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HOT WATER TYPE FOOD BROILER

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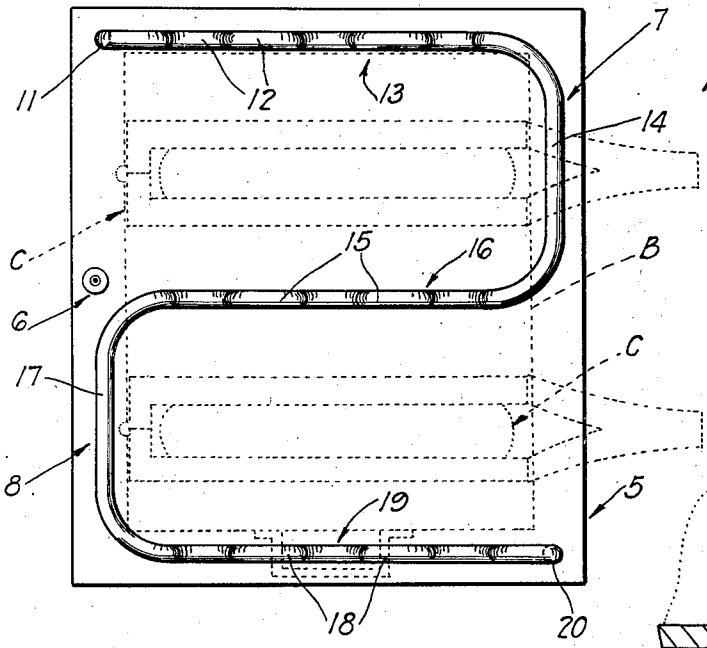
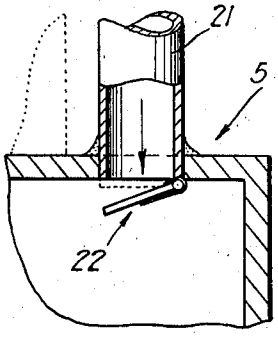


FIG.-1

FIG.-3



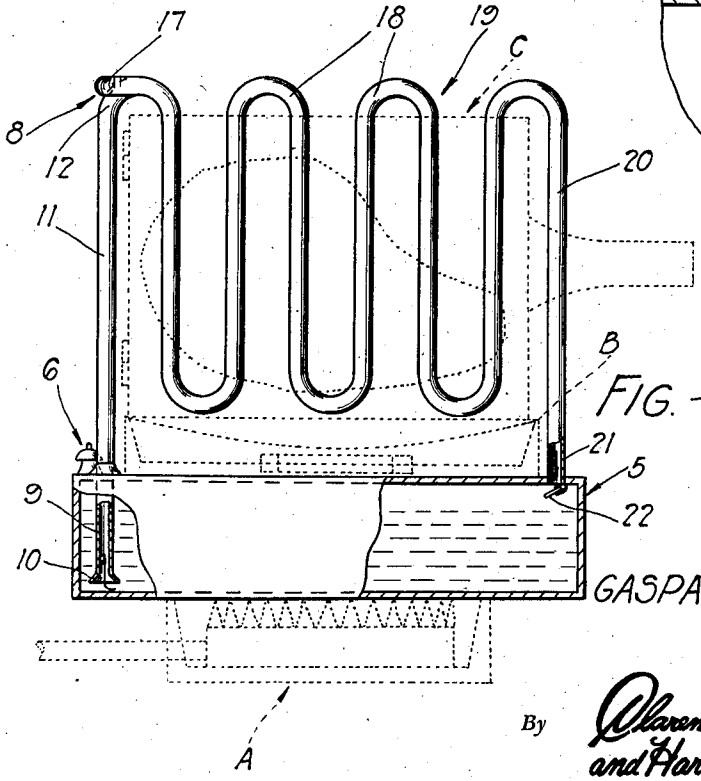


FIG.-2

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HOT-WATER TYPE FOOD BROILER

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3 Claims. (Cl. 99—389)

This invention relates to food, especially meat, broilers and has more particular reference to one in which tubular grilles are employed, hot water being circulated through the tubes and serving to radiate heat of sufficient intensity to broil meats held in close proximity to said grilles.

Briefly, the invention is characterized by a base in the form of a substantially rectangular water tank, this having mounted thereon and extending vertically therefrom a series of three parallel grilles, the grilles being fashioned, as before indicated, from tubes through which the hot water is circulated for heat radiation purposes.

More specifically, I provide a single length of pipe this being connected to one corner of the hot water tank at one end, and connected to a diagonally opposite corner at its opposite end, the length of pipe between the connected ends being bent into a pair of reversally arranged U-shaped sections and these sections in turn being bent into coils to define the three spaced parallel grilles.

In carrying out the principles of the invention I have evolved and produced a simple and expedient structure which is substantially foolproof, is thought to be highly feasible and practicable, and which is otherwise aptly suited for the purposes intended.

Other features and advantages will become more readily apparent from the following description and the accompanying illustrative drawing.

In the drawing, wherein like numerals are employed to designate like parts throughout the views:

Figure 1 is a top plan view of a meat broiler constructed in accordance with the principles of the present invention with certain incidental features shown in dotted lines.

