

UNITED STATES PATENT OFFICE.

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APPARATUS FOR SMOKING MEAT.

No. 843,368.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, CHRISTOPHER SCHMITT, a citizen of the United States, and a resident of the city of New York, borough of Manhattan, in the county and State of New York, have invented a new and Improved Apparatus for Smoking Meat, of which the following is a full, clear, and exact description.

The purpose of the invention is to provide a very simple, durable, and economic apparatus for smoking meat or similar articles, wherein the meat products are cooked and smoked with pure hot air mixed with the fumes and smoke of cedar and hickory chips.

Another purpose of the invention is to provide for a perfect combustion of the gas, and, further, to provide means for heating and for producing smoke entirely independent of the chamber or compartment in which the articles are placed for smoking and cooking, thus preventing said articles from absorbing the odors peculiar to gas when burning, and also preventing the deposit of carbon on the products, which occurs at times under ordinary conditions.

A further purpose of the invention is to provide for a thorough commingling of the heat and the air, the regulation of the same, and the provision of a uniform temperature in the smoke-chamber.

Another purpose of the invention is to provide for the ready ignition of the chips and means for regulating the heat and the amount of smoke without opening the smoke-chamber, together with means whereby all the smoke can be exhausted from said chamber before opening the same to remove the cured articles.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

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 all the figures.

Figure 1 is a central front elevation of the apparatus. Fig. 2 is a side elevation, a portion of the discharge-pipe being broken away; and Fig. 3 is an enlarged section through the smoke and heat-producing chamber employed.

The apparatus consists of two prime factors—a generator for smoke and heat and a smoke-house or receptacle in which the material is placed to be cured, the generator being designated as A and the smoke-house or receptacle as B. Both of said parts A and B may be constructed of any suitable material. Usually, however, metal is employed, and the smoke-house section B is very much larger than the generator-section A, the latter being preferably located at one side of the former.

As is particularly shown in Fig. 3, a compartment A' is constructed within the generator A for the reception of the chips from which the smoke is to be produced, and the chips that are preferably employed are those from cedar and hickory wood. The said compartment A' comprises a bottom 10, which engages with the front wall of the generator and with the side walls, but does not extend to the rear wall, since a passage-way is provided between the said rear wall of the generator and the rear wall of said compartment A'. In addition to the bottom 10 the compartment is provided with a rear upright wall 11, said compartment being entirely open at the top, and ample space is provided between the top portion of the said compartment A' and the upper portion of the generator A. The said compartment A' has its bottom and its rear wall provided with an asbestos covering 12, so as not to burn the walls of said compartment.

The generator A is provided with a removable cover A², and at the central portion of said cover a by-pass C is secured in any suitable or approved manner. The cover A² is counterbalanced with weights 13, which weights are secured to the ends of chains 14, said chains being passed over pulleys 15, secured to an overhead support, and are attached at their lower ends to the said cover A² at each side of its center, as is best shown in Fig. 2.

In consequence of the cover A² being capable of movement to and from the body of the generator, the by-pass C is constructed in two or more sections, usually two sections, as illustrated—namely, a lower section 16, which is attached directly to the cover, and an upper section 17, into which the lower section telescopes, the upper section being pro-

vided with a horizontal branch 18, that leads to and connects with a smoke-offtake pipe 19, that is connected with the central upper portion of the apartment of the smoke-house or receptacle B, since by preference the said smoke-house or receptacle contains but a single apartment.

A damper 20, of any approved type, is located in the lower section 16 of the by-pass C, and a conducting-pipe 21 is carried from the back of the generator A into the bottom portion of the smoke-house or receptacle B, as is best shown in Fig. 1. Said conducting-pipe 21 within said smoke-house or receptacle B is provided with series of apertures 22 for the exit of smoke, being usually closed at its inner end. Furthermore, said conducting-pipe 21 is provided with a damper 23, exteriorly located, so that it is readily accessible when needed. At the bottom of the smoke-house or receptacle B ventilators 24 are constructed opposite the conducting-pipe 21, said ventilators being utilized when it is desired to drive the smoke out from the smoke-house or receptacle, at which time said ventilators are opened, and the damper 23 in the conducting-pipe 21 is closed, the damper 20 in the by-pass C being open.

