

[54] DINING ARRANGEMENT

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219/400, 393, 396, 460; 98/115 K; 108/50;
312/281, 250

[56]

References Cited**UNITED STATES PATENTS**

2,507,634	5/1950	Hill	108/50 X
2,768,042	10/1956	Persinser et al.....	99/443 R
3,596,650	8/1971	Gerola	126/300 X
3,766,906	10/1973	Jenn	126/299 B

Primary Examiner—William F. O'Dea

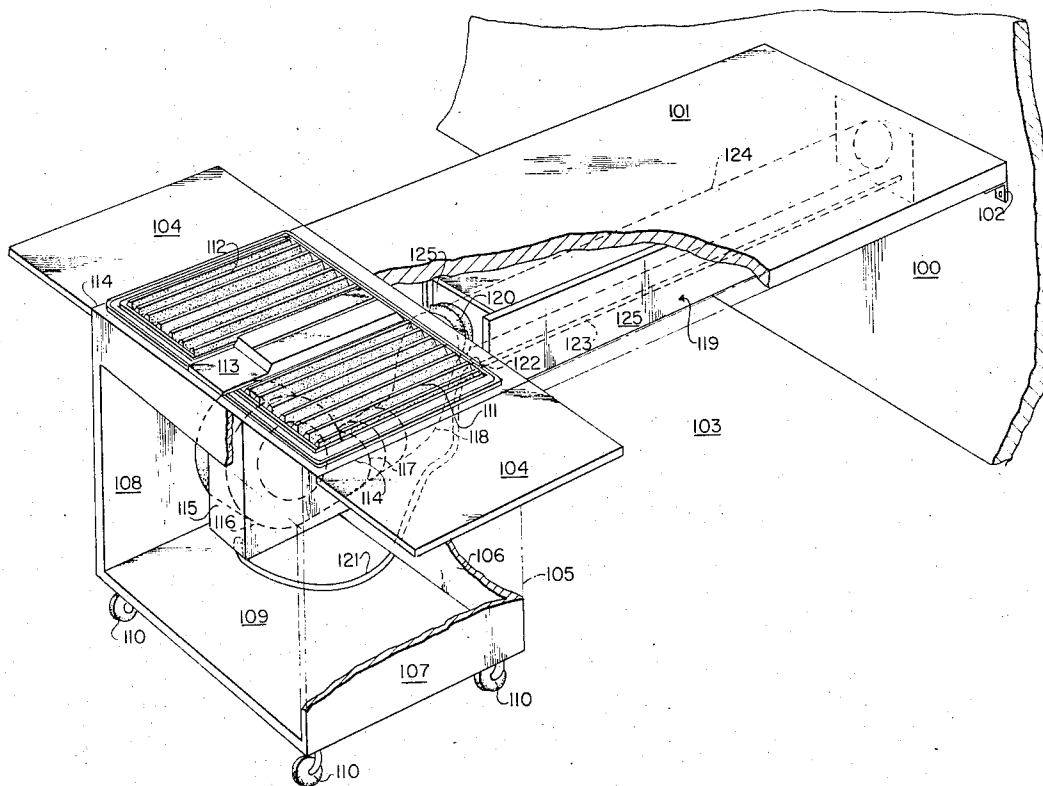
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[57]

ABSTRACT

A restaurant dining arrangement is provided with a plurality of tables for the seating of patrons and the broiling of meat or the like in open air broilers at the tables. Power driven fan means are provided to draw air laterally across the broiler for removing smoke and odor laden gases caused by broiling meat on the broiler and moving these gases through a conduit to the exterior of the room having therein the tables. The tables are subdivided between a stationary portion for seating at least most of the patrons and a portable portion having therein the broiler and fan means, which portable portion may be moved selectively between stationary table portions for the cooking of meat, so that a small number of portable portions may serve a large number of stationary table portions.

