

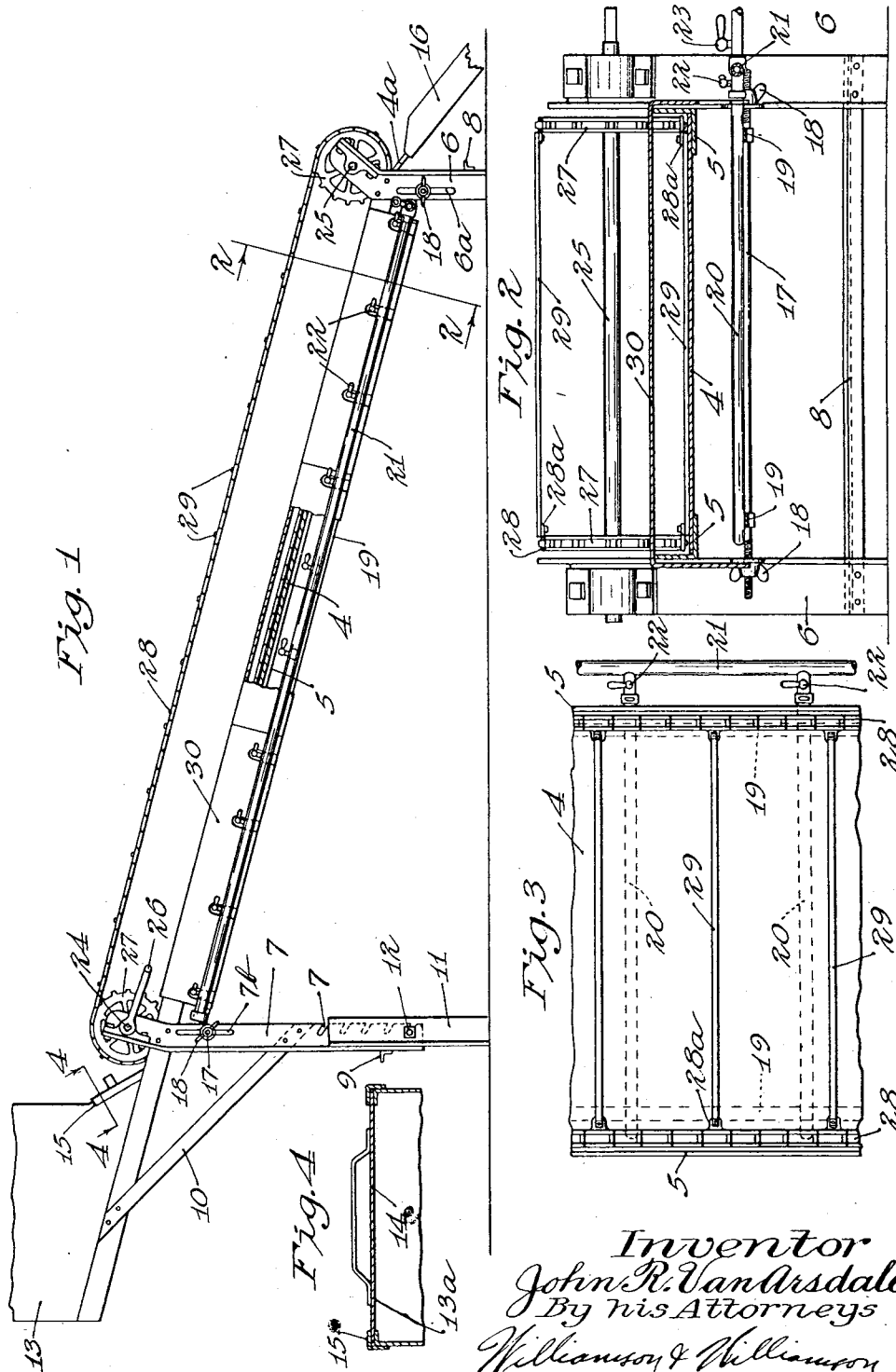
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ROASTING DEVICE

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ROASTING DEVICE

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2 Claims. (Cl. 34—13)

This invention relates to devices for roasting such articles as grains, nuts, coffee and similar articles.

