

H. M. LANE.

CORE RACK.

APPLICATION FILED SEPT. 22, 1917.

1,298,359.

Patented Mar. 25, 1919.

4 SHEETS—SHEET 1.

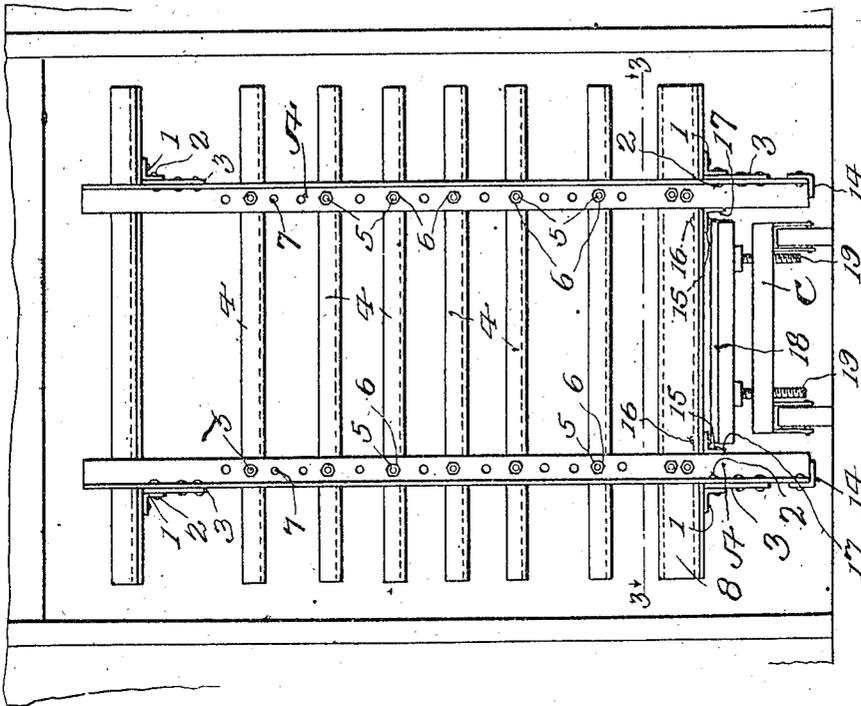


Fig. 1.

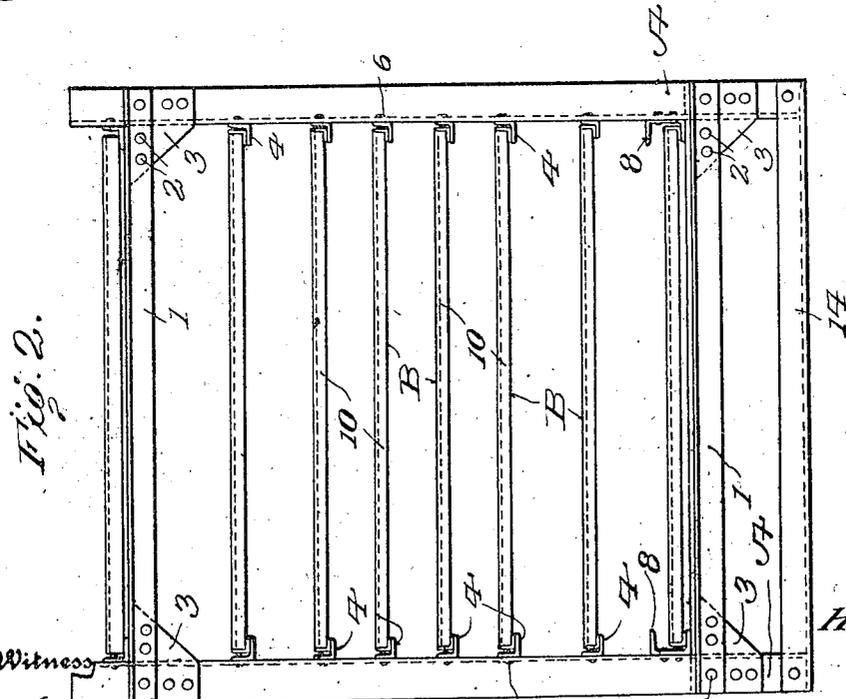


Fig. 2.

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Fig. 3.

