G. GIOVANNA.

APPARATUS FOR BROILING MEATS AND THE LIKE.

APPLICATION FILED JAN. 6, 1908.

902,724. Patented Nov. 3, 1908.

2 SHEETS—SHEET 1.

Fig. 1.

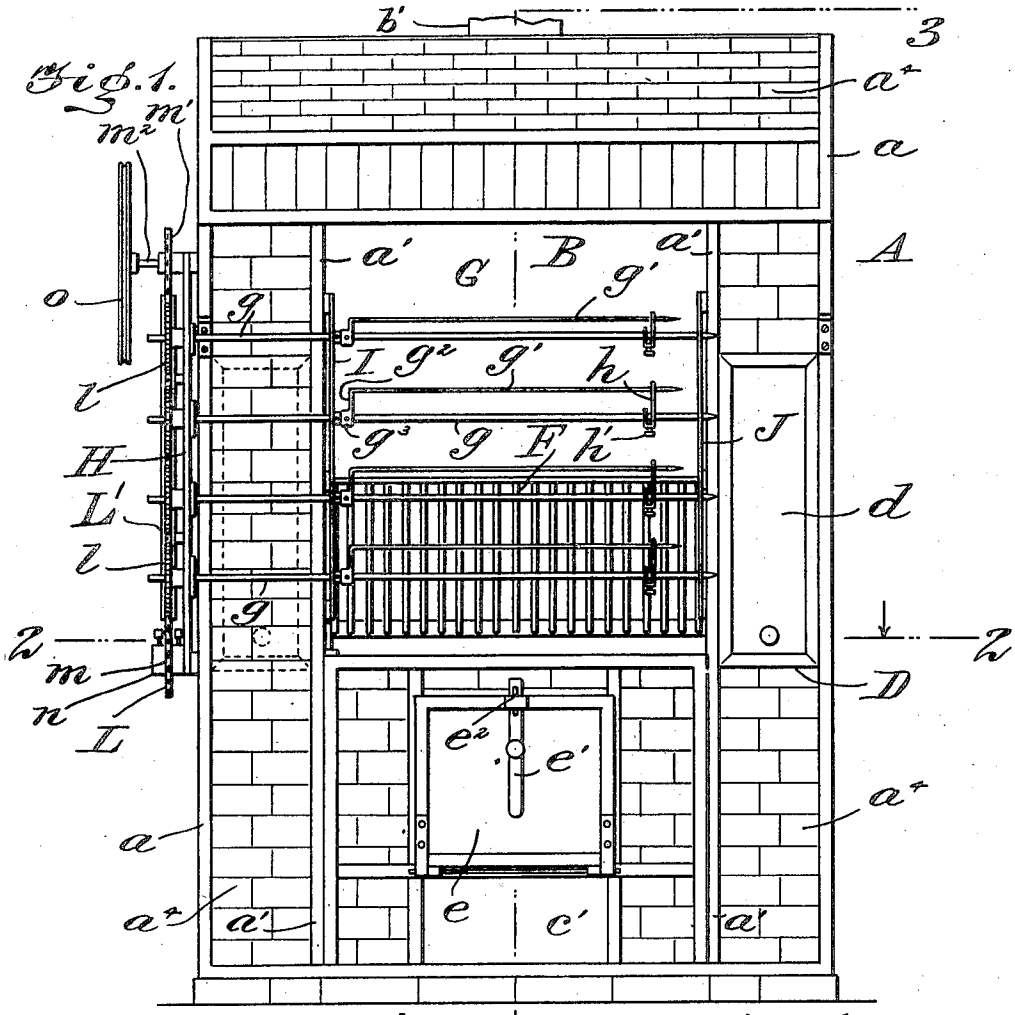
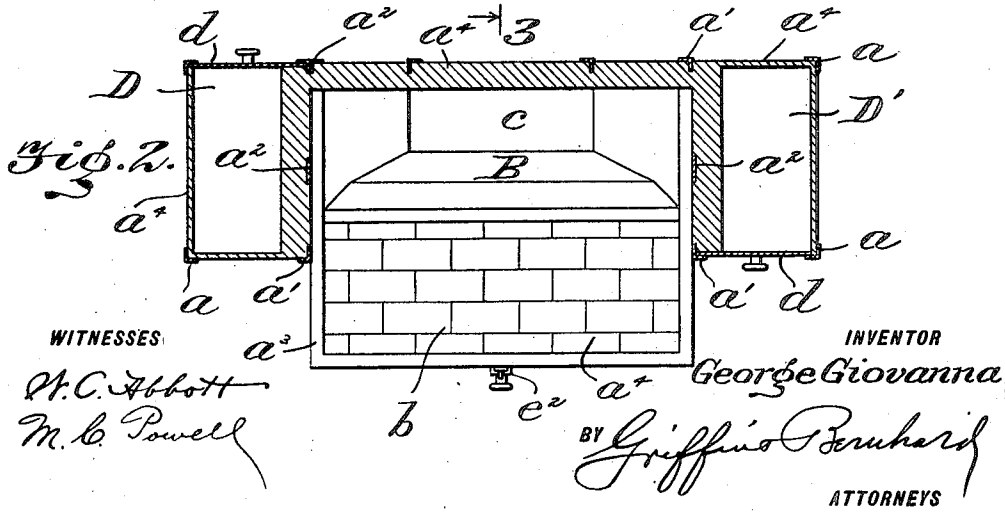


