

1,838,545

2 Sheets-Sheet 1

The diagram illustrates a mechanical device, possibly a typewriter or a similar machine, showing a side view and a top view. The side view (top half) shows a complex arrangement of gears, levers, and a carriage. The top view (bottom half) shows the base and the internal mechanism. Various parts are labeled with numbers and letters.

Side View Labels:

- 18, 21, 17, 25, 22, 35, 29, 35, 17, 21
- 23, 20, 14, 19, 24, 25, 34, 38, 39, 27, 37, 12', 10, 9, 8, 2, 11, 13
- F, C, E

Top View Labels:

- 21, 18, 20, 17, 14, 19, 24, 25, 34, 38, 39, 27, 37, 12', 10, 9, 8, 2, 11, 13
- D, A, B, 6, 5, 7, 4, 3, 1

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Dec. 29, 1931.

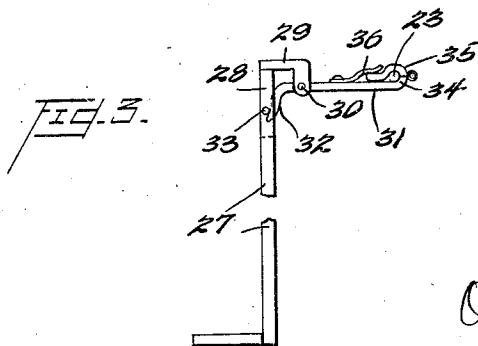
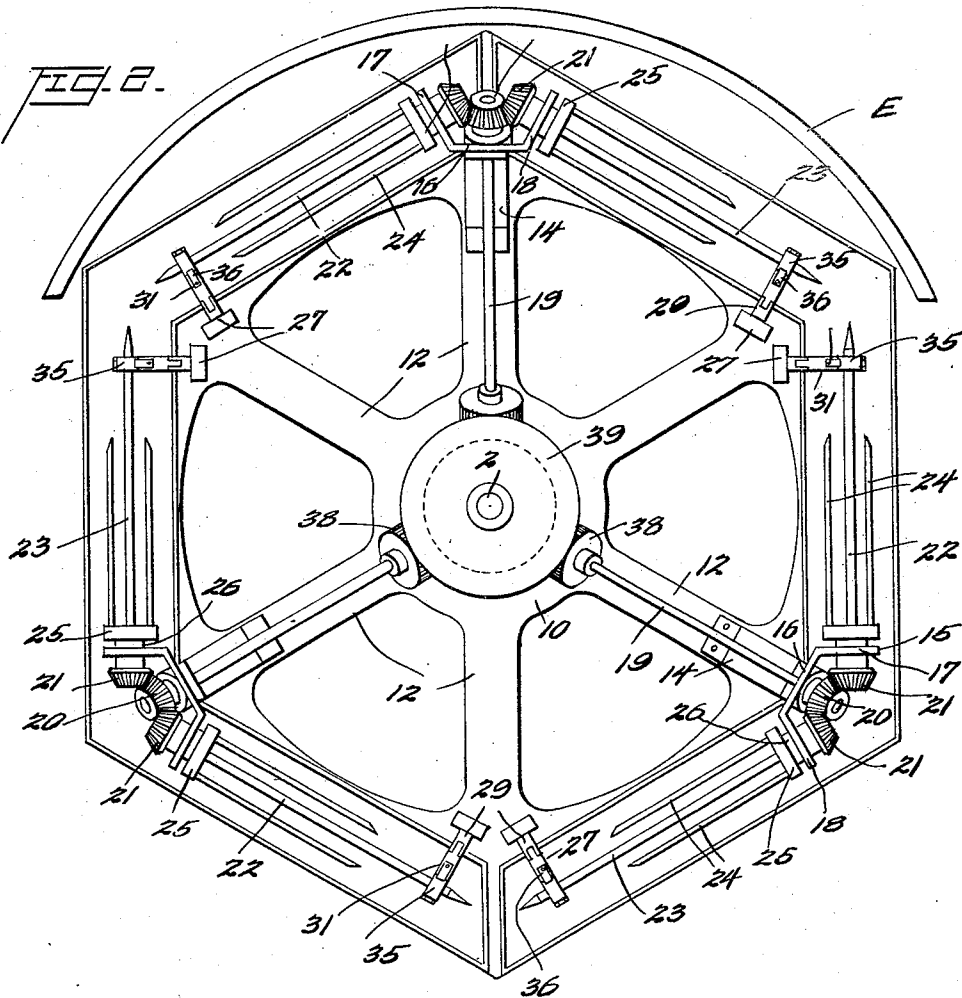
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ROTISSERIE