In the construction of the smoke-house or receptacle B two doors 25 are usually provided for it at what may be termed the "front portion" of said smoke-house, the doors by preference extending from the top to a point below the center, and said doors when opened fully uncover that portion of the house or receptacle B at which they are located. The customary rods 26 are located in the smoke-apartment of the house or receptacle B, from which rods the material 27 to be cured or smoked is suspended, and at the top portion of said house or receptacle a gage 28 is located, having communication with the interior of the smoke-house or receptacle, whereby to determine the degree of heat therein.

A pipe 29, connected with any source of gas-supply, is led down to the generator A and at its upper portion is provided with a valve 30, controlled by a thermostat 31, that extends within the smoke-apartment of the smoke-house or receptacle B, as is shown in Fig. 1, so that the supply of gas is turned on or shut off, according to the heat in said apartment. The lower end of the gas-supply pipe 29 is connected with a branch supply-pipe 32, that leads along a side of the generator A, as is shown best in Fig. 1, and burners 34, contained within the generator and located below the chip-compartment A', are connected with said branch pipe 32. Where the said burners and said branch pipe 32 connect, valves 33 are located. Another branch pipe 35 extends vertically up from the horizontal branch pipe 32 at the same side of the

generator and connects with a pilot-burner 37, located over and practically within the chip-compartment A', and said burner 37 is regulated by a valve 36, located in the branch pipe 35. The pilot-burner 37 is utilized exclusively for igniting the chips in the said compartment A'.

Mica doors 38 are preferably mounted to slide in suitable guides 39 at the front of the generator, as shown in Fig. 2, which mica doors when closed cover an opening in the generator, (shown in Fig. 3,) through which opening access may be gained to the burners 34 for the purpose of lighting the same. These mica doors 38 are particularly useful in that the extent of the flame from the burners 34 may be noted without opening the generator, enabling a person to exteriorly regulate the flame by reason of the exteriorly-located valves 33. A series of air-inlets 40 is also produced in the front of the generator, preferably near the top, and each of these air-inlets 40 is normally closed by means of a pivoted cover 41 or its equivalent, so that air in the quantity needed to produce a blue flame and perfect combustion may be admitted to said generator A. The air being admitted into the generator over the chip-compartment A', said air is not only heated in said generator, but mingles with the smoke from the chips, and the commingled smoke and heated air find a ready entrance into the smoke-house when the damper 23 in the conducting-pipe 21 is opened.

In operation, the smoke-house having been charged with material to be treated and a suitable quantity of chips having been deposited in the compartment A', the generator A and the smoke-house B are closed. The burners 34 are now lighted, and when the heat in the smoke-house reaches from 140° to 175° Fahrenheit the pilot-burner 37 is lighted from the exterior of the generator A through one of the air inlets or openings 40, and when the chips in the compartment A are ignited the pilot-burner is turned off, and the hot air, mixed with the fumes of the burning wood, entering the smoke-house will cook and smoke the meat to any desired degree. At the completion of the process the damper 20 in the by-pass C is opened, and the damper 23 in the conducting-pipe 21 is closed. At the same time the ventilators 24 are opened, permitting the cold air to enter at the bottom portion of the apartment of the smoke-house and force the accumulated smoke into the offtake-pipe 19. In about five minutes the entire smoke-apartment will be freed from smoke, rendering said apartment conveniently accessible for removing the smoked products and refilling. When the smoke-apartment is again filled, the damper 20 is closed and the damper 23

opened, and the apparatus is ready for another operation.

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

1. In an apparatus for smoking meat, a smoke-house, a generator having heating means, and provided with a compartment above the heating means for containing chips, means in connection with the heating means for igniting the chips, and a conductor for the mingled smoke and heat leading from the generator to the smoke-house.