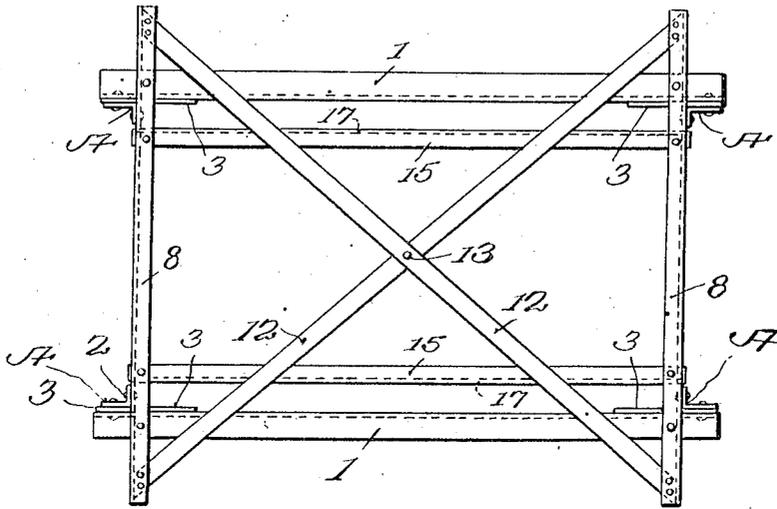


Fig. 4.

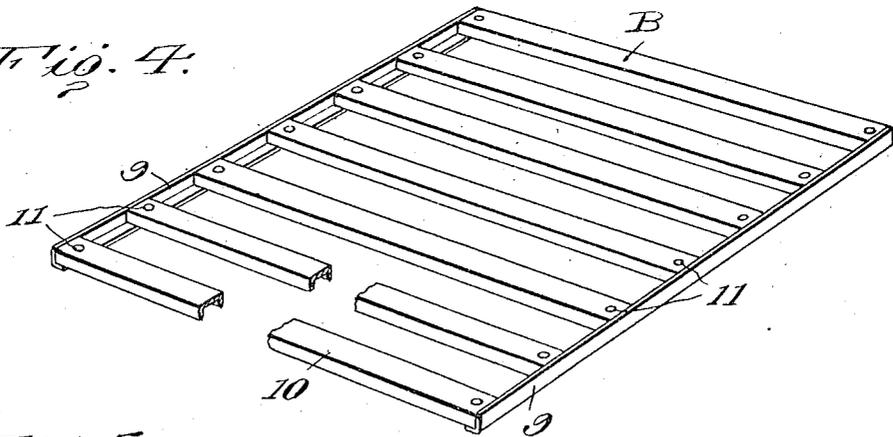
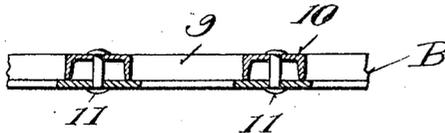


Fig. 5.



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4 SHEETS—SHEET 3.

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Fig. 6.

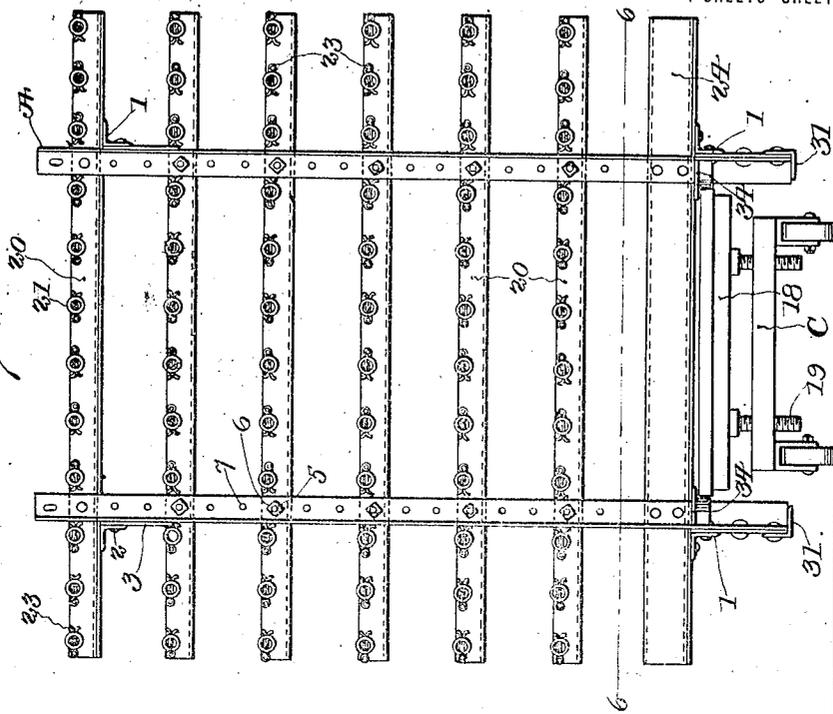
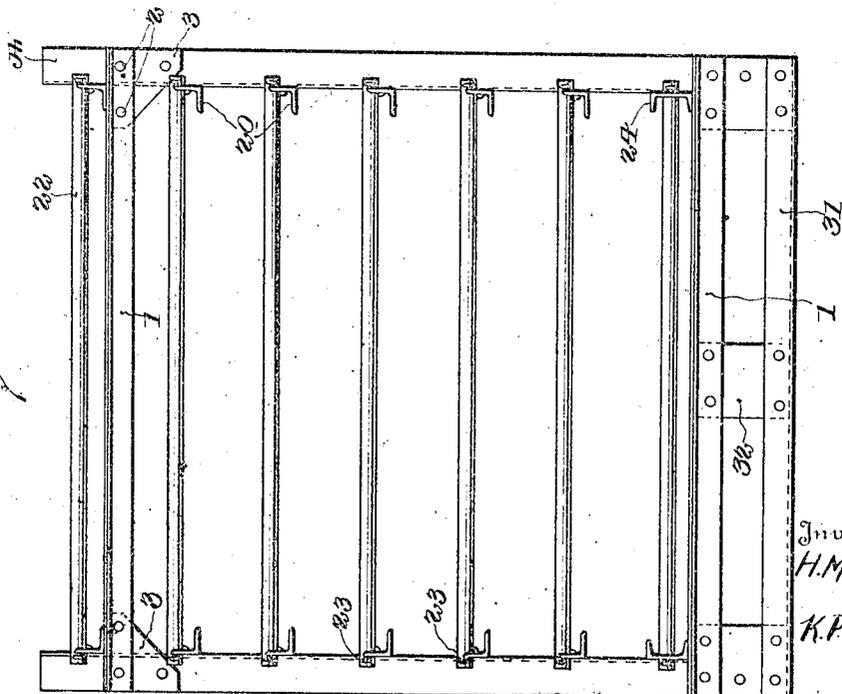