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2 Sheets-Sheet 2



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ROTISSERIE

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Generically this invention relates to a cooking apparatus, but it is more especially directed to the rotisserie type, wherein the food article or articles are rotatively subjected to the effect of heat produced by a bed of hot coals, a gas burner, device, an electric heating medium, or the like.

One of the principal objects of this invention is the provision of an apparatus of this character rotatable on a vertical axis and provided with a plurality of spits to carry the respective articles to be cooked, each of said spits adapted for relative travel about said vertical axis.

Another important object of this invention is the provision of a spider-like supporting frame rotatably mounted on a vertical axis and a plurality of spits circumferentially mounted thereon in end to end relation and each rotatable on a horizontal axis, means for revolving said supporting frame, and additional means associated therewith and engageable with the alternately meeting ends of each of the respective pairs of spits to rotate the respective spits of each pair in opposite directions during the rotational travel of said supporting frame with respect to and in proximity with a source of heat.

Another important object of this invention is the provision of an apparatus of the character described comprising a plurality of superimposed detachable cooking units rotatable on a vertical axis, each of said units comprising a plurality of rotatable spits mounted circumferentially and in end to end relation and rotatable on a longitudinal axis, each of said spits alternately operable in one direction and the remaining spits similarly operable in the other direction, during rotational travel of said supporting frame with respect to a fixed source of heat.

Another object of this invention is the provision of a cooking apparatus comprising hexagonal spider-like supporting frame units, rotatable about a common vertical axis, a sectional correspondingly shaped drip pan carried by each of said frames, three pairs of longitudinally rotatable spit mechanisms mounted in end to end relation circumferentially of each frame, the respective spits of

each pair being rotatable in opposite directions, and means for superimposing additional cooking units or removing certain of the units to increase or decrease the cooking capacity of the apparatus as desired.

With these and other objects in view, which will become apparent as the description proceeds, the invention resides in the construction, combination and arrangement of parts, hereinafter more fully described and claimed, and illustrated in the accompanying drawings, in which like characters of reference indicate like parts throughout the several figures, of which:

Fig. 1 is a side elevational view, partly in section of my improved multiple rotational cooking apparatus.

Fig. 2 is a top plan view of Fig. 1; and

Fig. 3 is a similar view to Fig. 1 showing an additional unit.

The types of cooking apparatus wherein the articles are rotationally or otherwise positioned in proximity to a source of heat have proven unsatisfactory in many respects, such as dripping from one article to a different article being simultaneously cooked, or the construction of the machine rendering it impractical to simultaneously cook a multiplicity of similar or different articles without an extensive heating medium or mediums and further rendering it impossible to increase the original capacity of the apparatus by the addition of attachable cooking units, and it was to overcome the deficiencies of such devices, and to provide an apparatus comprising a supporting frame rotatable about a vertical axis, carrying a plurality of longitudinal spits mounted in the same longitudinal plane and in end to end relation circumferentially of said frame, a drip pan means carried by said frame, the latter adapted to have additional frame units superimposed thereon as occasion commands, and whereby rotation of said frame will cause relative rotation of the various food articles with respect to each other and simultaneously during rotational travel of such article with respect to a fixed source of heat, so that each of the respective articles will travel in endwise direction and in longitudinal rota-

tion simultaneously and successively with respect to said fixed heat source, that I designed the apparatus forming the subject matter of this invention.

5 In the illustrated embodiment characterizing this invention, there is shown a cooking apparatus A comprising spit carrying units B and C, driving motor D and source of heat E which will now be described in detail.

