This invention relates to apparatus for barbecuing wiener, and more particularly to a barbecuing machine that is fully automatic.

Many different devices have been proposed for roasting or barbecuing wiener in quantity for baseball and amusement parks, football stadiums, drive-in theaters, certain types of stores and the like. However, as far as I know, all of these devices require the more or less constant attention of an attendant in order to keep them filled with wiener or to remove the cooked wiener as soon as they are done. Such close attention becomes difficult and often is not provided when the attendant must also perform other duties, such as selling soft drinks and other items. The result may be an under supply of cooked wiener or a number that are burned.

It is among the objects of this invention to provide a wiener barbecuing machine which feeds wiener into the barbecuing zone at regular intervals, which cooks each wiener just the right length of time, which discharges each wiener as soon as it is cooked, which has a minimum of moving parts, and which can be taken apart quickly and easily for cleaning.

The preferred embodiment of the invention is illustrated in the accompanying drawings, in which:

Fig. 1 is a front end view of my machine;

Fig. 2 is a view of the rotor driving side of the machine;

Fig. 3 is a plan view of the machine with the cover removed and part of the loading chute broken away; and

Fig. 4 is a vertical section taken on the line IV—IV of Fig. 1.

Referring to the drawings, an oven is formed from a cabinet which has a base 1 and a removable cover 2.

The cover may have openings in its top, and side and end walls covered by glass 3 that is held in place in any suitable manner, whereby the interior of the cabinet is clearly visible to the operator and customer. Mounted in the top of the cabinet base is a frame 4 that extends above three sides of the base so that the cover can fit around the frame and rest on top of those sides. On opposite sides of the frame are two part bearings 6 and 7, through which a tube 8 extends. The tube is clamped in bearing 6, but a sleeve 9 is journaled on the opposite end of the tube and has a reduced portion also journaled in the surrounding bearing 7.

Rotatably mounted on the tube between the bearings is a rotor that resembles a Ferris wheel. It is formed from two spaced metal rotor members, preferably in the form of discs 11, that are rigidly connected near their peripheries by parallel cross rods 12 located at circumferentially spaced intervals. Each cross rod is provided with two laterally spaced portions of reduced diameter, and hanging on each of these reduced portions is a hook 13. All hooks face in the same direction, i.e., to be at the front of the hooks. The two hooks on each rod may be rigidly connected by a cross bar 14 welded to the backs of them. The hooks and connecting bar form a carrier that is shaped to receive and support a wiener at longitudinally spaced points as the rotor rotates. On the upper ends of the hooks can rotate on the rods, the hooks always hang down like a swing from the cross rods, regardless of the position of the rods in the cabinet.

In order to drive the rotor, one of its discs 11 is secured to the inner end of sleeve 9, on the outer end of which there is a worm gear 16 driven by a worm 17 on a horizontal shaft 18 below it. This shaft projects into and is secured to reduction unit 19 which is driven by an electric motor 21. The motor and reduction unit are mounted on a bracket 22 fastened to the side of the cabinet base.

The rotor is driven at a slow speed; for example, one revolution in 3 or 4 minutes. While it is rotating, the wiener carried by the carrier hooks and indicated in broken lines in Fig. 4, are roasted or barbecued on all sides by an electric heating unit at the center of the rotor between discs 11. This unit may consist of an electrical resistance unit 25 wrapped helically around tube 8, but supported on the tube by an insulating block 26. This unit can be connected to a source of electricity by wires 27 extending radially into the tube and then out of the end of the tube opposite to gear 16. These wires are connected to a plug 28 inserted in an electric socket (not shown) mounted in the side of the base. The socket is connected electrically to a thermostat 29 mounted on the opposite side of the base. The thermostat has its heat-responsive element 30 inside of the cabinet. The thermostat is electrically connected to the same electric cord 32 (Fig. 3) that is electrically connected to the motor 21. The heating element and the motor are independently controlled by two electric switches 33 and 34, respectively, mounted on one end of the cabinet base. For the sake of clarity, the electric wiring inside the cabinet is not shown, but its arrangement will be apparent to anyone skilled in the art. By adjusting the thermostat, the desired degree of roasting of the wiener can be obtained during the period of time that the wheel carries a wiener from its loading point to its unloading point.

