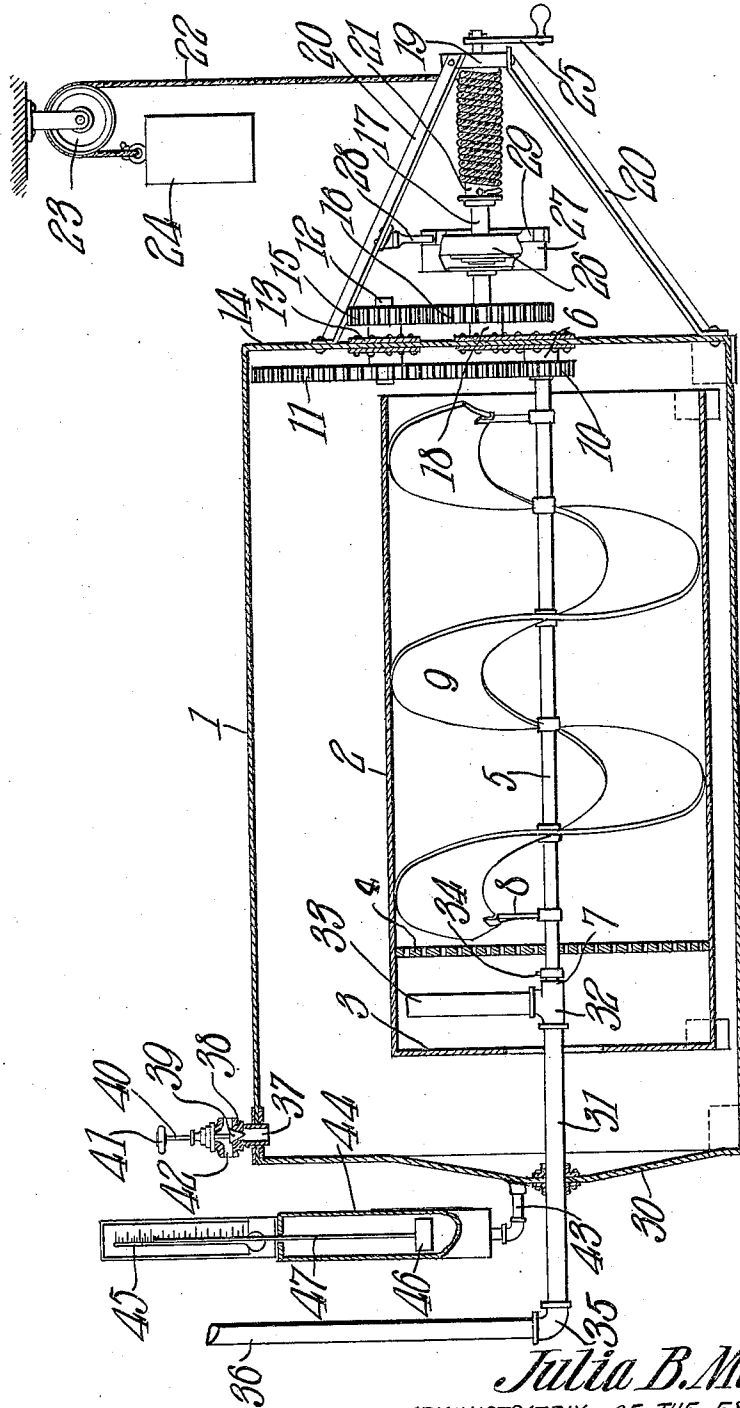


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J. B. MUNGER, ADMINISTRATRIX.
CARBURETER.

934,981.

APPLICATION FILED OCT. 10, 1908. Patented Sept. 21, 1909.



Witnesses

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UNITED STATES PATENT OFFICE.

JULIA B. MUNGER, OF ANTWERP, OHIO, ADMINISTRATRIX OF ORVILLE D. MUNGER,
DECEASED.

CARBURETER.

934,981.

Specification of Letters Patent. Patented Sept. 21, 1909.

Application filed October 10, 1908. Serial No. 457,146.

To all whom it may concern:

Be it known that ORVILLE D. MUNGER, late a citizen of the United States, deceased, did invent a new and useful Improvement in Carbureters, of which the following is a specification.

This invention has reference to improvements in carbureters for use in the production of gas for heating and illuminating purposes from a light hydro-carbon oil such, for instance, as gasoline.

The object of the present invention is to provide a small compact unit for the purpose.

The invention comprises essentially a drum or container of suitable shape within which is located means for setting up a current of the hydrocarbon liquid in the presence of air so that the air shall become charged with the gas formed from the liquid preparatory to being piped to the point where it is desired to use it. A suitable driving means is coupled with the carbureter device so that the movable part of the carbureter shall be kept in operation as by a weight, and in order that the carbureter need not stop running while the weight is being wound up, there is provided a spring which is wound by the weight as it drops so that while the weight is being wound up the spring acts to maintain the carbureter in operation and the machine is not stopped during the operation of winding up the weight.

In addition to the foregoing the structure is applied with an air valve which may be regulated by the user for the admission of air in accordance with the weather conditions, and in conjunction with these several means there is provided a temperature indicator and a fluid index by means of which the user is enabled to maintain the fluid level within the carbureting chamber at a height corresponding to the temperature conditions.

The invention will be best understood with reference to the following detail description taken in connection with the accompanying drawing forming a part of this specification, in which drawing the figure is a longitudinal section, with parts in elevation, of a structure embodying the invention.

