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C. A. ADAMS

TRAY FOR BREAD COOLING MACHINES

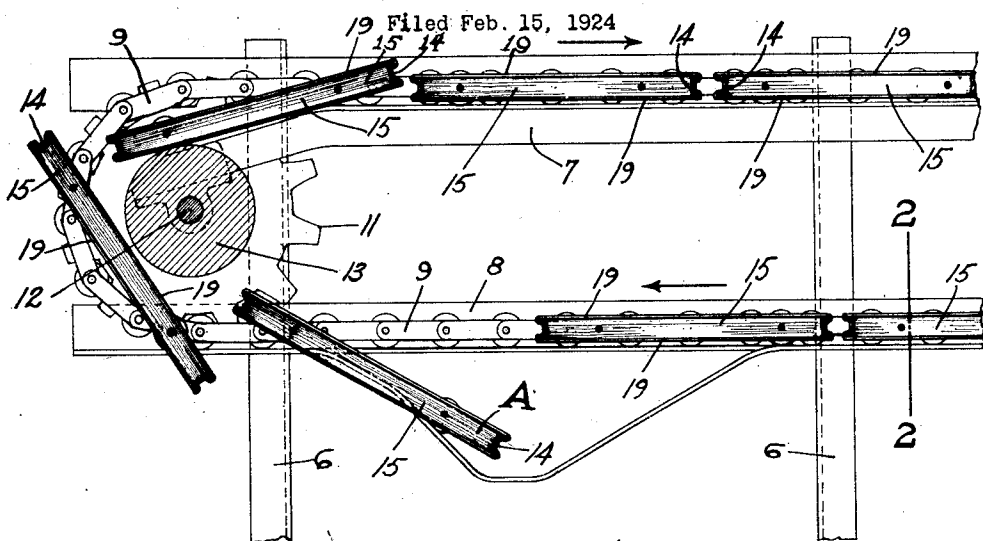


FIG. 1

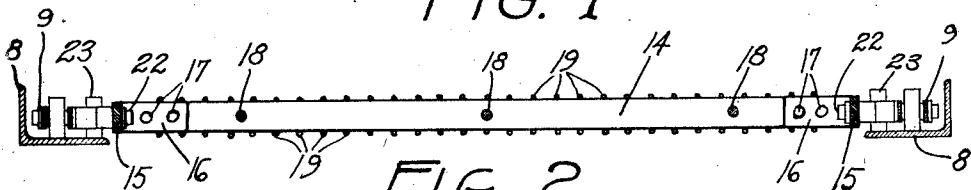


FIG. 2

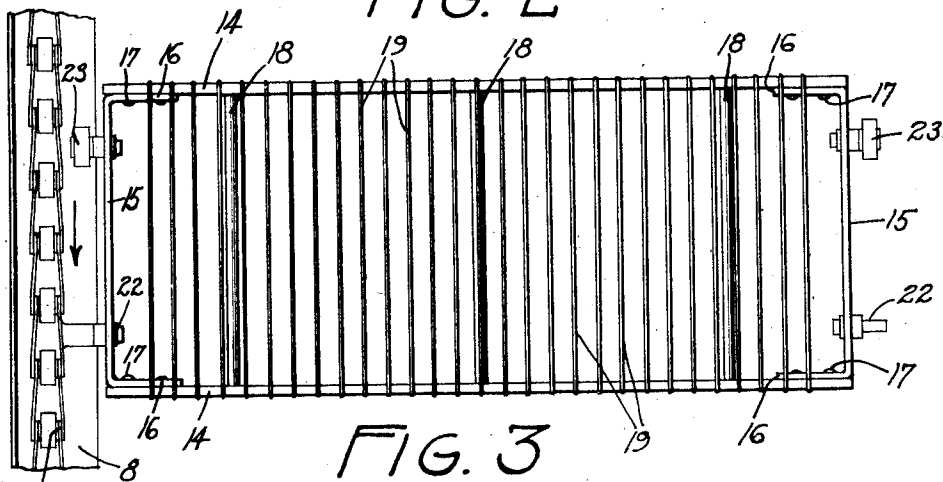


FIG. 3

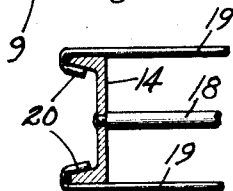


FIG. 5

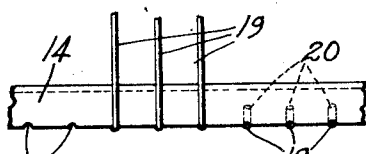


FIG. 4

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CHARLES A. ADAMS, OF ELLWOOD CITY, PENNSYLVANIA, ASSIGNOR TO MATHEWS GRAVITY CARRIER COMPANY, OF ELLWOOD CITY, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

TRAY FOR BREAD-COOLING MACHINES.

Application filed February 15, 1924. Serial No. 693,048.

This invention relates to improvements in movable trays, and more specifically to improvements in trays designed for use in conjunction with bread-cooling machines, and which preferably have both sides thereof adapted to support loaves of bread or other articles, while being cooled.

The particular object of the invention is to provide a tray comprising a frame having a plurality of transverse rods or wires secured to each side thereof for the purpose of supporting loaves of bread or other articles placed thereon.

A further object is to provide an open tray of simple and inexpensive construction that will permit access of air to the articles on the tray for the purpose of cooling said articles.

Other objects of the invention will more fully appear from the following description and the accompanying drawings and will be pointed out in the annexed claims.

