

(21) Application No **8525664**

(22) Date of filing **17 Oct 1985**

(71) Applicants
Sun Valley Poultry Limited

(Incorporated in United Kingdom)

Grandstand Road, Hereford HR4 9BB

(72) Inventor
Martin Alan Prosser

(74) Agent and/or Address for Service
**Forrester Ketley & Co., Rutland House, 148 Edmund Street,
Birmingham B3 2LD**

(51) INTCL⁴
A23L 1/318 A23B 4/04

(52) Domestic classification (Edition I)
A2B 399 809 SF11

(56) Documents cited
None

(58) Field of search
A2B A2D
Selected US specifications from IPC sub-classes A23B A23L

(54) **Treatment of foodstuffs**

(57) The treatment of foodstuffs, particularly portions of meat, involves subjecting the meat, preferably prior to cooking, with smoke obtained by the application of fat onto a heated member. The heated member may be of metal, or may be charcoal, or larva bricks. Preferably, the fat which is utilised is obtained other than from the animal being treated.

Preferably apparatus is used comprising a treatment chamber, and a smoke-producing chamber in which a member (6) is heated to a temperature below the flaming temperature of the fat, and onto which the fat is sprayed in the form of a fine spray, preferably intermittently, the smoke produced being ducted (via duct 14) into the treatment chamber.

