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A. R. THOMPSON
CAN HANDLING APPARATUS
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2,152,107

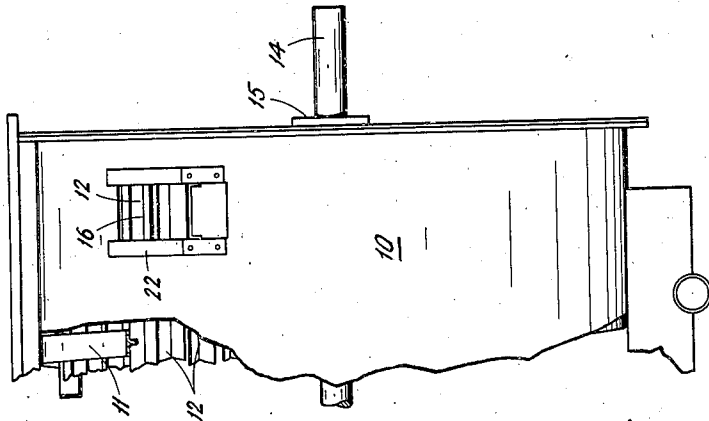


Fig. 1.

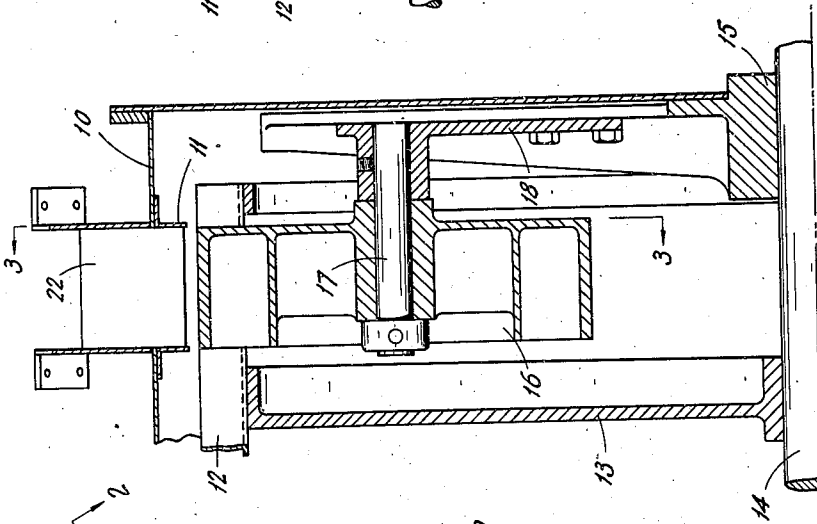


Fig. 2.

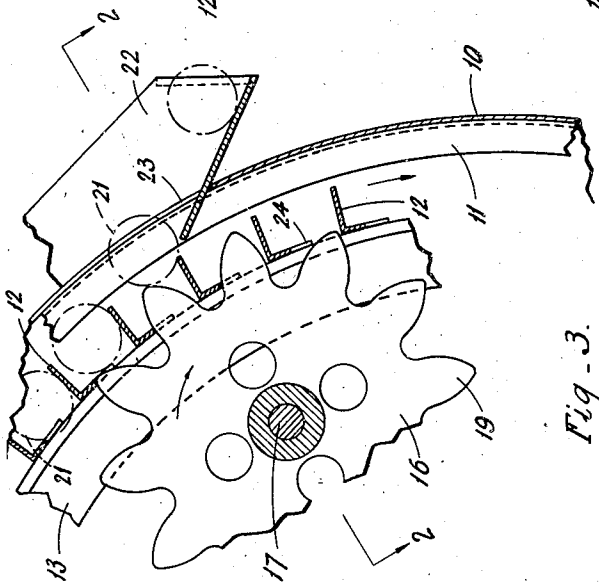


Fig. 3.

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CAN HANDLING APPARATUS

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3 Claims. (Cl. 198—25)

This invention relates to can handling apparatus such as cookers, coolers, and the like of the reel and spiral canway type, and relates more particularly to the provision of improved means for ejecting cans from such apparatus.

It is a general object of the invention to provide improved means for ejecting cans from apparatus of the character referred to, which has a minimum number of parts and operates efficiently.

Another object of the invention is to provide improved can ejecting means for apparatus of the character referred to in which the pusher bars and the portion of the spiral canway associated therewith immediately preceding the ejection of the cans, form the sole support and guide means for the cans as they approach the ejector means.

Other objects of the invention will be apparent from the following description of a preferred embodiment taken in connection with the accompanying drawing, in which:

Fig. 1 is a fragmentary side elevation of a cooker of the reel and spiral canway type illustrating the discharge end of the cooker.

Fig. 2 is an enlarged fragmentary section taken through the axis of the reel and the ejector wheel as indicated by the line 2—2 in Fig. 3.

Fig. 3 is a sectional elevation of the apparatus taken in the plane of the line 3—3 in Fig. 2.

