Oct. 28, 1924.

M. SCHEY

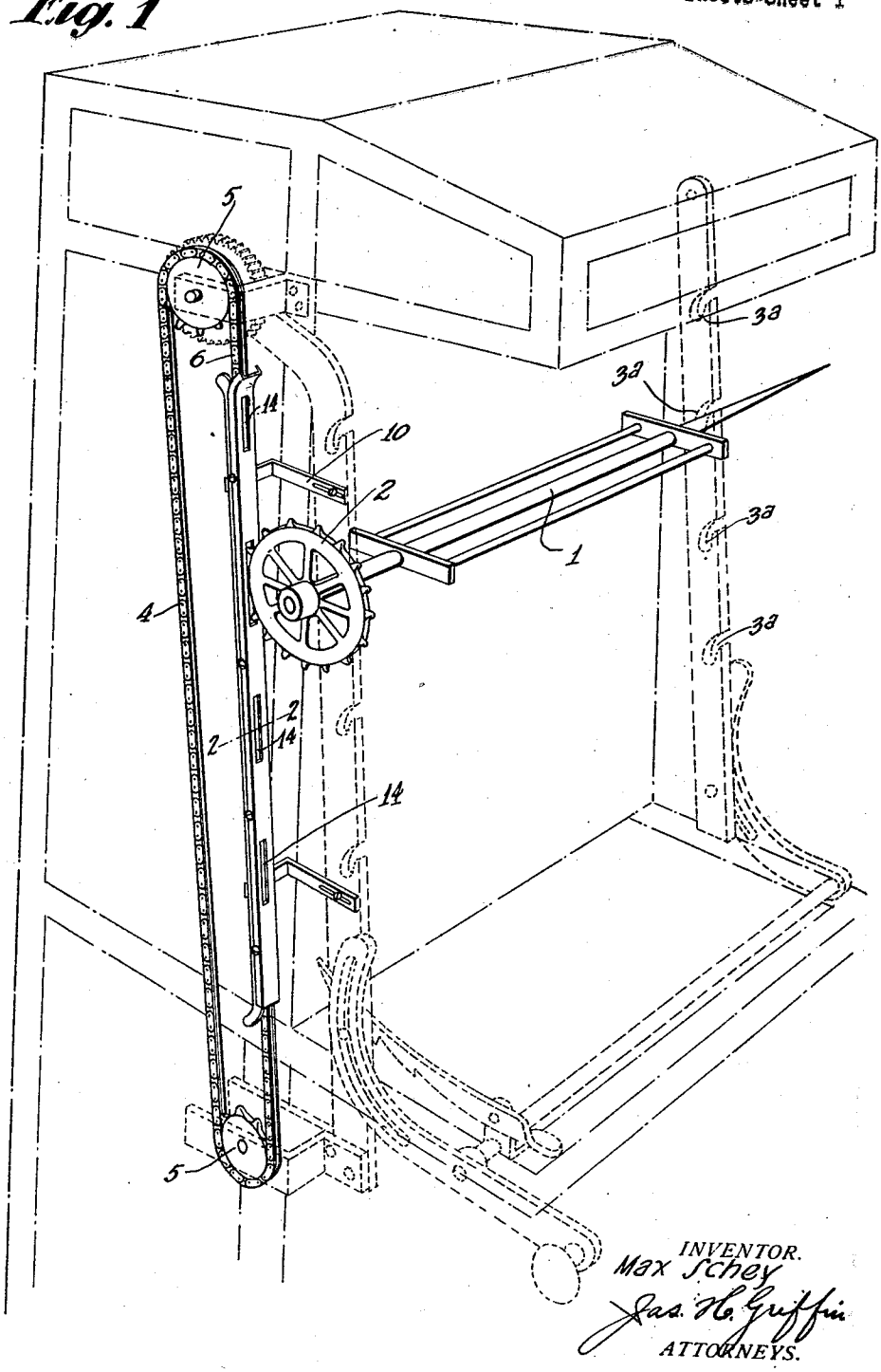
1,513,012

CHAIN RACE FOR ROTISSERIE DRIVE CHAINS

Filed Feb. 28, 1924

2 Sheets-Sheet 1

Fig. 1



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2 Sheets-Sheet 2

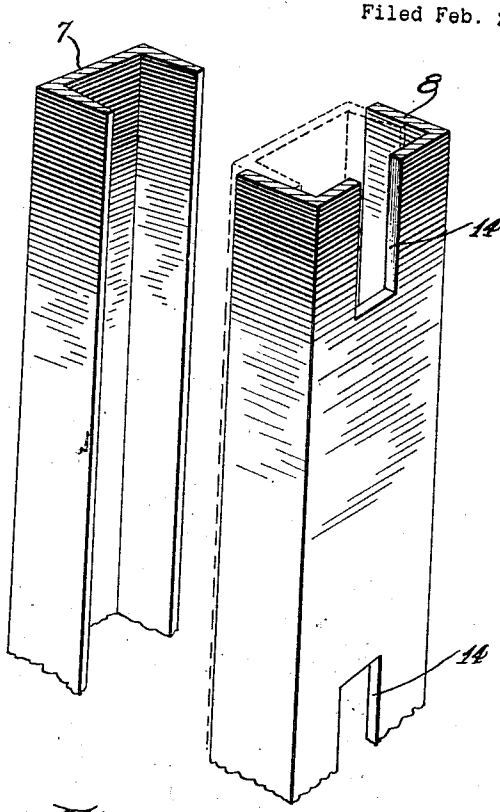


Fig. 2

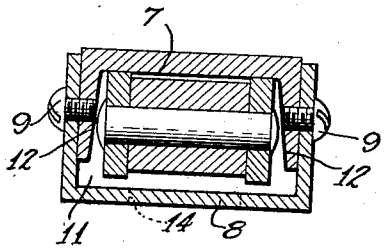


Fig. 3

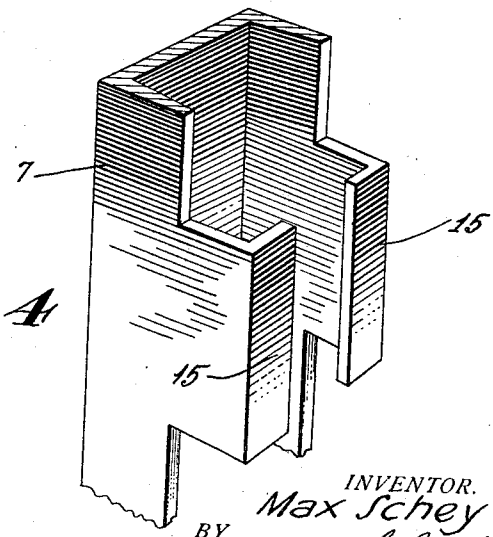


Fig. 4

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Patented Oct. 28, 1924. 1,513,012

UNITED STATES PATENT OFFICE.

MAX SCHEY, OF BROOKLYN, NEW YORK.

CHAIN RACE FOR ROTISSERIE DRIVE CHAINS.

Application filed February 28, 1924. Serial No. 695,656.

To all whom it may concern:

Be it known that I, MAX SCHEY, a citizen of the United States, residing at Brooklyn, county of Kings, and State of New York, have invented a certain new and useful Chain Race for Rotisserie Drive Chains, of which the following is a specification.

This invention relates to rotisseries, i. e., apparatus for broiling meats and fowls before an open fire or source of radiant heat. In this class of broilers, a plurality of spits are positioned before a source of radiant heat and these spits which are usually placed horizontally one above the other are each provided with a pinion permanently fixed to each spit and adapted when the spit is placed in the machine in roasting position to mesh with a sprocket chain and derive movement therefrom. The sprocket chain is mounted for continuous movement about spacing sprockets and serves as a common driving member for all of the spits of the apparatus while permitting the spits to be individually removed or replaced without necessitating a stopping of the chain or interfering with the operation of the spits which remain in roasting position.

A machine of this general character is disclosed in my Patent No. 1,442,584, issued January 16, 1923.