10 The motor D is suitably mounted on and secured to a supporting base 1 which may be further secured to a suitable supporting medium as desired. A vertical shaft 2 is secured

15 1 by anchor pin 3, and surrounding said shaft and supported by base 1 is ball bearing assembly 4. A hollow shaft 5 is mounted on shaft 2 with its lower end suitably connected to ball bearing 4 mounted on and suitably

20 keyed or otherwise secured to shaft 5, and intermediate its length is a beveled gear 6 adapted to mesh with pinion 7 of motor D. A disc plate 8 is mounted on the upper end of shaft 5 and firmly secured thereto by set

25 screw 9 or other suitable fastening means. A spider frame α comprising a hub portion 10 centrally bored to receive shaft 2 is adapted to rest on disc plate 8 secured thereto by bolts 11 or other suitable fastening elements, and

30 hub 10 is formed with radiating arms 12, in the present instance, six in number, and suitably secured to each arm adjacent its free extremity by bolts 13 is an outwardly and upwardly extending supporting standard 14 to

35 the upper end of which is suitably secured by bolts or other fastening elements, a supporting bracket 15, comprising a central portion 16 extending at right angles with respect to its supporting arm 12 and terminating at

40 its opposite ends in sections 17 and 18 projecting therefrom at an angle. Suitably journaled in each of the portions 16 is a diagonally positioned shaft 19 on the upper end of which is suitably secured beveled gear

45 20 adapted to mesh with beveled gears 21 mounted on the respective inner ends of spits 22 and 23, respectively, journaled in the respective sections 17 and 18 and by means of which the spits are rotated as will hereinafter more fully appear.

50 The auxiliary spit elements 24 are positioned on opposite sides of said spits 22 and 23 and are suitably secured in anchor plate 25 mounted on the respective spits 22 and 23
55 and suitably secured to bearing 26 journaled in the respective sections 17 and 18. The said anchor plate 25 likewise constitutes a stop for the food articles placed on said spits and the auxiliary members 24 are adapted to maintain the food articles on same during the operation of the device as will be well understood.

Suitably secured to said spider frame on opposite sides of each alternate arm 12 is an
65 upright standard 27, bifurcated at its upper

end as at 28 and having mounted thereon cap plate 29 to which is suitably hinged as at 30 a carrier arm 31 formed at its rear extremity with an L-shaped extension 32 adapted to be held in a horizontal position by movable pin 33, and at its outer end with bearing 34 having a complementary hinged lock member 35 normally secured by spring catch 36. The said arm is adapted to support and constitute a bearing for the free end of spits 22 and 23 when the food articles have been positioned thereon, as will hereinafter more fully appear.

The lower end of each of the diagonal shafts 19 is adapted to be journaled in bearing support 37, supported by and suitably secured to hub portion 10 and mounted on said shaft adjacent thereto is gear wheel 38 adapted to mesh with a stationary beveled gear 39 mounted on shaft 2 and suitably secured thereto by said set screw 40.

In order to catch the natural drippings from the food articles and the basting fluids where same are employed during the course of cooking the food articles, a circumferential drip pan F is adapted to be removably supported by rim 12' which interconnects the free ends of arms 12. While I have shown this pan as formed in two sections, if desired it may with equal facility be divided into as many sections as there are spits.

Detachably connected to each of the brackets 16 is an upright bracket 41 on which is adapted to be mounted unit C which comprises the upper or second deck of the apparatus, and since it is identical to unit B, a detailed description thereof would seem to be unnecessary.

Positioned adjacent one edge of the units B and C in close proximity thereto is a suitable heating medium E, in the present instance, semi-circular in configuration so as to embrace substantially half of the circumference of each of said units and which may be of any desired form, such as a bed of hot coals, a gas burner device, an electric heater or the like, and which according to the exigencies of the particular requirements may be a single heating unit or a separate heating unit for each of the cooking units B and C as desired.

While the operation would seem to be clear from the above description, it might be well to further state that when the meat or other food articles desired to be treated are placed on the spits 22 and 23 and member 35 locked, power will be transmitted from motor D through gears 7, 6, shaft 5 to spider frame α effecting rotation of the latter with respect to source of heat G, and gear wheel 38 meshing with stationary gear 39 will effect rotation of the diagonal shafts and gear wheels carried thereby meshing with gears 21 will effect rotation of spits 22 in one direction and spits 23 in the opposite direction simulta-
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neously with their endwise travel with respect to the source of heat E, thereby subjecting each of the respective food articles to a thorough heat treatment as will be clear without further discussion.