In the drawings I have disclosed a structure designed to carry out the various objects of the invention, but it is to be understood that the invention is not confined to the exact features shown, as various changes may be made within the scope of the claims which follow.

In the accompanying drawings forming a part of the specification:

Figure 1 is a view in side elevation of a portion of a bread cooling machine, partially in section, showing a construction wherein the trays are connected to an endless chain belt to form in effect an endless conveyor;

Figure 2 is a cross sectional view on the line 2-2 of Figure 1, showing the means provided for supporting the trays when in use;

Figure 3 is a plan view of Figure 2;

Figure 4 is an enlarged detail view showing the construction of the side frame members of the tray that receive the hooked ends of the transverse wires;

Figure 5 is an enlarged detail showing the manner of securing the wires to the frame member.

In the selected embodiment of the invention here shown, for the purposes of disclosure, I have illustrated a portion of a bread-cooling machine comprising upright posts 6, longitudinal guides or rails 7 and 8 adapted to support an endless belt 9, a drive

sprocket 11, mounted upon a shaft 12, and a guide roller 13, mounted upon the shaft 12 for the purpose of guiding the ends of the trays as they pass around the axis of the shaft 12, from the lower guide rail 8 to the upper rail 7.

The important feature of this invention resides in the novel construction of the tray, which preferably consists of a rectangular frame comprising parallel side bars 14, preferably of channel iron, having their ends connected together by means of transverse end bars 15, as particularly shown in Figure 3. As here shown, the ends 16 of the bar 15 are preferably bent at right angles and secured to the side beams by suitable means such as the rivets 17. Suitable tie rods 18 are preferably interposed between the side bars 14 and function to retain the two beams in parallel relation.

The top and bottom surfaces of the tray are constructed preferably by means of a plurality of spaced parallel rods or wires 19, arranged sufficiently close together to prevent loaves of bread, or other articles to be conveyed thereon, from falling there-through. These transverse rods or wires have their ends secured to the outwardly projecting flanges of the side bars 14; preferably by bending the ends 20 thereof around the flanges, as clearly shown in Figure 5. Notches 21 are preferably provided in the edges of the flanges adapted to receive the wires, as shown in Figure 4. These notches function to prevent the wires from changing their relative positions upon the bars after having been secured thereto. By thus arranging the wires 19 transversely of the frame, as above described and shown in Figure 3, loaves of bread and other articles placed thereon may readily be discharged therefrom by slightly tilting the tray as indicated at A in Figure 1, the wires offering a minimum of resistance to articles moving longitudinally thereover.

In the drawings I have shown a tray having both sides, or its upper and lower surfaces, covered with wires 19 so that either side thereof may be employed to support articles, but it is to be understood, however, that if desired, the wires may be omitted from one side of the tray, thereby providing a tray capable of supporting loaves of bread or other articles on one side thereof

only. When the tray is used as shown in Figure 1 pivot studs 22 are preferably provided on the end bars 15 adjacent the forward or lead ends thereof, and, in like manner, guide rollers 23 are provided adjacent the rear ends thereof adapted to carry and support the rear end of the tray.

Another important feature of this tray resides in the simple and inexpensive construction combined with light weight, strength and rigidity, thereby providing a tray particularly adaptable for use in conjunction with bread-cooling machines to convey the hot loaves of bread therethrough while cooling, the open construction of the tray being such as to permit free circulation of air therethrough.

I claim as my invention:

1. A tray comprising a frame having notches provided in the outer edges thereof, a plurality of transverse wires having their ends secured in said notches and forming the carrying surfaces of said tray.

2. A tray comprising a rectangular frame, having parallel side bars, spaced wires extending across said frame over the edges of said side bars, and means for locking said wires in position upon said bars.

3. A tray having a frame comprising side members and end members, said side members having opposed notches formed in the edges thereof, a plurality of wires secured to said side members and constituting the carrying surfaces of said tray, the ends of said wires being folded and seated in said notches to prevent movement of said wires on said side members.

4. A tray having a frame comprising parallel flanged side members, the outer edges of said flanges having a plurality of notches formed therein, a plurality of wires secured to said side members and having their ends folded and seated in said notches, said wires forming the carrying surfaces of said tray.

5. A tray having a frame comprising parallel flanged side members, with a plurality

of spaced notches formed in the outwardly projecting edges of said side members, and carrying surfaces for said tray comprising a plurality of spaced parallel wires having their ends folded and seated in said notches, and means for retaining said side members in parallel relation.

6. A tray having a frame comprising flanged side members with their ends secured together by suitable end members, outwardly projecting flanges formed on said side members and having a plurality of notches formed therein, a plurality of spaced parallel wires arranged transversely on each side of said frame, the ends of said wires being folded and seated in said notches for the purpose of securing them to the frame.

7. The combination, in a bread cooler, with driving chains and operating sprockets therefor, of a bread carrying tray having pivotal connections in one end portion with said chains, guide rails for supporting the other end portion of the tray, wires secured to and held in spaced relation on both bottom and top of said tray, said wires being parallel to the line of movement of said chains, and whereby either face of the tray is adapted to receive and hold articles, and upon tilting said tray the articles supported thereon will slide off the tray.

8. A support, a tray pivoted on said support, said tray having a frame comprising side members with their ends secured together by suitable end members, outwardly projecting flanges formed on said side members and having a plurality of notches formed therein, a plurality of spaced parallel wires arranged transversely on both top and under side of said frame, the ends of said wires being folded and seated in said notches and between said flanges for the purpose of securing them to the frame.

In witness whereof, I have hereunto set my hand this 11th day of February, 1924.

CHARLES A. ADAMS.