In order that the spits may be properly driven from the chain as stated, that portion of the chain directly adjacent the spits and with which the respective pinions engage usually runs in a metallic channel which is rigidly mounted in position and keeps the chain from backing off from the pinions of the spits thereby positively holding the chain to its work. Experience has proven that while this structure operates with great efficiency, it is open to certain detrimental features which would necessitate careful manipulation of the construction. For example, care need be exercised in bringing the spit pinions in cooperative relation with the chain in order that the teeth may be accurately brought into mesh with the chain otherwise said teeth may be brought into a position wherein they will extend exteriorly of the chain and between the chain and the edge of the channel section through which it runs in which event a jamming of the apparatus will result with consequent possible breakage or damage to the apparatus. Moreover, after the chain has run for a long time, it is apt to become somewhat loose due to wear and there is a slight tendency of the chain to back up or crimp. If such a crimp occurs adjacent one of the spit pinions and in such manner as to feed into the pinion, damage to or breakage of the apparatus will be bound to result. These deterimental features and others which have been found to exist in the structure referred to, have been entirely obviated and eliminated by the present invention, the object of which is to enclose that portion of the chain which coacts with the pinions of the spits within a substantially closed chain race, whereby the path of the chain is fixed and predetermined and cannot vary in any manner which will interfere with the proper operation of the chain with the spit pinions and which chain race is cut away or provided with openings so positioned and of such size that the pinions can only cooperate with the chain in a proper manner and cannot touch the chain in such manner as would cause a crimping or backing up of the chain with the consequent damage referred to.