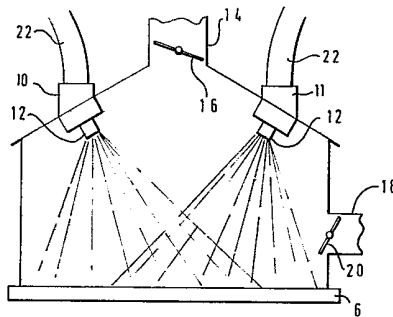


FIG 2

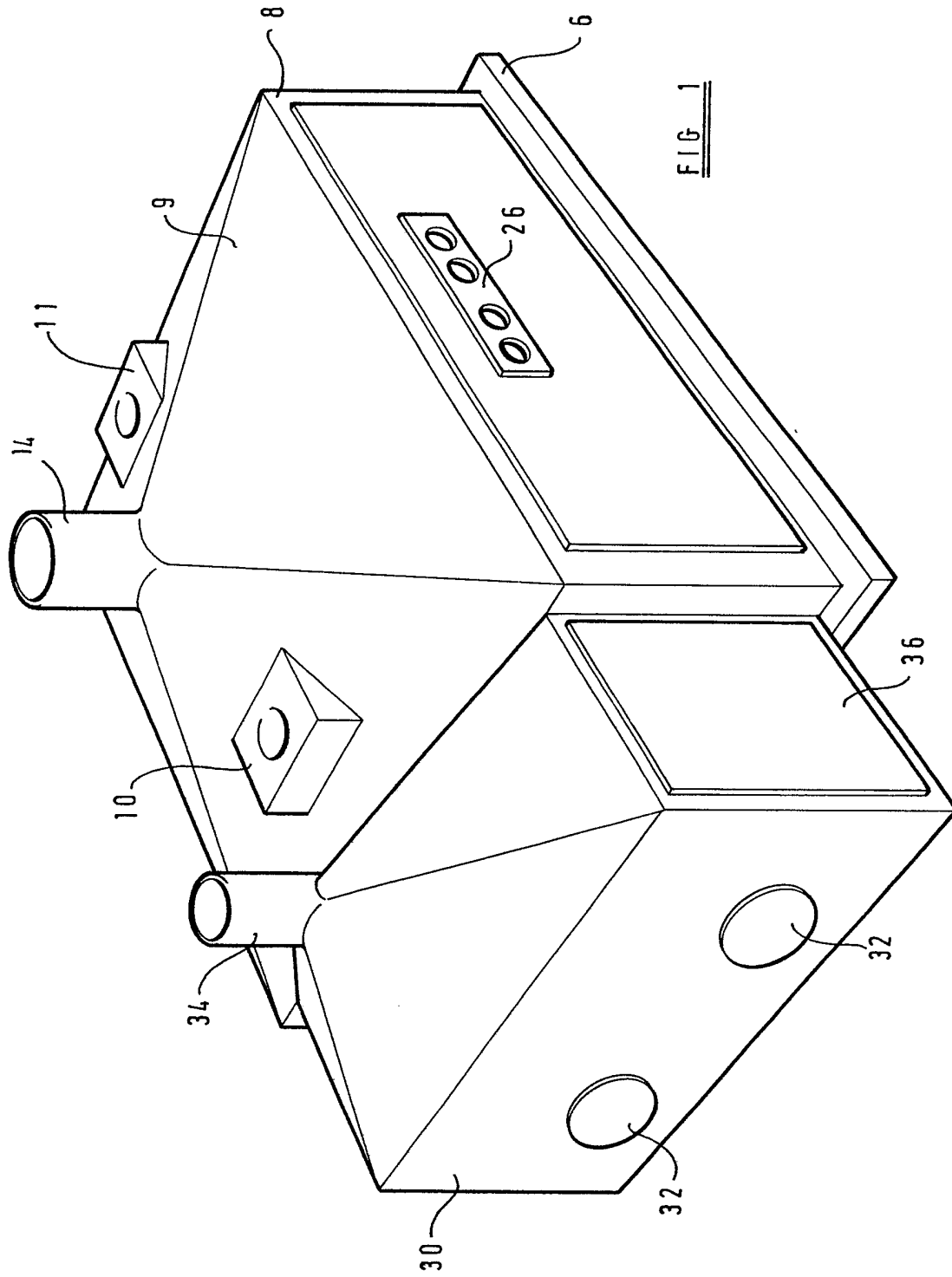


FIG. 1

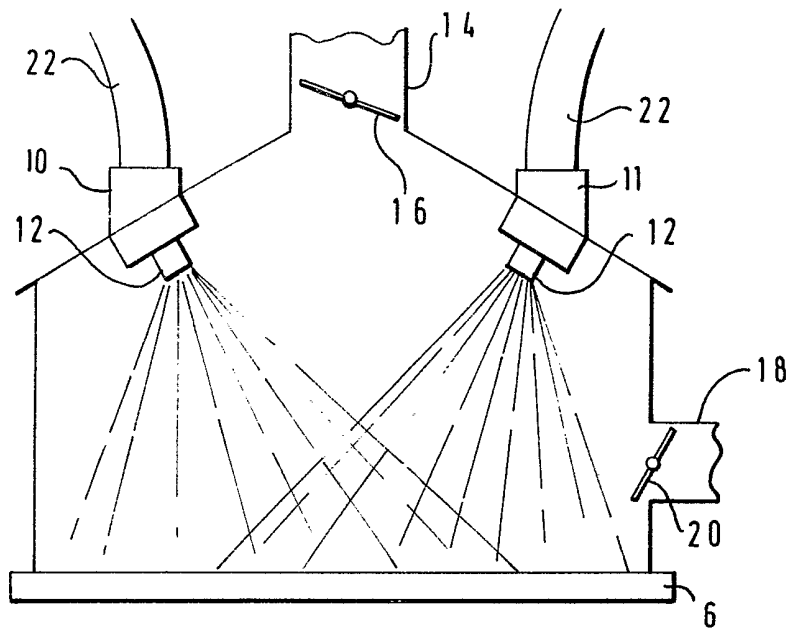


FIG 2

SPECIFICATION

The treatment of foodstuffs5 *Description of Invention*

This invention is concerned with improvements relating to the treatment of foodstuffs, in particular meat.

10 It is one of the various objects of this invention to provide a means by which a desirable flavour may be imparted to a portion of meat.

According to this invention there is provided a method of treatment of a portion of meat, in which the portion is subjected to an atmosphere produced by
15 the application of fat onto a heated member.

In particular the invention provides a method of smoking a portion of meat by subjecting the portion to smoke obtained by the spraying of fat onto a heated member as aforesaid.

20 The fat may be mineral or vegetable, but is preferably animal fat, and is preferably derived from a source other than meat being smoked.