Fig. 2.



WITNESSES

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Fig. 3.

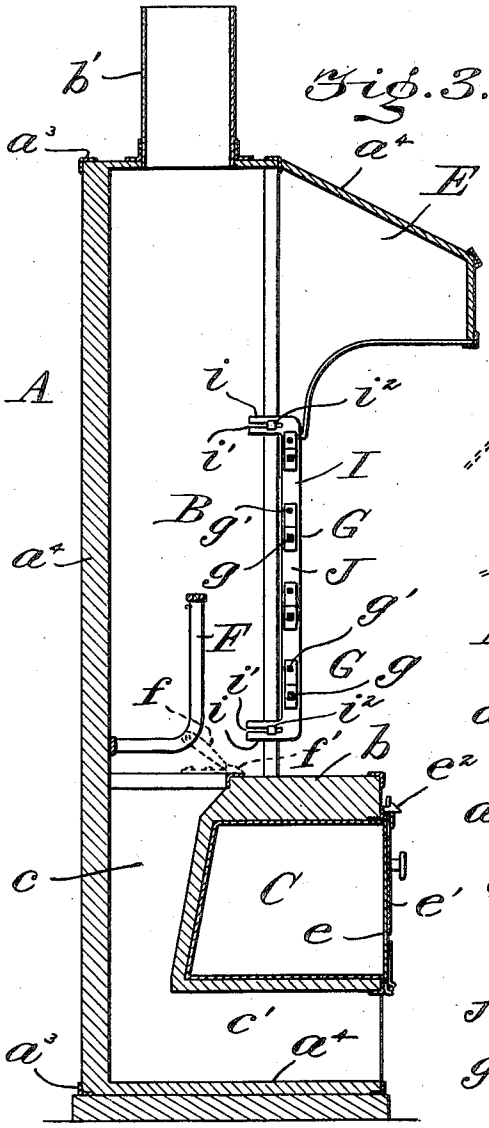


Fig. 4.

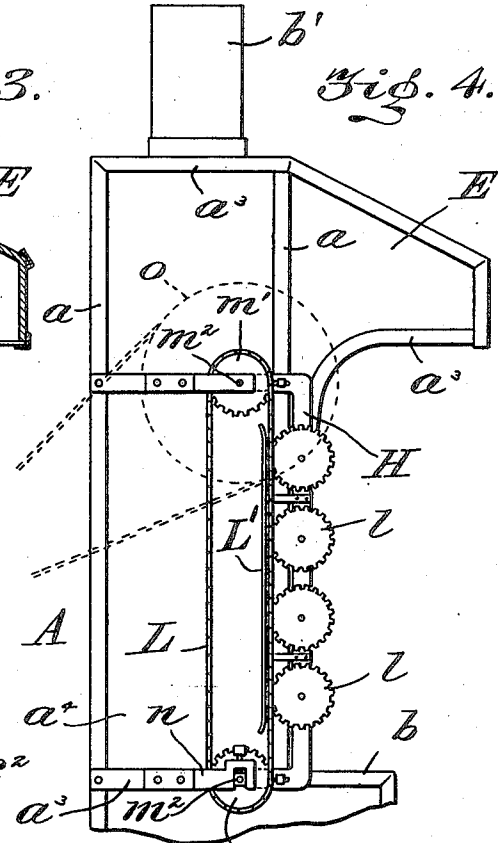


Fig. 5.