Figure 2 is an end view with portions broken away and shown in section to bring out the details of construction.

Figure 3 is a fragmentary view on an enlarged scale showing the return end of the tubular pipe and a spring-closed pressure opened flap valve connected therewith.

Referring now to the drawing by distinguishing reference numerals it will be seen that the tank, which is some 8'' wide and perhaps 10'' long, is denoted by the numeral **5**. It is constructed from suitable metal and is adapted to be placed on a stove or over a burner A as indicated in dotted lines in Figure 2. At a suitable point and in the top I provide a filler valve **6**, and this is preferably fashioned into a pressure or blower valve so that it has a double purpose of permitting water to be placed in the tank and permitting excess steam to blow-off, this as a safety feature.

Reference being had to Figure 1, it will be seen that the single length of pipe which is used in constructing the grilles is bent between its ends to define a pair of reversely arranged U-shaped sections **7** and **8**, respectively. More specifically, one end portion **9** (see Figure 2) is connected to the upper left-hand corner of the tank (see Figure 1) and this end of the pipe extends down into the tank and terminates in an intake mouth or bell **10**. The portion **11** of the pipe extends vertically from the top of the tank where it is then bent into a series of serpentine curves defining what may be called coils **12**. The series of coils at the top in Figure 1 define one of the grilles **13**.

The up-bend of the last coil in the grille **13** is then bent horizontally across vertically spaced relation to the tank as indicated at **14**, and this defines a bight or connective portion of the first U-section. Then, the pipe is again bent into a series of companion coils **15**, these defining the intermediate grille **16**. Next, the endmost coil of the grille **16** is bent horizontally across to form sort of an arch **17** which functions as the bight or connective portion of the remaining U-section **8**. The terminal end portion of the pipe is bent into additional coils **18** and these coact in defining the third grille **19**. The terminal of the pipe indicated at **20** in Figure 2, is bent down and the terminating end **21** serves as a return line and this is connected to the lower corner of the tank as seen in Figure 1. Thus, as before stated, one end of the pipe is connected with one corner to the left in Figure 1, and the other to the diagonally opposite corner to the right in Figure 2. The last named end is provided on the interior of the tank with an automatic spring-closed but pressure-opened flap valve **22**. This prevents the steam from backing up in the wrong end of the pipe and also allows the hot water to return to the tank to be reheated and used over.

The tank is filled with water; it is then placed on a stove of any kind of heat producing device; wood fire, gas fire, or electric fire. Then I have a small pan B about 1'' high, made so that it will fit on top of the water tank and directly under the up and down coils or grilles. The steaks or chops are then placed in wire broilers or holders C; then they are set edgewise on the pan which is on top of the tank and between the

grilles or rows of tubes. When heat is applied to the water, the water will boil; when the steam is generated it will force the boiling water up through the tube which extends to the bottom of the tank, causing it to circulate up and down through the tubes and spill back into the tank. This constant circulation is maintained by the formation of steam caused by the heat of the water. The heat is then transmitted to both sides of the steaks or chops at the same time and as the steaks or chops begin to cook, the juice falling from them will fall into the pan which is directly under. This juice can be used for basting or for gravies.

It can be seen that this will make an efficient, cheap to operate broiler, which has many advantages over any other broilers now in use. The steaks or chops are broiled on both sides at the same time; the juice is caught and the broiler can be easily cleaned when the operation is completed and there are no working parts to get out of order and it can be very cheaply manufactured.

A careful consideration of the foregoing description in conjunction with the invention as illustrated in the drawing will enable the reader to obtain a clear understanding and impression of the alleged features of merit and novelty sufficient to clarify the construction of the invention as hereinafter claimed.

Minor changes in shape, size, materials and rearrangement of parts may be resorted to in actual practice so long as no departure is made from the invention as claimed.

I claim:

1. A meat broiler of the class described comprising a water containing and heating tank adapted to sit on the stove or other source of heat, a pipe having opposite ends connected to and rising vertically from diagonally opposite corner portions of the top of the tank, said pipe being fashioned into a pair of reversely arranged U-shaped sections, these providing stall-like holders for meat clamping devices.

2. A meat broiler of the class described comprising a water containing and heating tank adapted to sit on the stove or other source of heat, a pipe having opposite ends connected to and rising vertically from diagonally opposite corner portions of the top of the tank, said pipe being fashioned into a pair of reversely arranged U-shaped sections, these providing stall-like holders for meat clamping devices, and said U-shaped sections embodying a series of three spaced parallel grilles, the grilles being made up of alternate bends defining circulating and heat radiating coils.

3. A meat broiler employing circulating hot water for heat radiation purposes comprising a substantially rectangular tank provided with a combined filler and safety valve device, a single length of pipe, one end of the pipe being connected to and extending down into the tank and terminating adjacent the interior of the bottom of said tank to deliver water from the tank into the pipe, the opposite end of said pipe being connected to a diagonally opposite corner of said tank and being provided with a valve, the intermediate portion of the pipe between said attached ends being fashioned into U-shaped sections, said U-shaped sections being in turn provided with alternate bends defining coils, said coils being arranged to, in turn, define a series of spaced grilles.

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