

F. C. WATTS.
 COMBINED GENERATOR AND GAS BURNER.
 APPLICATION FILED OCT. 22, 1910.

997,722.

Patented July 11, 1911.

Fig. 1.

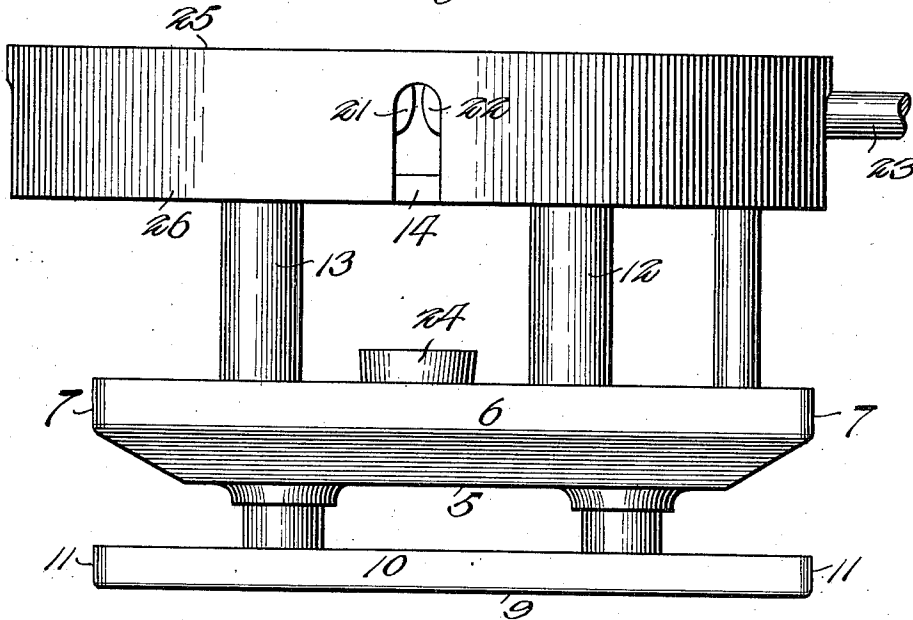
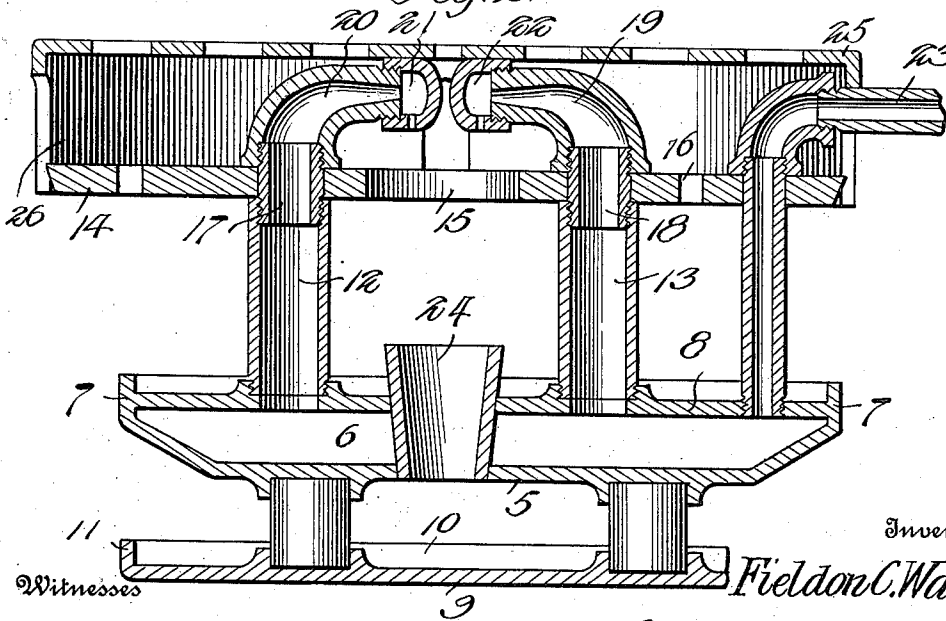


Fig. 2.



Witnesses

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, FIELDON C. WATTS, a citizen of the United States, residing at Jonesboro, in the county of Craighead and State of Arkansas, have invented new and useful Improvements in Combined Generators and Gas-Burners, of which the following is a specification.

This invention relates to improvements in combined generators and gas burners such as are usually employed with stoves and the like.

The invention has particular reference to an improvement in a co-pending application filed by me June 18, 1910, Serial No. 567,659. In that particular application I show a generator having in spaced relation and connected to its lower side a priming pan or tray, and its upper side portion dished to contain a priming fluid, this priming fluid when ignited serving to vaporize the oil within the generator, the vapor passing upwardly through pipes provided with burner tips, the burner tips being located directly above the upper portion of the generator so that when the vapor is ignited the flame will impinge on the upper side of the generator, thus heating the latter and causing consequent vaporization of the oil therein. I have found with the above-described construction that after the priming fluid has been consumed and the subsequent vaporization depends upon the heat of the flame impinging on the upper side of the generator, that subsequent vaporization is not effected as rapidly as desirable, for the reason that the flame strikes but one side of the generator while the lower side and opposite ends thereof remain in a comparatively cool state. Therefore the present invention has for one of its objects the provision of a means for conducting the flame to the lower priming pan, the said conducting means passing through the body of the generator and being formed of metal. I have found by the disposition of this metallic conductor that in addition to directing the flame onto the lower priming pan the portion passing through the body of the generator will perform the function of a radiator to further heat the interior of the generator.