In its preferred practical form, that portion or reach of the chain with which the spit pinions cooperate runs through a substantially closed chain race which entirely houses that portion of the chain and through which the chain operates in concealed position. Adjacent each spit, the wall of the chain race is slotted with a relatively long narrow slot of suitable dimensions to permit the spit pinion, which is in the form of a sprocket wheel, to extend through the adjacent slot and mesh with the chain. The slots are so positioned and of such width that they will guide the sprocket into proper cooperative relation to the chain and it will be impossible to engage the chain improperly when the pinions are introduced through said slots. A chain race so constructed will adequately insure against damage to the apparatus from the causes referred to, will impart a better appearance to the apparatus, will protect the person of the operator or chef from damage by the moving chain and sprockets and may be associated with a rotisserie at a nominal cost.

Features of the invention, other than those specified, will be apparent from the hereinafter description and claims when read in conjunction with the accompanying drawings.

The accompanying drawings illustrate one

practical embodiment of the invention, but the construction therein shown is to be understood as illustrative, only, and not as defining the limits of the invention.

Figure 1 is a perspective view showing a rotisserie with which the present invention is associated.

Figure 2 is a section perspective on the line 2—2 of Figure 1.

Figure 3 is a section on the line 3—3 in Figure 1; and,

Figure 4 is a section perspective showing a modified form of the invention.

In the accompanying drawings, I have shown in Figure 1 a rotisserie which for present purposes may be considered as illustrative of any chain drive rotisserie. In this showing 1 designates a spit to one end of which is affixed a pinion 2 in the form of a sprocket. One spit is shown and is illustrated as mounted for rotation in slots 3. Three additional pairs of slots 3^a allow of the mounting of three additional spits on the rotisserie and all of these spits are of the same construction as the spit 1, each having a drive sprocket permanently affixed thereto. All of the spits are driven from a drive chain 4 which passes about directional sprockets 5 with the forward reach of the chain extending in such direction and position that when the spits are brought into cooperative relation with the supporting notches the pinions will automatically engage the chain.

The construction thus far described is conventional and is shown in my prior Patent No. 1,442,584. It forms no part of the present invention except as the present invention is associated therewith.

The chain race of the present invention is associated with the forward reach of the chain on which the sprockets of the spits depend for operation. This chain race may partake of different forms, but a very satisfactory construction is shown in the drawings. The said forward reach of the chain, which may be designated for convenience sake by the reference character 6, extends through an elongated passage, the transverse confines of which are substantially the same as the transverse dimensions of the chain so as to guide the chain during its travel through this passage. The passage is formed by telescoping together two channel sections 7 and 8, the former of which is slightly narrower than the latter so that it may be telescoped into the latter to provide the closed passage referred to. The channel sections 7 and 8 extend, in the preferred embodiment of the invention, throughout substantially the entire forward reach of the chain between the directional sprockets 5 and the channel sections are maintained in assembled relation by means of screws 9 which pass through perforations in the flanges of the channel 8 and thread into tapped holes in the flanges of the channel 7 as best shown in Figure 3. The channel 7 is fixed to the rotisserie in any suitable manner as by brackets 10 or otherwise and lies at the back of the forward reach 6 of the chain while the channel 8 is put on from the front of the reach 6 and after being telescoped over the section 7 is secured thereto by the screws 9 as stated so that the chain race is mounted in fixed position with reference to the chain but permits the chain to freely travel therethrough. In order that the travel of the chain may be free the passage 11 is slightly larger than the chain but the inner faces of the flanges of the channel section 7 converge to the base of said channel as shown at 12 in Figure 3 so as to centralize the chain within the passage 11 and minimize friction or whipping of the chain transversely of the passage.

Adjacent each spit sprocket, the base of the channel 8 is slotted as shown at 14, these slots being of sufficient length vertically and of sufficient width laterally to permit the sprockets 2 to project through the slots and mesh with the chain. Said slots are positioned along the medial line of the section 8 so as to be located centrally of the width of the chain and when thus located the introduction of a spit pinion through a slot will insure its alinement with the chain and there will be no possibility of the sprocket failing to properly cooperate with the chain.