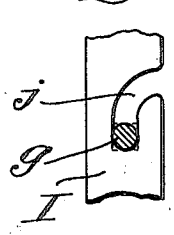
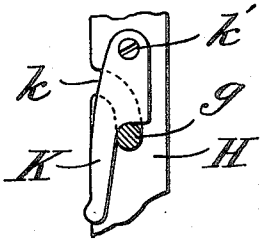


Fig. 6.



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UNITED STATES PATENT OFFICE.

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APPARATUS FOR BROILING MEATS AND THE LIKE.

No. 902,724. Specification of Letters Patent. Patented Nov. 3, 1908.

Application filed January 6, 1908. Serial No. 409,416.

To all whom it may concern:

Be it known that I, GEORGE GIOVANNA, a citizen of the United States, residing in the city of New York, borough of Manhattan, county and State of New York, have invented a certain new and useful Apparatus for Broiling Meats and the Like, of which the following is a specification.

This invention is an apparatus designed for domestic purposes, such as for broiling or roasting meats, poultry, or the like, before an open hearth or grate.

The apparatus is especially useful in restaurants, cafés and other public eating places where it is desirable at times to display to the view of the patrons the operation of broiling or cooking meats; but some of the parts of the invention are useful in an apparatus to be installed in the kitchen, or other place, which ordinarily is not accessible to the public.

My apparatus makes provision for broiling a number of pieces of meat at a single operation, each piece being carried by a rotating spit, and all the spits being driven, preferably, from a single source of power. A peculiarity of the invention is that any one of the spits can be disconnected from the driving mechanism, and removed from the apparatus, while the other spits remain in operation, whereby the spit so removed may be supplied with the material to be broiled or the broiled material removed from said spit.

The invention contemplates, also, a novel construction of the fireplace which accommodates the grate or hearth and one or more warming ovens.

In the accompanying drawings, I have illustrated one practical embodiment of the invention, but the construction shown therein is to be understood as illustrative, only, and not as defining the limits of the invention.

Figure 1 is a front elevation of an apparatus for broiling meats embodying this invention. Fig. 2 is a horizontal section on the line 2—2 of Fig. 1. Fig. 3 is a vertical cross section on the line 3—3 of Fig. 1. Fig. 4 is an elevation looking at that side of the apparatus which is provided with means for operating the rotary spits. Figs. 5 and 6 are enlarged detail views, partly in section, of parts entering into the construction of the apparatus.

In the embodiment of the invention shown by the accompanying drawings, the apparatus is provided with a frame, A, of composite construction. This frame comprises suitable upright members, a, a', a^2, and horizontal members, a^3, said vertical and horizontal members producing a skeletonized structure which is filled in with suitable tiling, a^4. The tiling may consist of blocks or slabs composed of refractory material, and in some instances it is preferred to use glazed tiling which form an open fireplace and one or more inclosed ovens.

As shown in the drawings, the frame, A, is constructed to produce a fireplace, B, having a forwardly extending hearth, b, a central oven, C, one or more side ovens, D, D′, and an overhanging hood, E. If desired, however, one or both of the side ovens may be omitted, so that the apparatus may have only a central oven, and, furthermore, the hood, E, may be dispensed with, but these details may be modified as desired by the skilled constructor.

From the upper part of the fireplace, B, leads a stack or uptake, b'. With this fireplace communicates the chamber of the overhanging hood, E, whereby the draft through the fireplace will carry the smoke, fumes and odors from the broiling meat into the stack or uptake. The frame work is provided in rear of the oven, C, with a descending flue, c, which communicates with the ash pit, c'. Over this flue, c, is arranged a grate, F, which is fitted removably in the fireplace, B, in the rear of the hearth, b. The grate, F, is held in place by suitable means, but as shown in Fig. 3, I employ a pivoted dog, f, adapted to engage with a toe plate, f'. The dog is shown as being pivoted to the grate, F, and the toe piece is fixed to the hearth, b, whereby the dog when engaged with the toe piece operates to force the grate against the back wall of the frame work.

The ovens, D, D′, are arranged at the respective sides of the frame work, or on opposite sides of the fireplace B, whereby said ovens are adapted to be heated from the grate in said fireplace. Said ovens are provided with appropriate doors, d, and in Fig. 2, the door of the oven, D, is at the back of the structure, while the door of the other oven, D′, is at the front of said structure, but its arrangement is optional and may be modified as desired. The oven, C, is below the hearth, b, and extends in front of the grate, F. Said middle oven is provided with a swinging door, e, adapted to drop downwardly in front of the ash pit, c', and this door has a sliding catch,

e', adapted to be engaged with a keeper, e^2, the latter being fixed on the frame work. The hot embers and ashes from the grate accumulate in the ash pit, c', and the flue, c, so that the oven, C, will be heated from the waste fuel.