15 Claims, 3 Drawing Figures

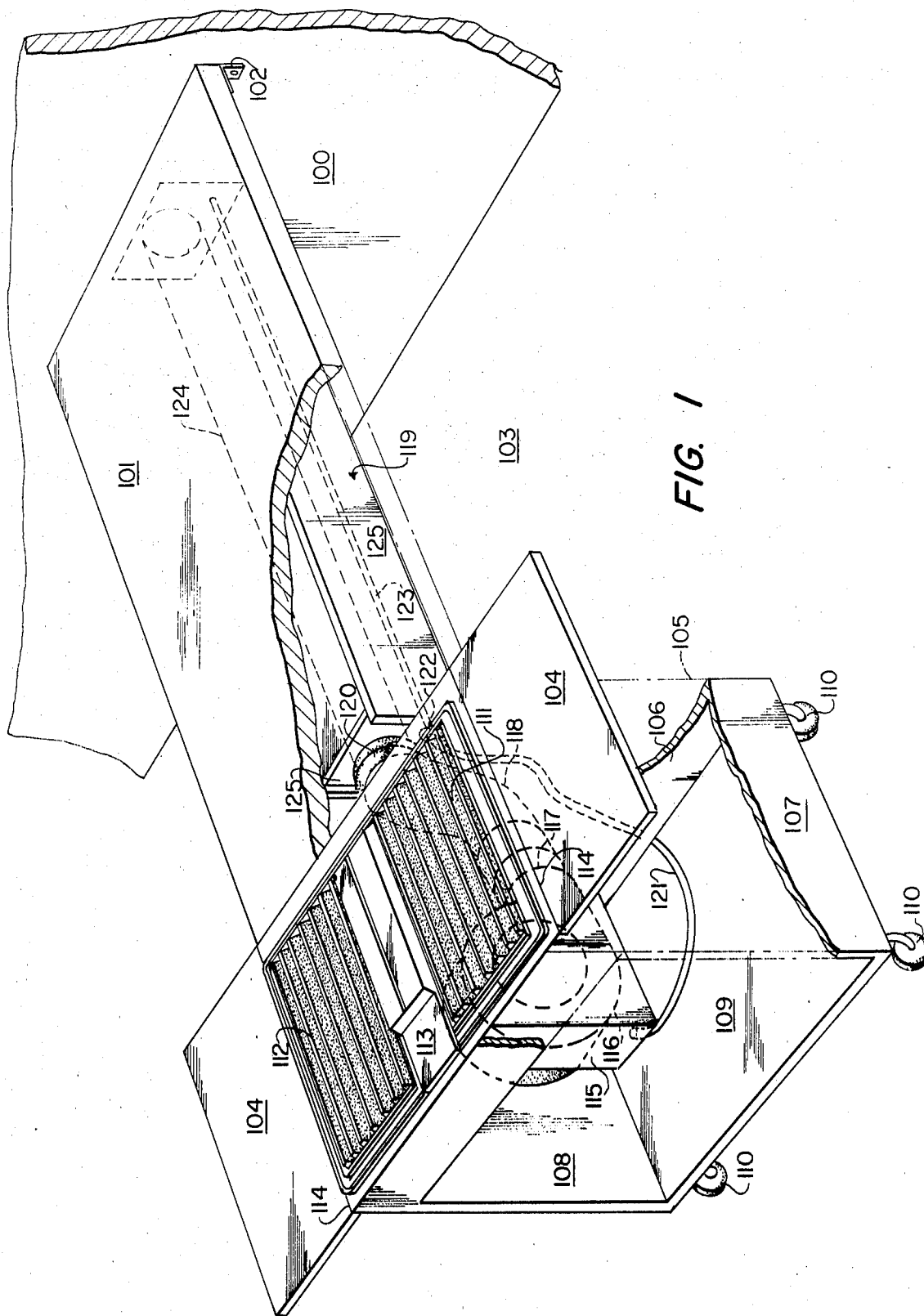


FIG. 1

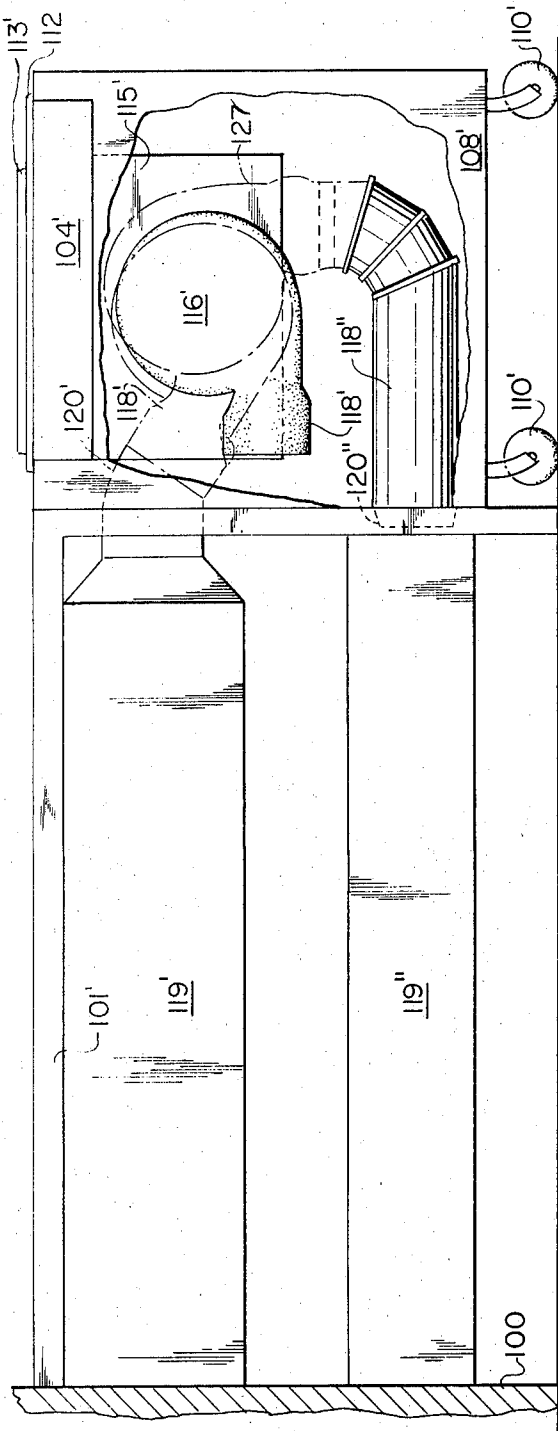


FIG. 2

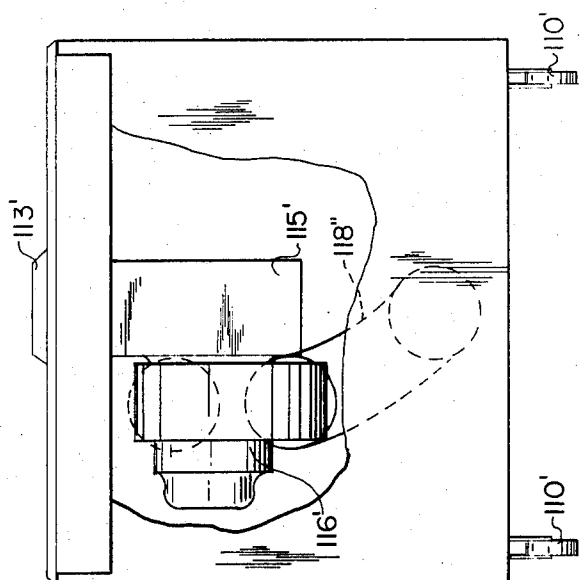


FIG. 3

DINING ARRANGEMENT

CROSS REFERENCE TO RELATED PRIOR APPLICATION

The present application is an improvement of the application of Louis Joseph Jenn, Ser. No. 223,902, for "DINING ARRANGEMENT", filed on Feb. 7, 1972 now U.S. Pat. No. 3,766,906.

BACKGROUND OF THE INVENTION

In present restaurant service, it is customary to broil steaks on individual order in a large kitchen on an open flame broiler above which is located an exhaust hood for collecting cooking smoke and odors for exhaustion to the atmosphere. Due to the vast volume of greases emitting onto open flame, thus causing more flame, such broiling actually burns the meat. Recently, question has arisen casting doubt on the medical advisability of cooking meat in direct exposure to open flame wherein the meat is actually partially consumed. Disclosures such as U.S. Pat. Nos. 3,444,805, 3,587,555 and 3,596,650 relate to electric broilers which at least to some extent reduce this possible health hazard by minimizing flame exposure and removing smoke and grease laden fumes.

SUMMARY OF THE INVENTION

The invention herein relates to a table and dining arrangement, such as for restaurants, wherein guest in assembly around a table, may optionally at least partially serve themselves in the broiling of meats on a table top level open air broiler generally of the type disclosed above. The invention amounts to a new concept in dining wherein meat broiling, and the cooking of other foods as well, is in the presence of and optionally at least under partial control of guest at each table. Other foods, such as those already prepared or not requiring cooking may be provided at each table from serving carts or by other methods.