Fig. 7.



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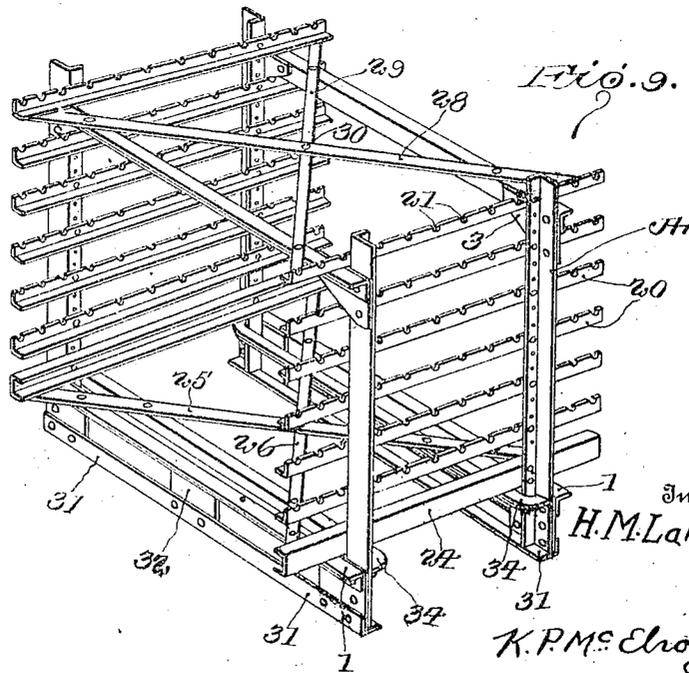
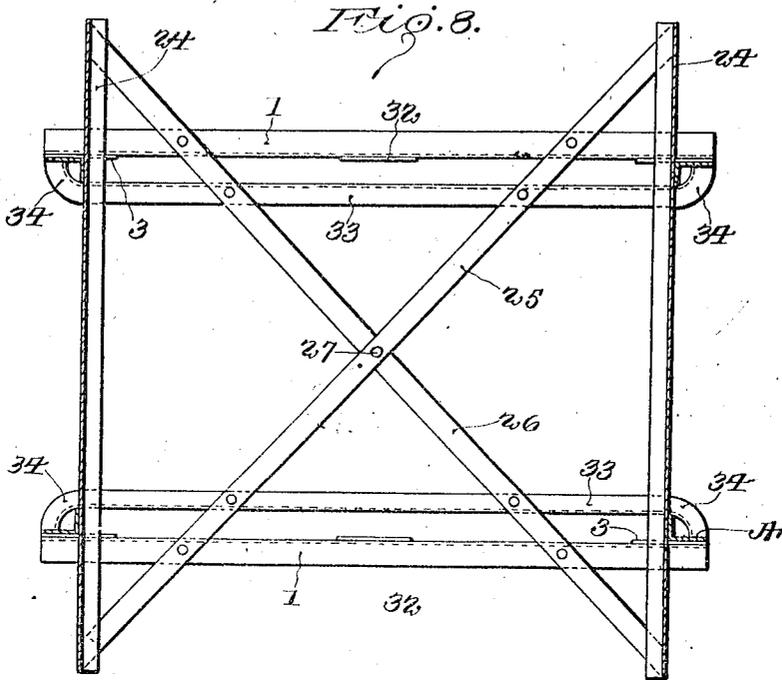
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4 SHEETS—SHEET 4.



