March 31, 1925. 1,531,932

H. M. HAUN

RACK

Filed March 24, 1923

Fig. 1

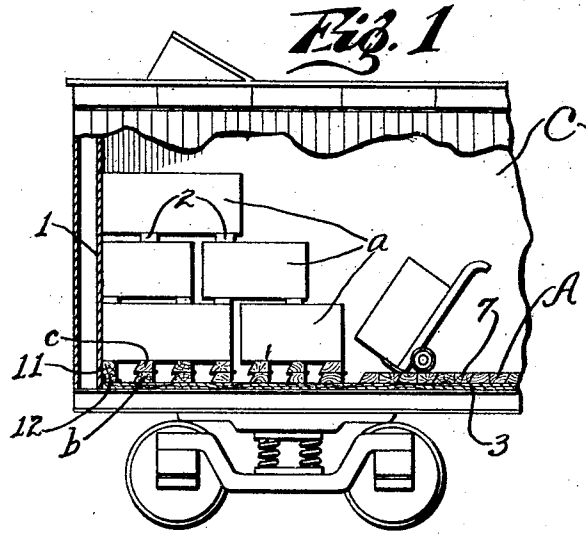
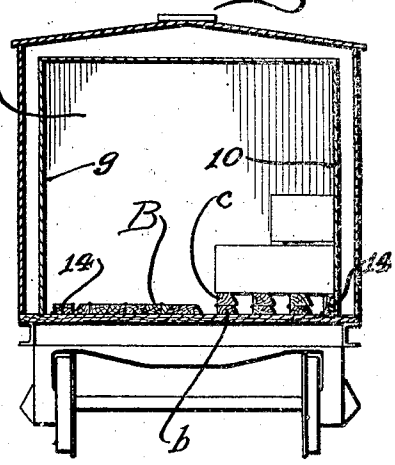


Fig. 2.



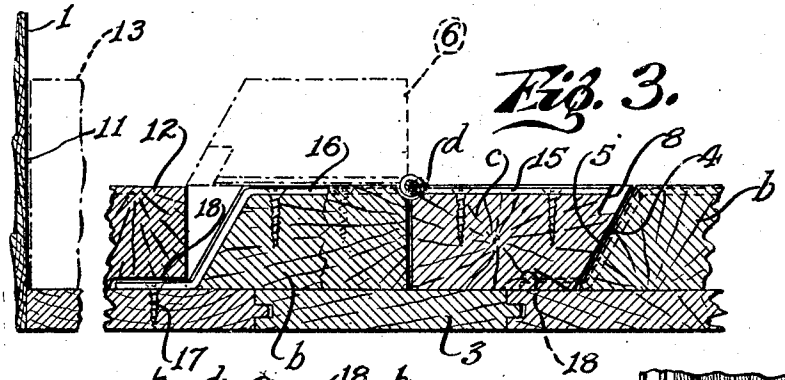


Fig. 3.

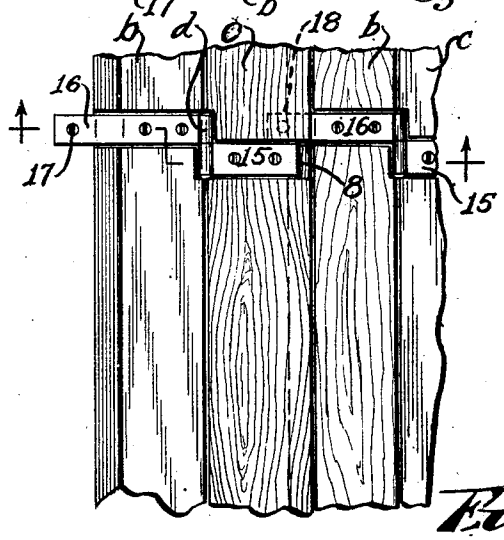
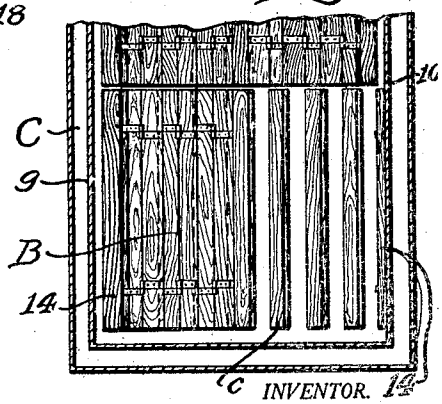


Fig. 5.

Fig. 4.