Each broiler is provided with an air exhaust arrangement for causing air to be drawn across the open air broiler for collecting cooking smoke and odors from broiling meats for exhaustion to exteriorly of the room, either directly through a wall or into a common or central duct system in communication with a power exhaust.

The tables are subdivided between a stationary portion for seating at least most of the patrons and a portable portion having therein the broiler and fan means, which portable portion may be moved selectively between stationary table portions for the cooking of meat, so that a small number of portable portions may serve a large number of stationary table portions.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention will be more fully understood and further objects and advantages thereof will become apparent when reference is made to the following detailed description of the preferred embodiments of the invention and the accompanying drawings in which:

FIG. 1 is a perspective view of a preferred embodiment of the present invention, with portions cut away;

FIG. 2 is a side elevation of the device of FIG. 1 with additional optional features; and

FIG. 3 is a front elevation view of the device of FIG. 2.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring now to the drawing for details of my invention in its preferred forms, there is shown in FIG. 1 a dining and cooking table that may be one of a plurality of tables which would constitute a typical restaurant layout. Inside and outside walls enclose the room. Numerous table arrangements are possible for use with the several embodiments of the invention. Round or square top tables may be provided. All or a portion of the perimeter or peripheral portion of each table top defines a guest dining surface in proximity to a broiler and may receive chairs thereunder.

Tables may be located on either side of a privacy barrier from which they may also be supported. Chairs are adapted to be assembled about the perimeter of table so that the occupants are in proximity to the broiler for personally serving themselves in the broiling of meat.

The table, broiler and exhaust ducting are illustrative of arrangements where table guests are in proximity to a broiler at their table and may, at their option, serve themselves. On the other hand, the tables may be attended, as by a waiter, who can broil meats and serve other foods.

In the embodiment of the present invention as shown in FIG. 1, only one table is shown, although it is realized that the restaurant would comprise a plurality of such tables. The table shown in FIG. 1 may exhaust its gases directly through the wall 100 to the exterior of the room or into a common duct that may interconnect several such tables and eventually lead to the exterior of the room, and further which common duct may be provided with additional power driven fan means, if desired.

The table is divided into a stationary table portion 101, which may be connected by brackets 102, or the like to the wall 100, and additionally provided with legs (not shown) if desired for supporting the table with respect to the restaurant floor 103. The table further comprises a portable table portion having an upper surface 104, which preferably but not necessarily is on the same level as the surface of the stationary table portion 101. The portable table portion includes a base 105, which may have a rear wall 106, side walls 107, 108, a bottom wall 109, and if desired an open front so that the interior of the base may be used for storage purposes. It is also contemplated that doors or the like may be provided as a front wall to enclose the interior of the base. Further, the walls 106, 107, and 108 may extend only partially down from the top 104 with four corner posts connecting such walls and tops to the bottom wall 109. For ease in portability of the base 105, anti-friction means are provided between the base 105 and floor of the restaurant 103, which preferably will comprise a plurality of wheels 110.

Open air broilers 111 and 112, although one may be employed are mounted in the top of the portable table portion with an air intake 113 therebetween.

The single and double open air broilers referred to herein, which are located in the table tops, are provided with power driven ventilating systems for removing cooking smoke and odors for normally discharging to exteriorly of the room. Such broilers are disclosed in U.S. Pat. Nos. 3,444,805; 3,487,555; and 3,596,650,

and also in the U.S. Pat. application Ser. Nos. 201,436 and 201,437, both filed Nov. 23, 1971.

The remaining planar portions of the table top 104 may be respectively hinged at 114 to the base so that they may be folded from their horizontal position to a vertical position, in the nature of table leaves.

Within the base, there is provided an air chamber 115, which is generally rectangular and receives air through the air intake 113 and feeds air laterally into the central intake of a centrifugal fan 116 that has a tangential outlet 117 leading to a conduit 118 all of which is carried by the portable table portion.

To dispose of the gases swept laterally across the broilers 111, 112 into the air intake 113 by the fan 116 to be discharged to the conduit 118, there is provided a stationary conduit 119 preferably mounted in the central lower portion of the stationary table portion 101 to lead through the wall 100 for discharge directly to the outside or into a duct common to several tables and eventually leading to the outside. The conduit is normally provided with a one-way damper valve allowing outward passage of smoke and odor laden gases, but closing against reverse flow of outside air, as for example, when the broiler is not in service. The conduit sections 118, 119 are connected together by a quick connect, disconnect fluid coupling 120, which may be of any known type, with coupling portions respectively mounted on the stationary table portion and the portable table portion.