The heated member may be afforded by burning charcoal, but if desired the member may be in the form
25 of a metal (stainless steel or cast iron) plate, heated to a desired temperature by thermostatically controlled electrical means. In such circumstances desirably the member is heated to a temperature below the flash point of the fat, so that the fat oxidises without
30 flaming. Alternatively non-combustible porous brick, of the kind known as "lava brick" may be used, into which during use the fat soaks.

Advantageously the portion of meat is subjected to the atmosphere for an extensive period, e.g. more
35 than 30 minutes, preferably at least to 1 to 1½ hours. The treatment may be effected simultaneously with or subsequent to cooking of the portion of meat, but is preferably carried out prior to cooking.

The invention is particular useful in imparting to a
40 portion of poultry (which may be the whole bird or a part thereof) a desirable flavour, particularly when the fat which is used is or comprises poultry fat.

According to this invention there is also provided a method of smoking meat in which the meat is
45 subjected to smoke produced by the oxidation of fat derived from a source other than the meat which is being smoked.

According to this invention there is also provided apparatus for use in the treatment of foodstuff
50 comprising a heated member, and means to direct a spray of fat onto the heated member.

Preferably the apparatus comprises pumping means operative to pump fat onto the heated member, preferably to an outlet means operative to
55 produce a fine spray of the fat.

Preferably the pump is operative intermittently, e.g. to pump fat in pulses of one second duration every twenty second.

The heated member may be burning charcoal, but
60 alternatively may be a metal plate or porous, non-combustible member heated under the control of thermostatic means to a temperature close to but

below the flash point of the fat.

The apparatus is desirable used in conjunction with
65 a chamber, in which portions of the meat may be placed, with means to duct smoke produced by the apparatus into the treatment chamber.

There will now be given a detailed description, to be read with reference to the accompanying drawings, of
70 apparatus and method which have been selected for the purpose of illustrating the invention by way of example.

In the accompanying drawings:

75 FIGURE 1 is a schematic perspective view of the apparatus which is a preferred embodiment of this invention; and

FIGURE 2 is a schematic vertical sectional view of the apparatus.

The apparatus which is the preferred embodiment
80 of this invention comprises a base plate 6, in the form of a metal plate of stainless steel or cast iron, upwardly from which extends a housing 8, defining a chamber in which a desirable smoke-laden atmosphere is produced. Extending into a roof section 9 of the
85 housing on opposite sides thereof are inlet members 10, 11 having on their inner sides spray-producing nozzles 12. Extending upwardly from an upper part of the roof section 9 is an outlet stack 14, within which is mounted a control means afforded by a valve member
90 16.

Extending into a side wall of the housing 8 is an inlet duct 18, in which is located impeller means (not shown) which is operative to draw fresh air into the chamber, a control means similarly provided by a
95 valve 20 being provided in the inlet duct.

The base plate 6 is provided with electrical heating means (not shown) and a thermostatic control device.

Flexible hoses extend from the inlet members 10 and 11 to a source of fat, pumps being provided to
100 pump fat from the source through the inlet members to exit as a fine spray from the nozzles 12, to be directed onto the base plate 6.

A control panel 26 is provided to control the operation of the apparatus, including the temperature
105 to which the base plate 6 is heated, operation of the pumps, and the rate at which air is drawn into the apparatus to exit from the stack 14.

To one side of the housing 6 a supplementary housing 30 is provided, similarly having air inlets 32,
110 and means by which air may be drawn into the supplementary housing 30 to exit therefrom via a stack 34. Located in the supplementary housing 30 is a grating (not shown) on which charcoal may be burned, a hinged door 36 being provided in the
115 housing to permit replenishment of the charcoal and removal of ash from the housing.

As will be seen, the supplementary housing is not shown in Figure 2.

In use the apparatus which is the preferred embodiment of this invention is placed adjacent to a large
120 roasting oven in which it is intended to cook portions of meat, particularly items of poultry, the stacks 14 and 34 being connected to the air inlets of the oven, and the inlet ducts 18 and 32 are connected to a source of

fresh air.