2. In an apparatus for smoking meat, a smoke-house, a generator having heating means and provided with a compartment above the heating means for containing chips means in connection with the heating means for igniting the chips, a conducting-pipe leading from the generator into the smoke-house, a damper for the said pipe, a chimney for the smoke-house, a by-pass connected with said chimney and with the generator, and a damper for the by-pass.

3. In an apparatus for smoking meat, a smoke-house, a generator provided with a compartment adapted to contain chips and means for admitting and regulating the admission of air into the generator, a source of gas-supply, a series of burners leading from said source into the generator, and a pilot-burner located above said compartment and adapted to ignite the chips therein.

4. In an apparatus for smoking meat, a smoke-house, a generator provided with a compartment adapted to contain chips, a means for admitting and regulating the admission of air into said generator, a source of gas-supply, a series of burners leading from said source into the generator, a pilot-burner located above said compartment and adapted to ignite the chips therein, a chimney for the smoke-house, a by-pass connecting the chimney with the generator, a damper in the by-pass, a conducting-pipe extending from the generator into the smoke-house, being adapted to conduct combined smoke and heated air therein, and a damper for the conducting-pipe.

5. In an apparatus for smoking meat, a smoke-house, a generator provided with a compartment adapted to contain chips, a means for admitting and for regulating the admission of air into said generator, a source of gas-supply, a series of burners leading from said source into the generator, a pilot-burner located above said compartment and adapted to ignite the chips therein, a chimney for the smoke-house, a by-pass connecting the chimney with the generator, a damper in the by-pass, a conducting-pipe extending from the generator into the smoke-house, being adapted to conduct combined smoke and

hot air therein, a damper for the conducting-pipe means for regulating the supply of gas to the burners at the exterior of the generator, and an illuminated movable panel for the generator, permitting the flame at the heating-burners to be rendered visible from the exterior of the generator.

6. In an apparatus for smoking meat, the combination with a smoke-house, its chimney, and ventilators at the bottom thereof, of a generator for smoke and heat independent of the smoke-house, the said generator being provided with a compartment therein to contain chips and with valved openings for air located above the compartment, a pilot-burner located at the upper portion of said chip-compartment, heating-burners located below the compartment, a by-pass connecting the upper portion of the generator with the said chimney, a damper in said by-pass, a conducting-pipe for hot air and smoke leading from the generator into the smoke-house, a damper for the said conducting-pipe, a gas-supply pipe, a controlling-valve therefor, and a thermostat-controller for the valve, leading into the smoke-house, and connections between the gas-supply pipe and the burners in the generator.

7. In an apparatus for smoking meat, the combination with a smoke-house, its chimney, and ventilators at the bottom thereof, of a generator for smoke and heat independent of the smoke-house, the said generator being provided with a compartment therein to contain chips and with valved openings for air, located above the compartment, a pilot-burner located at the upper portion of the said chip-compartment, heating-burners located below said compartment, a by-pass connecting the upper portion of the generator with the chimney of said smoke-house, a damper in said by-pass, a conducting-pipe for hot air and smoke leading from the generator into the smoke-house, a damper for the said conducting-pipe, a gas-supply pipe, a controlling-valve therefor, a thermostat controller for the valve leading into the smoke-house, connections between the gas-supply pipe and the burners in the generator, transparent sliding panels located in said generator opposite the lower burners therein, a removable top for the generator, weighted chains connected with the said top, and pulley-supports for the chains.

8. In an apparatus for smoking meat, a smoke and heat generator, a removable top therefor, counterbalance-weights connected with the said top, a smoke-house independent of the generator, a conducting-pipe leading from said generator into the smoke-house, a chimney for the said smoke-house, a telescopic by-pass connected with said chimney of the smoke-house and with the remov-

able top of the generator, a damper for the
conducting-pipe, exteriorly located, a dam-
per for the by-pass, and means for producing
heat and smoke in the said generator and
5 directing said mixed hot air and smoke to
the conducting-pipe.
In testimony whereof I have signed my

name to this specification in the presence of
two subscribing witnesses.

CHRISTOPHER SCHMITT.

Witnesses:

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