INVENTOR.
Harry M Haun;
BY Blakeslee & Brown,
ATTORNEYS

Patented Mar. 31, 1925. 1,531,932

UNITED STATES PATENT OFFICE.

HARRY M. HAUN, OF SAN BERNARDINO, CALIFORNIA, ASSIGNOR OF TWO-FIFTHS TO MARSHALL B. SARGENT, OF LOS ANGELES, CALIFORNIA, AND ONE-FIFTH TO EDGAR CORLETT, OF SAN FRANCISCO, CALIFORNIA.

RACK.

Application filed March 24, 1923. Serial No. 627,375.

To all whom it may concern:

Be it known that I, HARRY M. HAUN, a citizen of the United States, residing at San Bernardino, in the county of San Bernardino and State of California, have invented new and useful Improvements in Racks, of which the following is a specification.

This invention relates to racks, and particularly to a type of rack which when not in use will permit a flat working surface, thus in part constituting a flooring, and which when in service may be in part raised to form channels as between other parts of the flooring to permit flow of air therethrough and to any commodity or commodities placed upon the rack formed as aforesaid. The invention is particularly applicable for use in the well-known refrigerator or box cars in that it provides for a free trucking space up to any point desired.

This invention entirely does away with the necessity of providing slats, and by so doing allows a greater volume of air to pass through the channel portions of the rack. I provide a rack formed of a series of units and which units each comprise two or more members, with said units adapted to lie in the same horizontal plane when in one position, to form a flooring, and with a certain member or members of said units movable to a plane parallel to the first plane when in a second position, thus forming a rack. This form of rack construction is easy to operate, extremely simple and very durable and efficient.

A rack of this character may be readily installed in warehouses, storage plants, boats, and in fact any place where a rack is necessary.

With reference to application of the rack to refrigerator or box cars, at the present time the racks used are placed in the car and upon the floor thereof, with commodities such as fruit, vegetables and the like, contained in suitable crates, placed on said racks. When the commodities reach their destination the racks are often removed from the car, broken up, destroyed and seldom used a second time. In certain other cases racks in refrigerator or box cars, when not in use, are detachably secured to the inside walls of the car, with the result that space that might otherwise be utilized in the storing of commodities within said car is wasted.

A primary object of this invention is to provide a rack which will leave the inside walls of the box or refrigerator cars free from extraneous objects, such as racks.

The invention has for further objects the provision of a rack which when not in use will take up little or no space and which when not used as a rack will allow a free trucking space thereon.

With the above and other objects in view, the invention consists in the novel and useful provision, formation, construction, combination, and inter-relation of parts, members and features, all as shown in one embodiment in the accompanying drawing, described in the following statement, and finally pointed out in claims.

In the drawing:

Figure 1 is a fragmentary side elevation of a box car incorporating one form of my invention;

Figure 2 is a transverse vertical section of a box or refrigerator car and showing a modified form of rack for use therein;

Figure 3 is a fragmentary cross sectional view on an enlarged scale, showing details of construction of the rack member;

Figure 4 is a fragmentary view, certain parts being in sections, of the type of rack depicted in Figure 2; and,

Figure 5 is a fragmentary view on an enlarged scale, and showing the manner in which the various members forming the rack are inter-connected.

Corresponding parts in all the figures are designated by the same reference characters.

Referring with particularity to the drawing, A and B designate rack members adapted to be incorporated within a car C, which car is of the usual construction, that shown in the figures being of the refrigerator type having the usual bulk head 1. When various commodities, such as boxes containing fruit, as illustrated at *a*, are to be stored in said car C for transportation, it is essential that a circulation of air should be maintained between the boxes so that fruit or the like may be kept from spoiling, and the boxes *a* are usually separated from each other by members 2, with the lowermost boxes supported upon racks. In the showing of the figures the racks A or B become

