

J. NEMEC.
HYDROCARBON BURNER.
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1,059,383.

Patented Apr. 22, 1913.

Fig. 1.

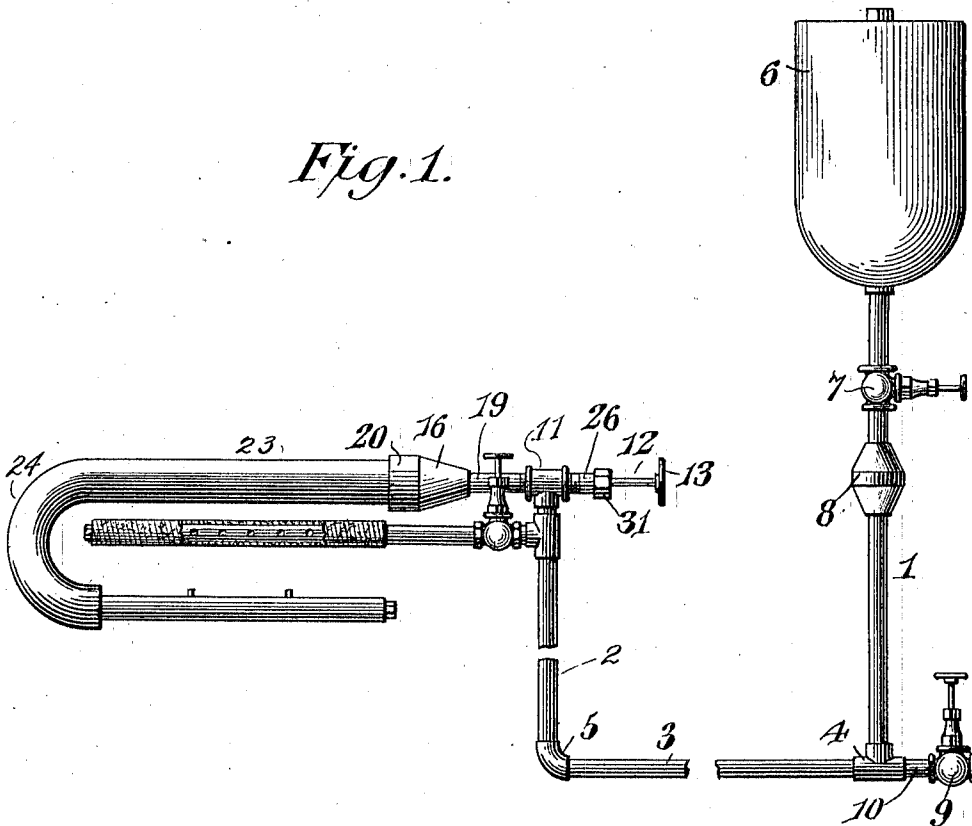
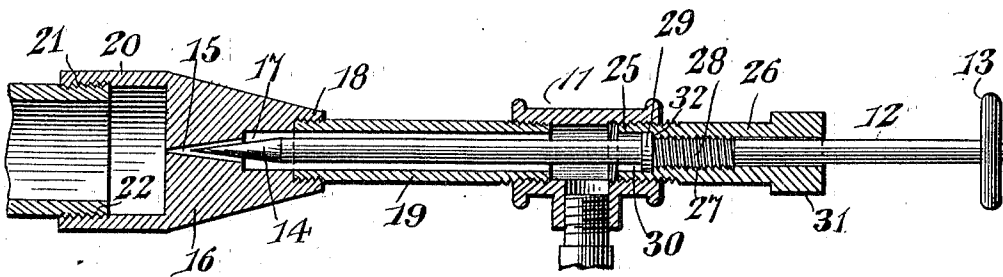


Fig. 2.



WITNESSES

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HYDROCARBON-BURNER.

1,059,383.

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To all whom it may concern:

Be it known that I, JOSEPH NEMEC, a citizen of the United States, residing at Cameron, in the county of Milam and State of Texas, have invented a new and useful Hydrocarbon-Burner, of which the following is a specification.

The invention relates to improvements in hydrocarbon burners.

The object of the present invention is to improve the construction of hydrocarbon burners for burning gasoline and other liquid hydrocarbon fuels, and to provide a simple, inexpensive and efficient hydrocarbon burner, equipped with a safety device adapted to admit only a limited supply of gasoline or other fuel to the burner to enable the latter to be operated with absolute safety by either a woman or child.

With this object in view, the invention consists in the construction and novel combination of parts hereinafter fully described, illustrated in the accompanying drawing, and pointed out in the claims hereto appended; it being understood that various changes in the form, proportion, size and minor details of construction, within the scope of the claims, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawing:—Figure 1 is a side elevation, partly in section, of a hydrocarbon burner, constructed in accordance with this invention. Fig. 2 is an enlarged longitudinal sectional view of the needle valve for controlling the feed of the liquid fuel to a burner and the safety device for limiting the feed.