Referring to the drawing, there is shown a drum or casing 1, of a size suitable for the purposes of the invention. This drum may be made of metal, say galvanized iron, and may be of such shape as is necessary, either cylin-

dric or other shape, since the pressure sustained is but slightly above the weight of the contained liquid, which latter may be any suitable hydrocarbon liquid and is preferably the commercial hydrocarbon known as gasoline, of the proper specific gravity for the purpose. Within the case 1 is a supplemental casing 2 which may be of suitable form and entirely open at one end, while the other end is partially closed by the head 3, and adjacent to the head 3 there is a perforated diaphragm 4. Extending entirely through the axis of the supplemental casing 2 is a shaft 5 having a journal bearing 6 near one end and another journal bearing 7 at the other end in the space between the head 3 and diaphragm 4, as will hereinafter appear. The shaft within the supplemental casing 2 is provided with a number of arms or spokes 8 carrying a worm 9 in the form of a continuous helical blade filling the greater portion of the supplemental casing 2 but spaced away a distance from the shaft 5 by the arms 8. The periphery of this worm is brought into close relation to the inner face of the wall of the casing 2.

Within the casing 1 at the end of the shaft 5 adjacent to the bearing 6, the shaft carries a pinion 10 meshing with a gear wheel 11 also contained within the casing and mounted on a short shaft 12 extending through suitable bearings 13 mounted in one end or head 14 of the casing 1. Exterior to this head the shaft 12 carries a pinion 15 in turn meshing with a gear wheel 16 on a shaft 17 having a journal bearing 18 on the exterior of the head 14 and also another journal bearing 19 at the end of brackets 20 coming from the head 14.

Upon the shaft 17 there is secured a drum 21 for the reception of a rope or cord or flexible strand 22 extending up over a pulley 23 on the ceiling or other fixed point and carrying a suitable weight 24, which latter may be relatively much larger than indicated in the drawing, it being understood that the drawing is not intended to show proportionate sizes. The shaft 17 is provided with a suitable handle 25 by means of which it may be rotated. Mounted upon the shaft is a spiral spring 26 housed in a suitable drum 27 under the control of a pawl 28 engaging ratchet teeth 29 on the drum. The arrangement is such that as the weight 24 falls it will wind up the spring 26, the

weight being sufficiently heavy for the purpose and at the same time the weight imparts motion to the shaft 5 through the intermediate gearing. While the weight is being wound up again the spring 26 tends to unwind and thereby continues to impart motion to the shaft 5 so that the machine is not stopped and the richness of the gas is not affected while the weight is being wound up.

Extending through the head of the machine remote from the head 14, the said remote head being designated by the reference numeral 30, is a pipe 31 terminating at one end in an ell 32 in line with the shaft 5 and within the space between the head 3 and diaphragm 4. Connected to this ell is a length of pipe 33 having its upper end close to the top and interior to the supplemental casing 2. Formed on the ell 32 is a side extension constituting the journal bearing 7 for the shaft 5, and a collar 34 may be applied to the shaft at this point. The other end of the pipe 31 may terminate in an ell 35 from which is continued the house pipe 36 leading to the gas distribution system of the building in which the apparatus is installed.

At the top of the casing 1 is a short inlet pipe 37 terminating at the upper end in a valve seat 38 to which is fitted a valve head 39 on the end of an adjustable stem 40 provided with a suitable manipulating wheel 41. The pipe 37 above the valve seat 38 may be provided with one or more ports for the inlet of air to the pipe 37 when the valve 39 is opened. This valve provides means whereby the influx of air into the case 1 may be regulated as desired, and in accordance with the season of the year and the temperature of the room.

Branched off from the head 30 is a small pipe 43 leading into an upright float box 44 carrying at its upper end a suitable thermometer 45. Within the float box the float 46 has a stem 47 leading upward along side of the thermometer. The upper end of the stem is located along the thermometer scale and this stem is of such length that the position will indicate the proper height of the fluid within the casing 1, the parts being properly gaged so that the relative amounts of gasolene within the tank 1 may be regulated according to the temperature indicated on the scale of the thermometer. By this means there is indicated a greater depth of gasolene within the receptacle 1, in the summer time than in the winter time when the temperature is low, and the user will manipulate the valve 39 to provide for the temperature conditions and the relative quantity of air and gasolene within the receptacle 1. The worm 9 has its upper end above the surface of the gasolene and forces the latter, together with the air, within the supplemental casing through the perforated diaphragm 4 into the compartment between the latter and the head 3, the worm fitting the casing closely. The air within said casing 2 is readily charged with the gasolene gas and thus the enriched air is forced into the compartment from which leads the pipe 33, and so ultimately finds its way to the house system. By suitably regulating the air valve 39 the mixture of air and gas can be made such as to provide the desired quantity of burning mixture.

What is claimed is:—

1. In a machine of the character described, a suitable casing, a supplemental casing therein open at one end and provided at the other end with a head having a passage therethrough, a perforated diaphragm spaced from said head, a conduit leading from the chamber formed between the head and said supplemental casing and perforated diaphragm, and a rotatable worm conveyer substantially fitting the supplemental casing between the diaphragm and open end of said casing.

2. In a machine of the character described, a suitable casing, a supplemental casing therein open at one end and provided at the other end with a head having a passage therethrough, a perforated diaphragm spaced from said head, a conduit leading from the chamber formed between the head and said supplemental casing and perforated diaphragm, and a rotatable worm conveyer substantially fitting the supplemental casing between the diaphragm and the open end of the said casing and spaced away a distance from its supporting shaft.

In testimony whereof I have hereunto set my hand at Antwerp, in the county of Paulding, and State of Ohio, this 22nd day of September 1908.

JULIA B. MUNGER,
Administratrix of the Estate of Orville D. Munger, deceased.

Witnesses:

S. W. ENNIS,
WM. DOOLITTLE.