Electrical power for driving the fan 116, and if the broiler is electrical, for also powering the broiler, is derived from electrical power line 121 that has a standard type of plug 122, all of which is carried by the portable table portion, which plug 122 is coupled in a standard manner with an electrical outlet socket stationarily carried by the stationary table portion 101 and fed with electrical power by electrical line 123 that leads back to the wall 100 to a source of suitable electric power.

In this manner, it is seen that guests may be seated around the stationary table portion 101 and the portable table portion may be moved into position with the couplings 120 and 122 being engaged, so that the meal may be cooked by an attendant or by the guest on the broilers 111, 112 with the odors and smoke being drawn laterally into the intake 113 by the fan 116 to be discharged through the conduits 118, 119 for removal from the room. When the meal has been cooked and the guest served, the portable table portion may be removed by uncoupling the couplings 120 and 122, so that the portable table portion may be removed from the vicinity of the guest for aesthetic purposes or it may be moved to another similar stationary table portion with fluid and electrical couplings for cooking of another meal for a different group of guests. Since the cooking of the meal constitutes only a minor portion of the total time the guests are normally at a restaurant, it is seen that in this manner one portable table portion may serve a plurality of stationary table portions.

It is contemplated that the broilers shown in FIG. 1 may be gas powered with bottle pressurized gas carried by the portable table portion base, instead of being electrically powered as described with the preferred embodiment. Further, the fan may be omitted from the embodiment of FIG. 1 and the intake box 115 directly connected by means of the conduit 118 to the stationary conduit 119, which elements would be at reduced

atmospheric pressure as determined by a fan (not shown) provided for each of the stationary table portions or provided in a common duct for a plurality of stationary table portions.

For ease in coupling the stationary and portable table portions, with respect to fluid and electrical power, the electrical line or cord 121 is quite long and may be plugged in at 122 while the portable table portion is spaced a considerable distance from the stationary table portion. Further, the fluid coupling may be facilitated by constructing the conduit portion 118 of flexible materials so that it may be bent to conform to irregularities in the height of the stationary and portable table portions; additionally, the conduit portion 118 may be constructed of bellows material so as to be axially expandable and contractible for engaging the coupling 120 while the stationary table portion and portable table portion are a considerable distance from each other, which spacing would facilitate the engagement by providing visual and manual access to the coupling area. For aesthetic purposes, the coupling area of the stationary table portion 101 is preferably spaced considerably inward, as shown, from the edge of the stationary table portion 101 that is the farthest from the wall 100. Also, the conduit portion 119 is preferably constructed of an inner gas conducting tube 124 of substantially the same diameter as the conduit portion 118 and an outer box like enclosure 125 for the tube 124. Preferably, the electrical line 123 is carried within the box like enclosure 125, which box like enclosure is centrally spaced with respect to the bottom of the table and of minimum vertical height so it will not interfere with the guests seated about the table.

It is further contemplated that various other types of cooking units may be substituted in place of the broilers 111, 112, for example open air grills for making pancakes or the like.

FIG. 2 shows a side view of the embodiment of FIG. 1 with additional features of the present invention, wherein the stationary table top portion 101' is as before mounted adjacent a wall 100, although it is understood that the stationary table portion may be free standing in the middle of a room in both this embodiment and the previous embodiment. Although legs for the stationary table portion may be employed, they are not shown.

The portable table portion employs a structure similar to that previously described and which bears identical numerals with primes to indicate the modification, so that further description is unnecessary. However, it is seen that the fan 116' is mounted adjacent the intake box or air chamber 115' for receiving intake air therefrom, which mounting allows rotation of the fan 116' in the plane of FIG. 2. With this rotation, after the portable table portion has been moved adjacent the stationary table portion, the fan 116' may be rotated from its solid line position in the clockwise direction to its upper dotted line position for connection with the disconnect fluid coupling 120' of the stationary table portion that leads to the stationary conduit section 119', which stationary conduit section 119' may be substantially identical with the stationary conduit 119 of FIG. 1, and as shown the coupling 120' extends downwardly for telescoping connection with the outlet conduit 118' of the fan 116'.