It is the main object of the invention to provide a novel and improved roasting device, wherein the articles to be roasted may be allowed to roll over an inclined heated deck at a predetermined speed, so that heat may be applied evenly for the desired length of time to all parts of the articles.

The objects and advantages of the present invention will more fully appear from the following description, made in connection with the accompanying drawing, wherein like reference characters refer to the same or similar parts throughout the various views, and, in which,

Fig. 1 is a view in side elevation illustrating an embodiment of the invention, certain of the parts being broken away to more clearly illustrate the construction thereof;

Fig. 2 is a section taken on the line 2—2 of Fig. 1, as indicated by the arrows;

Fig. 3 is a plan view looking down on the device below the upper run of the conveyor when the enclosure plates have been removed; and

Fig. 4 is a section taken on the line 4—4 of Fig. 1, as indicated by the arrows.

In accordance with the invention, there is provided a long inclined deck 4 having angle irons 5 secured to the edges thereof so that vertical flanges of the angle irons will project upwardly above the deck proper 4 to form sides for the deck. Secured to the deck 4 adjacent the lower end thereof are a pair of short lower legs 6 which have portions projecting above and below the deck. Also secured to the deck 4 in spaced relation from the upper end thereof are a pair of longer upper legs 7 which project both above and below the deck. Both the lower legs 6 and the upper legs 7 are preferably of angular construction and the lower legs may be interconnected together as by means of an angle iron brace 8, while the upper legs may be connected together by a similar brace 9. Also diagonal braces 10 running between the upper legs 7 and the angle bars 5 above the legs may be used to securely fasten the upper legs to the deck. Extensions 11 for the upper legs are provided and these extensions are also preferably of angular construction to be received within the angles of the upper legs and each extension 11 carries an inwardly projecting stud 12 adapted to be received within one of a plurality of upwardly inclined notches 7a formed in the upper legs. By fitting the studs 12 within different notches

7a, it will be seen that the upper portion of the deck 4 can be raised to various heights so that the deck may be supported at different inclinations. Mounted on the deck 4 above the upper legs 7 is a hopper 13 within which articles to be roasted such as grains, nuts, coffee and the like, may be held. The lower forward portion of this hopper 13 is open as shown at 13a in Fig. 4, and a feed regulating plate 14 is slidably mounted over this opening within guides 15. The extreme lower end 4a of the deck is downwardly inclined to form a chute for discharge of the roasted articles and any suitable type of receiver 16 may be used to collect the roasted articles discharged.

Extending between the two upper legs 7 and fitting through vertical slots 7b therein is an upper rod 17 which is screw threaded at its ends to receive wing nuts 18, whereby the rod may be secured to the upper legs in desired spaced relation below the deck 4. Similarly running between and extending through vertical slots 6a in the lower legs is a similar lower rod 18, the ends of which are screw threaded to receive similar wing nuts 17 so that the lower rod may be fastened to the lower legs in desired spaced relation below the deck 4. Straps 19 are secured to and run between the upper and lower rods 17 adjacent but inwardly disposed from the legs and applied to these straps are a series of gas burner pipes 20 or other suitable heating means. As disclosed, the burner pipes 20 are all connected to a main supply pipe 21 and each pipe 20 is individually controlled by a suitable valve 22. The main pipe 21 may be controlled by a master valve 23. By raising or lowering the rods 17 in the slots 7b and 6a, it will be seen that the burner pipes 20 may be raised or lowered to space the same from the deck 4 varying distances.

Journaled in and extending between the upwardly projecting portions of the upper legs 7 is a shaft 24, while similarly extending between and journaled in the upwardly projecting portions of the lower legs 6 is a shaft 25. The two shafts 24 and 25 are preferably provided with squared portions at corresponding ends thereof to receive a crank 26, whereby either of the shafts may be turned. Secured to the shafts 24 and 25 adjacent the various legs 7 and 6 respectively, but inwardly from the legs, are sprockets 27 and endless sprocket chains 28 each run over one sprocket on the shaft 24 and one sprocket on the shaft 25. The lower runs of these chains 28 lie close to the deck 4 and the chains at spaced intervals are equipped with inturned lugs 28a

to which cross slats 29 are removably bolted, the said slats extending between the two chains 28. It will be seen that the shafts 24 and 25, the sprockets 27, the chains 28 and the slats 29 form an endless slat and chain conveyor, the slats of the lower run of which work against the deck 4 to be carried thereover as the crank 26 is turned.