For automatically loading the rotor with wiener, the lower part of the end of the cabinet cover adjacent the up-going side of the rotor, which is the side of the rotor where the front of the heat race faces forward, is provided with a doorway 36 (Fig. 4) slightly wider than the length of a wiener and normally closed by an inwardly swinging door 37 hanging from a hinge pin 38 extending across the top of the opening. Extending through the bottom of this opening is an inclined loading chute 39, the lower end of which projects between the rotor discs and into the path of movement of the rising carriers. The chute is mounted on a frame 4. To permit the carrier hooks to pass the chute and receive wiener from it, its lower end is provided with slots 40 (Fig. 3) that the lower portions of the hooks pass through. As fast as wiener are placed on the chute outside of the cabinet, they roll down the chute and through the swinging door until the entire chute is filled with them. The lower end of the chute is curved upward to form a stop that prevents them from rolling off the chute. As each pair of carrier hooks moves up through the slots in the chute it lifts the lowermost wiener from the chute and carries it away while the remaining in the chute roll down to take up the space formerly occupied by the removed wiener. In Fig. 4 a hook is shown in broken lines as it first engages a wiener at the lower end of the chute. The chute can be made as long as desired in order to hold a large supply of wiener at one time.

Directly below the loading door the end wall of the cabinet base is provided with a second doorway 42,
which also is closed by an outwardly swinging door 43 hanging from a hinge pin 44 inside the cabinet. Discharge ramps 45 extend from outside the cabinet upward through the lower part of doorway 42 to a point between the rotor discs in the path of the carriers. The ramps can be supported by brackets 46 fastened to the bottom of their lower portions and to the end wall of the cabinet base. The upper ends of the ramps are bent downward to provide vertically extending unloading members 47, as shown in Fig. 4, which are engaged by the front ends of the carrier hooks as they move upward. The hooks slide along the unloading members, by which the carriers are swung inward toward the heating element. By the time the tips of a pair of hooks reach the top of the ramps, the carrier is tilted to such an extent that the barbecued wiener thereon rolls off the carrier and down the ramps. When the wiener strikes the door 43 it swings it open and rolls out of the cabinet and onto any suitable receptacle, which may be a heated pan or plate that keeps the wiener warm until used. Consequently, it will be seen that after the loading chute has been filled with wiener no attention need be paid to this machine for awhile, because all of the wieners will be perfectly barbecued and then automatically discharged from the machine.

This machine can be cleaned easily, after the cabinet cover has been lifted off, by removing the electric plug 28 from the side of the cabinet, and removing the tops of bearings 6 and 7 so that the entire rotor with the heating element and the supporting tube 8 and gear 16 can be lifted off the base. To catch drippings from the wieners, a tray 50 rests on the bottom of the cabinet and can be slid out through a slot in the side wall of the base. When the tray is in place, the slot is closed by the overlapping outer end wall 51 of the tray.

In some cases it may be desirable to occasionally stop wieners from feeding into the carriers, such as when an adequate supply of wieners have been barbecued and are awaiting customers. To take care of such a situation a rod 55 can be rotatably mounted in one side of frame 4 and in a lug 56 on the bottom of the chute near its lower end. The outer end of the rod is bent at right angles and fitted with a heavy handle 57 for turning it. Projecting radially from the rod beneath the upper ends of the chute slots 40 are fingers 58 which, like the handle, normally hang down. When it is desired to keep the wieners from being picked up by the carriers and yet permit the rotor to continue to rotate in order to cook the wieners already on the carriers, the handle 57 is turned to swing the fingers up through the chute slots and against their upper ends. The fingers then hold the wieners in the chute away from its lower end where the carrier hooks would lift them. By lowering the fingers the necessary time, any desired number of wieners can be allowed to move down to loading position.

According to the provisions of the patent statutes, I have explained the principle of my invention and have illustrated and described what I now consider to represent its best embodiment. However, I desire to have it understood that, within the scope of the appended claims, the invention may be practiced otherwise than as specifically illustrated and described.

I claim:

A wiener barbecuing machine comprising a base, a pair of laterally spaced vertical rotor members rotatably supported by said base on a horizontal axis, a plurality of hook-like carriers supported by the rotor members and swinging on parallel axes from their upper ends between said members at circumferentially spaced intervals, each carrier being formed from a plurality of laterally spaced hooks, the lower part of each carrier being formed to support a wiener, means for rotating said rotor members continuously to move the carriers in a circular path, the side of the carriers facing the up-going side of the rotor members being open for reception and discharge of wieners, an inclined chute at the up-going side of said rotor members extending downward toward the rising carriers and having means at its lower end for keeping a row of wieners from rolling off the chute, the lower end of the chute being recessed to permit the lower part of each carrier to pass up through it and lift a wiener from the chute, heating means adjacent said path for cooking wieners on the traveling carriers, vertically extending unloading means below said chute projecting into said path and having an upwardly extending surface positioned to have the lower ends of the rising carrier hooks slide upward along it for swinging the lower part of each successive rising carrier inward to dump out the cooked wiener carried by it, and a ramp inclined downward from the top of said unloading means for receiving cooked wieners from the carriers.

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