

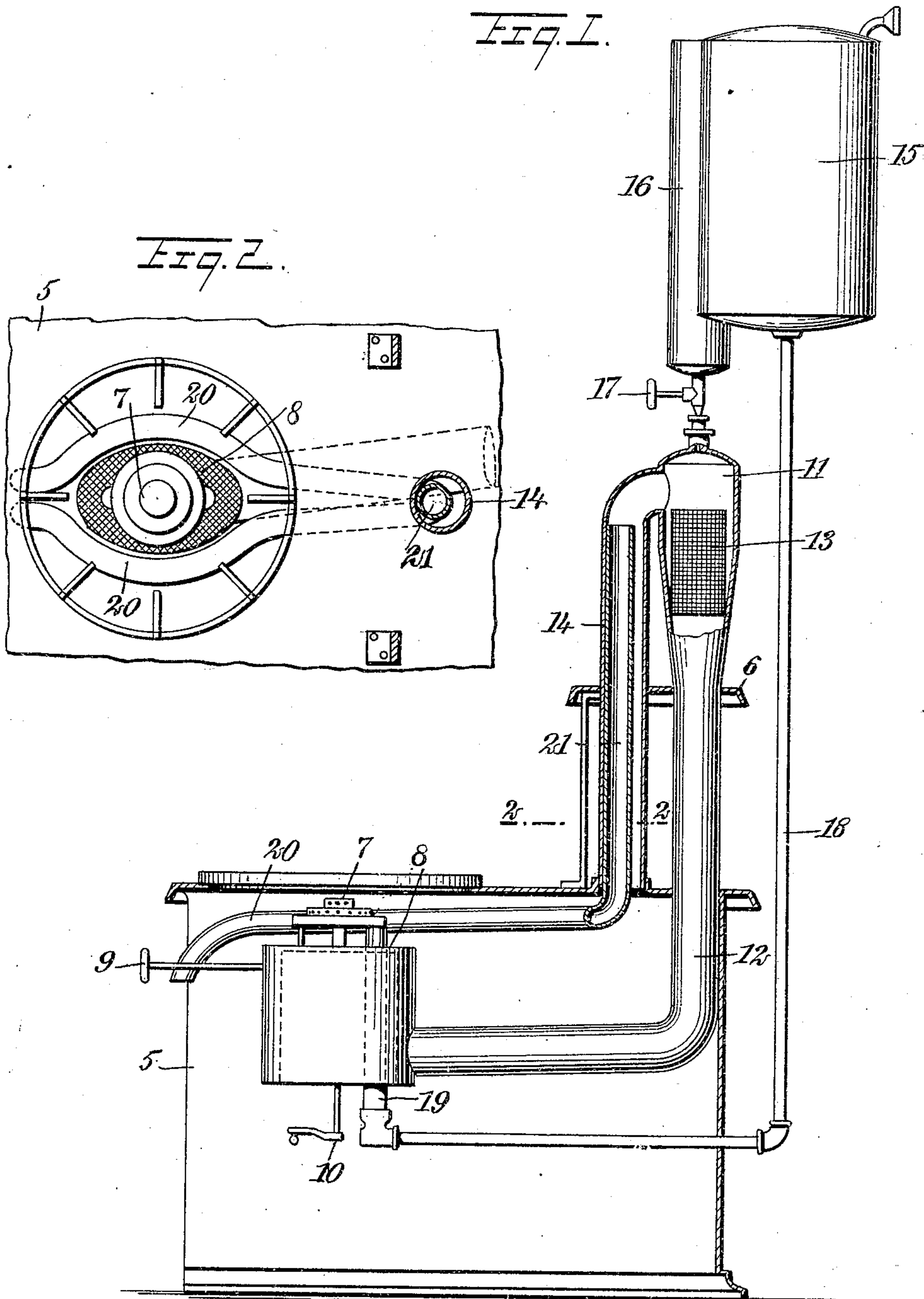
A. H. WAITE.
VAPOR BURNER.
APPLICATION FILED JULY 15, 1909.

959,410.

Patented May 24, 1910.

Fig. 1.

Fig. 2.



WITNESSES

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AZRO H. WAITE, OF EL PASO, ILLINOIS.

VAPOR-BURNER.

959,410.

Specification of Letters Patent.

Patented May 24, 1910.

Application filed July 15, 1909. Serial No. 507,714.

To all whom it may concern:

Be it known that I, AZRO H. WAITE, a citizen of the United States, and a resident of El Paso, in the county of Woodford and State of Illinois, have invented a new and Improved Vapor-Burner, of which the following is a full, clear, and exact description.

This invention is an improvement in vapor burners of the character disclosed in Letters Patent No. 861,066, granted to me July 23, 1907, in which an evaporating burner, (a burner in which gasolene is converted into vapor by dripping on to a screen or the like, and evaporated by a current of air passing to the point of combustion,) surrounds a generating burner, (a burner in which gasolene is forced through a heated pipe or duct and converted into vapor preparatory to passing to the point of combustion) and is employed in heating the same when the stove is first started and in cooking, the supply of fuel for the evaporating burner being passed through a vaporizer, which is further connected with the evaporating burner below the point of combustion, through a hot air duct.