The cooker may comprise a horizontally disposed shell 10 in which a spiral canway is formed as by a helically disposed T bar 11 for cooperation with the angle shaped pusher bars 12 of the rotatable reel. The bars 12 extend longitudinally of the reel and are supported by suitable reel heads 13 on the reel shaft 14 which is journaled for rotation in bearings 15 centrally of the shell 10. The above described structure is conventional and operates in the usual manner, whereby the pusher bars 12 operate to carry cans fed to the cooker around the periphery of the shell as the cans are guided longitudinally of the shell by the spiral canway formed by the T bar 11. As the cans travel around the last convolution of the canway, ejector means are provided for removing the cans from the reel and discharging them from the cooker through suitable discharge means.

The ejector means may comprise a wheel 16 journaled for rotation on shaft 17 which is supported by bracket 18 on the head of the shell 10. The axis 17 of the ejector wheel is within the circumference of the reel so that the teeth 19 will project between adjacent angle bars 12

and be driven thereby, the size and location of the wheel 16 being such that the teeth 19 will serve to lift cans 21 which are being carried at this time by the pusher bars, from the reel and into a suitable discharge chute 22 which is mounted on the shell 10 below a discharge opening 23 therein.

In conventional constructions, it has been customary to provide special guide and supporting means for the cans during their last travel about the periphery of the shell, the construction of the pusher bars being such as to be incapable of supporting the cans. This has resulted in a more or less expensive construction and has been somewhat unsatisfactory in operation because of the wear on the cans in sliding along the auxiliary support and guide, and also because the bars do not have sufficient strength.

I have eliminated the above noted disadvantageous features by forming the angle bars so that they, with the associated portion of the spiral canway, form the sole support and guide means for the cans during their last movement about the periphery of the shell. To accomplish this end, the circumferential flanges of the angle bars 12 are partially cut away as at 24 (Fig. 3) in the path of the ejector teeth 19, the space between the adjacent angle bars 12 in such path being less than the diameter of the can 21 for which the cooker is built, so that the can will be supported entirely by the adjacent bars 12 as shown at the top of Fig. 3, as it approaches the ejector wheel 16. Preferably, this spacing is just enough wider than the greatest width of the teeth 19 to allow sufficient clearance for the teeth as they project through the openings, while being sufficiently small to support the can as noted above. By this construction, the need for auxiliary guide and support means for the cans is removed, and a simple and efficient construction is provided which will not subject the cans to undue wear.

While I have shown and described a preferred form of the invention, it will be understood that the invention is capable of variation and modification, and its scope therefore should be limited only by the proper interpretation of the appended claims.

I claim:

1. In an apparatus for ejecting cans from a cooker or the like of the reel and spiral canway type, a rotatable reel of longitudinally extending angle shaped pusher bars, each bar having one flange extending substantially radially of said reel and the other flange extending sub-

stantially circumferentially of said reel, spiral canway means surrounding said reel, a toothed ejector wheel mounted within the circumference of said reel and having involute teeth driven by said reel, and discharge means for receiving cans from said reel; the circumferential flanges of said pusher bars being partially cut away in the path of said ejector wheel to provide circumferential flange portions of reduced width in said path, whereby to allow the teeth of said wheel to project through between successive pairs of adjacent bars and lift the cans from the reel into said discharge means while providing support for cans upon the reel until engagement thereof by said ejector wheel.

2. In an apparatus for ejecting cans from a cooker or the like of the reel and spiral canway type, a rotatable reel of longitudinally extending angle shaped pusher bars, each bar having one flange extending substantially radially of said reel and the other flange extending substantially circumferentially of said reel, spiral canway means surrounding said reel, ejector means mounted within the circumference of said reel and having involute teeth for removing cans therefrom, and discharge means disposed outside the circumference of said reel to receive cans therefrom; the circumferential flanges of said angle shaped pusher bars being partially cut away in the path of said ejector teeth to provide circumferential flange portions of reduced

width in said path, whereby to allow said teeth to project through between successive pairs of adjacent bars and lift the cans from the reel into said discharge means with said reel forming the sole support for cans as they approach said ejector means.

3. In an apparatus for ejecting cans from a cooker or the like of the reel and spiral canway type, a rotatable reel of longitudinally extending angle shaped pusher bars, each bar having one flange extending substantially radially of said reel and the other flange extending substantially circumferentially of said reel, spiral canway means surrounding said reel, ejector means mounted within the circumference of said reel and having teeth for removing cans therefrom, and discharge means disposed outside the circumference of said reel to receive cans therefrom; said angle shaped pusher bars being partially cut away in the path of said ejector teeth to provide circumferential flange portions of reduced width in said path, whereby to allow said teeth to project through between successive pairs of adjacent bars and lift the cans from the reel into said discharge means, the cutaway portions of said angle bars and the portion of said spiral canway means cooperating therewith forming the sole supporting and guiding means for cans associated therewith other than said ejector means.

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