If desired, the structure according to FIGS. 10 and 11 may employ a lower stationary conduit section 119'' in

addition to or in place of the stationary conduit section 119'. Both conduit sections 119' and 119'' are centrally located with respect to the table so that they will not interfere with the comfort of the customers. For coupling with the lower stationary conduit 119', the portable table portion is provided with a conduit section 118'' that may be provided in addition to or in place of the conduit section 118'. The conduit section 118'' is adapted to have telescoping registry with the conduit section 119'' at the fluid coupling 120'', when the portable table portion module is moved into the position of FIG. 2. The fan 116' may be permanently connected to the conduit section 118'' if only this section and 119'' are employed in place of the section 119'; however if both conduit sections 119' and 119'' are employed, the fan 116 may be rotated in the clockwise direction to couple with the conduit section 118'' as shown by the dotted lines 127 in FIG. 10. Thus it is seen that some of the stationary table portions may employ an upper stationary conduit section 119' while in the same restaurant some of the stationary table portions may employ a lower stationary conduit section 119'', and the portable table module is adapted to couple with either.

As shown in FIG. 3, the conduit section 118'' extends at an angle from the outlet of the fan 116' to where it is centrally located with respect to the portable table portion so that it may couple with the correspondingly centrally located stationary conduit section 119'.

I have disclosed a table and open-air broiler combination in conjunction with a system for removing cooking smoke and odors from the vicinity of the broiler and table so as to make possible a new concept in restaurant dining wherein table guest, at their option, may participate in the broiling of meats to be served at their table.

In accordance with the patent statutes I have disclosed my invention in its several preferred embodiments in a manner to enable any person skilled in the art to make and use the invention. It is obvious that various modification can be made to my invention without departing from the spirit thereof which is defined by the claims.

What is claimed is:

1. A dining arrangement such as for a restaurant wherein dining tables are provided for optional partial self service by table occupants in the broiling of meats comprising: tables spaced about a room and having open air broiler means located in their tops; a peripheral portion of each table top about the broiler means defining a dining surface around and under which chairs are adapted to be assembled; a duct common to said dining tables and having an exit opening outside of the room; said broiler means including air conduit means having an air intake at one side of the broiler and an air exit opening into said common duct; power driven fan means fluid associated with the conduit means and common duct for drawing a stream of air laterally across the broiler surface into the intake for collecting smoke and odor laden gases caused by broiling meat on the broiler, moving the air through the conduit means and common duct and exhausting the air through said common duct air exit exteriorly of the room; at least some of said tables being divided into a stationary portion having a dining surface around and under which chairs are adapted to be assembled and a separate portable portion having said open air broiler

means; and said portable portion including a base having anti-friction means for supporting it on the floor adjacent said stationary table portion as a portable module for movement between various stationary table portions and having means for fixedly mounting thereon said broiler means.

2. The invention according to claim 1, wherein said power driven fan means is mounted on and carried by said portable portion base, and said conduit means is at least partially mounted on and carried by said portable portion base.

3. The invention according to claim 2, wherein an additional portion of said conduit means is fixedly mounted to said stationary table portion; and further including fluid conduit coupling means and electrical circuit connecting means each having respective mating portions stationarily mounted on said stationary table portion and mounted on said portable base for providing fluid communication between said conduit means portions and providing electrical power for said fan means, respectively.

4. A dining arrangement such as for a restaurant wherein dining tables are provided for optional partial self service by table occupants in the broiling of meat comprising: a room; a plurality of tables spaced about the room; air duct means common to said dining tables and disposed near the room in the vicinity of said tables, and power driven exhaust fan means for drawing air through said common air duct means and exhausting to the atmosphere; said tables having tops with a portion receiving an open-air broiler for the broiling of meat thereon; a portion of each table top disposed about the broiler defining a dining surface around and under which chairs are adapted to be assembled; air conduit means and power driven air moving means associated with each open-air broiler and including an air intake disposed to one side of a broiling surface thereof for drawing a stream of air laterally across the broiling surface for entrapping smoke and odor laden gases caused by broiling meat thereon and exhausting into said common duct; at least some of said tables being divided into a stationary portion having a dining surface around and under which chairs are adapted to be assembled and a separate portable portion having said open air broiler means; and said portable portion including a base having anti-friction means for supporting it on the floor adjacent said stationary table portion as a portable module for movement between various stationary table portions and having means for fixedly mounting thereon said broiler means.