The most general objection to gasolene and such like burners of evaporating style has been that they are very slow to start in a cold room, and if it be attempted to hasten this operation by supplying an excess of fuel, smoke, if not something more serious, will result. By the present invention I am enabled to quickly produce a strong flame in the evaporating burner, which in turn heats the generating burner, which I do by passing air-intake pipes around and in the flame of the evaporating burner, and connect these pipes to a pipe leading to the vaporizer.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in both views.

Figure 1 is a side elevation partly in central vertical section, of a vapor stove supplied with my improved burner; and Fig. 2 is a fragmentary horizontal sectional view substantially on the line 2—2 of Fig. 1.

I have shown my improved burner applied to a vapor stove 5 which is provided with a shelf or stand 6 elevated at the back, the burner comprising a generating burner 7 and an evaporating burner 8, constructed the same in all respects as are those burners

in my patent above referred to, for which reason I deem it unnecessary to specifically describe and illustrate them in the present application. The burner 7 is provided with a controlling valve 10, a valve 9 being provided for controlling the flow of vapor to additional vapor burners should such be provided. The drum or chamber of the evaporating burner connects with a vaporizer 11, arranged above the stand 6, through a vapor-duct 12, the vaporizer being provided with the customary gauze cylinder 13. The vaporizer also connects at its upper portion with an air-duct 14, which leads from the top of the stove.

Arranged at a suitable elevation above the vaporizer and as shown in the aforesaid patent, are the fuel tank 15 and the communicating float chamber 16, the latter having the valve 17 controlling the flow of gasolene or such like fuel into the top of the vaporizer. The fuel tank connects through the supply pipe 18 and stand pipe 19 with the generating burner 7, the vapor to the screened portion of the evaporating burner 8 being supplied from the vaporizer through the duct 12.

Forming the principal feature of the present invention, are pipes 20, which curve about at opposite sides of the perforated top of the evaporating burner and directly above the screen of this burner, each pipe having an open forward end turned downwardly at the front of the stove, as clearly shown in Fig. 1. These pipes at their opposite ends are connected to a common pipe 21, which passes through the air-duct 14 and discharges at the vaporizer.

The operation of the burner is as follows: Preparatory to lighting the stove, the gasolene is permitted to drip into the gauze cylinder of the vaporizer by opening the valve 17, and the vapor thus formed is conducted through the duct 12 around the chamber formed in the casing of the evaporating burner, and passes out through the gauze of the evaporating burner 8, where it is ignited. This flame is used immediately for cooking, etc., and heats the generating burner and also the air-intake pipes 20, causing a current of hot air to pass through these pipes directly to the vaporizer, in addition to the air which passes up through the air-duct 14. This increases the evaporation of the fuel at the vaporizer and consequently augments the flame of the evapo-

rator burner. After the generating burner has become heated, the valve 10 is opened, and the generating burner lighted.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. The combination of a generating burner, an evaporating burner located in heating relation to the generating burner, a vaporizer arranged in an elevated position and connected with the evaporating burner, an air-duct leading into the vaporizer, and an air-intake-pipe arranged in the flame of the burners and passing to the vaporizer through the air-duct.

2. The combination of a generating burner, an evaporating burner located in heating relation to the generating burner, a vaporizer arranged in an elevated position and connected with the evaporating burner, an air-duct leading into the vaporizer, and air-intake-pipes arranged at opposite sides and in the flame of the evaporating burner and connected with a common pipe passing to the vaporizer through the air-duct.

3. The combination of a vapor stove having a shelf or support rising at the back thereof, a generating burner, an evaporating burner located in heating relation to the generating burner, a vaporizer arranged above said shelf or support, having a duct passing through said shelf or support and connecting with the evaporating burner, an air duct connected with the upper portion of the vaporizer leading from a point near the

top of the stove through the shelf or support, and an air-intake pipe arranged in the flame of the evaporating burner and passing to the vaporizer through the air duct.

4. The combination of a casing having a chamber provided with a gauze covering, constituting an evaporating burner, a generating burner arranged above the evaporating burner, a vaporizer located at an elevation above said burners, having a duct leading to the chamber, and an air-intake-pipe located above the gauze of the evaporating burner and passing to the vaporizer.

5. The combination of a stove, a generating burner arranged under the top of the stove, an evaporating burner arranged below and located in heating relation to the generating burner, a vaporizer located above the stove and having a connection with the evaporating burner, passing into the stove, an air-duct leading from the top of the stove into the upper portion of the vaporizer, and air-intake-pipes arranged in the flame of the evaporating burner underneath the top of the stove and connected with a common pipe passing to the vaporizer through said air-duct.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

AZRO H. WAITE.

Witnesses:

R. A. TAYLOR,
FRANK B. STITT.