From the above it is apparent that I have designated a cooking apparatus capable of simultaneously rotating each of the respective articles to be treated in endwise direction about a vertical axis and about a longitudinal axis with respect to a fixed source of heat, whereby during such rotational travel a plurality of different articles will be simultaneously subjected to the heat treatment, and comprising a plurality of such article carrying units simultaneously operable with respect to said fixed heat source, the capacity of said apparatus being variable by the addition and removal of the food carrying units as desired; one manufacturable at a reasonable cost, simple in construction and operation, yet efficient for the purposes intended.

It will thus be seen that I have provided a versatile cooking device, whereby a reduction in operating cost and a great saving incident to costly equipment and expensive installation to vary its capacity is effected, at the same time enhancing the treating application of the device.

Although in practice I have found that the form of my invention illustrated in the accompanying drawings and referred to in the above description as the preferred embodiment, is the most efficient and practical; yet realizing the conditions concurrent with the adoption of my invention will necessarily vary, I desire to emphasize that various minor changes in details of construction, proportion and arrangement of parts may be resorted to within the scope of the appended claims without departing from or sacrificing any of the principles of this invention.

Having thus described my invention, what I desire protected by Letters Patent is as set forth in the following claims:

1. An apparatus of the character specified comprising a plurality of frame units having a common axis, a plurality of food carrying elements, each rotatable on its respective axis, means for simultaneously rotating said frame units in one direction and said elements in different directions, whereby the food article carried by each of the respective elements is adapted to travel in endwise and revolving directions simultaneously and successively with respect to a source of heat.

2. An apparatus of the character specified, including a plurality of rotatable frame units, means for detachably connecting the units, a plurality of food carrying rotatable elements circumferentially mounted in end to end relation on each of said units, means for rotating said units about a common axis and additional means associated therewith for rotating the respective elements about

their respective axis, whereby each of the respective elements will be caused to travel simultaneously in endwise and revolving direction successively with respect to a source of heat.

3. A device of the character described comprising a rotatable frame, a plurality of rotatable food carrying elements carried by the frame, means for rotating said frame including a rotatable shaft and means for rotating the respective elements in different directions with respect to said frame, said means including fixed and rotatable gear means, whereby each of the respective food carrying elements will be simultaneously rotated and advanced with respect to a source of heat.

4. A device of the character specified comprising a frame, a plurality of rotatable food carrying elements carried by the frame, means for rotating said frame comprising a hollow shaft, a gear mechanism associated with said shaft and means for rotating the respective elements in different directions with respect to the frame, said means including a stationary shaft, a fixed gear means mounted thereon, and rotatable gear means engageable therewith, whereby each of the respective food carrying elements is simultaneously rotated and advanced with respect to a source of heat.

5. An apparatus of the character specified comprising a rotatable frame, a circumferentially disposed drip pan detachably carried thereby, a plurality of rotatable food carrying elements mounted circumferentially of the frame, means for rotating said frame, and means for rotating the respective elements in different directions with respect to the frame, whereby each of the respective food carrying elements will be simultaneously rotated and advanced with respect to a source of heat.

6. An apparatus of the character specified comprising a frame, a plurality of pairs of food carrying elements mounted in end to end relation circumferentially of the frame, means coacting with each pair for rotating the respective elements in opposite directions, said means including a fixed gear and rotatable gear elements coacting therewith, and means for rotating the frame comprising a hollow shaft for operative connection with gear means connected to a source of power, whereby each of the respective food carrying elements will be simultaneously rotated in different directions with respect to a source of heat.

7. An apparatus of the character specified comprising a rotatable frame, a plurality of food carrying spits mounted circumferentially of the frame, a supporting arm constituting a bearing detachably connected with the free end of each spit, means for revolving said frame and additional means for revolving

ing certain of the spits in one direction and
the remaining spits in an opposite direction,
whereby each of the respective food carry-
ing spits is adapted to travel in endwise and
5 revolving directions simultaneously and suc-
cessively with respect to a source of heat.

This specification signed this 30th day of
June, A. D. 1930.

OLIVER J. GUFFEY.

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