Witness

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# UNITED STATES PATENT OFFICE.

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## CORE-RACK.

1,298,359.

Specification of Letters Patent. Patented Mar. 25, 1919.

Application filed September 22, 1917. Serial No. 192,754.

*To all whom it may concern:*

Be it known that I, HENRY M. LANE, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Core-Racks, of which the following is a specification.

This invention relates to core racks, upon which a number of cores are placed and conveyed to a core oven for baking, the racks remaining in the oven during the baking process and then being conveyed to a cooling room. The rack, comprising my present invention, is so constructed that a truck can be guided beneath it without displacing or injuring the cores.

In making cores, it is the general practice to mold them and place them in an oven where they are baked. One way of doing this is to provide stationary racks within the oven upon which the cores are placed. This is unsatisfactory as the placing of cores upon the racks requires considerable handling, and also requires much time, reducing the output of the plant. A further objection is the delicate character of the unbaked or "green" cores which do not well withstand the handling incident to this method of baking. A method more generally used however is the provision of wheeled racks, or racks permanently mounted upon trucks, which are run into the core oven, the entire structure remaining in the oven throughout the baking process. It has been found that certain parts of the truck (especially the wheels and axles which support the entire weight of the rack and cores) are materially affected when subjected to the heat of the oven, and have to be frequently repaired or replaced.

In the present invention I have provided a separable rack and truck with special means to obviate jar or shock in assemblage, thereby avoiding displacement or injury of the green cores.

In the accompanying drawings I have shown several advantageous embodiments of my invention. In this showing,

Figure 1 is an end elevation of one embodiment of the rack showing a truck supporting the same;

Fig. 2 is a side elevation of the rack with the truck removed;

Fig. 3 is a horizontal sectional view on the line 3-3 of Fig. 1;

Fig. 4 is a perspective view of one of the shelves;

Fig. 5 is a detail sectional view of a shelf;

Fig. 6 is an end elevation of another embodiment of the invention showing the truck in position;

Fig. 7 is a side elevation of the construction shown in Fig. 6, with the truck removed;

Fig. 8 is a transverse, horizontal sectional view on the line 6-6 of Fig. 6; and

Fig. 9 is a perspective view of the embodiment shown in Figs. 6 and 7.

In the construction of the rack shown (in Figs. 1-5) I provide four vertical posts A, and a plurality of side bars 1 connecting each pair of posts and forming the sides of the rack. These side bars are connected to the posts A by means of bolts or rivets 2. In order to strengthen the parts and maintain a rigid connection I provide braces 3 consisting of plates fastened to the posts A and to the side arms 1.

The transverse bars 4 are connected to the posts A by means of bolts 5 and nuts 6; these bolts and nuts extending through openings in the side arms and through the openings 7 in the posts. I provide a plurality of openings 7 so that the bars 4 may be placed at any desired elevations and suitably spaced from each other, permitting the use of the rack with cores of various sizes. As shown, the posts A and the bars 1 and 4 are constructed of angle irons and this is the best construction, although under some circumstances I may construct these parts of metal of other cross sections. The lowermost transverse bar 8 is best made channel or U-shaped as shown.

The channel shaped bar 8 is connected to the vertical posts 1 with its arms extending horizontally and the angle bars 4 are also arranged with one arm extending in the horizontal plane and the other arm in a vertical plane, thereby providing means for fastening the bars to the posts A. Shelves B may rest on the horizontal flanged portion

of the angle arms 4 and 8, allowing these shelves to be slid on and off the rack. These shelves are best constructed of two longitudinal angle bars 9 which form the sides 5 of the shelves, and a plurality of inverted channel bars mounted on the horizontal portions of the angle bars. The vertical portions of the bars 9 close the ends of the channel bars 10. Any suitable means may 10 be employed for fastening bars 9 and 10 together. As shown, (see Fig. 5) I have employed rivets 11 for this purpose.