A number of channel-shaped enclosure plates 30 are provided and the central portions of these plates extend over the deck 4 in spaced relation above the lower run of the conveyor and rest on the upper edges of the angle irons 5. The ends of the enclosure plates run vertically downwardly at the sides of the deck 4 below the burners 20 and the lower edges of the sides of the enclosure plates are notched to receive the burner pipes 20. These enclosure plates 30 together with the deck 4 and the angle irons 5 of the deck form an enclosed space or oven open only at its two ends which will be highly heated when the burners 20 are in operation. The enclosure plates 30, of course, may be readily removed when desired.

In using the device for roasting grain, nuts, coffee and similar articles, the articles to be roasted will be inserted within the hopper 13, whereupon the burners 20 may be set in operation to heat the oven formed by the deck 4, angle bars 5 of the deck and enclosure plates 30. The feed regulating plate 14 will then be raised somewhat to allow small quantities of the product to be roasted to drop onto the upper portion of the deck 4. At the same time crank 26 applied to one of the shafts 25 will be turned to cause operation of the conveyor, so that the lower run of the conveyor will move downwardly over the deck 4. The articles to be roasted will be fed between the slats 29 of the lower run of the conveyor and the articles will run by gravity down the deck, turning over and over upon themselves. The slats 29 will prevent the articles from advancing too rapidly over the deck and, as a result, by controlling the speed of rotation of the crank 26, the articles may be maintained in the oven for the proper length of time to secure complete roasting of the articles before they are discharged from the chute 4a into the receiver 16. If any of the articles should stick at any point on the deck, the slat 29 following the particular stuck article will strike the same and move the same along with the lower run of the conveyor. If it is found that the articles tend to accumulate to too great an extent behind the slats 29 of the lower run of the conveyor, the inclination of the deck 4 may be changed so that the deck will form a sharper angle with the ground. This, of course,

will be done by adjusting the studs 12 to be received within the proper notches 7a. Similarly if it is found that the articles do not properly slide over the deck 4, the upper portion of the deck can be raised to make the same steeper. The intensity of the heat applied to the oven may be regulated both by the valves 22 and by raising and lowering the burners 20 to and from the deck as has been previously described. As the articles roll over and over on themselves during their descent down the deck 4, even heat will be applied to all portions of the articles so that even and uniform roasting of the same will result. By removal of the enclosure plates 30, access may be had to the deck for cleaning the same.

It will, of course, be understood that various changes may be made in the form, details, arrangement and proportions of the various parts without departing from the scope of the present invention which, generally stated, consists in the matter shown and described and set forth in the appended claims.

What is claimed is:—

1. A roasting device having in combination an inclined deck to the upper end of which articles to be roasted may be fed, said deck having sides projecting upwardly therefrom, an endless slat and chain conveyor mounted to permit movement of the lower run thereof over said deck, a channel-shaped enclosure member fitting over said deck and the lower run of said conveyor and having flanges which project downwardly below said deck and heating means located below said deck in spaced relation therefrom.

2. A roasting device comprising an inclined deck to the upper end of which articles to be roasted may be fed, upper and lower legs supporting said deck at an inclination, shafts extended between and mounted in the upper ends of said legs above said deck, sprockets carried by said shafts, endless chains respectively working over corresponding sprockets on said two shafts, slats interconnecting said chains at spaced intervals to form a slat and chain conveyer, the lower run of said conveyer working over said deck so that the slats of the lower run rest on said deck, means for supplying heat to the bottom of said deck, and a shield fitting over said deck above the lower run of said conveyer and below the upper run, said shield having flanges projecting downwardly below said heating means at the sides of said deck.

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