With these and other objects in view, which will more fully hereinafter appear, the present invention consists in certain novel details of construction and arrangement of parts, hereinafter fully described,

illustrated in the accompanying drawings, and more particularly pointed out in the appended claim; it being understood that various changes in the form, proportion, size, and minor details of the device may be made, within the scope of the appended claim, without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings, forming part of the specification;—Figure 1 is a side elevation of the device. Fig. 2 is a vertical longitudinal sectional view thereof.

Similar numerals of reference are employed to designate corresponding parts throughout.

The generator comprises an oblong bottom 5 from the opposite sides of which rise the side walls 6, and from the opposite ends of which rise the end walls 7. The top plate of the generator is designated by the numeral 8 and is positioned a short distance below the tops of the side and end walls and is fixedly secured to the inner faces of the side and end walls.

What will subsequently be termed a lower priming pan or tray is shown to include a bottom 9, corresponding in length and width, approximately, to the length and width of the generator and rising from the opposite sides of the said bottom plate 9 are side walls 10, and rising from the opposite ends of the bottom plate are end walls 11. Suitable hangers depend from the opposite end portions of the bottom 5 of the generator, and have their lower ends suitably secured to the opposite end portions of the bottom plate 9 of the lower priming pan. Rising from points on either side of the center of the top plate 8 of the generator are tubes 12 and 13.

A supporting plate is designated by the numeral 14, this plate being circular in contour and centrally provided with an opening 15, and further provided with a plurality of perforations 16. The supporting plate 14 is further provided adjacent to the central opening 15 with openings of less diameter than the tubes 12 and 13, and in alinement with the latter. Threaded into the upper end portions of the tubes 12 and 13 are short pipe sections 17 and 18, the upper end portions of said pipe sections extending through the openings of the plate 14, in alinement with the tubes 12 and 13 and extending a short distance above the

upper surface of the support 14. The upper end portions of the pipe sections 17 and 18 are exteriorly screw-threaded to receive the lower ends of elbows 19 and 20, the said elbows extending in opposed directions. Threaded onto the upper end portions of the elbows 19 and 20 are nipples 21 and 22, the said nipples having on their lower sides openings which overlie the opening 15 of the support 14. The nipples perform the function of burners since the gas is ignited at the openings in said nipples.

An oil supply pipe is designated in general by the numeral 23 and has one end leading into one end portion of the top plate 8 of the generator.

By reference now to the drawings it will be seen that formed in the central portions of the top plates 5 and 8 of the generator are openings of different diameters, the opening in the bottom plate 5 of the generator being smaller than the opening in the top plate 8. Arranged in these openings are the opposite ends of a hollow inverted frusto-conical-shaped conduit 24. The upper end portion of the conduit extends a trifle above the upper surface of the top plate 8 of the generator, while the lower end of the conduit is in a plane with the lower outer surface of the bottom 5 of the generator.

In the operation of the device a quantity of oil is placed in the lower tray and on the top 8 of the generator. When this oil is ignited it will heat the surface of the generator and assuming the latter is filled with oil the latter will be vaporized, the vapor passing upwardly through the tubes and outwardly into the openings 21 and 22 at which point it is ignited. It will be seen that a portion of the flame will move downwardly through the opening 15, then into the upper end of the conduit 24 passing through the conduit and onto the bottom plate 9 of the lower heating pan. The bottom 9 will act as a deflector and spread the flame so that as the latter shoots upward

it will contact with the bottom 5 of the generator. It will be seen, owing to the shape of the conduit, that the flame will be crowded as it moves toward the narrow lower end of the conduit so that it will issue therefrom in a comparatively small stream. This crowding of the flame in the conduit will cause a portion of the flame to work upwardly and over the upper end of the conduit and onto the top plate 8 of the generator. It will be seen that while the flame is passing through the conduit the latter will be heated to a comparatively great degree so that the portion of the conduit arranged within the generator will further heat the interior of the latter.

I have shown a top or cover for the burner similar to the top or cover shown in my co-pending application, the said top or cover comprising a circular body portion 25, from the periphery of which depends a skirt 26, the lower side of the said skirt bearing on the support 14 and having lateral openings for the admission of air, the body 25 being further provided with openings for a similar purpose.

From the foregoing, it is evident that I have provided a device which is comparatively simple in structure and inexpensive to manufacture, embodying few parts and these so arranged that the danger of derangement will be reduced to a minimum.

I claim:—

In combination, a hollow generator, a tray thereunder, a conduit extending through the generator, burners supported directly over the conduit, pipes connecting the generator and burners, a member covering the burners and a fuel pipe connected with the generator.

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

FIELDON C. WATTS.

Witnesses:

J. K. MALONE,
GUY W. COBB.