5. The invention according to claim 4, wherein said power driven air moving means is mounted on and carried by said portable portion base, and said conduit means is at least partially mounted on and carried by said portable portion base.

6. The invention according to claim 5, wherein an additional portion of said conduit means is fixedly mounted to said stationary table portion, and further including fluid conduit coupling means and electrical circuit connecting means each having respective mating portions stationarily mounted on said stationary table portion and mounted on said portable base for providing fluid communication between said conduit means portions and providing electrical power for said fan means, respectively.

7. In a restaurant having tables adapted for optional self service in broiling meat by guest at each table com-

prising: a plurality of dining tables having open-air broiling means located in the tops thereof and dining surfaces around the perimeters thereof in proximity to the broiling means whereby table guest may serve themselves in the broiling of meat on the broiling means; a duct common to said dining tables and having an exit exteriorly of the restaurant; air ventilating means associated with each broiling means and having conduit means and an air intake opening disposed adjacent and to one side of each broiling means for drawing air across the broiling surface for collecting cooking smoke and fumes through said intake opening for exhaustion through said conduit means into said common duct communicating with exteriorly of the restaurant; power driven fan means associated with the common duct for drawing air, smoke and fumes therethrough for exhaustion to the atmosphere; at least some of said tables being divided into a stationary portion having a dining surface around and under which chairs are adapted to be assembled and a separate portable portion having said open air broiler means; and said portable portion including a base having anti-friction means for supporting it on the floor adjacent said stationary table portion as a portable module for movement between various stationary table portions and having means for fixedly mounting thereon said broiler means.

8. The invention according to claim 7, wherein each of said portable table portions includes an additional power driven fan means is mounted on and carried by said portable portion base, and said conduit means is at least partially mounted on and carried by said portable portion base.

9. The invention according to claim 8, wherein an additional portion of said conduit means is fixedly mounted to said stationary table portion; and further including fluid conduit coupling means and electrical circuit connecting means each having respective mating portions stationarily mounted on said stationary table portion and mounted on said portable base for providing fluid communication between said conduit means portions and providing electrical power for said fan means respectively.

10. A dining arrangement such as for a restaurant wherein dining tables are provided for optional partial self service by table occupants in the broiling of meats comprising: tables spaced about a room and having open air cooking means located in their tops; a peripheral portion of each table top about the cooking means defining a dining surface around and under which occupants are adapted to be assembled; air conduit means having an air intake at one side of the cooking means and an air exit opening outside of the room; power driven fan means fluid associated with the conduit means for drawing a stream of air laterally across

the broiler surface into the intake for collecting smoke and odor laden gases caused by cooking food with the cooking means, moving the air through the conduit means and exhausting the air through said exit exteriorly of the room; at least some of said tables being divided into a stationary portion having a dining surface around and under which chairs are adapted to be assembled and a separate portable portion having said open air cooking means; and said portable portion including a base having anti-friction means for supporting it on the floor adjacent said stationary table portion as a portable module for movement between various stationary table portions and having means for fixedly mounting thereon said broiler means.

11. The invention according to claim 10, wherein said power driven fan means is mounted on and carried by said portable portion base, and said conduit means is at least partially mounted on and carried by said portable portion base.

12. The invention according to claim 11, wherein an additional portion of said conduit means is fixedly mounted to said stationary table portion; and further including fluid conduit coupling means and electrical circuit connecting means each having respective mating portions stationarily mounted on said stationary table portion and mounted on said portable base for providing fluid communication between said conduit means portions and providing electrical power for said fan means, respectively.

13. The invention according to claim 10, wherein one portion of said conduit means is carried by said portable table portion and another portion of said conduit means is stationarily mounted on said stationary table portion; each of said conduit means portions having mating fluid coupling means; and one of said conduit means portions being axially expansible to assist in coupling together the two conduit means portions.

14. The invention according to claim 10, wherein one portion of said conduit means is carried by said portable table portion and another portion of said conduit means is stationarily mounted on said stationary table portion; each of said conduit means portions having mating fluid coupling means; and one of said conduit means portions being manually easily transversely bendable to assist in coupling together the two conduit means portions.

15. The invention according to claim 10, wherein one portion of said conduit means is carried by said portable table portion and another portion of said conduit means is stationarily mounted on said stationary table portion; each of said conduit means portions having mating fluid coupling means; and one of said conduit means portions being rotatably mounted to assist in coupling together the two conduit means portions.

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