an integral part of the car, and each part of said racks A or B comprises two members, as *b* and *c*. The member *b* may be attached to the car flooring 3, or the rack may itself constitute the main flooring of the car C. However, in the structure shown, it is intended that the car should have the usual flooring 3 with a series of members *b* and *c* upon the flooring. The members *b* and *c*, of which there are a plurality, are hingedly connected by means of hinges *d*, and one edge of each member *b* and *c* is beveled, as shown at 4 and 5, and it is intended that a series of members *b* and *c* should be provided within the car C, upon the flooring 3 thereof, and spaced sufficiently from each other so that when the member *c* which is movable relative to the member *b* is also resting on the floor, the beveled edge 5 of said member *c* will be adjacent to and co-operate with the bevel edge 4 of the next adjacent member *b*, as shown in the figures, particularly Figure 3. It will be noted that when the members *c* are not revolved so as to rest upon the top surface of the member *b*, as illustrated in Figure 3, at 6, the members *b* and *c* form a smooth working or top surface, as shown at 7, Figure 1. It is therefore an easy matter to truck upon said surface, as it presents no obstructions, and the members *c* may be lifted from their position upon the flooring by the finger engaging a slightly inclined recess 8 formed in each of said members *c*, so that any one of said members will revolve about the pivot point of the connecting strap hinges *d* into the position illustrated at 6. A sufficient number of members *c* are revolved so as to rest upon their connected member *b* to form a rack such as illustrated in Figures 1 and 2, and it is to be noted that there will be a space between each adjacent set of members *b* and *c*, and that this space forms air openings or passage-ways for the circulation of air. In other words, the racks are so related that they may be used or brought into working relation, depending upon the material to be stored within the car and the amount to be stored. As it is essential that an air space should exist between the walls 9 and 10 of the car C, the racks A, (it being understood that each of the rack members A includes two parts as *b* and *c*) terminate short of said side walls 9 and 10 for the construction in Figure 1. In this construction, that is, the construction of Figure 1, the rack members A are arranged transversely across the car, while in Figure 2 the rack members B run longitudinally of the car. As to the structure shown in Figure 1, a space should be left so that air may pass between the walls of the car and the ends of the rack or racks. As there would be considerable overhang adjacent the bulkhead-wall 11, I have provided a member 12 which may be pivotally associated with the floor 3 of the car, and adapted to assume two positions. One of said positions allows the top surface of the member 12 to be flush with the rack members B when in inoperative position, that is, when all of the members lie flat, and there are no spaces between the same. In other words, when every member lies in the same horizontal plane. The second position is illustrated at 13, and in said position the member 12 is as high as the combined height of the two members *c* and *b*. This will allow the boxes *a* containing a commodity to rest upon the member 12 in either of its positions. The structure shown in Figures 2 and 4 does not differ essentially from the structure of Figure 1, save and except that the rack members are arranged longitudinally of the car, and as before, a member 14, identical in detail with the member 12, will likewise parallel the rack members B, and said members 14 are hingedly or pivotally associated with the car wall or walls, or the flooring thereof, and said members 14 may assume two positions. As shown in Figure 4, this will allow an air space to exist between the racks and sides of the car, and still provide a means whereby the commodities *a* may rest upon the working rack members and the members 14. In the structure for either of the racks A or B, I may counter-sink the strap portions, as 15 and 16 of the hinge *d*, with one portion of the hinge bent downwardly upon the bevel edge of one or both of the members *b* and *c* constituting a unit of the rack A or B. This will tend to add rigidity and strength to the rack structure. For the purpose of holding the members *b* to the flooring, the strap portions 16 of the hinge *d* may extend substantially parallel with the bottom face of the member *b* and be secured to the flooring by suitable securing means 17. In order that the members *c* may lie flat when it is intended that the unit members of the rack should lie in substantially the same horizontal plane, a surface of each of said members may be grooved in part to accommodate that part of each strap 16 of the hinge or hinges *d* connected or joined with the flooring 3, as illustrated by dotted lines at 18 in Figure 3.

This structure does not materially add to the height of the flooring, and it would be unnecessary to change the structure of the car in the least particular. Furthermore, the space over the door of said box car would be ample for trucking purposes, without the necessity of cutting away any portion above said door or reconstructing the car or its side walls.

It is obvious that changes and variations may be made in practicing the invention, in departure from the particular showing,

but that all of said changes and variations may be made without departing from the true spirit of the invention, as set forth in the foregoing description and defined in the appended claims.

Having thus disclosed my invention, I claim and desire to secure by Letters Patent:

1. In car construction, a rack member adapted to be associated with the flooring of said said car, said rack being so formed as to present a smooth trucking surface when the rack is not in use.

2. The combination, with a car having the usual flooring, of a rack adapted to be joined to said flooring, said rack comprising a series of units, each unit including two members, and said units being adapted to all lie in the same plane when in one position, certain of said units being movable to a plane parallel to the first plane when in a second position.

3. A rack including a series of units, each unit having relatively movable members, and each unit being independently operable.

4. A rack including a series of units, each unit having relatively movable members, said units cooperating when in one position to all lie in the same plane, one edge of each member comprising a unit which is beveled, and said beveled edges of each unit cooperating when the units lie in the same plane.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses.

HARRY M. HAUN.

Witnesses:
D. F. CASTLE,
WM. OGLE.