My apparatus employs a plurality of rotating spits, G, which are in front of the grate, F, said spits being rotated simultaneously from a common driving mechanism, whereby the material on the spits is exposed to the heat of the grate. Any desired number of spits may be employed, and they may be arranged in any desired order with relation to the grate, but as shown in the drawings, I employ four of the spits extending horizontally across the fireplace, said spits being mounted in substantially the same vertical plane and in front of the grate. Each spit is shown as consisting of a spindle, g, and a rod, g'. The spindle is considerably longer than the rod, and it is pointed at one end. The rod, g', is pointed at one end and provided at its other end with an arm, g^2, terminating in a collar, g^3, the latter being clamped on the spindle, g, whereby the rod is disposed parallel to the spindle. The free pointed end of the rod is supported by a clamp, h, which is fitted on the spindle so as to be set at any desired point along its length by a binding screw, h'. The clamp extends outwardly from the spindle, and it engages with the rod, g', whereby the arm, g^2, and the clamp, h, support the rod parallel to the spindle and in fixed relation thereto.

The spits are mounted in bars, H, I, J, so that they are adapted for rotation on their axes, and an important feature of the invention consists in a construction of the bars which permits the spits to be removed individually and without disturbing the remaining spits of the series.

The bar, J, is fastened to the frame work in a vertical position and at one side of the fireplace, B. Said bar, J, is provided with suitable openings into which are adapted to be thrust the pointed ends of the spit spindles, g. The other bar, I, is fastened on the frame work at the opposite side of the fireplace, B, the bar, I, being parallel to the bar, J. As shown in Fig. 3, the bar, I, is provided at its respective ends with the arms, i, which extend inwardly from the bar, substantially at right angles thereto, and these arms are provided with longitudinal slots, i', in which are fitted the clamping screws or bolts, i^2. The bar, I, is thus fastened adjustably to the frame at one side of the fireplace, and said bar is provided with a plurality of slots, j, each of which opens through the front edge of the bar, substantially as shown in Fig. 5.

The bar, H, is arranged on one side of the frame, A, substantially as shown in Fig. 1, said bar, H, being parallel to the bars, I, J. The bar, H, is constructed similarly to the bar, I, and is fastened adjustably to the frame, A. Furthermore, the bar, H, is provided with the slots, k, which open through one edge of the bar, and these slots, k, are in alinement horizontally with the slots, j, of the bar, I. It will be seen that the spindles, g, of the spits, G, may have their pointed ends inserted into the openings of the bar, J, and said spindles are adapted to be slipped through the alined slots, j, k, of the bars, H, I, whereby the spindles of the spits are adapted to be inserted or withdrawn easily and quickly.

For the purpose of retaining the spits in the bars, it is preferred to employ suitable catches, K, see Fig. 6. Said catches are associated individually with the spits, and each catch is pivoted as at k' to the bar, H. The catch is shouldered to engage with the spindle of the spit, and said catch is adapted to drop by gravity across the slot, k, in the bar, whereby the spindle, g, is prevented from lifting accidentally out of its bearings in the supporting bars.

The spindles, g, of the rotary spits are provided with sprocket gears, l, which are adapted for engagement with an endless driving member shown in Fig. 4 as a sprocket chain. This chain is confined in coöperative relation to the gears, l, by a guide bar or guard L', the latter being shown in Fig. 4 as supported in a fixed position at one side of the chain, the sprocket wheels l engaging with the chain on its opposite side. The chain is supported and operated by suitable sprocket wheels, m, m', each carried by a suitable shaft, m^2. The shaft of the lower sprocket, m, is mounted in adjustable bearings, n, provided on one side of the frame, as shown in Fig. 4. The shaft of the upper sprocket, m', is provided with a suitable driving member, such as a pulley, o, but this driving member may be operated by any suitable means, such as an electric motor.