It will thus appear that while the spit sprockets may be brought into and moved from proper cooperation with the chain by the positioning on or removal of the spit from the rotisserie as heretofore that the disadvantages hitherto inherent in the construction are obviated and the dangers incident to prior operation are eliminated. Moreover, the structure will operate more smoothly than heretofore and there will be no whipping of the chain or any tendency of the chain to crimp between spit sprockets or when approaching such a sprocket. Furthermore the chain may be properly lubricated within the passage of the chain race and is concealed and housed therein in such manner as to protect the person or clothes of the chef or cook against injury by the moving chain.

In practice, the forward reach of the chain is entirely concealed and the only portion of the chain which shows is through the short slots 14 in the chain race. A very badly worn chain is found to readily crimp in practice but any tendency of the chain to crimp before entering the entry end of the race is provided for by slightly flaring said entry end. This is clearly shown in Figure 1 where the upper end of the race, i. e., the upper ends of both sections 7 and 8 are slightly flared in opposite directions so that if the chain does crimp or buckle, it will be

straightened out and fed properly into the race.

All of the disadvantages hereinbefore inherent in chain drive rotisserie construction are eliminated and a thoroughly practical and efficient driving means is produced. The structure is simple and may be associated with a rotisserie at a minimum cost. The structure shown in the drawings is what I prefer to employ. I am aware however that this construction may be modified without departing from the spirit of this invention. For example, instead of providing a front channel section 8 extending the whole length of the rear channel 7, the front channel may be made in short lengths one of which is adjacent each spit or as an alternative construction flanges 15 may be brought forward from the flanges of the rear channel 7 adjacent each spit and turned over the chain as shown in Figure 4. This will hold the chain in position adjacent the driving connection with each spit and at the same time will serve to guide the spit pinion into proper cooperative relation with the chain but will not however house the chain throughout the length of the race as the structure shown in the other figures. Thus while the construction of Figure 4 may be referred to as alternative, it is by no means as efficient, satisfactory or reliable as the preferred construction shown in Figures 1 to 3. I wish it understood that other modifications may be made in the invention without departing from the spirit thereof and that the invention is fully commensurate with the appended claims.

The drawings show the chain race as constructed in its preferred form of a pair of telescoping channel sections, one of which is slotted to provide for the passage of the sprockets into engagement with the chain. I am aware however that in fabricating the chain race it may be in the form of an integral tubular construction. That is to say it may be in the form of a hollow tube of rectangular cross section one wall of which is slotted for the sprockets. As a modification of the construction shown in Figure 4, I may, moreover, instead of forming the flanges 15 integral with the channel section 7 form these flanges on a strap or strip of metal bent around the channel section 7 and riveted thereto. This latter construction permits me to employ a standard channel section and simply form the clips with the flanges and attach them in place.

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

1. A chain race for rotisserie drive chains embodying a channeled member interiorly and longitudinally of which the chain is adapted to travel and which channeled member constitutes a back stop for the chain, and means associated with the channeled member and extending over the front of the chain to maintain the chain in the channeled member and guide a spit sprocket into proper cooperative relation with the chain.

2. A chain race for rotisserie drive chains embodying a pair of elongated channels positioned in opposed relation to one another and forming between them an elongated passage through which the chain is adapted to travel, one of said channels being provided with an opening through which a spit sprocket may extend into cooperative relation with the chain.

3. A chain race for rotisserie drive chains embodying a pair of elongated channeled members of different width and the smaller of which is telescoped into the larger to form an elongated passage through which the chain is adapted to travel, one of said channeled members being provided with a slot through which a spit sprocket is adapted to extend and mesh with the chain.

4. A chain race for rotisserie drive chains embodying an elongated channeled member, the channel of which tapers towards the base thereof serving to centralize the chain during its passage longitudinally through the channeled member, and means associated with the channeled member for maintaining the chain against inadvertent displacement therefrom.

5. A chain race for rotisserie drive chains embodying an elongated channeled member, the channel of which tapers towards the base thereof serving to centralize the chain during its passage longitudinally through the channeled member, and a second channeled member telescoping the first channeled member to form a closed passage through which the chain can freely travel, one of said channeled members being provided with an opening through which a spit sprocket may extend into engagement with the chain.

6. In an assembly of the character described, spaced sprockets and a sprocket chain meshing with said sprockets, in combination with a chain race for said sprocket chain embodying an elongated housing embracing the sprocket chain longitudinally thereof and provided with an opening between the sprockets through which a spit sprocket may extend into cooperative relation with the sprocket chain.

In testimony whereof I have signed the foregoing specification.

MAX SCHEY.