Like numerals of reference designate corresponding parts in all the figures of the drawing.

In the accompanying drawing in which is illustrated the preferred embodiment of the invention, the fuel delivery pipe is composed of vertical branches 1 and 2 and a horizontal branch 3, connected with the lower end of the upright branch 1 by a T-coupling 4 and with the lower end of the upright branch 2 by an elbow coupling 5. The fuel delivery pipe, which may be of any desired diameter and composed of any number and arrangement of sections, is connected at the upper end of the branch pipe 1 with a tank or reservoir 6 of the desired capacity for containing the gasoline or other liquid fuel.

The vertical branch 1 of the fuel delivery pipe is provided at a point below the tank with a globe valve 7, or other suitable cutoff, which is located between the tank or reservoir 6 and a strainer 8. The strainer 8, which may be of any preferred construction, is designed for straining or filtering kerosene to prevent absolutely any dirt entering the burner and affecting the operation of the same. A lower globe valve 9 or other suitable cutoff is connected by a nipple 10 with the T-coupling 4, and it constitutes a drain and is adapted to enable the entire gasoline or other liquid fuel contained within the tank and the fuel delivery pipe to be drawn off in case of accident to the apparatus, or for any other purpose. The lower globe valve is normally closed and the feed of the liquid fuel from the reservoir to the strainer is controlled by the upper globe valve 7.

The fuel delivery pipe is connected at the upper end of the upwardly extending branch 2 with a T-coupling 11 through which passes a needle valve stem 12. The needle valve stem, which is provided at its outer or rear end with a hand wheel 13, or other suitable handle, has at its inner end a tapered valve 14 coöperating with a valve seat formed by a tapering opening 15 in the solid end of an atomizer or vaporizer 16. The atomizer or vaporizer, which constitutes a reducer, has a solid tapered front portion provided with a central longitudinal bore 17, the inner portion of which is tapered inwardly or rearwardly to form the said valve seat. The outer portion 18 of the central bore 17 is enlarged or counterbored and interiorly threaded to receive one end of a short pipe or nipple 19, which has its other end screwed into one end of the T-coupling 11. The rear portion 20 of the atomizer or vaporizer is cylindrical and is provided with interior screw threads 21 to screw on an exteriorly threaded end 22 of a cylindrical generator 23, which is provided at its other end with a return bend 24, extending beneath the straight body portion of the generator.

The end of the T-coupling 11 opposite that into which the short pipe or nipple 19 is screwed is interiorly threaded to receive an exteriorly threaded end portion 25 of an adjustable sleeve 26; having an interiorly threaded bore 27 for the reception of a threaded portion 28 of the needle valve stem. The needle valve stem is provided at a point intermediate of its ends with a

projecting annular shoulder or collar 29, located at the inner end of the threaded portion 28 and operating within a smooth counterbore 30 at the inner end of the adjustable sleeve 26. The adjustable sleeve, which is provided at the outer end with an exterior polygonal wrench receiving portion 31, is adapted to be adjusted by means of a wrench, or other suitable tool to arrange the inner end wall 32 of the smooth counterbore 30 in proper position with relation to the tapered aperture 15, the walls of which form a valve seat for the tapered end 14 of the needle valve 12. The sleeve 26 is capable of adjustment to vary the length of the opening movement of the needle valve, and the interior shoulder or end wall 32 limits the outward or opening movement of the needle valve and prevents the same from being opened too far and thereby enables the burner to be operated with perfect safety by any one.

What is claimed is:—

1. A fuel delivery pipe or nipple communicating with a vapor generator, a needle valve to control the flow of fuel to the generator, said needle valve being provided with a stem having a threaded portion and provided also with a shoulder, and an adjustable sleeve interiorly threaded to receive the threaded portion of the needle valve and

provided with an interior stop arranged to engage the shoulder of the needle valve stem for limiting the opening movement of the needle valve.

2. A fuel delivery pipe or nipple communicating with a vapor generator and having an interiorly threaded valve supporting member, a needle valve having a stem extending through the interiorly threaded member to control the flow of fuel to the generator, the stem being provided with a collar and having a threaded portion extending outwardly from the collar, and a sleeve exteriorly threaded to adjustably engage the interiorly threaded member of the fuel delivery pipe and provided with a threaded bore through which the threaded portion of the stem of the needle valve passes, said sleeve being provided at the inner end with a smooth counterbore receiving the collar of the needle valve stem and forming a shoulder arranged to be engaged by the said collar to limit the opening movement of the needle valve.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

JOSEPH NEMEC.

Witnesses:

GILES L. AVRIETT,
J. P. SPARKS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."