In carrying out a preferred method of treatment of the poultry, the apparatus is utilised for (typically) between 30 minutes and 1 hour 30 minutes prior to commencement of cooking of the poultry, fat being spraying intermittently from the nozzles 12 onto the heated base plate 6. The temperature of the base plate is controlled so as to be slightly below the flash point of the fat, and the fat is thus subjected to oxidation by the base plate, producing large quantities of smoke, which is ducted from the stack 14 into the oven.

At the same time, smoke is produced from the supplementary housing 30, which is also ducted into the oven.

By subjecting the poultry to smoke in this manner for the period of time specified, a highly desirable flavour is imparted to the cooked poultry.

In the preferred embodiment, the pumps are operative to pump fat through the nozzles 22 intermittently, e.g. in pulses of one second duration every 20 seconds. However, if desired the fat may be pumped at a lower rate on a continuous basis.

In addition, whilst in the preferred embodiment a heated base plate is utilised to oxidise the fat, other heated members may be used, such as heated charcoal, or non-combustible porous brick.

Whilst in the preferred embodiment poultry fat is utilised, other fats may be utilised with advantage.

Whilst the preferred embodiment is particularly advantageous in the treatment of poultry, whether in the form of whole birds or portions thereof, it is to be appreciated that the invention may be utilised to impart a desirable flavour to other types of meat.

The features disclosed in the foregoing description, or the following claims, or the accompanying drawings, expressed in their specific forms or in terms of a means for performing the disclosed function, or a method or process for attaining the disclosed result, or a class or group of substances or compositions, as appropriate, may, separately or in any combination of such features, be utilised for realising the invention in diverse forms thereof.

CLAIMS

1. A method of treatment of a portion of meat, in which the portion is subjected to an atmosphere produced by the application of fat onto a heated member.

2. A method of smoking a portion of meat by subjecting the portion to smoke obtained by the spraying of fat onto a heated member.

3. A method according to one of Claims 1 and 2 wherein the fat is derived from a source other than the meat being smoked.

4. A method according to any one of the preceding claims wherein the fat is animal fat.

5. A method according to any one of the preceding claims wherein the heated member is afforded by burning charcoal.

6. A method according to any one of Claims 1 to 4 wherein a heated member is in the form of a metal plate heated to a desired temperature by thermstatically controlled electrical means.

7. A method according to Claim 6 wherein the member is heated to a temperature below the flash point of the fat, so that the fat oxidises without

flaming.

8. A method according to any one of Claims 1 to 4 wherein the heated member is provided by a non-combustible porous brick.

9. A method according to any one of the preceding claims wherein the portion of meat is subjected to the atmosphere for a period of time in excess of 30 minutes.

10. A method according to Claim 9 wherein the portion is subjected to the atmosphere for a period of time of at least 1-1½hrs.

11. A method according to any one of the preceding claims wherein the method is carried out prior to cooking of the portion of meat.

12. A method of smoking meat in which the meat is subjected to smoke produced by the oxidation of fat derived from a source other than the meat which is being smoked.

13. Apparatus for use in the treatment of foodstuff comprising a heated member, and means to direct a spray of fat onto the heated member.

14. Apparatus according to Claim 13 wherein the apparatus comprises pumping means operated to pump fat onto the heated member.

15. Apparatus according to Claim 14 wherein the pumping means comprising an outlet means operative to produce a fine spray of fat.

16. Apparatus according to one of Claims 14 and 15 wherein the pump is operative intermittently.

17. Apparatus according to any one of Claims 13 to 16 wherein the heated member comprises that burning charcoal.

18. An apparatus according to any one of Claims 14 to 16 wherein the heated member is afforded by a metal plate or a porous, non-combustible member.

19. Apparatus according to Claim 17 wherein the heated member is heated under the control of thermostatic means to a temperature close to but below the flash point of the fat.

20. Apparatus according to any one of Claims 14 to 18 comprising a chamber, in which portions of the meat are placed, and means to duct smoke produced by the apparatus into the treatment chamber.

21. A method of treatment of a portion of meat, when carried out substantially as hereinbefore described.

22. Apparatus for use in the treatment of foodstuffs constructed and arranged substantially as hereinbefore described with reference to the accompanying drawings.

23. Any novel feature or novel combination of features disclosed herein and/or shown in the accompanying drawings.