Two brace bars 12 (see Fig. 3) are connected to the opposite ends of the lower 15 portions of the channel bars 8, extending diagonally of the rack, and being connected at their centers by rivets 13. This arrangement forms an additional means strengthening the framework of the rack and maintaining the parts in proper alinement. 20

I provide a pair of shoes 14 arranged on each side of the rack and fastened at each end to the posts A, which serve to prevent the legs A from digging holes in the floor; 25 and also serve to distribute the weight of the rack over a greater area. As shown each shoe comprises an angle iron member the vertical arm of which is fastened to the post A. The horizontal arm extends beneath 30 the post and serves as a shoe.

In the use of this rack it is necessary to guide a truck beneath the same without jarring or disturbing cores arranged upon the shelves. For this purpose I provide angle 35 bars 15 connected by rivets 16 to the bar 8 and located between the posts A parallel to each other. The vertical portion 17 of the bars 15 lies adjacent the posts A and forms a guide for a truck C which is adapted 40 to be run beneath the rack. This truck is provided with a supplemental platform 18 having suitable means 19 for elevating the same whereby the rack may be raised from the floor. After elevation it may then be 45 conveyed to the core ovens, to a cooling room or to any other place, as the occasion may require.

In the embodiment shown in Figs. 6 to 9, the posts A and side bars 1 are similar to 50 the construction shown in the other embodiment and are secured to each other in a similar manner. The transverse bars 4 are in this instance replaced by similar bars 20 having depressions 21 formed in their upper 55 edges. These depressions form seats for the shelf forming members which in this instance comprise pipes or tubes 22. The tubes 22 are secured in position by cotter pins 23 or other fastening elements. The channel 60 bars 24, which are similar to the channel bars (8) in the other form of the invention, carry the diagonal brace rods 25 and 26 which are secured to the ends of the channel bars and riveted to each other at the center as indicated 65 at 27 (see Fig. 8). I have also shown

additional bracing means arranged at the top of the rack and comprising diagonal brace rods 28 and 29 secured to the uppermost shelf support 20. These diagonal brace rods are also riveted to each other as at 30. 70 This upper brace construction may be employed with either construction of the rack. At the bottom of the vertical posts, are secured the shoes 31 upon which the rack rests, 75 and which serve to distribute the weight over a greater area. Braces 32 are secured to the lower side bars and to the shoes. The guide bars 33, which are secured to the posts A are similar to the guide bars 15, and are provided with curved ends 34 which facilitate the proper positioning of the truck when 80 the truck is run beneath the rack.

The truck C, provided with the supplemental platform 18 capable of being lifted through the elevating means 19, is employed 85 in connection with this form of the invention.

What I claim is:—

1. In a device of the character described, a rack comprising a skeleton frame, shelves 90 removably supported on said frame, and guide bars connected to the frame arranged to guide a truck beneath the rack.

2. In a device of the character described, a rack comprising vertical posts, side bars 95 and end bars connected to said posts, guides carried by the rack and suitably spaced from each other, and adapted to guide a truck beneath the rack.

3. In a machine of the character described, 100 a rack comprising connected posts and bars forming the sides of the rack, bars connected to the posts and extending at right angles to the side bars for forming shelf supports, and guide bars connected to the rack and 105 adapted to guide a truck beneath the rack.

4. A core rack comprising a skeleton frame, shelves removably supported on said frame, diagonally arranged brace bars near the bottom of the frame, and guide bars 110 carried by the frame adapted to guide a truck beneath the rack.

5. A core rack comprising posts, side bars connected thereto, shelf supports mounted on the posts and arranged at right angles 115 to the side bars, diagonally arranged brace bars connected to the rack, guide bars connected to the rack for guiding a truck beneath the frame and longitudinal bars connected to the lower terminals of the posts 120 for forming a support for the rack.

6. In a machine of the character described, a rack comprising posts and side bars, end bars connecting the posts and forming shelf supports, guide bars carried by the rack, 125 spaced from the bottom of said posts and arranged to guide a truck beneath the rack, and longitudinal bars connecting the lower terminals of the posts.

7. In a machine of the class described; a 130

rack comprising posts and side bars, end  
bars connecting the posts, said end bars be-  
ing provided with shelf supporting means,  
shelves removably supported thereon, guide  
5 bars carried by the rack and spaced from the  
bottom of said posts, and arranged to guide  
a truck beneath the rack.

8. A core rack comprising a skeleton

frame, shelves removably supported upon  
said frame, and guide bars connected to the 10  
frame and adapted to guide a truck beneath  
the rack, the ends of the guide bars being  
curved outwardly.

In testimony whereof, I affix my signature  
hereto.

HENRY M. LANE.