By reference to Fig. 4, it will be seen that the driving chain travels in a vertical path, and that the gears, l, of the series of spits engage with one lead of said driving chain. The driving chain is back or just in the rear of the vertical series of sprocket gears, and each sprocket gear can be withdrawn from engagement with said driving chain without interfering with either of the gears on the other spits. From this construction, it will be seen that any one spit of the series can be dismounted from the frame, and its gear, l, disconnected from the driving chain without interfering with the operation of the remaining spits of the series, whereby any one or more spits can be dismounted for the purpose of placing meat thereon, or for removing broiled meat therefrom, while, at the same time, the remaining spits may be continued in operation.

The operation is as follows: A fire is built in the grate, F, any suitable fuel being used

for the purpose. The heat of the fire is communicated to the side ovens, D, D', and the ashes drop through the flue, *c*, into the ash pit, *c'*, for the purpose of heating the middle oven, C. The spits, or any one or more of them, are dismounted from the supporting bars, and the material to be broiled is impaled on said spit. To accomplish this, the clamp, *h*, is removed from the spindle and the rod, the pointed ends of said spindle and rod are thrust into or through the material, and the clamp is replaced for the purpose of supporting the free end of the rod. In replacing each spit the pointed end of the spindle is thrust into an opening of the bar, J, the spindle is then passed through the slots in the bars, H, I, the sprocket wheel is engaged with the driving chain and the latch, K, is dropped into engagement with the spindle and across the slot in the bar, H. The spit is thus mounted in the frame to be held by the catch against displacement, and said spit is rotated by the gear, *l*, which is driven from the chain, L. All the spits are rotated from a single chain, and said spits are in close proximity to the bed of incandescent fuel contained in the grate, F. The meat impaled on each spit is presented on all of its sides to the heat of the fire, thus insuring the uniform and thorough cooking of the substances, while the smoke and odor arising from the meat is collected by the hood and directed into the stack or uptake. When the meat on any one spit is cooked, the spit is readily dismounted from the frame, the clamp is withdrawn from the spindle and the rod, and the meat then removed from the spit.

My apparatus is simple in construction, efficient in operation and economical to manufacture. The supporting frame covered by the tiling presents a neat appearance so that the apparatus may be used for display purposes. None of the parts are likely to be worn when in use except the fireplace, which is directly exposed to the heat, and the apparatus is durable in service.

Having thus fully described the invention, what I claim as new, and desire to secure by Letters Patent is:

1. In an apparatus of the class described, a plurality of spits, a driving element common to all of said spits and coöperating directly therewith for rotating the same simultaneously, and means whereby a spit may be disconnected from the driving means and removed from the apparatus while retaining the other spit or spits in operative relation to said driving means.

2. In an apparatus of the class described, a plurality of spits, and an endless driving member common to all of said spits and cooperating directly therewith, each spit being removable from coöperative relation to said driving member while the other spits remain in operative engagement therewith.

3. In an apparatus of the class described, a supporting frame, an endless driving member, and a plurality of spits mounted removably in said frame, each spit having a driven member coöperating with driving member and adapted to be disconnected at will therefrom, said endless driving member being common to all of the spits and coöperating directly with the driven members thereof.

4. In an apparatus of the class described, a supporting frame, an endless driving chain, a plurality of spits each having a sprocket wheel engaging with said chain, and a fixed guide member in coöperative relation to that lead of the endless chain with which the sprocket wheels are engaged, whereby the chain is precluded from disengagement from said sprocket wheels.

5. In an apparatus of the class described, a supporting frame comprising bars, certain of said bars having slots which open through the edges thereof, a plurality of spits supported in said bars and removable bodily therefrom through the slots therein, means for retaining the spits in the slotted bars, and an endless driving member coöperating with each of said spits, whereby each spit may be dismounted from the frame while the other spits remain in coöperative relation to said driving member.

6. In an apparatus of the class described, a supporting frame having a plurality of slotted bars, a plurality of spits mounted in said bars and removable through the slots thereof, each spit having a sprocket gear, and an endless driving chain, one lead of which engages with said gears of the spits for rotating them simultaneously, each spit being removable bodily from the frame and from coöperative relation to the driving chain while the remaining spits retain their engagement with said chain for operation thereby.

7. In an apparatus of the class described, slotted bars, a plurality of rotatable spits mounted removably therein, means for applying power to said spits for rotating them simultaneously, and a catch engaging with each spit adjacent to the point of application of power thereto and adapted to retain said spit against displacement in the slots of said bars.

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

GEORGE GIOVANNA.

Witnesses:
H. I. BERNHARD,
JAS. H. GRIFFIN.