawings the letter *a* designates the storage chamber for the hydro-carbon liquid and *b* is the mixing chamber. The top of the storage chamber is provided with a vent tube *c* and a filling tube *c'* each of which is provided with a stop cock *d d'* and also with screw caps *e e'* respectively, the latter serving to close the ends of said tubes.

The storage and mixing chambers are separated from each other by a horizontal partition *f* in the center of which is an opening *g* in which is secured a plug *h* which forms the guide for a rod *i* and in the bottom part of which is formed a seat for a valve *j* which is firmly secured to the rod *i*. Above the valve seat is formed a chamber *k* which communicates by small channels *l* with the interior of the storage chamber *a* so that when the valve is depressed, the hydro-carbon liquid can trickle down from the storage chamber into the mixing chamber. On the bottom end of the rod *i* is secured a float *m* which is situated in the interior of a perforated cage *n* and from this cage rises a perforated tube *o* which is connected with the partition *f* so as to support the same and hold the lower end of the plug *h*. When the liquid in the mixing chamber has reached the desired level, the float rises so as to hold the valve *j* firmly in its seat and the flow of the liquid from the storage chamber into the mixing chamber is stopped. By these means the liquid in the mixing chamber is maintained at a constant and uniform level.

The vessel forming the storage and mixing chamber is firmly sealed and placed within and entirely covered by another vessel A with a hollow projection B situated on top thereof and inclosing both the vent and the filling tubes of the storage chamber. The hollow projection B is provided with a cover C adapted to be locked or otherwise fastened thereto. In the base of the hollow projection is an opening D through which water or other suitable liquid is supplied, until it shall have reached above the vent and filling tubes. By these means I am enabled to maintain a practically uniform temperature in the storage and mixing chambers which is a great desideratum in order to produce a practically uniform mixture of gas and hydro-carbon vapors.

Arranged diametrically opposite to each other are two vertical pipes E F passing from the main gas pipe C and extending to the mixing chamber *b*, the pipe E being made to lead into a perforated pipe H which extends from the partition *f* down near to the bottom of the mixing chamber, so that the stream of gas which passes from the gas pipe C down through the pipe E and through the pipe H on reaching the last named pipe is split up into a large number of small jets which on coming in contact with the hydro-carbon vapor in the mixing chamber become readily charged and intimately mixed with such vapor.

From the partition F are suspended a series of conical absorbing devices I which may be made of strips of metal covered with an absorbent material such as felt or cotton and the lower small ends of which dip into the hydro-carbon liquid contained in the mixing chamber. As the absorbent liquid rises up in the absorbent devices I by capillary attraction, it is spread gradually over a larger area so that the portion of gas which passes from the supply pipe E through the uppermost perforations of the pipe H into the

mixing chamber and thence close under the partition *f* directly to the escape pipe F, is brought in contact with the largest sections of the spiral absorbers I and that in its comparatively short passage, from the pipe H to the pipe F, it becomes charged with the required quantity of hydro-carbon vapors just as well as those portions of the gas which escape through the lower openings of the pipe H and which have a longer distance to travel on their way from these openings to the discharge pipe F, so that said portions by coming in contact with sections of the spiral absorbers of gradually decreasing diameters have time to absorb the required quantity of hydro-carbon vapors. In the interior of the escape pipe F are secured two or more partitions *p p* of fine wire gauze or equivalent material which serve to retain any surplus hydro-carbon vapor which may have become mixed with the gas. By these means I have succeeded to prcduce a practically uniform mixture of gas and hydro-carbon vapors and to reduce the deposit of hydro-carbon liquid in the circulating pipes to a minimum.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination with the storage chamber *a*, mixing chamber *b*, partition *f*, gas supply and discharge pipes E, F and a perforated pipe H communicating with the gas supply pipe E and extending from the partition down into the mixing chamber near to its bottom; of conical absorbers suspended by ther bases from the under side of the partition and means for maintaining the hydro-carbon liquid in the mixing chamber at a uniform level slightly above the small bottom ends of the conical absorbers substantially as described.

2. The combination with the storage chamber *a*, mixing chamber *b*, partition *f*, gas supply and discharge pipes E, F, perforated pipe H communicating with the gas supply pipe E and extending down into the mixing chamber near to its bottom and means for maintaining the storage and mixing chambers at a uniform temperature; of conical absorbers suspended by their bases from the under side of the partition and means for maintaining the hydro-carbon liquid in the mixing chamber at a uniform level slightly above the small bottom ends of the conical absorbers substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

PETER KELLER.

Witnesses:
H. ATKINSON,
OTTO ULRICHS.